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Towards a Renewed Sociology of Agriculture and Food: Editorial Introduction

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Abstract

"The Sociology of Agriculture and Food" (SAF) is a polysemic phrase. It represents a sub-discipline within the field of sociology, an epistemic community and a network of colleagues. This, the first editorial introduction of the new IJSAF editorial team, initiates what will be a four-year journey on the path of renewing the sociology of agriculture and food. This short essay provides the backstory for the team's mandate, it introduces the research themes and enigmas that interest the editorial team and it positions the articles in this first issue as a first engagement with the renewed scientific program. It also introduces the new approach to better integrating the activities of the scholarly society (RC40) with the journal, in an attempt to increase the geographic and epistemic inclusivity of both.

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Introduction

"The Sociology of Agriculture and Food" (SAF) is a polysemic phrase. It represents a sub-discipline within the field of sociology, an epistemic community and a network of colleagues. This, the first editorial introduction of the new IJSAF editorial team, initiates what will be a four-year journey on the path of renewing the sociology of agriculture and food. This short essay provides the backstory for the team's mandate, it introduces the research themes and enigmas that interest the editorial team and it positions the articles in this first issue as a first engagement with the renewed scientific program. It also introduces the new approach to better integrating the activities of the scholarly society (RC40) with the journal, in an attempt to increase the geographic and epistemic inclusivity of both.

SAF as a sub-discipline?

In the very first editorial published by IJSAF in 1991, Alessandro Bonanno (1991) explained the origins of the first scientific programme of SAF. Specifically, the 'sociology of agriculture' emerged from its parent discipline 'rural sociology'. While rural sociology was concerned mostly with the study of rurality – rural peoples, cultures, landscapes, and economies – the sociology of agriculture was concerned with the multi-scalar nature of agriculture. Agriculture in the 20th century was global – but it was also local and regional. It was rural, but also increasingly urban. More importantly, agriculture cut across these scales and spaces – particularly when the question of food was introduced into the study of agriculture.

Based originally in neo-marxist, neo-weberian, phenomenology, dialectical and critical theory (The Frankfurt School), SAF scholars developed a uniquely critical voice about the politics and impacts of the ways that we produce, trade, and consume the products of the land and water. For example, even from the studies published in the 1980s and 1990s, the practices of agriculture and food were considered not just culture phenomenon, but also objects of sciences and technology. In this way, sociologists interrogated the social relations between humans and nature through attempts to control that nature through agriculture, fishing and forestry. At the same time, they began to question the forms of knowledge that drove societies to organise these relationships in increasingly exploitative ways (Bonanno et al., 1994).

What Bonnano tells us, is that the creation of IJSAF was marked by the addition of questions around food – thus tying together the social questions of production and consumption in complex agri-food systems. Thus, we see from the very beginning a systemic focus to the study of agriculture and food. These systems were seen as forms of governing that shaped not just the global economy, but also could teach us important lessons about the role of the State, the private sector and an increasingly active civil society. The legacy of SAF in this area is clearly seen today, for example, in contemporary theories of food systems (see: HLPE, 2017), whose roots are found in the commodity system analysis of Friedland (1984). Even contemporary discussions of food systems transitions or transformations (see: Maye and Duncan, 2017) build upon fundamental ideas first put forward in the food regime theory of Friedman and McMichael (1989).

SAF today draws upon a wider range of sociological theories to understand the complex interrelations between production and consumption, food and agriculture, and ultimately humans and nature. Increasingly, the political economy focus of SAF has been complemented with emerging theories in economic sociology, cultural sociology and social movement theories. With the creation of IJSAF, SAF also opened itself up to other disciplines, particularly anthropology, economics, geography, political science, sciences and technology studies, transition studies and systems agronomy. It is indeed through this interdisciplinary dialogue that an epistemic community has emerged around SAF.

SAF as an epistemic community?

Epistemic communities are the called-upon experts who can shed light on the interlocked issues and advise on policy decisions, especially for conditions of high uncertainty. An epistemic community is "a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area" (Haas, 1992: 3). It can be made of people from different disciplines or professions so long as they have a "common set of principled and causal beliefs," "shared notions of validity," a "shared policy enterprise," and are "recognized expertise within that domain". Unlike other groups who may also offer policy advice, epistemic communities share principled and causal beliefs, which raises them to a certain ethical standard to act in the

interest of society at large (Haas, 1992).

SAF scholars recognise that the knowledge epistemic communities create is socially constructed, and incomplete, hence there might be forms of partiality or 'invisible colleges' that dominate (Crane, 1981). For this reason, in our belief about the role of the journal, we try to expose these epistemic devices or machineries of knowledge creation (Cetina, 2009) through our approach to publishing from the range of disciplines that are part of the SAF epistemic community. Specifically, we intend to continue the efforts of IJSAF's prior editors by publishing those papers that have a strong theoretical and empirical contributions to the important questions and controversies around agriculture and food. Revealing the methods, processes and analytical devices that are emblematic of our epistemic community will strengthen our collective voice as we continue to engage in public policy debates around sustainable food systems and food security, as we have done in the past (Preston, 2020; CSM, 2016).

Indeed, SAF scholars have long played a role in policy advice – particularly at national and international levels, but they have also been highly active in the agrifood movements that they study. In 2010, this public engagement side of SAF scholars was explained in an article in Rural Sociology by Bill Friedland (2010). Alternative Agrifood Researchers without Borders was at once an attempt to establish an epistemic community that focused on the progressive goals of reducing inequalities and expanding political and social participation. It was call for valuing the knowledge of non-academic researchers and activists as a way to challenge established academic paradigms. While this call was largely applauded and a mentoring programme was even set up for a short period of time, the movement did not gain ground. But that is not to say that the idea is not at the heart of SAF, but rather that the political opportunity for such an effort was there (at least not yet).

The new IJSAF editorial team supports these historic efforts to open up the knowledge produced around agriculture and food – particularly through its open access policy for the journal that consists of leaving the copyright with the Authors and by authorising reuse and distribution through the Creative Commons Attribution 4.0 licence. The IJSAF team also supports the valorisation of diverse knowledges as the three editors are trained not only in SAF, but also in sciences and technology studies (STS). We first began to collaborate by organising a panel at the 2018 annual meeting of the European Association for the Study of Science and Technology (EASST). The focus of the event was on 'meetings' and we argued that food is at the heart of all kinds of meetings. We wanted to explore how food could bring together research across diverse themes, approaches and disciplines in order to create new alignments, intersections and networks in STS approaches to food. We found that the research objects and concerns over inequalities, power and intersections between health, environmental, social, cultural and economic aspects of food and agriculture were completely in line with SAF scholars. The differences were found mostly in the theoretical resources that were used to understand the phenomena. The questions that we were interested in understanding – and which we remain interested in understanding – are at the intersections of the STS concerns around knowledge, expertise, value(s), power and the SAF concerns over inequities, exploitation and transformative power of agrifood networks. While STS scholars have always found a place in the SAF community (Busch and Juska, 1997), with our mandate, we would like to continue to expand the dialogue between SAF and STS

SAF as a network of colleagues

IJSAF is the official journal of the International Sociological Association's Research Committee on Sociology of Agriculture and Food (RC40). What does this mean? It means that the journal is only one form of knowledge creation in the epistemic community. RC40 acts as a network of colleagues across six continents – who meet regularly (about every two years) to advance SAF knowledge and to strengthen ties the transformative agrifood movements in the places where our conferences are held via field trips.

We see a clear role for IJSAF in maintaining our scientific dialogue in between these meetings by publishing papers that are published and read by RC40 members and non-members alike. We maintain the high quality of articles that we publish through an international Editorial Board that includes the top scholars in this sub-discipline from the different regions of the world. IJSAF is a collegial effort; we rely upon members of the network to participate in our rigorous double blind peer review.

As an Editorial Team, we maintain the commitment to publishing two regular issues per year. We also are actively soliciting proposals for Special Issues that will ideally be published in the summer each year. For example, we will typically will publish the papers from a session at one of our key conferences (IRSA, ISA and regional conferences) as a special issue. We are also interested in publishing those papers from participants in the RC40 events – like the early career workshops. We also plan to increase the publicity of the articles that are published in the journal by offering to publish a blog about the findings on the RC40 webpage. Thus, dear reader, we encourage you to send us papers and special issue proposals that will keep IJSAF at the cutting edge of this exciting field.

Conclusions

To conclude this first editorial introduction, we want to introduce the articles of the first issue of the 28th volume of IJSAF. These articles reflect the scientific focus that we introduced above as they deal with the political economy concerns of agrifood systems, as well as the knowledge politics of contemporary alternatives to the global food system.

The first two articles are concerned with the environmental intersections of SAF. Standal and Westskog (2022) use social practice theory to explain how a dialectical relationship forms between consumers' food and energy practices in Norway. They demonstrate that community supported agriculture (CSA) participation can reorient consumers towards values of sharing and frugality, but the broader political economy of unsustainable consumption within which CSAs are embedded weakens the power of CSAs.

Häyrynen et al. (2022) offer an environmental take on the concept of centre and periphery by exploring the division of labour and professions according to spatial location and industrial sector in Sardinia, Italy and Kainuu, Finland. Here too, the authors argue that the farming areas are embedded in contemporary capitalism, which conditions the pro-environmental behaviours. However, by examining organic farming, they are able to distinguish the technical from the symbolic to show that the modernist approach to standards is not a standardised story of diffusion, instead official requirements must also adapt to local contexts and cultural spheres.

The last three articles expand on these tensions around knowledge co-production. Li (2022) continues the discussion about organic standards, but this time in China. She explores how ambiguity in non-certified organic opens up a contingent space for participation and negotiating boundaries between "traditional" and "scientific" organic practices. She argues that the growers' reputation, public exposure, and consumers' judgement on the moral compass of producers are all influential factors in maintaining legitimacy for this non-certified form of organic.

Rancatore (2022) also addresses this question of legitimate knowledge by exploring the continuous call by governments, researchers and activists for more and better data on food security. Based on fieldwork in Ghana, Rancatore argues that there are practical and theoretical problems in this call for data, which relies mostly on researchers working in non-governmental organisations. Institutional demands for proof appear to dominate discussions that do not recognise the need to separate efforts to produce knowledge from their own interests in managing food security. The results suggest that the valuing of local knowledge is not just a good practice, but fundamental to understanding the complexities of food security.

Wattnem et al., (2022) address the question of knowledge through an examination of the harmonization of quality standards in the cocoa sector. They argue that the adoption of harmonized quality standards might provide new tools for new origins and farmers to make claims to superior quality. The changing terms of debate around quality in the sector offer opportunities to change the power dynamics in the sector - particularly who will profit or pay the most for superior quality cocoa. Beyond this, the new forms of knowledge needed to evaluate quality according to the harmonized standard are often found in producing countries rather than the consuming countries.

Read together, these articles demonstrate not just the importance of considering the intersections of knowledge and political economy in our research about agriculture, food and the environment; but also the important international nature of these intersections and indeed tensions. We are proud to open up this issue with these papers and we hope that IJSAF and the RC40 community can be strengthened over the coming years so to contribute to change within academic, public and policy debates around agriculture and food.

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Understanding low-carbon food consumption transformation through social practice theory: The case of community supported agriculture in Norway

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Abstract

Drawing on a qualitative case study of consumers involved in community-supported agriculture farms in Norway, this article applies social practice theory to understand pro-environmental behaviour transformation in relation to community-supported agriculture. Situating social practice theory in the larger framework of the political economy of low-carbon transformation provides a holistic and grounded perspective on consumer behaviour change and potential for social transformation. In contrast to conventional individualistic and rationalist approaches, our study suggests that there is no linear path of transformation; rather, people join community-supported agriculture to use their consumer power to push for social transformation. Simultaneously, community-supported agriculture influences a reorientation of values and practices because it opens up opportunities and resources for sustainable lifestyles. We argue that the collaborative aspects of community-supported agriculture can challenge unsustainable consumption by emphasizing sharing over private ownership and frugality over accumulation of growth. However, the consumer practices of the wider political economy produced by the 'culture of capitalism' continue to be ingrained in people's social relations and contexts, and thus weaken new and more sustainable forms of food consumption.

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Hege Westskog is a senior researcher at CICERO. Westskog's research has for many years been focused on policy instrument to transform towards a low-emission society. She has both studied households' practices and municipalities work with climate and environmental issues. She is involved in several projects that address possible strategies, policies and measures to transform to a low-emission society (the sharing economy, urban growth agreements, municipalities as change agents).

Introduction

Contemporary consumption practices play a vital role in greenhouse gas emissions, and it is becoming increasingly clear that curbing consumption is necessary to avoid dangerous anthropogenic interference with the climate system. Contemporary food production and consumption is an important contributor to greenhouse gas emissions and the IPCC special report on Climate Change and Land (2019) has stressed that people need to change their food practices, including their dietary habits and the amount of food consumed and wasted, if we are to stay below the 1.5 degrees threshold. Actions to this end are also in line with the 2030 Agenda's goals to end hunger, ensure sustainable consumption and production, take climate action, and protect life on land (SDGs 2, 12, 13 and 15). It is increasingly acknowledged that changing food consumption requires not only a technocratic approach, but also changes in practices and mindsets, and ultimately a fundamental transformation of our societies (Head, 2019; O'Brien and Sygna, 2013; Feola, 2015; IPCC, 2012). Such a transformation is in line with the IPCC (2012: 436) vision of fundamental transformation as a system change including governance, social norms, and social life reconfigurations.

To curb the negative effects of consumption, new ways of collaborative consumption have emerged where goods, services and idle resources are made available in a larger community setting (Wahlen and Laamanen, 2017; Wilhite, 2016). The main emphasis is on using rather than owning, to prolong and optimise product and resource use. In general, collaborative consumption allows consumers to both obtain and provide resources or services through direct interaction with other consumers or through a mediator (Ertz et al., 2016; see also Belk, 2014). It is the element of active participation where consumers are able to perform several roles, engaging in embedded entrepreneurship and collaborating to produce and access resources, that distinguishes collaborative consumption from conventional consumption (Myrtz, Durif and Arcand 2019). Much of the literature has focused on new technologies as enablers to promote such consumption (Belk 2014), but collaborative consumption also entails characteristics of community as it requires a symbiotic interdependence between those who engage in this practice (see also Felson and Spaeth 1978). One form of collaborative consumption is the food production and consumption system of community-supported agriculture (CSA). In CSA, consumers pay for membership in a CSA farm in return for a certain share of the produce. They might harvest the share themselves or pick up food boxes at collection points at regular intervals. The risk of crop failure is then distributed between the farmer and the CSA members. Many CSA farms require members to work a certain number of hours on the farm as part of their payment. Some farms also invite members to training courses to learn more about farming practices and preservation methods (Cox et al., 2008). The farmland is thus a place that combines distribution of risk, leisure, education and social networks for the members, as well as a place of food production. The 'sharing and collaborative' aspect of CSA may thus take the form of a social action to challenge unsustainable consumption patterns derived from a political economy of continued growth, by emphasising sharing over private ownership, and frugality over maximising profit accumulation through increased consumption and production (Wilhite 2016).

Food consumption is not only a question of a rationalist decision, but a result of several components including the physical environment (availability and affordability) as well as the meaning, routines, knowledge and norms attributed to food. Eating relates to the context of place and relationships with producers, markets and people. People are "eating locally in a particular place, and food has become a key part of the narrative that establishes their connections to that place" (Schnell, 2013: 626). This motivates the application of social practice theory to study how people make sense of and value food habits after engaging in collaborative consumption in two well-established Norwegian CSA farms. This knowledge is helpful in understanding pro-environmental transformation of food practices as a complex set of factors. Practice theory enables attention to social mediating factors of food consumption, argued by Mattioni et al. (2020), to be largely overlooked in the literature. In contrast to conventional individualistic and rationalist approaches, our study suggests that there is no simple individualised and linear path of transformation. People join the collaborative consumption scheme

of community-supported agriculture to push for social transformation. Simultaneously, their experiences and resources from CSA influence a reorientation of values and opportunities towards sustainable lifestyles. A wider understanding of transformation also enables the discovery of more subtle and mundane changes that are relevant to a low-carbon transformation. Practices are moreover embedded in social and political economy structures that also influence opportunities of future practices and the opportunities for individuals to change their habits.

The next section investigates the theoretical approaches of previous CSA literature and what social practice theory offers. The third section details the methodological approach applied in this study. The fourth section reports the findings on people's motivation to join CSA, as well as changes in their food practices after joining, and the internalisation of new norms and behaviours. The article concludes with a discussion of how social practice theory offers conceptual insight into the ways in which people's experience with collaborative consumption and CSA can be viewed as a pathway for transformation.

Understanding food consumption transformation through practice theory

As Wilhite (2016) argues, there is a link between neo-liberal capitalist emphasis on private ownership and economic growth, and the acceleration of consumption (and thus production) and 'high-energy habits' such as prevalence of individualised transport (private car), increasingly larger homes and rapid renewal of consumer items. A successful transformation thus needs to go 'deeper' than mechanistic instruments like taxes and subsidies, by addressing people's understanding of quality of life (Abson et al., 2017; Pelling, 2011; Meadows, 1990). CSA is part of the alternative food movement and incorporates several aspects of 'deep' transformation. Originating in Japan in the 1970s, it was pioneered by food farmers and consumers who called into question the modernisation of agriculture with monoculture, pesticide use and deprivation of rural livelihoods (Kondoh, 2015). In the Norwegian context, farming has been strongly linked to collective initiatives, industrialisation and significant political support since the 1930s, but is now increasingly regulated by neoliberal international treaties and the growing power of large retail chains (Bjørkhaug, Almås and Vik 2015). As in Japan, Norway has seen an increase in alternative food movements such as CSA. Today CSA continues to be disconnected from commercial agriculture production and aligned with alternative ideologies that emphasise a strong producer and consumer link (Watkins 2019; Thomson and Coskuner-Balli 2007). This link has been argued to provide significant potential to transform participants from passive consumers into informed citizens who engage in community-building and political discussions concerning food production (van Kraalingen 2019; Cox et al. 2016 Turner, 2011 Cone and Myhre, 2000). CSA has been identified as 'caring practice' where members can care for people and places (Goodman et al., 2010; Popke 2006; Wells and Gradwell 2001), and where eating locally is part of a narrative connected to place and place identity (Schnell, 2013). However, several authors have criticised the CSA model's ability to deliver on economic, social and environmental sustainability (Pole and Grey 2013; Goodman et al., 2010; Feagan 2007, McCarthy 2006). Some parts of this critique might be argued to be part of an oversimplified understanding of eating locally reduced to, for instance, a question of food miles and arguments of discriminating against free trade (Schnell, 2013).

Despite CSA's roots in visions of transformation, most research on CSA and consumer behaviour change has focused on narrow indicators such as recruitment, retention and diet changes from a health perspective. The literature finds that people are motivated to join CSA to gain access to fresh nutritious produce and locally sourced food (Pole and Gray 2013; Lang 2010; Ostrom 2007), to be more environment-friendly, and to support local farmers (Cox et al. 2016; Cox et al. 2008; Ostrom 2007). There are consistent findings that CSA membership results in consumption of more of a wider variety of vegetables (Vasquez et al. 2016; Hanson et al. 2017; Wilkins et al. 2015; Curtis et al. 2013; Cohen et al. 2012). However, the turnover rate at CSA farms is quite high (Vasquez et al. 2016; Perez et al. 2003), mainly because members find that the yield

offers too little variety. Studies furthermore show that CSA members often represent a higher educated, western, female, middle- to upper-income segment of the population (Chen et al., 2017; Vasquez et al. 2016; Lang, 2010; Schnell, 2007; Perez et al. 2003). A common finding in the existing literature on CSA membership is people's individualistic and rational approach, with a wish to gain access to quality food and/or to use their consumer power to express their own political and moral concerns as individuals (Dobernig and Stagl, 2015, Haenfler et al., 2012). This approach assumes a linear and individualised path of transformation that overlooks the conceptual and fine-grained understanding of how experiences of CSA as collaborative consumption can promote pro-environmental behavioural change, and how such changes relate to the wider low-carbon transformation. Food consumption needs to be understood as an interwoven process between the individual and the community (Schnell, 2013), taking into account the social and material contexts shaping individual behaviour (Mattioni et al., 2020). As Brown and Miller (2008) conclude in their study, farmers markets and CSAs might be a cornerstone in community development and local food systems.

Wilhite (2016) argues that, to produce knowledge on low-carbon transformation, we need to apply theories that can capture the "interconnectedness of household habits and the political economy" (Wilhite, 2016: 21). Introducing a social practice approach provides an alternative to methodological individualism (where individuals are seen as sovereign in their own life and decisions) and brings new knowledge into the field (Mattioni et al, 2020; Warde, 2014). The 'practice turn' in consumption has moreover challenged the predominant focus on culture and re-introduced aspects of materiality and affordances of objects relevant to understanding the environmental effects of consumption (Warde 2014). This article uses social practice theory to understand how routine actions such as food consumption are formed along multiple dimensions (e.g. Shove and Pantzar, 2012), including aspects of social relations, place (e.g. culture), and materiality (e.g. new technological innovations) (Wilhite, 2016: 23). Finally, social practice theory introduces a focus on doing versus thinking, and attention to routine and practical competences brings attention to everyday-life practices like eating as a routinised behaviour made important by bodily habits and social conventions (Warde, 2014; Wilk, 2004).

Shove, Pantzar and Watson (2012) have suggested that three main elements can be addressed to guide empirical investigations of practices: (1) materials, including the use of tools, technologies and equipment; (2) meaning, referring to the particular idea/image that is related to a particular activity; and (3) competence, that is, the skills (learning) which are involved with an activity. Practices are thus characterised by the linkages that practitioners make or break between various pre-existing elements within these three categories. A change in practice therefore involves modifying a combination of symbolic and material ingredients, and of competence and knowledge (Shove, Pantzar and Watson, 2012). Practices evolve in, and are a result of, different social fields, such as community, family and work, where people have certain resources and positions, and abide by common norms (Bourdieu, 1977). In sum, practices are integral to social order, they are both drivers and results of social and collective learning, which implies that social power relations influence acceptable conduct (Warde, 2014). In terms of a wider political economy perspective, the aspect of performance in practices (e.g. practitioners strive to uphold relative standards or excellence) means that practices generate certain wants, often resolved through consumption, which in turn fosters a capitalist approach to increased economic growth. However, practices may also be interlinked with new ways of consuming that are more in line with sharing and circular economies aimed at reducing environmental footprints.

Methods

Data collection

This study explores qualitative aspects of collaborative consumption in CSA to understand people's motives and practices, and to identify how they make sense of and value food after engaging in collaborative consumption through CSA. This knowledge is helpful in understanding the complex processes at work to

promote sustainable food habits and low-carbon transformation on individual and community levels. To this end, this study has applied the ethnographic methods of in-depth interviews and participant observation. Ethnographic methods are well-suited to gain deep and detailed understanding of how people bring meaning to everyday activities and how this influences decisions, practices and change.

An important part of the research design was to interview new members of the Virgenes and Øverland farms in the winter of 2018 and then to re-interview them in the winter of 2019 after they had participated for a year and experienced one growing cycle. The first interviews focused on the informants' motivations for becoming members and their practices concerning eating habits, food waste and transport, as well as norms and awareness concerning climate and environmental issues. The second interview focused on their experiences after one year of membership and allowed us to compare any self-reported changes in eating practices and linkages to changes in skills, norms and meaning attributed to food consumption and the environment. We also explored whether their change of food consumption practices and values had influenced pro-environmental changes to other practices in their life. Two female informants had been members for several years and provided a long-term perspective.

We recruited 25 informants for the first round of interviews and 20 of them were re-interviewed in the second round. Most interviews lasted 90 minutes and were conducted in the informants' homes to get a sense of household composition and lifestyle/values. The sample of informants varied in age, family situation and socio-economic status. Some came from middle-class families living in detached houses, while some were single with low-income jobs or were living on disability benefits. In terms of ethnicity, the sample was homogenous, as most of the informants were Norwegian. We also interviewed the managers of both farms and one of the gardeners at Øverland. For an overview of the informants, see the table below.

Table 1: Overview of informants

Informant and age	Farm	Household composition	Occupation
A woman (65)	Virgenes	Couple with adult children	Retired
B woman (47)	Virgenes	Couple with school-age children	Energy sector
C woman*	Virgenes	Single	Disability benefit
D man (50)	Virgenes	Couple with teenage children	Researcher
E man (50)	Virgenes	Single with adult children	Alternative health therapist
F woman (25-30)	Virgenes	Couple	Researcher
G woman (45) and son (12)	Øverland	Couple with two school-age children	IT sector
H woman (60)	Virgenes	Couple	Disability benefit
I Man	Virgenes	Single* with adult children	Writer/editor
J woman (40)	Virgenes	Couple with teenage and school-age children	Health sector
K man (30)	Virgenes	Single	Musician/teacher
L woman (34)	Virgenes	Single	Researcher
M woman (60)	Virgenes	Couple with adult children	Sales/retail
N man (45)	Virgenes	Couple with school-age children	Media
O woman (34)	Virgenes	Couple with a small child	Engineering
P woman (50)	Øverland	Single	Disability benefit
Q woman (60)	Øverland	Single with adult children	Researcher
S woman (37) and man (50)*	Øverland	Couple with small children	Researchers
T woman (30)	Øverland	Couple with young children	Health sector
U woman (40)*	Virgenes	Single with adult child	Disability benefit
V woman (60)	Øverland	Single with adult children	Teacher

W woman (50)*	Øverland	Single with adult children	Teacher
X man (30)	Øverland	Couple	Architect and media
Y woman (60)	Øverland	Couple with adult children	Engineering
Gardener*	**Øverland**	**Woman**	**Gardener**
Farm manager*	**Øverland**	**Woman**	**Farm manager**
Farm manager*	**Virgenes**	**Man**	**Farm manager**

*Only interviewed in 2018

In addition to the interviews, observation was an important part of the methodology. The first author acquired the role of participant observer by taking membership at a CSA farm with similar structure as Øverland, which enabled a deeper understanding of the benefits and challenges of being a newcomer to CSA participation and managing changes to the acquisition and preparation of food in a busy family setting. The research findings are however based on our interviews with the informants, while the participant observation provides first-hand experience used to explore topics in the interviews. The research team made visits to the farms during particular events such as information meetings for new members, and monitored the farms' open Facebook groups to understand the processes of information and knowledge exchange that took place. The study is also part of a larger study on the sharing economy that includes co-production of knowledge with relevant stakeholders (Pohl 2011) such as the member association Oikos Norway. Oikos Norway coordinates the CSA network in Norway and provides assistance to CSA farms on issues of organisation, communication, and so on. Oikos Norway provided valuable insight to the study on CSA farmers' experience of recruitment and retention of members. During the recruitment and interviews, all the informants were provided with information on the interview process, on their rights as research participants, and on data management plans.

Research sites

We selected Øverland and Virgenes CSA farms as research sites because both are well established and quite well-known in southwestern Norway. All the farms offer their members a portion of the yield in return for a fixed annual fee. Another selection criterion was the fact that the two farms have different rationales and institutional setups, which enabled us to review how this influenced informants' motivations, experiences and changes in practices. For details of the farms, see the table below.

Table 2 : Overview of the farms in the study

Farm	Type of management	Type of agriculture	Location	Method
Øverland	Member-driven, non-profit	Vegetables, herbs, berries, nuts, honey, eggs	Akershus county	Interviews and observation
Virgenes	Farmer-driven, for-profit	Swine, cattle, vegetables, herbs, eggs	Vestfold county	Interviews and observation

Øverland farm, established in 2005, was the first CSA farm in Norway. It has about 500 members (including children, who are non-paying members). The farm is run as a non-profit organisation and employs a farm manager and a few gardeners (one full-time). The organisation rents the land that is cultivated, and the members are included in most of the work and decision-making processes. Virgenes farm is an established farm that has been run by the same family for generations. The present farm manager converted to CSA to produce food according to organic principles and to diversify his income. The farm provides an income for the farmer and his family and employs a full-time gardener. In addition, the farm attracts volunteers who stay and work on the farm for extended periods. Virgenes farm has about 300 members, but due to its more remote location, most members receive their share of the produce at collection points in Oslo or at other locations in the greater Oslo area. The members can choose whether they want to contribute with voluntary labour, and most do not. Decisions on how the farm is run are mostly made by the farmer and the gardener.

Results and findings

This section reports the informants' motivations prior to joining CSA and the changes in food consumption practices after being CSA members for one year. It traces how the experience of CSA has impacted on new materialities, competences and internalisation of meanings concerning food practices that result in more pro-environmental behaviour change, as well as factors that make such change challenging.

Starting as a CSA member: protesting against conventional food production

Our informants' main motivation to join a CSA farm was a desire to change the way they consumed food and the way their food was produced. All the informants cited scepticism towards conventional farming and food production systems as their reason for joining CSA. Although not all informants placed the same emphasis on their critical perspectives, most described the current system as being dominated by 'big players' who sought profit at the expense of sustainability and thus conflicted with their ethical and ideological convictions. The view of conventional food production as unsustainable was voiced in terms of being economically unsustainable for the farmers, depleting nature's resources, and reducing animal welfare by using harmful farming techniques. Virgenes' emphasis on animal welfare and provision of meat (which is not common in Norwegian CSA) was prevalent among Virgenes members. As illustrated by the woman informant below:

> *Animal welfare is important to me because I believe that all living individuals have a right to have a good life, where they can run around and play and still become good food. I'm also concerned with intelligent management of the soil itself. When I shop for food, I don't know how the food was produced or whether or not aspects like these were considered. Virgenes is well thought through and considerate in that respect, and they communicate the values very clearly. (Informant L)*

Several informants perceived conventional food production as economically unsustainable for farmers because market economy approaches favour a system where production costs must be kept low. Again, Virgenes was seen as attractive because being a member allowed informants to support the struggling farmers directly, circumventing expensive intermediaries and big food companies:

> *And I've thought about all the intermediaries, that the farmer is poorly paid. I had a neighbour many years ago. His parents were sheep farmers. But they could only do it as a hobby almost, because the pay was so bad. And there's the appeal of buying directly from the farmer. (Informant B)*

The above informant lives with her family in central Oslo and had joined CSA as a family project since she felt that families living in an urban environment become disconnected from food production and farmer's conditions. For the Øverland members, solidarity was voiced in terms of preserving small-scale organic farming as this farm is a non-profit cooperative.

Several also pointed to unsustainability on the global scale, where food production risks being moved to poorly paid farmers in other countries, often in the global South. The informant below, a politically engaged young man, saw his role as a CSA member as basis for an alternative to capitalist-based food production:

> *I don't think we can run food production based on principles and global ideas about comparative advantages, where those who produce most effectively should do it. It has to do with protecting soil in lots of places. (Informant K)*

For many informants this was interlinked with ideas of Norwegian food security as well as solidarity with Norwegian farmers. These members also actively exercised their consumer power by buying only locally sourced Norwegian food in the shops.

The perception of the food production networks in Norway as being dominated by profit-seeking big players also influenced the informants' perception of food quality and the depletion of natural resources. A small majority of our informants reported that the organic food production in Øverland and Virgenes was one of their major motivations for joining. The statement below from a natural scientist is illustrative:

> *First and foremost, I think that running production in a way that doesn't impoverish the soil but that instead cultivates it so that it becomes even better than when they started; that we have different species that enrich the soil rather than deplete it, but also that we don't use loads of pesticides that can be harmful to us or to other organisms. In the long term it makes sense to run production in ways other than just to earn as much money as possible, but then we need to run it so that we earn as many resources as possible overall. (Informant L)*

In addition, several informants joined CSA for health reasons. They valued the access to organically produced, fresh, nutritious, and high-quality vegetables and meat, which they felt were lacking in conventional food production. Seven of the informants at Virgenes had been advised by alternative health therapists to join this farm because the food was beneficial to their dietary requirements. The absence of pesticides and the attention to animal welfare were considered to improve nutrition uptake.

Another frequently mentioned motivation was the opportunity to learn by participating in the food production. This points to the importance of community to establish and change practices (see Warde, 2014). Many informants wanted to gain knowledge about new vegetables, recipes and cultivation techniques. And several wanted to engage their children and/or grandchildren in their activities at the farm, to pass on important knowledge about sustainable food production to the next generation. As expressed by the previously mentioned mother who wanted to repair the disconnect she felt her family had towards food production in their urban living environment:

> *Well, it's because I think that being on the farm was a positive thing for me and the kids. I found it enjoyable, and it's easier to do it when you actually have to go there to work. Because I want to go there, and it's a great family project. Growing up in Oslo and never being on a farm and witnessing farming life – I think that seeing potatoes coming out of the soil is a positive thing for children to experience. (Informant B)*

Despite the emphasis on learning, the community aspect in terms of socialising with other members and working together in collective action to change food production was the least reported motivation of the informants. This has also been found in other studies (Lang 2010).

As shown above, the appeal of CSA stems from an experience and perception of mismatch between existing practices on the one hand and, on the other, new norms of conduct from exogenous forces, such as the discourse and effects of global climate change and criticism of the current food production system. Using their consumer power and joining CSA can thus be understood as a way to re-align food habits with internalised norms and values of food production reflecting animal welfare, ecological cultivation, locality and/or Norwegian food security. How this effected a change in practices towards pro-environmental behaviour is discussed in the next sections.

Being a CSA member: changing everyday food practices

In the interviews, to understand whether collaborative consumption in the form of CSA membership resulted in a shift towards more sustainable consumption, we inquired about self-reported food habits prior to becoming a member and after being a member for a year. The biggest change in food practices reported by most of the informants was how they ate and planned meals in line with the production cycle of the CSA farms. This change was found for both farms. Due to the cold climate in Norway, there is only one growth cycle a year, and the yield is ready from July to October, depending on what is grown. Root vegetables and different types of cabbage are usually in abundance in the autumn (since they tolerate lower temperatures) while lettuce, tomato and squash are ready earlier in the season. Having certain types of vegetables at different times means that one needs to conserve food for it to last. Consumers are moreover used to having exotic vegetables that do not grow well in Norway available in the shops all year round (e.g. avocado, aubergine, paprika, etc.). Eating seasonal food requires a considerable shift of practices in the home. Informant O's statement illustrates this well:
We have shops so close to home that we can shop when we need to, so getting [produce from the farm] for two weeks at a time means you have to start planning a lot more how you're going to use all these vegetables… and that takes time. (Informant O)

Due to severe health problems, she had previously made radical changes to her own diet as well as her partner's and her toddler's. She had therefore been eating organic food for several years and made all meals from unprocessed food. She also went to lengths to acquire food items not generally eaten in Norway, such as offal (kidney, liver, heart), to enhance nutrient uptake. Switching to seasonal eating was however a new aspect of her food practices. As described by another informant below, this also required knowledge on preservation of food:

> *I received the first deliveries in January and February. At that time there was a metre of snow on the ground and the earth was frozen, so few vegetables had been stored and I received a lot of root vegetables. (Laughs). So, I thought I have to eat them and use them to make things and not go out and buy other things, so I've become really good at making vegetable stews with root vegetables. And I received lots of cabbage, so I bought fermentation jars and threw myself into fermentation. (Informant L)*

For most of the informants, the shift to eating seasonal food was seen as a valuable part of the process of living more sustainably, but it was also a challenging one. As illustrated above, changing to eating seasonally requires a simultaneous change in people's skills, material resources and internalisation of values. CSA provides new capital in the form of social networks, informal and formal knowledge sharing that enable skills in using new food items and new recipes, and access to (the right) food and to a community where certain norms and values are produced and reproduced. However, the experiences of learning after a year's participation were mixed. On the one hand, several members expressed some disappointment as they had hoped the farms would provide more information on how to prepare the food. The farms have Facebook groups partly dedicated to this purpose, but only a few members are active in sharing this kind of information. On the other hand, some of the informants felt that being a CSA member had provided them with an inspiring social space for recreation and shared understanding. This was especially prevalent among women who lived alone and had made a routine of engaging in the farm work at Øverland.

Being a CSA member in the CSA social field may, however, be in conflict with other social fields the informants engage in, such as family life and work life. Their capacity for change was also linked to political economy aspects of being a productive and cost-efficient citizen in the neo-liberal system. Some informants dropped out due to the time required to cook differently and plan meals, or to travel to the farm and contribute by working there. Several informants also revealed that seasonal eating was particularly challenging to implement

if partners or children did not share their motivation for CSA or for changing their food habits. For example, the Mexican taco dinner has become a common Friday tradition in Norwegian homes, and taco dinner kits are stocked in all grocery stores. The vegetables commonly used (avocado, maize, tomatoes, salad, etc.) are either not produced in Norway or are available for only a short period in the summer. To 'succeed' with CSA in the family setting they had to strike a balance between 'traditional' eating and seasonal eating. This is illustrated by the mother who had engaged in CSA as a family project:

> *I don't stop buying lettuce just because I get vegetables from Virgenes. I'm a bit conscious about the fact that this is something I have chosen, and I don't want the others to lose interest, so we eat something else. So the Friday-night taco dinner is still a ritual, and little of what we get from Virgenes fits with tacos. He [husband] has resigned himself to it. I think we can say that he's on the sidelines, but I think he sees the value, especially in the autumn when we get a lot of strange vegetables. And we have a son who loves cavalo nero. He doesn't want potatoes and normal food, but freshly fried cavalo nero. (Informant B)*

Like several of the informants, she was the driver of the CSA engagement in the household, and had spent considerable energy in getting her husband 'on-board'.

Another important aspect of the informants' food habits that we explored was whether being engaged in CSA changed their practices regarding food waste. All the informants stated that they always tried to keep their food waste to a minimum, in line with general norms and discourse in Norway. However, several pointed out that their volume of food waste had increased from peeling and cutting up vegetables, while their volume of waste from plastic and paper food packaging had noticeably decreased.[1] Several informants also reported a change in the meaning attributed to food and subsequently food waste after engaging directly in farm work and harvesting. As they appreciated how much time, effort and resources had been put into making the food, they felt it was much harder to throw food away or even eat takeaway meals. At Øverland, participating in farm work was compulsory, whereas at Virgenes it was optional to pay a slightly higher fee to avoid the compulsory farm work. As most of the members interviewed from Virgenes did not participate in the farm work, this finding was most prevalent among the informants associated with Øverland. This indicates a change in practice. As illustrated by an informant living alone who frequently used to eat take-aways:

> *You can get fed up and just feel like ordering a burger, but then you see how hard they work on the farm and I know I have vegetables lying at home that will go off if they're not eaten. That bothers me a bit and preys on my conscience, so I have to go home and actually prepare a dinner. (Informant L)*

Several of the informants stated that their experience from CSA membership over a year reinforced their motivation to live more sustainably and reduce their climate emissions. They ate vegetarian or little meat, minimised food waste, used public transport or carpools, and tried to keep their consumption to a minimum.

> *I shop less now, yes. Don't have any figures or a proper overview of how much. I do appreciate the seasonal variations and have become more aware of them. And perhaps try harder to be more conscious of food that travels long distances or that is resource intensive. (Informant K)*

In addition to seasonal eating, two of the informants had made more radical changes and shifted from eating meat to eating only vegetarian after joining CSA. However, two informants reported eating more meat as a direct result of how Virgenes farm provided meat produced according to their values:

[1] Food and plastic waste are placed in different bags for waste management in the Oslo area, where most of the informants live. The food waste is used for biogas and biofertilizer and the plastic is reused.

> *Well, I've had a two-year period of eating very little meat because if I first decide to eat meat, it must come from a farm where I know that animal welfare is important. And I can't see that any of the meat you find in regular grocery stores guarantees that. So, the meat I want to eat is often expensive and not readily available. Now I receive deliveries by the kilo, so I eat it (Informant L).*

A superficial examination of everyday food consumption would hardly reveal a major change in food consumption, but rather, a re-adjustment of practices existing before joining CSA. However, the findings display small, subtle and mundane changes in practices where everyday life is oriented more towards what is in season at the farms. Most of the informants and their families changed their food practices to eat seasonally, increased the variety and amounts of vegetables in their diet, and spent more time planning meals. This tendency was found among members of both farms and seemed to be key to retaining CSA membership. Eating seasonal food can be interpreted as a form of counter-hegemony to capitalism's imperatives to increase the rate and tempo of consumption. CSA encourage a form of frugality by meeting needs (sufficiency) over creating new needs and desires, through sticking to the limited farm produce rather than the abundance in the shops. It also challenges the individualised nature of consumption in the rational choice perspective by sharing risk, knowledge, and labour instead of convenience and private ownership. In this process, the informants began questioning conventional food production and their role in it by asking themselves: who should profit most from food production? Who has legitimacy in deciding how food should be grown? How should uneven distribution of power within food production networks be resolved? And what can I as a consumer/individual do to influence food production in a more sustainable way? As discussed in the next section, the re-adjustment of practices involves a reconfiguration of what is seen as quality of life, which is at odds with the ideological framings of capitalist-based food production and consumption.

Transformation of values through CSA engagement

As discussed above, the motivations to join CSA tended towards a desire for more sustainable forms of food production and personal lifestyle. In general, as most of the informants had joined the CSA as part of an ongoing process to live sustainably for health and/or environmental reasons, it reproduced and reinforced their existing and internalised norms and values. A mother who had introduced CSA farming as a family bonding project for herself and her teenage son commented:

> *I feel it's just reinforced what we already had, really. I've long been concerned with protecting the earth and eating healthy and those kinds of things. And it's become even more important now. (Informant G)*

As noted above, CSA also provides capital to live by these internalised values as it provides access to the right resources: food produced organically and with animal welfare safeguarded; cultural capital and identity as CSA member; and skills through informal knowledge sharing within the CSA group. CSA thereby also plays a part in providing a social construction of new meaning to food consumption. This is illustrated by the mother who engaged in CSA to enable her family to connect with food production:

> *The children have been totally brainwashed, because here at home now we eat either happy eggs [from Virgenes] or sad eggs [from the shop]. And the vegetables are happy potatoes from Virgenes farm. [Laughs]. (Informant B)*

Here the difference of the farms also came into play as the ideologies of Virgenes and Øverland influenced their respective members' internalisation of norms. Virgenes farm emphasises animal welfare and soil protection, as well as a sharp critique of conventional food production in its communication to members and the outside world. It has about 10,000 followers on Facebook and publishes new posts several times a week. Many of the

posts also highlight linkages between health benefits and more diversified and organic cultivation. However, most Virgenes members receive their food via collection points and have never visited the farm. Many of them were dissatisfied with how the food collection system was organised, as they felt they received little information and were given short notice to pick up the food boxes. They saw themselves as consumers who had bought a product that was not delivered in the way they expected.

In contrast to the drop-off point system, the mandatory participation of members at Øverland (e.g. planting, weeding and harvesting) resulted in members experiencing it to be 'far more difficult' to waste food. Øverland communicates less with the outside world (both farms have long waiting lists, so they do not need to market themselves extensively), but the requirement to contribute labour and the fact that the farm is member-driven are part of a strategy to engage members in the CSA community in order to raise awareness about sustainable food production and consumption. This reveals how the informants are crossing points of different practices (Warde 2005), and Øverland's practice of engaging the members establishes links to the members food practices within the social field of the household.

For our informants, engaging directly with the farm work, either at Øverland or, for those who did so, at Virgenes, also provided a better understanding of how risk was distributed between farmers and consumers in the CSA system, and of the challenges in food production. As a couple living in central Oslo who had made a few visits to help out at Virgenes, in addition to picking up the food boxes, commented:

> *I understood more about it when I was there [Virgenes], that this is really a demanding thing to administrate. When we go shopping we're used to just topping up [with items we need], but it doesn't work that way here [at Virgenes]. It's more about what the weather is doing and all that (Informant M).*

Our interviews coincided with a particularly long drought (summer of 2018) that hit Norwegian farmers hard. Virgenes and Øverland (and most other CSA farms) had to ask its members for extra help to safeguard the crops. The members that actively participated thus experienced first-hand the challenges and gained an understanding of why the yield was reduced. This indicates that collaboration and sharing have an impact on the norms and values underpinning the informants' food practices. It also highlights how change is not a linear process; rather, people join CSA to exert their consumer power to push for social transformation. Their experiences as CSA members simultaneously influence a reorientation of values because they afford opportunities for people to reflect on and question their lifestyle, as well as providing the resources to implement change. Interestingly, the organisational set-ups of the two farms, where one is a cooperative that engages members, and the other one is primarily a system were members are 'co-owners' of the produce, lead to some different outcomes regarding changing norms and values. The difference between being for-profit or non-profit seemed to have little consequence in terms of reconfiguring new meanings and changes of practices, for the key dimension was the active engagement of the members providing direct experience with farming.

For a few of the informants, being part of a CSA also reinforced a deeper value change that led to more radical changes in practices. As noted above, two of the informants had chosen to become vegetarian. But some had also been inspired to make choices in other areas of consumption. Two families with small children had chosen to use the train when making regular visits to extended family, thus increasing travel time from 1,5 to 7,5 hours. Another informant had chosen to avoid flying altogether:

> *Yes, I've cut down a lot on travelling. I'm more conscious about what I do and why I do it. Last year I went on holiday to Portugal travelling only by train, and it was very enjoyable. Many of these changes are gradual processes that I had started before I became a [CSA] member, but*

> *I'm becoming more and more conscious, and things are becoming increasingly easier to do. My attitude towards things – we buy so many things and junk that serve no purpose. Before I buy something now, I have to think carefully about whether I actually need it or whether it's just a whim (Informant L).*

Though 'flight shame' has become a concept in the Norwegian public debate, the informants linked their change of practice to a strengthening of their environmental values through CSA participation.

It is however worth noting that the change of travel practices, as in the case of food habits, were limited by everyday challenges of time and energy. All, except three of the informants, used their private cars to get to the farms. 'Last mile' transport is important for the environmental sustainability of CSAs, as grocery transportation systems are often more efficient and thus less emissions-intensive than private transport to and from farms (see Coley, Howard and Winter 2009). As the farm manager at Øverland put it: 'We'd like to see more bikes out here in our car park'. Øverland farm encourages its member to reduce their food waste, but there was no pressure on members to change their mode of transport, as travelling by public transport or bicycle to Øverland takes about one hour from central Oslo. To get to Virgenes from Oslo requires about four hours and three different means of public transport. A trip from the nearest town Larvik takes about one hour. Together with lack of time, travel distance was one of the major reasons given for discontinuing membership.

As shown above, the experience of being a CSA member has provided both subtle and mundane changes in routinised food consumption behaviours. The practices in themselves are not fundamentally transformed, but the way they are approached, understood and experienced has changed, along with the associated interactions and identities that the practices sustain. Changes in norms and values underpinning food consumption practices have in some cases also led to changes in other types of consumption. Participating in food production through collaborative consumption (engaging in the production itself or sharing risks with the farmer) and eating seasonal food played an important part in this process. Several informants constructed meaning in eating seasonal food as a symbol of being more aligned with nature's principles and in harmony with environmental values. These changes were not linear, but rather circular, entailing gradual shifts in several domains to establish an effect on practice. But, as noted above, several of the desired changes were severely hampered by expectations of productivity (time-squeeze) and social relations.

Discussion

This article has used social practice theory to explore how new CSA members make sense of and value food habits, and whether this has influenced their food practices. The findings of this study provide a deeper understanding of why people are motivated to become CSA members. They also show how this affects changes in food consumption practices that may be seen as a steppingstone towards pro-environmental behaviours in line with a low-carbon society.

Social practice theory provides a conceptualisation of people's motives to use their consumer power to join CSA as a means to break with or re-align their practices with the expectations of their social fields. The discourse and effects of global climate change is one dimension that induces a shift in how people judge and give meaning to their everyday practices. Another dimension brought up by the informants is criticism of the market economy and capitalist food production as being unsustainable for nature, animal welfare, national food security and farmers' livelihood. Hence, a decision to join CSA is not only a result of attention to one's own well-being and convenience, but also belongs to a more complex decision process including environmental considerations, solidarity and connections to the farmer (Schnell 2013).

Shove et al. (2012) focus on the interlinking dimensions of materiality, competence and meaning, which provides insight into how CSA membership establishes and alters practices. Materialities such as access to food produced according to the informant's values, to the opportunity to cultivate and harvest directly, and to social media platforms for knowledge exchange are important resources in this regard. Immaterial capital from being a CSA member, such as skills, social networks and cultural capital, also influence people's ability to transform their practices and the social norms that drive and reproduce these practices. The majority of informants felt they had acquired the opportunity to live according to their values supporting sustainability. The changes in practices reported were a re-alignment of existing practices, such as eating more vegetables, eating more in-season and locally sourced food, planning meals differently, and shopping less during the growing season. Only a few had made a more radical break with practices: becoming vegetarian, embracing time-consuming food preservation techniques, reducing overall consumption, and choosing environmentally friendly forms of long-distance travel.

Using the lens of social practice theory also reveals how the subtle and mundane changes in everyday practices of the majority are linked to internalisation of new norms and values. These are fundamental to a deep transformation that gives new meaning to quality of life (Mattioni et al, 2020; Warde, 2014; O'Brien and Sygna, 2013). Eating seasonal food can be interpreted as a form of counter-hegemony to capitalism's imperatives by eating what is available from the farm rather than from the abundance in the shops, and by sharing risks, knowledge, and labour instead of prioritising individual ownership and convenience. CSA also implies a system change with new value-chains (alternative food networks) since it operates outside the market, and a post-capitalist rationale (sufficiency vs. creating new demand and sharing vs. individualisation). The experience of engaging in CSA strengthens this process by influencing individuals' reflexive consideration of their own everyday habits and their role in the food production system in Norway. In particular, the informants who engaged in the food production themselves, by working on the farm and doing manual harvesting, seem to have changed their awareness of food as a valuable resource and accordingly to have replaced old eating habits (such as eating take-aways or throwing away food).

This study also points to the challenges of making changes in practices that are in line with a low-carbon society. As Wilhite argues, for collaborative consumption to be a grassroot pathway for transforming the political economy, it would need to be upscaled to the mainstream society where participants engage in it together as a social movement for collective action (Wilhite 2016). This would require that collaborative consumption tie in not only with the existing symbolism (often focused on comfort, freedom, and ownership), but also with current social trends (declining importance of ownership amongst young adults) (Leismann et al. 2013). The informants' main difficulty (including those that quit their membership) was to balance the expectations of different social fields in busy work-family-life schedules (e.g. fitting in travel to the farms, planning and cooking meals) and family members' desire to reproduce food 'traditions'. To professionalise and respond to demand, CSA farms may need to strike a balance to secure members' convenience, for instance by removing mandatory work contribution and delivering food to drop-off points closer to the members' location. This was found in this study to be an important dimension in engaging people in a transition towards more sustainable practices (see also van Kralingen 2019; Lang 2010). Furthermore, as the informants operate within the parameters of a market economy rooted in ideas of individualised consumption and not in opposition to it, their role as CSA members was understood as one of economic actors, not political activists. This was accentuated by how our informants placed most emphasis on their position as individuals exerting consumer power and not on CSA as a community. Another important point in terms of upscaling is attention to whether the CSA model is inclusive and sustainable. Our material and other literature suggests that the challenges related to work, time and competence result in a considerable threshold for participation. This can explain the 'homogenous' group of CSA members found in the literature (Chen et al., 2017; Vasquez et al. 2016; Lang, 2010; Schnell, 2007).
In addition, more critical attention needs to be directed towards economic sustainability in terms of working conditions for CSA farmers and employees on the farm, as well as potential effects on national food systems.

Despite the overwhelming challenges, we find that collaborative consumption in the form of CSA helps to put sustainability issues higher up on the agenda in mainstream society. This could enable the upscaling of sustainable practices to a critical mass of people (Westskog, Winther and Aasen, 2018; see also Smith, 2007). However, for it to induce a system change, a shift in multiple arenas that work towards the same goal of low-carbon transformation is needed, such as better transport arrangements, better policy frameworks for collaborative consumptions initiatives (including regulatory changes), new technological platforms, and so on.

Conclusion

This article has shed light on how the informants' engagement with CSA as collaborative consumption has potential for transformation. It enables new skills, materialities and a reconfiguration of values that is needed to produce everyday practices more in line with a low-carbon society (Wilhite 2016; Sygna and O'Brien 2013). However, though CSA engagement has influenced the informants' practices, these changes have seldom been radical and most experienced considerable challenges in their efforts to live more sustainably. Mundane changes in everyday practices, though important in themselves, are a far cry from collective social action towards alternative food production on a large scale. We also conclude that aspects of inclusiveness, contextual factors and sustainability need further research and policy focus in order to make CSA a viable system change on a large scale.

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The Local Culturalisation of Pro-Environmental Policy: Cultural responses to organic farming in Sardinia and Finnish Kainuu

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Abstract

This article explores responses of farmers and other agricultural experts to organic farming in two cultural spheres as examples of the cultural adoption of pro-environmental innovations. The data is based on semi-structured interviews with agricultural actors conducted in Kainuu, Finland, and Sardinia, Italy, and it was analysed using qualitative content analysis. The research's analytical approaches are based on a regional and professional division of collective identifications, that is, on division by their spatial location and industrial sector. The local perception is derived from identities shaped by local environmental capital and cultural landscapes. In both cases, the peripheral territories belong to the contemporary capitalist arena, and their representatives aspire towards social mobility through isomorphism with respect to the centre. Organic farming provides a platform with which to analyse the peripheral regions, showing that unidirectional and diffusionist modernisation schemes do not always work similarly. The separation between organic farming as a neutral technical concept and as a symbol indicates that similar criteria and official requirements vary according to local realities in different cultural spheres. In such situations, formal environmental standards meet centuries-long traditions, with all their implications. Sometimes these implications ease pro-environmental diffusion. Sometimes they may expose a lack of local knowledge and cultural sensitivity in formal standards.

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Introduction

The idea of 'just transition' is currently manifested in many international environmental initiatives (e.g. the European Green Deal 2020). It aims to ensure fair burden sharing between people and regions when it comes to the socio-economic costs of a sustainability transition. Just transition has so far been seen primarily as an income transfer mechanism to compensate for the disadvantages of economic upheaval. The socio-cultural dimension of the transition has however received less recognition. Moreover, as the traditional role of industry (agriculture) and its change vary between societies, what is considered fair or unfair in transition presumably also varies.

This article explores responses to organic farming in two cultural spheres as examples of the cultural adoption of pro-environmental innovations. The data is based on interviews with agricultural actors in Kainuu, Finland, and Sardinia, Italy, which are often considered to represent quite different cultural contexts in terms of tradition and political behaviour (see, Galland & Lemel, 2017; de Borms, 2005). They do nevertheless have in common the fact that they are peripheries with respect to the nation-state in which they are located.

Why choose organic farming as an example? It is a multifaceted and strategically important concept for environmental policy. Although the roots of organic farming trace back to the early twentieth century, its societal importance increased at the end of the century when awareness of the environmental problems caused by intensive agriculture led to resistance to such methods (see, Barton, 2018). Officially, organic production is assumed to combine a high level of biodiversity, the preservation of natural resources, the application of high animal-welfare standards, and production methods in line with the preference of certain consumers for products produced using natural substances and processes. The method suggests a dual societal role: it provides for a specific market, responding to varying consumer demands, and it delivers public goods that contribute to the protection of the environment and rural development (OJEU, 2018). Detailed regulation is a crucial element of organic farming. Inspection covers all the stages in the production process, including primary production, storage, processing, and packing. All organic farmers who sell their products must be registered with the competent and accredited inspection body (European Union 2018a, 2018b). As strong and formalised top-down regulation by supra-local or transnational institutions is highly likely to provoke a reaction among people who have a close interplay with their immediate environment, it is crucial to analyse how they usually adapt to strict control.

Organic farming is an interesting example, as it has developed as its own production system, separate from conventional agriculture. The pioneers were neither key players in agriculture, nor professional farmers. Thus, the first organic farmers were from outside traditional farming or agricultural bodies such as farmers' unions, and often had an urban background. One of the most researched topics has been organic farmers themselves, their motives and their identities. This focus was especially popular in the 1980s and 1990s. Comparing and even clearly contrasting organic and conventional farming and farmers have also been popular themes. Organic farmers can be roughly divided into two groups: environment and health-oriented small-scale pioneers whose values were not material. Their organic production is small-scale and artisanal, and they operate according to the so-called organic principle. When talking about newer organic farmers, we mean primarily farmers who switched from conventional to organic farming in the 1990s, and especially after the mid-1990s. Their perspective is primarily economic, and their farms are often large and market-oriented. They are professional farmers. The motives for switching to organic vary, and it is quite difficult to name a single comprehensive criterion or motive for this change. In addition to the motives of organic farmers, the decision-making process in the transition to organic has also been examined. It is generally stated that the decision to switch to organic is the sum of a great many factors, as organic means different things to different people. (Mononen, 2008.)

Research on organic farming has expanded beyond the world of values, identity, and organic farms. Researchers

nowadays are particularly interested in organic consumption and the development of the organic food industry. A range of studies (e.g. Michelsen, 2001; Mononen 2012) have shown that organic farming can be framed differently. Organic farming is part of the global food issue, but it is also linked to rural development policy. For example, in Finland, organic farming became a major rural development strategy and a survival method for farm families at the end of 1990s. The bases for advancing the organic cause have changed, from agricultural policy through environmental policy in the direction of food policy as well as climate policy. Climate change has activated a discussion of what in the future would be the best way to produce food and at the same time limit climate change, reduce greenhouse gas emissions and guarantee the global food supply. Since organic yields are smaller, it has also been argued that a large-scale shift to organic production would only aggravate the global hunger problem (Stolze & Lampkin, 2009: 243). Many research reports have shown clearly that organic production has gone through a process of institutionalisation and is clearly both globalised and conventionalised (e.g. Michelsen, 2001; Mononen, 2008; Osterveer & Sonnenfeld, 2012). Its expansion has been affected by economic and political actions, mainly common legislation, subsidies, and definitions of organic farming.

Less attention has however been paid to the fact that, in addition to a technical concept, organic farming also symbolises the largely accepted aims of more sustainable ways of life (see, Guthman, 2004; Kings & Ilbery, 2010), which in some cases implies moral superiority (Horton, 2003). Yet the strict criteria for organic farming may entail global pressures on traditional farming methods and therefore possible threats to local ways of life and traditional environmental capital (Wilson, 2012: 65–68). This shows the ambivalence of the concept of 'organic' and raises the question of uneven power relations and polarisations between global centres and rural peripheries. Thomas Eriksen (2017: 152) has pointed out that *the increasing predominance of large-scale systems has created clashes of scale where the local level repeatedly conflicts with uniformisation and standardisation from above*. The more locked sustainability solutions are, the more they erase patterns that are local and based on a specific ethos, and this may cause cultural resistance.

Here, the separation between organic farming as a neutral technical concept and a more culturally constructed symbol is a crucial analytical distinction between the rational and the emotional aspects of environmental concerns, as well as in the process of cultural acceptance and rejection. Different cultural landscapes produce different expectations and political representations with regard to the standards of organic farming generated at higher decision-making levels (Häyrynen & Hämeenaho, 2020). These expectations and representations are largely connected to the farmers' traditional ways of life. Based on this, our question is: how do responses to organic production reflect local cultural environment? How are cultural elements capitalised on with respect of organic farming, and how is the process of capitalisation linked to the social institutions of Kainuu and Sardinia at stake? Do Sardinian farmers base their expectations more on the traditional discourse, and Finnish farmers more on official discourse?

Cultural dynamics of being an organic farmer

The cultural perspective has often been applied in the studies that evaluate and plan individual municipalities (Tabara & Ilhan, 2008; Stevenson, 2005). Our purpose is to fill the research gap resulting from a relationship between people and a particular local condition of human/nature-relations, rather than from what is understood as a purified, decontextualised system of general formalities (Boillat & Berges, 2013). We apply three central concepts in this exploration: differences in cultural impact, place attachment, and periphery.

Cultures are collective cognitive processes, relevance structures which individual members of a group use to assess various value questions and simultaneously to be identified by others (Geertz, 1973: 312–313; Kahan, 2008). An important definer of a culture is how it faces modern and previously unknown ideas and

phenomena. It is our understanding that people use their contextual cultural habits and traditions to manage and soften the blow of change.

It follows that the local response to organic farming does not merely depend on the biophysical capacity to meet formal standards (Fish et al., 2016). The local perception is also derived from identities shaped by local environmental capital and cultural landscapes. Identity is mutually formed through lived experience and a sedimented history of contacts with the surrounding nature and society. Farmers generally have a strong professional identity and other globally shared characteristics. Their fundamental relation to the land, the weather and typical cycles of nature may strengthen dedication and commitment to traditional ways of life and methods of farming. Cultural lags may reinforce community resilience and accelerate path-dependent behaviour.

The starting point here is however that *differences in cultural impact* become more apparent when different cultural spheres and local realities are dealt with in parallel. Understanding the variation between different local reactions requires a convergence of research from multiple field sites (Loloum, Abram & Ortar, 2021). Such a meta-analysis would not aim primarily to provide generic knowledge about local reactions but rather to illustrate the variety of ways in which local people use traditions with local, often anecdotal knowledge to cope with the challenges of life. The social science interest in this diversity is above all between Southern and Northern Europe, which is in many ways a heated question in the EU.

We therefore approach culture here through the concept of place-specific collective identity. If people use their cultural heritage to manage and soften the blow in the face of change, as we assume, place-specific identity would turn into a contextual, culturally dependent element of social capital. To verify this, our analytical approaches are based on a regional and professional division of collective identifications, that is, on their spatial location (peripheral rural areas) and industrial sector (agriculture). Place attachment entails collective action and social mobilisation across disparate social and economic groups that can be brought together in a common endeavour in the name of the region as a shared community.

Place attachment is based on practical and emotional bonds as individual identity processes (Farinelli, 2020). Practical bonds include, for example, political-economic institutions, climatic systems, and natural habitats. Emotional bonds arise from familiarity, a sense of belonging that plays a role in motivating individuals to care for places (Devine-Wright, 2012). Peripheries are often defined statistically by how sparsely populated the areas are, or how far away they are from given centres. They are also measured by how dependent the region is on income transfers or what the region's geopolitical position is. An inability to meet the centre's assumed economic or political standards may result in an inherent lack of self-confidence (Keating et al., 2004: 27; Harvey, 2006, pp. 72–73). Communities imagined as peripheral are thus generally driven by their attempts to get in from the margins. As is common in contemporary environmental strategies, one way to achieve this is to emphasise the positive features or 'different strengths' (Gloersen, 2009) of being outside the mainstream and densely populated areas. This highlights the dual meaning of modern sustainability strategies as both a sign of upper-scale subordination and an option to get rid of such subordination.

The *periphery* can thus be a state of mind, socially produced for various societal interests. It may translate into a bitter attitude towards the imagined or real subordination included in modern ideas, or into a bluster about having a better connection to local problems than outsiders (Eriksen, 2017). Yet the peripheral state of mind may also strengthen community resilience against directional concepts that are unable to capture local reality (Wilson, 2012; Häyrynen & Hämeenaho, 2021) or regulation that seems to go too far (O'Riordan et al., 2015). Such a peripheral attitude depends on a cultural environment that is embedded in social institutions and standard behaviours. The dialogue between familiarity and unfamiliarity determines cultural evolution and, at the same time, the cultural capacity to cope with change.

New formations contain inner dynamics that appear in the gaps between the official discourse and the popular response to it and that cause tensions between, for example, local knowledge and scientific rationalisation (see, O'Riordan et al., 2015: 130). According to Galland and Lemel (2017: 275), Italians emphasise traditional and family values, whereas in Finland, individual activity and voluntarism are both cherished (de Borms, 2005; Inglehart, 2000, 3). Value differences are often regarded as nuances; however, such nuances may be amplified in response to unknown phenomena (Kahan, 2008). They clearly show confidence placed in and distrust shown towards various societal institutions (Galland & Lemel, 2017). By seeking someone on whom to rely, people simultaneously choose the quality criteria in which they most trust and believe.

Methods and data

Our data are based on several studies providing culturally different views on the modernisation of agriculture in Kainuu, Finland, and Sardinia, Italy. Both regions are classified as *peripheral* due to their principal socio-economic statistics, based, for example, on labour market indicators, income levels, depopulation, and the usability of public services compared to national averages.

In Finland, 10 semi-structured interviews were conducted in autumn 2018 for the purposes of this article: three were with conventional farmers, four with organic farmers, and three with experts in agriculture and organic farming. There were eleven questions in total in the interviews (Appendix 1) based on professional identity, perceptions about agriculture and organic farming, values, and agricultural policy. The interviews were funded by the Academy of Finland.
The Italian data were collected in a large research project on changes in agropastoralism and sheep-dairy chains in the Sardinia region, considering that sheep farming is the most important agricultural activity there. This project benefited from different funds over the years (by the Sardinian Autonomous Region, the University of Cagliari, and the European Commission) and was based on mixed methods. For the purposes of this article, we focused on 20 in-depth interviews with sheep farmers, both conventional and organic. Some of the questions were similar to those of the interviews conducted in Finland (Appendix 2). The in-depth interviews were held during the main part of the qualitative field research, between February 2016 and August 2017.

Although our samples do not match, they amply reflect general attitudes to organic farming in their respective groups. We analysed the data by means of qualitative content analysis. This allowed us to organise various research materials into a compact form in order to draw conclusions about the variation of cultural responses (Tuomi & Sarajärvi, 2011). The parts concerning the main themes (future expectations of the profession, the hierarchy of social circles and ideas on regulation) were extracted from each interview for analysis. The answers were categorised as professional identities, place attachment, and the peripheral factor. However, the discussions overlapped in many respects.

Letters and numbers like 'I9Fex' after citations are coded, where 'I9F' means 'interview nine in Finland (I=Italy) and 'ex' means an *expert* ('of'= *organic farmer*, 'cf'= *conventional farmer*).

Case studies: Finland/Kainuu and Italy/Sardinia

Kainuu's outward image is filtered through the idea that the region is backward and lacking progress. Even the provincial anthem of Kainuu is mostly about hunger and misery (Lyricstranslate, 2019). Yet organic production has created great expectations of keeping rural areas economically viable and reducing climate change. In Finland, the desire for organic farming to combine quality, quantity and environmental friendliness

was criticised at first. EU membership however changed the societal condition and role of agriculture in Finland dramatically. Organic farming became a major rural development strategy and a survival method for farm families (cf. Mononen, 2012). Subsidies have been crucial for its expansion and legitimacy. In the past, when only conventional farming received subsidies, farmers defined it as legitimate. When subsidies began to be paid for organic farming, it turned from hobby and nonsense into a legitimate form of farming for various actors (Mononen, 2012).

The organically cultivated area in Finland accounts for 13.5% of the total cultivated area, and the share of organic farms of all farms is 10.7%. In Kainuu, the development of organic farming has been steady since 1990. In 2019, there were 115 organic farms (18.3% of all farms) and 25.4% of all farming land was under organic cultivation. The average size of organic farms was 54.8 hectares, a little less than the Finnish average (60.9 hectares) (Ruokavirasto, 2019). Agriculture in Kainuu has traditionally been small scale and specialised in dairy and cattle farming, with milk production being the main activity. Part-time farming has been a significant feature. Climatic conditions limit plant production to a few species and fields are small and scattered. The corporatist Finnish milk model has ensured centrally organised decentralisation; peripheries have been taken care of, especially when the influential agrarian party has been in power, but strictly under the control of central government (see e.g. Jokinen, 1997).

Like Kainuu, Sardinia is often stereotypically defined as one of those peripheral and backward regions of southern Italy characterised by a socio-economic gap from the centre-north (Farinelli, 2019). In 2017, 14.5% of Italy's agricultural fields were under organic crops and 22.1% of all farms were involved in organic cultivation (RRN, 2019). More than 70% of the surface area under organic farming is located in Southern Italy, specifically where intensive agriculture is not feasible (CREA, 2017: 17). Organic farming suits the Mediterranean agropastoral model, which is mix of peasant farming and pastoralism. Since the 2000s, Sardinia has been one of the regions with the highest percentage of organic surface areas and farms, though recent years have seen a slight decrease in this trend. In this region sheep breeding is the most important agricultural sector and based on extensive grazing: in 2016, 49.9% of organic farmland was employed for permanent grassland. There were more than 12,000 sheep farms producing almost 70% of Italian sheep milk (Istat, 2016). Sheep milk is used in the industrial production of Pecorino Romano, a low-cost and standardised cheese for export, specifically to the US where the food industry uses it as grated cheese to flavour industrial foods. Pecorino Romano is not a typical local product; it was imported to the island in the early 1900s because there was cheap milk available. High demand for Pecorino Romano has driven the growth of sheep farming in Sardinia, though shepherds have become dependent on the global market price. Profitability is low, and the price for milk is highly volatile, with recurrent periods when the price of milk goes down (Farinelli, 2018; 2020; Simula, 2019).

Results

Professional identity and the future of organic farming

Our first round of questions concerned the interviewees' professional identities as agricultural actors and their perceptions of organic farming. We also wished to discover what the interviewees thought about the future of their farming. Farmers in both regions based their understanding of agriculture on the traditional way of life. They also used the words 'profession' and 'entrepreneurship', especially in Finland.

> *…I'm proud that I'm able to produce Finnish, strictly inspected, clean food.* (I10Fof)
> *It's so different. It's meaningful and challenging work. It's a tradition. There's a chain of generations, and it's also a solution for climate change.* (I4Fof)
> *It means producing food, the tradition of generations, a way of life. Nowadays it also means being an entrepreneur.* (I6Fcf)

For Sardinian people, shepherding is not only a 'profession' but a way of life that is learned and understood from a childhood spent in the countryside. It involves tiring manual labour, characterised by continuous mobility herding the flock, exposed to the weather and harsh conditions and with limited time for leisure. Being a shepherd means understanding the sacrifices related to the job, and it involves the whole family:

> *At the age of five I was here* [sheep farmer]*...I went to school but in the evening, I came back to the countryside. And that's how it is for our children too. We take them to school, and we introduce them to the basics of the work.* (I2Icf).

> *I started working when I was eleven. ...In the early years I went to middle school, which I didn't even finish…Then I did five years as an apprentice shepherd. ...That experience…was useful for me and for my business. My parents were shepherds. I was born a shepherd!* (I1Iof)

Farmers were also asked if they considered the transition to organic farming necessary. In Finland most interviewees regarded organic production as an important food production method as it was free of pesticide residues. More interestingly, it was perceived as important for the quality of farmland and many believed that, instead of converting to organic farming, adopting some of its techniques was important and useful:

> *Organic farming is an alternative to conventional farming. It's safe and cleaner in a way for the welfare of farming land and animals. I don't think every farmer should convert to organic farming, but it's important for the quality of farming land that some organic techniques are used to reduce the need for pesticides.* (I10Fof)
> *It's a good and well-functioning way to produce food. It would be good if others also adopted some organic farming techniques, not only in Finland but globally. For most farms, organic farming would be the most rational approach.* (I4Fof)
> *It's interesting. There are lots of good things in it. We have an integrated farming system, meaning we use some organic farming techniques. But we have no intention to convert to organic farming.* (I8Fcf)

In Sardinia the transition to organic farming is considered unnecessary, especially for conventional farmers. The organisation of breeding through extensive pastoralism and grazing is considered a guarantee of authenticity and naturalness. A constraint to organic farming is thus also represented by the land available. Both conventional and organic farmers pointed out that organic farming could only be feasible if land were available, whereas industrial organic production, despite being certified, was not very natural:

> *We've chosen organic because it's our future. …For almost 30 years I've been doing organic, since the birth of the organic movement. There is great potential for organic farming, but we must all believe in it! ...Some are convinced it's a sort of organised scam! ...But that's not true!... It's a natural thing – organic farming is a natural evolution! ...My sheep graze in the pasture, eat lentisk and other herbs from Mediterranean scrub. It's a 'supplement' of natural things – they can't always be shut in the barn! There's a difference to other 'organic' products: battery hens eating organic fodder produce organic eggs...it's clear! These eggs are organic, but they aren't natural! In my opinion we need to be 'organic' but also 'natural', like my raw milk cheese, made by grazing sheep!* (I7Iof)

Sardinian farmers do not value the organic concept highly; something being natural, genuine and healthy are more important concepts. As these are linked to the shepherd's work, there is no need to certify them. Conventional farmers producing only milk to sell to industry perceived organic farming as a technical issue. They said a complete transition to organic farming would be difficult because of the strict rules and lower

yields. In some cases they preferred to adopt certain organic practices without certifying the farm. It shows the concept of organic farming was mostly perceived positively. However, it was more perceived as synonymous with natural or wild growth and not linked to any general ideological or formal sustainability.

Some of the respondents who no longer sell milk to the industry and directly process cheese from their own milk have been inspired by agricultural multifunctionality. Although the Mediterranean agropastoral model is traditionally based on multifunctionality and complementarity between agriculture and pastoralism, since the 1970s sheep farms have become monocultural, that is, specialised in the mass and low-cost production of sheep's milk to sell to the Pecorino Romano industry. This has generated heavy dependence on the market and high milk price volatility (Meloni and Farinella, 2015). Following the suggestions of Ploeg and Roep (2003) and Ploeg (2008), many Sardinian pastoralists have been rediscovering multifunctionality as a way to increase their autonomy from the global market and to enhance cultural and ecological biodiversity. They are producing their own artisanal cheese and offering local collective goods and services such as agritourism, renewable energy production or social agriculture (Nori, Ragkos and Farinella, 2017). Multifunctional farms in our study also admitted many difficulties in getting organic farming certification because of the high costs and excessive bureaucracy involved. At the same time, they were unsure about the potential outlet market, while in local markets they could still sell their products because they had created relationships of trust through direct knowledge. Therefore, they preferred to remain in the natural and uncertified organic system where consumers' trust in genuineness and naturalness stemmed from the material reputation farmers built in their daily work:

> *For me, organic is too disgraced by scandals. People no longer believe in it. I tried to get an organic certification, but they asked me for €2,500 for the paperwork alone, with no certainty of obtaining certification. So, I didn't bother. I think it's trust that makes your product organic. It makes us known to the customer. We even bring the customer here to show them how we work. In that way we earn the customer's trust.* (112Icf)

These multifunctional shepherds deliberately focused on the quality of the milk and grassland. They had rediscovered the importance of extensive pastoralism, wild grazing and paying attention to the animal feed. They produced cheese manually, following traditional methods,although they also experimented with raw milk cheese, or cheese with vegetable rennet or without lactose:

> *I was determined to use raw milk processing, with natural fermentation, without any kind of treatment, just our farm milk ...to use a process that is not registered as organic but basically is.* (110Icf)

Meanwhile, certified farmers emphasised that they wanted to see their product recognised as organic:

> *The choice for organic comes from the idea that by making a natural product, making raw milk cheeses …To gain a value for this it's better to have it certified as organic...so that you have recognition. But it's very difficult…Many here are convinced that 'we all do organic so we don't need certification'! But they're wrong!* (171of)

The expectations of farmers in the Finnish periphery seemed a little gloomier. It was believed that agriculture would concentrate on the productive areas of southern Europe. When asked how this would affect Finnish agriculture, interviewees were unanimous: it would create difficulties, it would finish Finnish agriculture off and ruin the country's food security. The interviewees shared the opinion that agriculture should stay in Finland, but that this was unlikely. Agriculture would concentrate anyway, naturally. There was therefore a need for serious discussion on which products should be produced in Finland, and then for final decisions to be

made accordingly. The mitigation of and adaptation to climate change should hold sway in this respect. One interviewee hoped that generational changes would be easier. Another one said they would not prevent their children from becoming farmers, but they would not encourage them either. Similar points of view can be seen in the following extracts:

> *I personally think we should be self-sufficient with food, but the areas here are empty and the farm structure is changing. There will be big farms and these little ones will disappear.* (I9Fcf)

> *Of course, we need to maintain a high level of self-sufficiency and maintenance, and specifically in those products that are easy to produce under these circumstances...livestock products, dairy products, beef – these suit our conditions.* (I1Fex)

> *It's just the beginning of the end. It makes no sense. Even the most productive regions will no longer produce at their best. You can already see that more input is needed to get the same harvest as before, and food will be so impregnated with chemicals that there'll be some real problems ahead.* (I7Fof)

Only one of the Kainuu interviewees expressed a desire to move away from the farm. However, her husband's relationship with local nature was too strong. The answers about the future of farms suggested there was serious concern about the continuance of production and traditions. One farmer said that however optimistic he tried to be, there was no one to continue farming after him. Another one hoped a family member would want to continue. On one farm, plans were being made to increase production in order to remain in business. The worst fear for one interviewee was that the farm would have to be sold.

Interestingly, two interviewees were worried about the level of education concerning the relationship between human beings and nature. They explained that young people's perceptions of the origin of food were weak, and that there had to be a balance between human beings and nature. Humans needed nature to survive, and they had to exploit it. However, this needed to be based on sustainable development and *respect* (H5Fof). Everyone respected nature in their own way, because they were all part of it:

> *In agriculture the relationship with nature is very close.* [We are] *at the mercy of nature, but we enjoy it. We are surrounded by nature all the time and can go into nature any time.* (I9Fcf)

> *Wellbeing, of course. My environmental philosophy is that human beings belong to nature and can use it as a basis for their own lives. I don't consider human beings a threat to nature.* (I8Fcf)

Farmers in both regions had quite similar professional identities and were genuinely rooted in their traditional homelands. Sardinian agriculture has such a long tradition that farmers rarely wondered if agriculture had a future, but they underlined the difficulties of generational renewal due to aging, the poor birth rate, and land abandonment. The only guarantee for a Kainuu farmer was that there remained a strong public will for food to be provided in the immediate area.

Professional networks

To disentangle the structures of interest groups, we asked which organisations were at hand if interviewees encountered problems or insurmountable obstacles. Who were the most trustworthy people, and what organisations could they turn to in case of need? In the Finnish interviewees' responses it was clear that the Central Union of Agricultural Producers and Forest Owners (MTK) played a central role. It was seen as promoting farmers' interests. Only two interviewees (both organic farmers) failed to mention it. They were

doubtful if there was any support but answered that the Finnish Organic Food Association should be the one to offer it. Organic farmers stressed that the MTK was a powerless organisation that had failed to take organic farming seriously. Yet the attitude seemed to be changing:

> *Our interest organisation, the MTK, isn't on our side, and it's quite toothless with all these central stores and…it has no power in the face of the EU.* (I9Fcf)

> *MTK raised their hands a couple of years ago, and no one talks about organic farming any longer. The organic association is probably the only one, and perhaps to some extent the Green Party, but I cannot identify with their mindset even though I'm a greenie.* (I7Fof)

> *MTK is the only one we've got.* (I8Fcf)

> *Of course, the organic association is strong, and it's good that it exists. But then perhaps it's a little difficult to say anything about the advisory system – Pro Agria, for example.* [It] *obviously wants to drive everyone's interest.* (I3Fex)

Insurmountable obstacles in Finland mainly resulted in financial problems or mental problems like depression. The advisory organisation Pro Agria was considered the primary actor in offering support for these problems. The farmer's social insurance institution, Mela, and especially its *Välitä viljelijästä* (Take Care of the Farmer) project, was also mentioned. The importance of the Finnish stand-in scheme (Mela, 2019) was mentioned in two interviews. It was also said that it was difficult for individual farmers to ask for help, and that when they did, it was often too late. One expert said there were no networks to help individual farmers when problems arose.

There was great distrust of trade associations, cooperatives and producer organisations in Sardinia. Most shepherds were members of a trade association (many of Coldiretti) but stressed that membership was linked to the fact that many bureaucratic procedures for obtaining CAP payments were assigned to these associations, forcing them to belong. Many said that such organisations were too bureaucratic, often corrupt, and subject to a patronage that was careful to protect the interests of certain farmers:

> *Coldiretti and all the other associations still exist because they've hijacked all the CAP payments ...If they hadn't, they'd have long since ceased to exist … You can't look after this stuff yourself, because they* [CAP payments] *are all diverted to trade associations … It seems to me that I pay €90 for an annual membership, and then I pay extra for each bureaucratic practice they do for me!* (I11of)

Despite some informal mutual assistance networks, all the Sardinian interviewees stressed that the main problem was a lack of unity, extreme individualism and a lack of confidence. This was expressed by a Sardinian saying 'a hundred heads for a hundred hats!' In contrast, in Kainuu the network was much more organised and hierarchical.

(Dis)belief in regulation and the EU

The next group of questions concerned the prevailing culture of conventional agriculture and the role organic farming played in agricultural policy. Most Europeans appear to trust organic products, but many still hope for improvements in the control system (European Union, 2018a). Farmers, processors and traders must comply with strict EU environmental and animal welfare regulations in order to use the EU organic logo. An equally strict control system provides for checks to be carried out on these operators at every stage of the organic chain. Each operator must be checked at least once a year, based on a risk assessment (European Union, 2018b). There was a clear consensus among the Finnish interviewees that inspection was important

for consumers' and farmers' trust, as well as being important for transparency. Without inspection there would be many kinds of 'entrepreneurs', as one interviewee put it.

> *The marketing point of organic food is that it is precisely controlled production. So yes, I like the control system. It's justifiable.* (I10Fof)

> *Control is what makes organic farming organic farming. It should not be considered a burden, but it requires a certain attitude and systematic approach in everything one does.* (I5Fof)

> *Consumer confidence is maintained through the control system…If it were* [less strict], *it would be embarrassingly vigorous. An example of this is that in most countries there have been scandals related to organic products, which is really bad for the organic market…It is just like...control is essential.* (I1Fex)

In Finland, trust in and the need for – and even taking pride in – the strict inspection of organic farming was clear. It was considered a precondition for being genuinely organic. It was also central for building consumers' trust.

When asked if organic farming should be considered more in agricultural policy, conventional farmers in Finland answered that although it must be an alternative, there was no need for it to be given extra consideration in agricultural policy. Organic farmers also said that it was addressed well, both politically and economically. Many stressed that organic farming techniques would be important in the future and that organic farming was important for mitigating the current environmental problems:

> *Yes – at this time in the world, the more farms move to organic production and use organic methods in general when fertiliser industry resources have been reduced, the more there will be a need to cultivate using recycling and biological methods.* (I2Fex)

> *For me it means a person's wellbeing...But then valuing nature is a longer-lasting thing…for maintaining and improving farming land.* (I7Fof)

> *Organic is, in a way, cleaner when it comes to…animal welfare. Conventional farming could also adopt the good doctrines of organic farming so that there'd be no need to use pesticides as much.* (I10Iof)

Yet, it was a general opinion among the interviewees that requirements should however not create obstacles to converting to organic farming. None of the interviewees suggested that all Finnish agriculture should be under organic cultivation. EU membership had radically changed the Finnish operating environment and agricultural conditions, and the position of organic farming had largely improved owing to economic guidance. The interviewees mainly connected the EU's agricultural policy to subsidies. They noted that consumers got cheaper food, but that this also meant putting quantity over quality.

The interviewees also emphasised that there were many climatic and agricultural differences between EU member countries. Those that adopted agricultural or rural development programmes and decisions might therefore find it difficult to understand the conditions in Finland. EU policy was seen as ambiguous, and the policy programme circulation of five to six years was seen as too short. Farmers felt they were living under continuous pressure to change. Having invested in one's farm, one could find that a policy changes and requires something else. It was generally agreed that EU policy was going in a good direction with its

emphasis on climate change and environmental issues, but that it should give more consideration to national/geographical differences between member countries. One interviewee said that although the EU did not support Finnish agriculture or its organic farming, it made it possible for agriculture to exist in Finland. The EU had strengthened the role of organic farming through its subsidies and regulation.

> *EU agricultural policy has a good environmental perspective, including both production and environmental friendliness. The climate perspective has become stronger, and I hope it continues to do so. Though I can't think of all the details, I don't think you can blame EU agriculture policy for the big picture. Finnish agriculture couldn't get along totally alone.* (I4Fof)

> *It's good the* [EU] *exists, because we get subsidies.* (I9Fcf)

> *There's never been a need to consider organic farming as much as now.* (I6Fex)

In the case of Sardinia, as highlighted in Section 4.1, there is not much confidence in organic certification. The shepherds we interviewed perceived organic farming as expensive and bureaucratised, and thought that sheep's milk was naturally organic thanks to the grassland and extensive pasture that produced it.

> *My cheese is not certified. For me it is also a question of principle: my animals are completely grazing in the wild… So why do I have to pay for a certification that certifies that it is organic?* (I17Icf)

The traditional element of the shepherd's work was still central to local farms. The interviewees did not consider organic farming to be synonymous with good production, for genuine healthy cheese depended mainly on pasture and grazing. It was a product of raw milk, not of industrial processing. The shepherds who produced cheese paid great attention to how and where to graze the animals, displaying knowledge of local heritage and craftmanship. They had a strong awareness of agroecological values and focused on moving away from industry and its pressures aimed at productivist modernisation:

> *What's the difference between my products and the industry? Industrial milk is heat-treated, and that burns everything… Mine is a handmade product, so let's say that it is characterised...by manual ability. That's important – it gives character to the product. It's completely different from the industrial one.* (I18Icf)

For this reason, the growth of organic farming was often not an ethical or value choice but the result of an instrumental and technical attitude towards maximising the subsidies available. The interviewees spoke of the need to supplement the farm's income with CAP payments. CAP and EU incentives and opportunities had been inserted in a general strategy to strengthen farm households through financial liquidity and to counter milk price volatility and the risk of agricultural squeeze. This reveals the shepherds' rational approach and cost–benefit calculations; it was only convenient to cultivate the land with organic methods when the EU payment was high and there were no other alternative incentives. In fact, organic farming was considered much more binding and riskier because cultivation had to be done without chemical fertilisers or pesticides, requiring skills that farmers did not always possess and exposing them to the risk of losing their investment, especially in drought years. When the new CAP introduced other agro-environmental payments for farming practices that were less tiring than organic farming, shepherds preferred to move on to those:

> *When we started organic farming in Sardinia in 1994, we were among the first!... Me and nine other friends in my village, Bitti … We were looking for contributions! ...Many have abandoned it! I can't until 2018! Because if you become 'organic' in the CAP regime, you're tied to it for five years! If you leave before then, you must return all the subsidies!...* [I want to leave organic farming] *because*

> *'soil protection' instead of organic farming is less expensive than organic. …With organic farming you have to plough every year, and today that's risky with all this drought and bad weather! The 'defence of the soil' payment is €243 per hectare …for ploughing once every five years!* (1161of)

This instrumental attitude to organic farming was expressed above all by those shepherds who produced milk for industry. They were pressurised by the volatility of the milk price and organised their own business strategies to cover losses when milk prices were low. Farmers tried to optimise their use of CAP subsidies. For example, they were not interested in producing organic milk for the dairy industry because production costs were greater than in conventional farming and there was no marked difference between remuneration for conventional and organic milk. The latter no longer fetched a better price. Industrial organic production lines are still poorly developed in Sardinia. As ISMEA (2020) points out, although pastures and forages represent the main share of Italian organic crops, organic livestock supply chains are still fragmented and poorly organised. In Sardinia the percentage of organic sheep's milk remains residual. Even where production lines are present, they process very small quantities compared to the total production of conventional milk. For many sheep farms still linked to the industrial system, it was difficult, as some interviewees said, to 'take a few steps back' and rediscover the ecological quality and sustainability of traditional extensive farming. While farmers in Kainuu underlined the importance of regulation as an integral part of the concept and understanding of organic farming, Sardinian farmers saw it as nullifying what organic farming should represent.

Conclusion

The aim of this article was to explore responses to organic farming in two cultural spheres as examples of the cultural adoption of pro-environmental innovations. Our general idea was that the local response to organic farming does not merely depend on the biophysical capacity to meet formal standards. The local perception is also derived from identities shaped by local environmental capital and cultural landscapes. We were interested in how the cultural elements of being a farmer and living in a periphery were exploited in the practises of organic farming and how the process of capitalisation was connected with the societal environment as a whole**.** The study shows that while 'organic' as a technical concept can be quite consistent, as a symbol it may vary significantly. Local cultures clearly have an impact on the implementation of environmental policy. According to our data, people's place-specific identities are strong indicators of how to address environmental criteria imposed from the top down.

When it comes to professional identities and the meaning of being a farmer, pride and longing for independence characterise the farmers of both regions. The pride is strongly associated with traditional self-reliance and innovation. It is the attitude to regulation that varies regionally for the most part. The interviews in Sardinia show that when farmers adhere to organic farming, they justify their choice not ethically but economically, mentioning emerging markets, new consumer niches or paying more attention to quality. Values such as the preservation of cultural and environmental biodiversity, countryside protection and management, healthy production, animal welfare, sustainable agriculture and cultural heritage are part of an upstream-oriented decision to exit from industrial production, and not a decision to become an organic farmer.

The peripheral mentality adds an extra flavour to this process. It is evident in the answers concerning EU agricultural policy. In Sardinia, the political representation of organic production is more strongly linked to mistrust of the authorities. The nationally influential peripheral experience is illustrated by an active resistance to the public political hierarchy and active consent to traditional and informal structures. Control would take away the prestigious independence. The Sardinian reappropriation of 'the other' and an 'external' tradition (Pecorino Romano) underlines the pastoral model's capacity (which is often labelled as an expression of backwardness and underdevelopment) to adapt to the pressures of the global market.

In Finland, organic production is more of a national project, with modern farming methods and the EU being the new lifeblood. Networks of trust in Kainuu are based on and run in parallel with the modes of public control. The peripheral experience is based on centrally organised resistance and an active acceptance of corporatist solutions. Trust in the authorities has meant that EU membership is a major exogenous factor contributing to the local interpretation of organic farming in Finland. This is an important driver of the development/diversification of Finnish agriculture. It shows that major transformations require upper-scale structural motivation in Finland. This also explains why subsidies are crucial: without them farming would be impossible in northern Finland.

The EU is an older and less appreciated actor in Italy, and organic farming has become problematic in Sardinia. It is seen as a strategic opportunity to optimise EU subsidies and as a tool to diversify production in order to drive peasant agriculture forwards in enhancing territory, biodiversity and a direct relationship between producers and consumers. Another issue that often emerges concerns the tension between 'natural' and 'certified' organic farming. Strict regulation accords organic farming with strong corporatist anchors and a clearly dominant perception of organic farming which influences all the other interpretations of it.
When considering agricultural policy, farmers believe that the EU lacks an understanding of local climatic conditions, which may lead to inequalities in the distribution of subsidies and, thus, just transition. This reinforces tendencies to create sometimes over-optimistic impressions of the local status of organic farming. It can be interpreted as an implicit instrumentalism, equating more subsidies with formally appropriate justifications. An instrumental attitude is more transparent among Sardinians. As the land itself is perceived as organic, the belief is that formal organic criteria may be exploited like any other resource. The alleged local biocapacity thus proves to be a cultural product.

The research results are fairly consistent with those of studies that emphasise the importance of place attachment and indigenous knowledge as a component of adaptive capacity. For example, Boillat and Berkes (2013: 21) show that indigenous farmers in the Andes have a rich set of indicators used for indigenous ways of predicting the weather, including plant and animal indicators as well as astronomical phenomena. However, the awareness of environmental problems does not always translate into social action. When facing uniformisation and standardisation from above, people may feel a sense of helplessness that leads to fear, ignorance, or denial of the suggested environmental actions (Norgaard, 2011; Eriksen, 2017: 152).

Traditions are utilised to create a collective connection with like-minded people. Local traditions and anecdotal knowledge are used as material for resilience. One can speak of socio-traditional capital as a subtype of social capital. In addition to facilitating the aforementioned networking, it may serve as a human rights argument. Socio-traditional capital may be an even more crucial resource for environmental issues in a modern, digitalised and rapidly changing political environment than it was in the era of Fordist organised capitalism.

As for the just transition mechanism, many studies show a lack of coordination. In their broad comparison of regional profiles, Krawchenko and Morgan (2021) found that industrial transition policies have been largely devoid of social justice language, that is, language rooted in whole economy thinking (e.g. addressing structural inequalities, social issues, gender and socio-economic status). They argue that the inclusion of indigenous peoples and their traditional farming methods in decision-making, particularly regarding resource development, would be crucial in establishing recognitional, procedural and distributional justice. In practical terms, this means that a more sensitive analysis of cultural encounters than before is needed to implement just transition. The cultural dimension of the just transition mechanism must be kept on the agenda so that it has all the potential to become a realistic leverage across Europe.

As a concluding word, one may say that modern, pro-environmental concepts addressing today's ecological challenges are textbook examples of unfamiliar formations that local communities must face. They offer practical perspectives from which to analyse peripheral regions, showing that unidirectional and diffusionist modernisation schemes do not always work similarly. The separation between organic farming as a neutral technical concept and as a symbol indicates that similar criteria and official requirements can relate to local realities in almost contrasting ways in different cultural spheres. In such situations, formal environmental standards meet centuries-long traditions, with all their implications. Sometimes these implications hinder pro-environmental diffusion, sometimes they facilitate it. Sometimes they may expose a lack of local knowledge and cultural sensitivity in formal standards.

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Appendix 1 (questions used in Kainuu)

- What do you think about organic production? How necessary do you consider the transition to organic production to be? Why?
- Should agricultural policy take account of organic farming? Why or why not?
- What do you think about the inspection of organic production? Why?
- Which parties promote the interests of the individual (organic/conventional) farmer? Is there an alternative?
- Which organisation supports you if you encounter problems or insurmountable obstacles? (An authority, party, organisation, community or experts?)
- What do you think about the EU's agricultural policy? What do you think about the Russian sanctions?
- Is agriculture in Finland possible in the future? What does it require?
- Should agricultural production be more concentrated on the more productive areas (i.e. southern Europe)?
- What does agriculture mean to you?
- Could you move because of work? What do you believe/hope will happen to your farm in the future?
- What do you think about the relationship between man and nature? (If you see it as bad, how do you think it could be improved?)

Appendix 2 (questions used in Sardinia)

1. Could you tell me your personal story of shepherding: what does it mean for you to be a shepherd?
2. Could you tell us about the organisation of your sheep farm (how many hectares of land, what it produces, etc.).
3. What do you think about organic farming?
4. Could you tell us about the organisation of the work on the farm? (Who does what in the company? Are there salaried workers? What are the characteristics of these workers and their working conditions? What is the role of family work?)
5. Are you a member of some trade association? If so, which one? What is your opinion of trade unions?
6. What do you think about the CAP? What CAP funding do you receive for your farm?
7. What do you think about animal welfare?
8. What are the main difficulties you face in your work?
9. Who do you collaborate with in your territory?
10. Could you tell us about the (positive/negative) role that public institutions (e.g. regional, national and EC government) have in your work?
11. What are the future prospects for your company and for sheep farming in Sardinia?

The "Real" Organic Food in China: The Tradition-Modern Divide and the Role of Boundary Work

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Abstract

It is important to study governance in alternative market fields as a set of knowledge /rationalities that structures collaboration for everyday knowledge making by the participants. This article examines how two camps of advocates negotiate the definition of what composes civic organic food. A divide has emerged in the community of Beijing civic organic growers between organic agricultural producers who espouse traditional approaches, and those who rely on modern approaches. The ambiguity of the civic organic standards opens up a contingent arena for participation and negotiating boundaries between "traditional" and "scientific" organic practices outside the current "certified" version of organic food in China. This article applies the framework of boundary work to demonstrate how alternative market actors maintain boundaries between real and fraudulent organic food by engaging in debates with the rival camp. The boundaries between traditional and modern scientific organic camps are not defined by the pre-existing or by the internal properties of any given knowledge system as certain producers have claimed/presented. Instead, these situated social actors, through a set of ongoing dynamics in their daily practices, are constantly constructing and transforming the boundaries of the civic organic food supply. This is also how they attempt to gain legitimacy for their practice even though non-certified organic has never been recognized by the state. Growers' reputation, public exposure, and consumers' judgement on the moral compass of producers have all been influential factors in maintaining the legitimacy of civic organic in alternative food networks.

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Introduction

Thiers (1996; 2002; 2005; 2006) studied Chinese organic agriculture in 1990 and argued that certified organic production was seen as a means to target the lucrative international market. Given that incentive, developing organic agrifood was the same as producing other goods: all aimed at fetching a premium price in the international market. Two different branches of the central government and various local and state governments competed with each other to gain the profits. Thiers (2006) further argued that politics and markets shaped Chinese organic agriculture standards differently from organic standards in the West, which were characterized by non-governmental, civil societypolitics. Instead of developing standards and procedures which served the interests and needs of local farmers and consumers in China, OFDC adopted international standards and tailored local priorities to meet requirements of the global market (Thiers, 2006).

Ten years after Thiers' (1996) study, the domestic organic agrifood movement was booming(Si 2017; Cody 2019), but the state still held its original position. Organic agriculture was still seen as mainly for export, and therefore needed to be based on stringent standards so it would be accepted by global buyers. Organic agrifood stands for high-end products which are targeted for export and a small portion for domestic sales. From this perspective, farms that can achieve organic standards still need to be large because only they have the technological resources to support and meet the required standards.

It is moreover a state mechanism to retain its authority in regulating the domestic organic agrifood market. As an official from the committee that participated in writing the national standards commented, "A few years ago, many foreign companies sold whatever they named organic in our domestic market;it was a totally chaotic time. Now, order has been established, thanks to the national standard" (informant L, official, 2012, Beijing).

Like L, many officials do not see it through a social rights perspective but believe that small-scale farmers wanting to engage in organics are impractical idealists or unethical businessmen who simply try to take advantage of "organic" to make profits. Organic agriculture is perceived as an advanced system of modern agricultural technologies which needs agriculture professionals and strict research processes to guarantee its quality to global buyers. As for domestic agriculture policy, food security is emphasized and the connection between food safety and organic agrifood is not recognized.

Thus, the strategies applied to demonstrate the validity of national standards of organics are not meticulous, as state authority may not be the best nor the only "definer of the meaning of organic and guarantor that standards are met" (Thiers, 2007: 198) but it remains a strong authority. How, then, do the civic organic producers gain legitimacy to call their products "organic" if their products are not certified according to state regulation? This paper attempts to answer this question and examines how producers deploy a range of strategies to negotiate where the boundary of real organic food should be drawn, by introducing various scenarios in which the boundaries between two camps are produced simultaneously. I first introduce the background of a divide between organic agricultural producers who espouse traditional approaches, and those who rely upon modern approaches in the community of Beijing civic organic growers. I then engage the discussion of civic organic agriculture, and further explain how incorporating the boundary work framework into the existing literature will be beneficial. This paper shows that the boundaries between traditional and modern scientific knowledge in Chinese organic agricultural practices are not defined by the pre-existing or internal properties of any given knowledge system. Instead, civil society actors in the public arena are constantly transforming these boundaries through their daily practices and by actively associating their working processes with knowledge systems that are familiar to them.

The "Tradition-Modern" Debate and "Real" Organic Food

The world of non-certified organic food seems to be full of legends and traditional cultural elements. The storyline of those who have abandoned fortune and fame is woven into the urban narratives of organic foods. In this community which is familiar with non-certified organic food, the type of organic food associated with it stands for a certain form of purity which has not been contaminated by the market economy and profit-seeking motives. On the other hand, quite a few of my informants told me that it is difficult to run organics as a normal business, since some "psycho" spiritual gurus, who retreated into mountains, had ruined the reputation of organic food by associating their unusual stories with it. In other words, the name of civic organic food has been marginalized to a special kind of community: a closed circle of like-minded consumers who would buy into stories of spiritual gurus but who lack knowledge on agriculture and science. As a result, at a larger scale, organic agriculture sounds neither scientific nor reliable, according to this rival camp.

In the debate over what is real organic agriculture, one group claims that organic agriculture means returning to traditional farming and seeking an alternative development path for China. Organic agriculture, they would argue, has been inherited from eastern philosophy and religious values such as those of Taoism and Buddhism, respecting the harmony between people and nature and promoting ideas such as "less is more". This version of organic agriculture argues that it is inherited from traditional practices, which are assumed to be holistic, philosophical, and pure, as opposed to the modern, standardized, technological, and contaminated agriculture. On the other hand, the other group depicts organic agriculture as based on scientific knowledge, with a management system cohesively incorporated into modern, advanced farming, and thus distinct from the traditional Chinese way of farming, which is perceived as backward. As I continued to do my fieldwork, this divide appeared too obvious to ignore. From the legendary stories of some spiritual guru to business-oriented organic food producers, it became apparent that the traditional/modern divide plays a critical role in constructing the civic organic food supply. Cody (2018; 2019) examined a group of middle-class urban residents near Shanghai who were similar to the informants of this study. He explored the complex questions of the urban/rural dichotomy, questions of morality, and the accelerated modernization in China in which the civic organic food growers are embedded. Similarly, in the present study, even though the dichotomous typology of traditional-scientific features of organics has been abandoned since the mid-2000s by critical food studies scholars – who contend that such a simple dichotomy does not accurately represent the complexities of healthy food and ecological agriculture –, this study argues that it is important to examine the efforts, by differing "traditional" and "modern" camps among these civic organic growers, to debate about "real" organic food. These debates can be seen as a food governance technique.

Boundary Work and Food Governance

Scholars of science and technology have been known for examining the micro politics of collaboration in the creation of new "research fields" (Keller 2002). Similar to scientific systems of collaboration, alternative economies can be seen as "market fields" or forms of "knowing and growing" in which commodities are embedded (Goodman and DuPuis, 2002). In other words, "markets" do not only include buyers and sellers, they also include the entire field of actors, artifacts, and knowledge that affect the exchange of commodities along the value chain, including government, NGOs, business and civil society groups, and consumers, as well as knowledge about what is a "good" economy, a "good" life, a "good" commodity, and a "free" market. In addition, in applying the lens of the micro politics of collaboration, specific markets fields will become stabilized into modes of governance, "the inter-firm relationships and institutional mechanisms through which non-market coordination of activities in the [marketing or "value"] chain is achieved" (Humphrey and Schmitz, 2000: iv).

This mode of governance is a process rather than a "form". Therefore, instead of studying particular criteria or a set of standards, it is important to study the governance in alternative market fields as a set of knowledge/rationalities and a structure of collaboration for everyday knowledge making by the participants. By studying the boundary work process of defining real organics, I explain why these actors' boundary work practices are at the same time practicing alternative organic food governance.

Boundary work was initially applied to study how the boundaries between science and non-science are drawn through constant negotiation of participating social actors (Gieryn 1983). Boundary, in that respect, emphasizes its role of separation and exclusion of professionals (e.g., Gieryn, 1983 1995 1999; Fisher, 1990; Gaziano, 1996; Kinchy and Kleinman, 2003; Mellor 2003). Gieryn (1983) first applied the "boundary work" concept to explain why and how that the demarcation of science from non-science is not just an analytical problem for academic inquiry, but a practical problem for scientists to construct ideologies suited to protecting and advancing their professional authority. In other words, the intellectual authority of science is obtained by continuing the processes of boundary-work efforts of scientists, rather than being internal properties of science itself. The academic literature has applied boundary frameworks to organic agriculture (Goldberger, 2005; Li and Loconto, 2019), and the purpose of this paper is to show that this allows us to understand governance in alternative market fields as a set of knowledge or rationalities of civic organic growers in non-western settings.

The civically engaged practices of alternative markets, as dynamics of alternative economics, need to be further understood. Scholars have argued that alternative markets have their own "market fields" and "modes of governance," and maintain themselves through civic engagement (Bulkeley et al, 2007; DuPuis and Gillon, 2009). Thus, through careful analysis of the micro politics of organic food, it is important to understand organic food as a mode of food governance as well as a disruptive form of knowing and growing.

Conceptualization of "Organic" Food

The concept "non-certified organic" has not been introduced into Chinese mass media discourse nor is it recognized by the state, so strictly speaking, non-certified organic food is "illegal organic" or "fraudulent organic". Globally, however, the concept of organic is slippery and contested, as what constitutes real organic food is not an agreed upon conclusion (Lockie, 2006). Meanwhile, the civic food network refers to new relationships that are developing between consumers and producers, who have engaged together in new forms of food citizenship (Renting et al, 2012).

A divide between authentic (A) and fraudulent (D) organics, as shown in Table 1, is not able to totally depict controversies of practice and certification. Besides A and D, there could be organic food B, in which the producers practice "organic" procedures but do not get certified by any agency, or there could be organic food C, which has been certified as "organic" but has not incorporated any ideas or practices of organic farming. Rather than asking the question "What is real organic food in China?", I ask where organic food, or at least the food labelled by influential civil society groups as "organic", can be found. By investigating "organic" food at different sites, I have empirically learned how civic organic food in China is produced materially, through various social dynamics by multiple social actors, in the arena where they are simultaneously producing the knowledge of the so-called civic organic food. The following subsections will elaborate the conceptual categories applied and specifically describe the methods used in this study.

Table 1. The divide between practice and certification of organic agriculture

Name/Actuality	Practices	No Practices
Certified	"Ideal" organic food	Many supermarkets' organic food
Non-certified	Civic organic food	Fraudulent organic food

Based on these categories, the organic food in this study is named "civic organic food" instead of "non-certified organic food".

Methods and Data

This paper is based on interviews with 39 informants in China (mostly around the Beijing area) during my 11 months of ethnography in 2012. I also conducted on-site observation at organic farms and a farmers' market. To start my fieldwork, I made connections quickly with informants through snowball sampling, by following the actors in the small circle of non-certified organic food producers. My two initial contacts were influential figures in their groups, and both were critical in putting me in contact with other informants. They also were "gatekeepers" allowing me to establish who was participating in civic organic agriculture and not some other type of organic agriculture. For example, one initial contact of mine told me that civic organic may exist in other places, but that the discourse about it mainly spread from the farmers' market which is most well-known for its civic organic agriculture products in Beijing. This was also the main hub of my fieldwork.

It is important to include the social world that is part of these practices in terms of both the actors' subjectivities and the artifacts that are produced (Li and Loconto, 2018). Field observation at various sites allowed me to see how nonhuman actors, such as standards, devices, and images, are engaged in producing the discourse of civic organic agriculture. It enabled me to better understand the settings in which actors were actually negotiating knowledge and enacting realities. I also kept field notes throughout my observations, which I used as memos for my later data analysis.

Justificatory Tactics

During my fieldwork between 2012 and 2013 in Beijing, Qing was often mentioned as an example of a "real" organic food grower. Qing graduated from Peking University in 1979 and served as a faculty member in 1983 at Peking University Law School. His wife was a faculty member in the English department. The couple was successful but they both chose to withdraw from the mainstream in the 1990s. Besides their close family members, nobody had any idea where they went. There were rumors that Qing went abroad, had become a monk, had committed suicide, and so on. In 2011, Tang, a leading journalist in China, received a phone call from Mr. Qing, with whom he had shared a dormitory room at Peking University. Tang went to visit Mr. Qing and reported his story in 2011.

Qing and his wife had been living hermit lives in a place they described as paradise, in a rural area 110 kilometres from Beijing. They had rented 2,500 acres of land for 50 years at the price of less than 200,000 yuan (approximately US$3,000), and for over a decade they had been living the lifestyle of Robinson Crusoe. There was no village, electricity, or road to their house; getting to their home required walking more than 30 minutes from the main road (West China Metropolis Daily, 2011). Qing went to the county close to the mountain no more than once a month to purchase salt, the only commodity he needed from the market, and to run other errands. Once a year, he would go to Beijing, always bringing his own food and water from the mountain. He found that his chest would hurt from the polluted air in Beijing for at least three days after each time his visited the city. Yet, eventually Qing decided to "come out" and started to sell their non-polluting or "purely organic" agricultural products. His goal was to earn enough income to continue their lifestyle in the mountains.

This story sheds some light on the organic food Qing was later marketing, which in his words means "uncontaminated agricultural products". Back in 2013, I was sitting at a table in an environmental non-governmental organization (NGO), joining in a conversation about Qing with people who came to the NGO

to buy food,

> *A: I bet that his products are ten times more organic than those we can buy from the market.*
>
> *B: Of course, considering Qing's integrity, I certainly trust his products; how can he have abandoned it all? He could have made millions of yuan, considering he was doing so well before becoming a recluse on the hill. He could have "gone to sea" (xiahai□□, which means to take the entrepreneurial plunge in Chinese) like many of his peers.*
>
> *C: Yes, but he did not. That obviously showed his attitude towards money, so it's unlikely that he would put any chemical substances in the food he produces and consumes with his family.*
>
> *I: But where can we buy his products?*
>
> *B: It's so pricy, I've heard that the millet he produced is over ten times the market price, and he has so many friends waiting to buy from him. Well, I guess there wouldn't be any left over for us.*[1]

From the above conversation, it is easy to see how those who were engaging in the conversation associated organic food with an imaginary retreat from a modern lifestyle to a place of tranquillity. They found this imagery resonant with the hermit lifestyle of the Taoist tradition, which has been a cultural symbol for the ideal lifestyle of dignity and purity in the Chinese tradition. I had never met Mr. Qing in person but I kept hearing stories about him repeatedly from different people I encountered at various locations. Even today, he rarely comes out of his paradise and he sells his products only to a limited number of acquaintances.
Qing is one of the many celebrity organic producers I came across during my fieldwork. I was able to eventually contact, meet, and interview other less famed organic producers, such as Xun and Ming[2]; however, in the small circle of non-certified organic food producers, Qing's food stands out as a version that follows the strictest of organic standards, equivalent to the high moral standards of its producers. Similar to the above-quoted conversation, the narrative of Qing's organic products highlights the idea that "real" organic food is not merely more "pure", or morally trustworthy, than the certified organic food sold in the supermarket, but also of higher quality than non-certified but commercialized organic food produced for the market. It is produced not for profit, but rather as a result of the moral qualities associated with the person who produces it.

Organic Food Production as Tradition

Although none of them admits that they are the leaders in the non-certified organic circle or that there is a coherent discourse about organic agriculture and traditions, celebrity producers such as Xun and Ming share the same values, supported by many others who insist on the traditional roots of organic agriculture. In their words, organic agriculture is mostly referred to as a "return to innocence/purity". In the views of those who establish a close connection between Chinese tradition and organic agriculture, today's world has regressed, not progressed, from the past. This is evident in the fact that despite progress in terms of material achievements, there has been regression in the cultural and spiritual domains. The series of problems that comes with modernization far outweighs its benefits, and highlights two negative aspects: the pollution of the environment and the degradation of morality in the social world. Only tradition, a return to innocence/purity, would solve these problems. "Organic" in this sense stands for "innocence", or a kind of purity, which is polluted by both the physical environment and social crisis in today's world. As Xun said:

[1] Interview with three consumers in an environmental NGO, Beijing, 2013.
[2] The names of the informants in this study are all fictitious to maintain confidentiality.

> *In the ancient times, people did not have material development but they were happier and more content. People in the modern world today now have won everything by trading off the homelands and natural environment to industrial progress. Without roots in nature and land, people are not able to achieve happiness. So I just hope to remind people the importance of the land and the environment through the food we eat every day (Xun, March 2013, Beijing).*

Xun is a radical environmental activist from Taiwan who once led local Twainess villagers to resist several polluting factories and pillaging by a property developer. In 2005, she was included among the group of 1,000 women working for peace that the initiative "1000 Women for the Nobel Peace Prize" nominated for the Nobel Peace Prize[3]. Xun then turned from environmental protection to brewing fruit and rice vinegar, since she is Hakka (a subgroup of Han Chinese), whose people have kept alive many Chinese traditional practices such as brewing and fermenting. Others, especially Nei, share Xun's views. Nei is a mother who initiated the first organic famers' market in Beijing. She also self-organized a "mothers group" that promotes organic food from field to table. According to Xun, what is worse than environmental degradation is the erosion of moral values, or "the pollution of human hearts".

Many moral values are eroded by profit seeking: people today prefer quicker benefits. Ming echoed this:

> *It was so difficult for me to find trustworthy food since I had allergies to chemicals. I was working full time for China's largest food company in its international trading department, flying from country to country. I had no time to grow my own food so I had asked my extended family members in the countryside to do it for me: but no, even they played tricks to save time and put in chemicals which I had required them not to. Finally, I quit my job and rented the land here as you see now (Ming, June 2012, Beijing).*

In Chinese history, the hermit's life is an important component of the traditional spiritual lifestyle (Porter and Johnson, 2009). Nearly half of the informants I met were part of the so-called San Gao group, and shared Ming's experience to some extent. San Gao literally means "three highs": high education levels, as it is common for these farm owners to hold a PhD, or sometimes even two; high income from previous work, in the golden collar class (the term "golden collar" is similar to "white collar", meaning those professionals who earn a high income); and high standards in pursuing ideals. Their stories are all similar: they enjoyed high achievement in their previous work (usually in the financial sector) but were not satisfied with either the value or the quality of their lives, so they sought ways to improve the quality/meaning of their lives through better food choices or lifestyle. They started part time by renting farms and could self-supply food for their family and friends. They eventually decided to quit their well-paid jobs and devote themselves to full-time farming. They became business owners, running the farm while living the dream lifestyle of their ancestors. As Ming elaborated in telling her story:

> *Organic agriculture is not a petty bourgeois lifestyle, but a way of life and attitude towards life. I put walls around the field because I started my farming experience from zero and was afraid villagers around me would think I'm a lunatic. I grew up as an urban Beijing native, knowing nothing about farming. I could not learn from others either, because people I talked to thought I was crazy for not wanting to apply chemicals, since at that time it was thought to be progressive. How could you go against the trend? I learned everything from zero by myself. Only later did I realize that traditional classics had the knowledge I needed (Ming, June 2012, Beijing).*

In this way, organic is framed as a lifestyle one can lead to follow the path of one's ancestors. It resembles the ancient way of living in many ways: self-provision, family farm, and diversity in food production. Thus, it is not about earning a living but about maintaining a lifestyle, one that entails being close to nature and living in harmony with it. In this sense, organic farming is less about farming and more about agri-"culture": that is, cultivating one's soul and seeking the meaning of life.

[3] Lan Hsiang Hsu (China, Taiwan), PeaceWomen Across the Globe – WikiPeaceWomen, Accessed 30 April 2022, http://wikipeace-women.org/wpworg/en/?page_id=3216

Under this value system, organic farmers who have land and resources do not deliberately build Shu yuan. Shu yuan, or Academy of Classical Learning, is a form of traditional school that was established privately in the mountains to provide scholars with a quiet environment away from worldly distractions. Programmes, including children's summer camps, were run yearlong. Children were taught the traditional classics, including Confucianism, Taoism, and other traditional schools of thought, as well as food education.

"Is there any tradition which can be more closely related to farming itself?", is a question I also asked my informants, since the discourse of organic farming consists not only of abstract concepts but also includes cultural heritage. If the organic farming discourse is produced through tradition, the discourse actually can reflect by material elementes in agriculture. The informants showed me specific commodities and technologies. Among all the commodities, rice is the product they most frequently associated with tradition. Although the genetically modified organism (GMO) issue is a forbidden topic, which most informants did not address directly, organic rice is mentioned by Xun as "the right kind of rice" to make traditional food such as rice noodles, rice wine, and sticky rice cakes. Another of the most frequently mentioned traditions is fermenting technology. Not adding "artificial" additives is the key to the technology.

> *As a country with a long history, food-fermenting technologies, which really say much about human-time relations, have been important parts of the food culture: rice wine, vinegar, soy sauce, etc. The right apprentice for fermenting technology is difficult to find since everybody now somehow seems to believe in the modern and "quicker" technology of fermenting vinegar by putting in additives (Xun, March 2013, Beijing).*

Besides food and food technologies, several informants also pointed to the classics of agriculture as the "visible" substance of traditions. In the ancient classics, answers to questions regarding proper farming are provided. Organic agriculture producers frequently refer to three classics: Taoist philosophy; Huai Nan Zi (淮南子), a 2nd-century BCE Chinese philosophical classic, which includes Yin-Yang and the Five Phases theories; and Qi Min Yao Shu （齐民要术）, the most well-kept ancient Chinese agricultural texts written in the third century CE. Apart from these, there were no specific farming techniques. One informant said:

> *Now everyone is about science, efficiency, and development. Promoting tradition starts from the fact that we need to respect tradition rather than to see it as backwardness. So we start from simple things of tradition to create awareness. It's still at an early stage (Ming, June 2012, Beijing).*

For the traditional organic group, the modern organic group stands for profit-seeking and efficiency at the cost of certain values, including family, morality, and virtue; in short, what should be removedf from their real organic food. On the other hand, moral values and human bonds are critical in establishing the right way of organic production. Returning to the ancient lifestyle can be seen as a means of purification. The key is to refuse the negative material consequences associated with modern lifestyles, such as the pollution from chemicals and of human hearts. The organic food production system also needs to be separated from negative social relationships associated with reckless progress, industrialisation, and development, by rebuilding local community, promoting trust relations among people, and advocating for civil society.

The justificatory tactics argue that "organic" growing is an opportunity to return, reconstruct, rebuild, and reorganize lost agricultural traditions. What stands in the center of traditional organic agriculture is the notion of the morality and quality of organic food growers. In other words, for dissenting people who have various opinions of what organic food means, the trustworthy producer-consumer relationship carries more weight than anything else in constituting that which is authentically "organic".

Organic Food Production as Modern

Others provided different justificatory tactics for their organic food production, based on scientific and expert knowledge. Wen is the first college student from his village, which is under the administration of a town in Miyun district（密云区）in north-eastern Beijing. After he graduated from a top agricultural university in

China, Wen travelled around the country for various business opportunities before finally settling in his hometown and starting his own business. Wen caught my attention the first time I talked to him. He boldly criticized Qing and others such as Xun and Ming mentioned above.

> *Some of the people in the organic circle are psycho in terms of their actions in participating in agriculture. Organic agriculture becomes a way of action art. This way of marketing organic is dangerous as it gives the impression that it is merely for a group of idealists. Moreover, they are not trained in agriculture and know little about how important scientific knowledge of farming is both useful and necessary (Wen, May 2012, Beijing).*

At the time I visited Wen on his farm, he detailed his disagreements with the group as he directly framed himself as a modern agricultural professional and businessperson, and attributed the difference of the two camps to different profit models.

> *To the three highs, they had savings from their previous jobs so they have money to burn: organic agriculture is just a romantic lifestyle or an idealistic attempt for them, but to me and many other farm owners, it's our livelihood. Organic agriculture does not need to be all morally high; like any other business, it's a business opportunity for us to earn profits by providing high-quality products to the group that needs them. So I would like to discuss venture capital and management issues instead of those "values", "traditions", and "ideals" (Wen, June 2012, Beijing).*

In Wen's mind, the failure to attribute select scientific characteristics to organic food that effectively demarcated it from traditional and somewhat backward agriculture had endangered his interests. He therefore considered it necessary to provide scientific foundations for the superiority of the organic agriculture in which he was engaged. To do so, Wen constantly emphasized that his professional education in agriculture differed from that of the San Gao group of farm owners "who, before organic became popular, had zero experience in farming" – as Wen put it throughout the interview. Wen also claimed that he had many innovations that brought technological changes into the conventional food system and helped to improve what is now labelled as organic.

A well-known innovation of Wen's is breeding chicken and vegetables together in a greenhouse. China Central Television (CCTV), the predominant state television broadcaster in China, reported on this innovation on its agricultural channel. The news report clearly gave Wen a special kind of credibility, as he told me that his customers subsequently trusted him more deeply, despite the fact that he had not received organic certification from any third-party agency. Wen successfully convinced a majority of his VIP customers that organic certification by the official third party is suspect and intended only to generate profits. When I asked Wen what gives him legitimacy that his customers can rely on, he replied:

> *My members come to me not for a very romantic reason such as social justice. They come to me because of food safety. I fully understand their needs and can provide them high-quality produce, guaranteed by my expertise in agriculture. There is no so-called traditional or modern agriculture. There are ONLY right agricultural practices, which are based on scientific knowledge. If you visit my farm, you will gain confidence in our products not because of the stories I told you but because of what you are seeing with your own eyes (Wen, May 2012, Beijing).*

"In modern societies, science is near to being the source of cognitive authority: anyone who would be widely believed and trusted as an interpreter of nature needs a license from the scientific community" (Barnes and Edge, 1982: 2). Wen's narrative, resembling the modernization narrative which engages science as the authority, is representative because it transforms organic food into a question of truism: only science knows what real organic food is. Wen's opinion was shared by informants who cited science as their authority. Yet situated actors may have slightly different interpretations of what modern science comprises. For example, Shen said:

> *I see the difference between organic and conventional products lies in management, not technology. The technological part is straightforward: make the milk pure without external unnecessary "contamination"*

> *during the process. The management issue is difficult: organic is all in the details of management (Shen, July 2012, Beijing).*

Shen worked in an embassy before becoming the CEO of the RI organic milk company, one of a few companies producing organic milk in China. His company also received organic certification from one of the renowned state third-party agencies. Unlike many others who show obvious negative attitudes toward formal organic certification, Shen argued:

> *In the current Chinese context, certification is the mandatory requirement for our business. So we get the organic certification: our product is good enough to meet the standard, and it gives us an opportunity to receive inspection by professionals (Shen, July 2012, Beijing).*

Shen also indicated that by following the rules, his company had received considerable financial support from the county government. The local government also complimented his work as it set the goal of developing a modern and sustainable agriculture system. Many other informants suggested that Shen had strong social ties with important political figures, as his previous job gave him access to social resources that others did not have. Shen himself, however, attributed the company's success not to his personal relationships but to the strict management procedure it employed. In other words, the advantage of following the current organic certification required steps that demarcated his products from the "low-quality" products that had no evidence base besides self-proclaimed stories.

What Shen referred to as "low-quality" milk with only self-claimed stories was the "organic milk" at the farmers' market sold by another merchant, Ming, who was mentioned earlier as one of the traditional organic food supporters. Ming owned fewer than 10 cows, so the amount of milk she sold was quite limited. Shen did not speak against Ming directly since they both participated in the farmers' market, but Shen firmly stressed the "authenticity" of his own products.

> *Without systematic management procedures, one cannot produce qualified dairy products. However, some consumers are so naïve that certain touching stories can just convince them. Consumers should not trust what they can see either, because they are not professionals. However, the legal certification and management procedure cannot be lies since it would have required too many people in disparate departments to make the lies happen (Shen, July 2012, Beijing).*

The faith in strict management can be seen as another interpretation of organic agriculture as modern agriculture. Instead of focusing on the knowledge of farming, this perspective stresses the executive aspect of food production. In this account, the critical factor of organic is the quality of a commodity, which needs to be guaranteed by modern management. The quality of organics cannot be separated from the quality of the commodity produced.

A notable argument is the way this group to which Shen belonged responded to questions about organic food in terms of food security. The informants I interviewed admitted that there inevitably is tension between food security and organic agricultural production. That is where markets and an efficient business model need to step in and match up the high-quality products with the group that appreciates their value. This reasoning stresses quality and efficiency under a neoliberal influence, which is not shared by the traditional group who apply a morality of the growers as a framework to justify their values. One of the informants, Wang, addressed this difference and argued that the determining factor was the social environment of China:

> *We are for profits, but it does not mean we have not efficiently solved the problems of food safety and environmental pollution. The form of a firm is determined by the society in which the firm operates: we are in a market economy and the rule of the market is thirst for profits! The competition will filter out the winners from the losers. That is why we are steadily improving the quality of our organic products (Wang, July 2012, Beijing).*

The traditional organic group refers to some research suggesting that organic agriculture is not less productive.

Or they argue that the current food system is not sustainable, and even though the organic food model does pose certain risks to food security, it still stands for the right path that agricultural development needs to take. They believe that production problems will be resolved later along this path.

> *If you didn't take the path, you'd never know.In the current conditions, we just need to make sure that it is the RIGHT path and take it. Rejecting organic agricultural development just because it might conflict with food security is like refusing to eat meals just because you are too afraid to choke to death while eating (Ming, June 2012, Beijing).*

From this point of view, management systems and technology are the two critical criteria to define real organic agriculture, and thus the tradition camp's organic practices are unqualified measured by the two criteria. Certification, whether it is third-party certification or professional certification, is necessary for one to be defined as "organic". As is typical in the discourse of modernization, technoscience and management are referred to as the premium knowledge that guarantees "the right way of developing organic agriculture", according to the science camp.

The Boundary Work of Making the "Real" Civic Organic Food

By tracing the multiple trajectories of everyday civic organic food narratives, I show that it is actually through the above two justificatory tactics of producing "traditional" in relation to "modern" organic agriculture that a certain version of civic organic comes to have legitimate authority without being officially certified.

The boundary work strategies of the traditional organic camp are different from the modern ones; one of their main strategies is framing organic as a solution to "the problem of pollution" caused by modern development. It emphasizes the pollution of both the environment and people's hearts. The solution appears to be in changing current social relations by building bonds between people, for instance through the Participatory Guarantee System (PGS) certification model, or reconstructing community, and many other human-factor enhancing approaches. The discourse shows "anticipatory nostalgia", in Hugh Raffles' words, which indicates how "things which have not yet and may never exist come to pass" (Rofel 1999 quoted in Zhan 2009: 21). The boundary work of modern organic, however, is done by emphasizing the quality of products, instead of the moral quality of producers. Modernizers are doing their best to demarcate authentic "organic" from the unqualified agriculture of amateur farmers who have not received formal agricultural education or training.

Despite the apparently different, yet related, discursive tactics in claiming their practices to be authentic, the two groups share similarities in many aspects. Both groups have practised organic agriculture for a short amount of time. Thus, what they both emphasize as being the most important assignment for them is growing the idea of organic food in people's minds, rather than growing organic agriculture on the land. The modern organic agriculture group uses the term "marketing and giving consumers the right information". A firm even changed "community-supported agriculture" (CSA) into "customer-supported agriculture" to stress its business model. The traditional organic agriculture group, however, defines it as "educating citizens and rebuilding the trust relationship among people by engaging growers and buyers of organic food, a slogan printed in the farmers' market in Beijing.

These shared similarities of organic agriculture are essentially about trust. However, they also reflect the technological aspects. One of the modern organic agriculture firms showed me the evidence for its technological advances. This involved burying one video camera every few meters in the soil to detect whether the farmers who work on the field actually follow their instruction of not using certain pesticides, as required. Another common "high technology" check that the modern organic agriculture firms perform is reviewing the soil and air quality indicators every few days on WeChat.[4] The traditional organic food group embraces

[4] WeChat is a popular social network communication service widely used on mobile phones (236 million monthly active users ac-

the use of WeChat (微信) as well.

The traditional food group has used their techniques to promote trust. A common strategy is holding various events that engage people to participate in traditional food cooking techniques at 24 solar term points. A Chinese lunar year has 24 solar terms, and in traditional Chinese culture, farmers used the 24 solar term points to signify the timing of farming. Special food was prepared for different solar term points using seasoning. One event I attended was intended to teach people how to make the sweet green rice ball at Qingming (清明 or clear and bright), one of the 24 solar term points. Mostly women members with their young children attended these events.

At these events, the organizer would emphasize the idea that "real food" has the right kind of energy only when it is prepared with the appropriate seasoning and good ingredients. In this case, the sweet green rice ball needs wormwood juice (wormwood is a seasoning grass) and high-quality organic rice. Thus, organic has been successfully framed again under "Chinese tradition". The event was held in Beijing, which is situated far north of the Yangtze River, whereas traditionally the sweet green rice ball was only consumed to the south of the Yangtze River. I was concerned with the conflicting value it might appear to have, as one version of "organic" involved eating local. However, nobody else at that event seemed to be concerned about that question. Apparently, these events convince many people who attend that organic, after all, is just a revision of the ancient cultural values related to food. Quite a few of the participants bought rice from the organizers after the event.

Besides the marketing aspect, there are hybrid practices with modern and traditional elements in each type of organic production. All the traditional organic food farms I visited were using Baoyi seed （包衣种子） because the specific seed to be used for organic farming (according to the national organic standard) is simply not available on the market.

> *It would take us many years to go back to a pure traditional practice since it is hard even to locate seeds. This is the reality of the current situation in China: nobody can find the organic-standard seed, and even those who have organic certifications are the same. Tradition is more about the value and attitude of farming and human-nature relations, rather than any specific technology. In that sense, the traditional values we follow differentiate us from those who perceive organic only as commodities sold on the market (Zhong, August 2012, Beijing).*

When I visited the organic milk factory with Shen, I noticed that the milk cows were fed with traditional Chinese medicine-based herbs. I asked Shen why and he asserted that it was a technological innovation as in the olden days those herbs were only for people, but now they were being used creatively in animal feed. In addition, traditional music was played when the cows were being milked, which was another technological innovation, based on Kobe beef production practices in Japan. It is important to note that even modernists such as Shen himself could have framed their product easily within the "traditional" framework, if he had wanted to.

In another scenario, I met Ronger in a Chinese medicine clinic. Ronger graduated from an agricultural university and was attracted to organic agriculture because it was not only about agriculture but also the "Chinese dream." He worked as a team member for one of the most well-known organic programmes officially affiliated with the Food Safety Center in the Department of Sociology at one of the most prestigious universities in China. Ronger told me that he was trying to convince the clinic to give them the leftover herbal medicine for them to use as a reliable and cheap food to feed their chickens. I asked why he had chosen this clinic and why herbal medicine, as well as where he got the idea. He explained:

cording to its official report by August 2013).

> *All things are quite random. I have been a fan of Chinese traditional medicine for years. Before joining our current program, I did my internship here in this clinic, so it was easier to ask them than other clinics with which I had no personal ties. The organic food trend in China has just started, so all that we could attempt to do is to make our program survive. At a practical level, there are really no divides between traditional and modern "organics": all of us are altering the concept to make it feasible, depending on the path we travelled before. Sorry I can't tell you a story that doesn't sound like a closed circle, but that is what it is (Ronger, March 2013, Beijing).*

Ronger did not tell me a closed-circle story, but his words did demonstrate what I had been observing: the boundaries between traditional and modern knowledge are outcomes of the efforts of social actors, rather than explanations. They are fluid yet have material force.

As Latour (1993: 76) has argued, "[o]ne is not born traditional; one chooses to become traditional by constant innovation. The idea of an identical repetition of the past and that of a radical rupture with any past are two symmetrical results of a single conception of time". In that sense, we have never been modern and the boundary between traditional and modern knowledge is a false divide in the first place. According to Latour, "modern" exists only in the conjoined processes of hybridization and purification. Once people stop believing in the purification processes and start acknowledging "the hybrid", the modern as a project will collapse.

The trajectories drawn above in which "real" organic is produced alongside traditional knowledge and modern science follows Latour's notion of "relativist relativism". Organic, traditional, and scientific are not entities with predetermined properties but are constantly in a process of boundary production and construction. The boundaries are drawn around organic agriculture (what would be considered as "real" organic) and between the traditional and modern knowledge systems, while there is little direct interaction between the two social groups. In most trajectories, they constantly talk about the other group, but do not talk to each other, so the boundaries mentioned are interactive not through social engagement, but rather as the rival reference upon and against which justification tactics by one camp are crafted. Yet, boundaries for things are also boundaries for people, as the "right" boundary of the object would require the same "right" actions of social actors to go with it. Thus, the boundaries are still group boundaries, even though there is little direct negotiating between these two groups.

Conclusion and Implications

The role of civil society has become important in transforming food systems to incorporate notions of justice, control, and food sovereignty (Renting et al., 2012). This article started from the question: how do the civic organic producers gain legitimacy to call their products "organic" if those products are not certified according to state regulations? This paper examined various kinds of trajectories in which, by drawing boundaries between "traditional" and "modern" knowledge systems, two groups produce boundaries around "real" organic food and gain legitimacy for their products. In other words, the man-made dichotomous typology of traditional-scientific organic agriculture is not defined by the pre-existing and internal properties of agricultural science or tradition. Nor is it simply limited to being a set of homogeneous and pre-existing knowledge systems. Instead, the boundaries are constructed and transformed constantly by situated social actors through a set of working processes, as a legitimacy technique. It is through processes of negotiating boundaries that a certain notion of "organic" takes shape and stands out from others. Therefore, drawing the boundaries of "real" organic food is an ongoing achievement by social actors in action.

Situating China's "civic organic agriculture" within the existing literature of alternative food and other civic organic agriculture, this paper attempts to understand how civic organic food is upheld and legitimized through the performance of actors, without being recognized by the state. The connection drawn between the two civic organic camps has been operating outside of state governance/certification schemes. High-

profile organic growers who seemed to demonstrate the safety and non-contamination of their food, affiliated with certain traditions and scientific elements, were earning consumers' trust so they would succeed in marketing civic organic food. Meanwhile, consumers formulated trust in farmers' organic practices based on the farmers' life history or their exposure in the media, interpreting their background and operations with either the traditional knowledge system or the modern scientific system.

The ambiguity of "organic" thus opens up a contingent arena for negotiating boundaries between traditional and scientific knowledge, and for participating in the production of real organic outside the current certified version of organic food in China. Yet discourses have the power to shape our world. Although the boundaries themselves are fluid, changing constantly in various situations, they still exist in every setting and generate desired or less-desired results as the participants negotiate. Those results are or will become realities: a proliferation of certain organic producers and the failure of others; different organic farm landscapes: large-scale or small-scale operations; and many other possibilities.

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Abstract

Solutions to food security issues at all levels typically include a call for more and better data. This paper finds that food security data problems are only partially remedied by gathering more data or applying new and innovative metrics. Examination of various research in Ghana covering published academic work as well as the World Food Programme's reporting at both the country and sub-state levels reveals some fundamental problems (both practical and theoretical). Coupled with the author's observations of a market operation in northern Ghana, evidence suggests that these issues are overlooked in order to serve an institutional demand for more data. The paper concludes with a discussion of implications focusing on three ideas: differentiating issue management and knowledge production, reconsidering methodology, and local-level understandings.

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Introduction

Scholars have argued that one of the keys to effective solutions for food security problems in developing countries involves improving our measurement indicators and collecting more data (e.g., Coates et al., 2007; Barrett, 2010). With production becoming the focus of endeavours to address food security globally (e.g., Fouilleux et al., 2017; Godfray et al., 2010), it is clear that accurate, precise tracking of grains, market prices, and vulnerable populations are required to make sound policy decisions (e.g., Rivera-Ferre, 2012). Evidence that this drive for data has become normalised continues to accumulate as research journals increasingly publish findings based on original survey data collection utilising innovative metrics at ever more localised levels (e.g., Ike et al., 2017). At the same time, among food security researchers dissatisfaction and even doubt remain as to the accuracy of current food security estimates (e.g. Headey and Ecker, 2013; Cafiero, 2013; De Haen et al., 2011). This in turn points to fundamental problems with data collection, respondent reliability, and theoretical frameworks.

This paper begins by asking two related questions: 1) what is the nature of the problem with food security data in developing countries? and 2) can it be solved through measurement innovation and increasing our data collection efforts? The literature review and subsequent analysis suggest that the problem with food security data in developing countries is not simply solved by collecting more data, nor can it be solved by improving our metrics. It is more fundamental and would require reconsideration of the nature of different kinds of data and ways of knowing, and of the relationship between researchers and populations when collecting data, as well as sustained critical reflection on actual research practices in the field, including our responses—as scholars—to a variety of career and institutional pressures, and how research affects policy. Though many privately acknowledge that data collection issues persist, the analysis below suggests that various entities (non-governmental organisations (NGOs), international organisations (IOs), researchers, and governments) appear to overlook, marginalise, or simply ignore key issues that can only be partially remedied by measurement innovation and increasing data collection.

To be clear, scholars have been very concerned about measurement and the data that represents those metrics across multiple dimensions. On definitions and indicators alone, Maxwell and Smith (1992) catalogued over 180 pieces of research that discuss this topic. More recently, Cafiero (2013) cites an International Food Policy Research Institute (IFPRI; Hoddinott, 1999) document which cites approximately 200 definitions and 450 indicators of food security. This paper does not argue that these explorations and improvements are trivial. Instead, it seeks to highlight a set of more fundamental problems and to challenge the conventional assumptions that any original survey data is good data – and the more the better.

This overriding drive for data in the contemporary world has not gone unnoticed in other fields of social science. For example, in the field of humanitarian action, Read et al. (2016: 1315) argue that "data [itself] is not knowledge", that data collection appears to be driven by "what is possible rather than what is needed". In economic sociology, Fourcade and Healy (2017: 9, emphasis in original) argue that "modern organizations follow an institutional data imperative to collect as much data as possible". Food security organisations and researchers, in particular, should recognise these insights in order not to let potentially flawed, highly routinised, data collection practices drive theory. Like scholars in other fields, a critical reflection on data collection is warranted.

This paper proceeds in three sections. First, the literature review provides a frame to examine conventional methodological thinking in food security research within a broader trend in sociology that examines data, markets, and capitalism. This trend suggests that data is being collected in a routinised fashion, without a clear understanding of its value or utility. This aligns with some of the food security scholarship that is critical of current food security estimates because of broader problems that go beyond measurement innovation and sampling errors. Long-standing anthropological concerns further support this critical perspective.

The next section reports the author's observations based on desk research and field experience in one developing country (Ghana, specifically Bolgatanga, Upper East Region, 2009-2011) through a review of research material published by academic journals and the World Food Programme (WFP) Ghana office during that time period. This analysis provides evidence that data collection concerns are marginalised in research practice. These concerns include: meeting basic procedural objectives of transparency, consistency, and sampling completion; gaining clarity on basic conceptual

units; accounting for informality; contextualising and situating results; properly conducting, funding, presenting, and understanding the value of non-survey methods and qualitative data; and discussing data collection and analytical trade-offs in general.

Besides the circumstance of the author's situation in-country for 18 months, the selection of Ghana as an illustrative case is defended because it has performed relatively well in achieving development objectives (e.g., Fosu, 2013), including Millennium Development Goal 1c on hunger. Ghana's performance regarding food security using the standard Food and Agriculture Organisation (FAO) undernourishment indicator shows it has performed better than the average of middle-income countries since 2002, even though it only reached lower-middle income status in 2011.[1] If it can be shown that data collection concerns are present in a country like Ghana, then it is reasonable to argue that such concerns are worth considering in the larger set of lesser performing countries.

Table 1. Prevalence of undernourishment (% of population). Ghana and middle-income countries, 2001-2018. (World Bank; see https://data.worldbank.org/indicator/sn.itk.defc.zs, accessed 1 September 2019)

Year	***Ghana***	***Middle income***
2001	15.00	14.09
2002	13.60	14.16
2003	12.80	14.15
2004	12.30	13.71
2005	11.40	13.13
2006	10.70	12.21
2007	9.50	11.22
2008	8.30	10.59
2009	6.80	10.11
2010	6.70	9.60
2011	6.80	9.30
2012	7.30	9.18
2013	7.20	9.01
2014	7.50	8.85
2015	7.70	8.72
2016	7.50	8.66
2017	7.00	8.63
2018	6.50	8.63
Mean	9.14	10.77
Median	7.60	9.85

The paper concludes that the observations made here suggest that a range of fundamental practical and theoretical data issues are present, and that one possible explanation for this is an imperative to collect data, even if suboptimal. In reflecting upon and contextualising these observations, the paper advances three ideas for consideration. First, researchers should resist data imperatives by analytically separating the tasks of issue management and knowledge production, which require an engagement with ethics. Second, researchers should revisit their decisions on methodology, methods, and overall knowledge objectives. Lastly, thinking through the relationship between scholars and populations is critical because the character of this relationship influences data collection. It appears that the lived experience and perspective of vulnerable populations remains overlooked.

[1] See World Bank data, https://data.worldbank.org/indicator/sn.itk.defc.zs, accessed 1 September 2019 and Table 1 below.

Reviewing Food Security Data Collection

This literature review has four parts. First, it identifies current theoretical thinking in sociology regarding markets, capitalism, and data, and shows how it may be applied to development practices. This sociological perspective could be the basis for explaining some of the data collection problems observed in the illustrative case study. Second, the review identifies the dominant methodological choices made by food security research and how challenges to data collection are understood. Third, it highlights the critical perspectives within existing food security scholarship that understand data challenges to be more fundamental. These are potential instances where researchers observe data collection problems unrelated to measurement techniques or data quantity. Fourth, it details long-standing concerns from anthropology regarding survey methods and local populations in general. These analytical points combine to form the argument for closely examining data collection practices and their results.

Fourcade and Healy (2017) note that contemporary markets increasingly classify individuals and demographic segments by virtue of their personal data. As organisations accumulate more data and analyse it to generate algorithms to match consumers with goods and services, a uniquely powerful version of capitalism is created. In this form of technologised capitalism, "organizations are both culturally impelled by the data imperative and powerfully equipped with the tools to enact it" (Fourcade and Healy 2017: 13). This research is part of a larger cluster which analyses how data is seen by markets and how data itself has become capital (e.g., Sadowski 2019). While this implies several important economic, social, and ethical issues, the key point is that the demand for data is so great that continuous and perpetual data collection, regardless of value, is now a feature of contemporary organisational cultures. The authors point out that "the institutional command coming from technology [for data] is the most potent of all: we do these things because we can" (Fourcade and Healy 2017: emphasis in original).

To be clear, the development community and its scholars are certainly aware of the potential value of increasing accumulation of data. International organisation reports and scholarly articles cite the benefits of the scaling-up of data collection and the bounty of a data revolution (see e.g., UN Global Pulse, 2012; Hilbert, 2016). Hilbert's (2016) treatment of the "big data" approach to development correctly states that such an approach replaces the need for sampling techniques altogether (which has been a persistent concern for traditional survey methods).

Writing in this Journal, Rivera-Ferre (2012) makes an important overlapping point with the sociological research above. First, the author argues how social science, as a generator of knowledge, has become a key entity in policy formation. In doing so, much assessment adopts a modernist understanding of development. Rivera-Ferre (2012) uses the concept of bio-capitalism to claim that food security assessments often accept a dominant (or "official") frame that overlooks key non-technical (i.e. social and/or political) challenges. The author argues there is an "alternative" frame which understands the situation from a radically different perspective, thus presenting social science with a different set of concepts to explain (see the discussion in Rivera-Ferre, 2012: 166-168).

Moving forward, two important observations are worth reiterating: 1) there is evidence that data imperatives exist, which drive organisations to collect data incessantly, even if the usefulness is questionable or unknown; and 2) it is worth reminding social scientists that data is collected for particular purposes grounded in basic, even meta-theoretical, understandings of the situation. These provide a critical perspective to now review data collection in food security research.

In surveying food security literature specifically, this review asks the following questions: 1) what are the dominant methodological choices and debates in food security research? 2) do the scholars note challenges in data collection? and 3) are these challenges remedied by simply gathering more data and/or improving measurement or are these challenges more fundamental? In examining the literature, three characteristics of methodology commonly appear. First, a conceptual framework is defined in economic terms of supply (production, soil and seed quality, distribution, labour, technology, import-export, aid, etc.), demand (consumption, diet, population growth, etc.) and price to determine (via a set of rational choice assumptions and statistical analysis) relative food security characteristics for populations (e.g., Pinstrup-Andersen and Watson, 2011). Second, the analyses have a methodological warrant to collect data that is comparable across cases and over time (e.g., Barrett, 2010). Third, researchers evaluate different conceptualisations

and metrics, often highlighting a gap in previous scholarship that can be addressed by measurement innovation, novel application of an innovation, or original survey data (e.g., Barrett and Lentz, 2017). In sum, our understanding of food security is informed by more data and/or new analytical tools.[2]

Of course, the scholars cited above do point out data collection challenges. Pinstrup-Andersen and Watson (2011: 93-95) state that while conceptual innovation has progressed, "data collection has not followed suit". In these pages, they discuss the inaccuracy issues with respondents and the imprecision of qualitative data. Barrett and Lentz (2017) similarly discuss the imprecision and difficulty of food security measurement. However, most scholars find that remedies are readily available. Barrett (2010: 826) notes in an influential piece in the American journal Science that, "measures based on higher-costs individual and household surveys" offer depth to several dimensions of food security. This author goes on to argue for their value in terms of precision and accuracy, stating that "research is appropriately and increasingly moving toward survey-based anthropometric and perceptions measures" (Barrett, 2010: 827) so that it can effectively deliver useful forecasting and policy responses. Others have sought to improve measurement indices and other novel turns to be more multi-dimensional and replicable (e.g., Santeramo, 2015, who utilizes composite indicators; Maxwell et al., 2013, who develop cross-classification and multidimensional techniques; see also Coates, 2013; Jones et al., 2013; and Webb et al., 2006).

Clearly, these scholars acknowledge that data collection problems exist, but argue that the remedies are more data and better measurement. Though this perspective appears dominant in food security scholarship, several pieces of research argue that there is inadequate concern with fundamental data issues. The key problems fall into three categories: general data collection flaws; respondent reliability; and theoretical frameworks. The first two are identified in several studies in the following paragraph, and the third category in the paragraphs thereafter.

De Haen et al. (2011: 761) state that FAO indicators for undernourishment, household food consumption surveys, anthropometric measurements, and medical assessments are the most common types of data and data collection methods (in the field, survey tools developed by or derived from the USDA are common). In their review, they claim outright that "it is safe to conclude that the available estimates of chronic food insecurity are inaccurate… [and] it is not possible to conclude whether the real number of undernourished is above or below the available FAO estimates" (De Haen et al., 2011: 768). For household survey data collection, they point to the possibility of non-sampling errors with respect to when data is collected, lack of data on other uses of food (such as consumption away from the household, food waste, or given to guests), and simply misreporting or retroactive corrections by enumerators (ibid., 763-764). Headey and Ecker (2013: 329 and 335) confirm that the "FAO must often rely on plainly unreliable data sources, with data on wastage and storage being particularly suspect". They note concerns with survey data with respect to recall errors and similar lack of data on other uses of food. In general, they also note "widespread dissatisfaction with common food security indicators" (ibid.: 338). In a widely-cited NBER working paper, Carlo Cafiero, who identifies as an FAO official, clearly articulates practical problems with data collection and, in particular, respondent reliability in survey data with respect to storage, production, seeding, and feeding (2013: 13-14). It should be noted that these concerns regarding data and data collection do not distinguish whether the data was produced solely by researchers or, as is often the case, in collaboration with IOs or NGOs. It is then not possible to know what these relationships are, what they are like, or how they may have influenced the context in which data was collected (potentially shaping the results).[3]

Regarding the third category of problems, theoretical frameworks, the emergence of social factors beyond the biological or material suggest that more in-depth understandings of society and its institutions may be necessary before food security estimates can be made. This is statistically noted in Sheahan and Barrett (2014: 53) and then specifically argued in Schouten et al. (2018). The last of 10 major conclusions in the former states that, "although biophysical, demographic, and socioeconomic variables matter, [these] national-level factors explain nearly half of the farm-level variation in inorganic fertilizer and agrochemical use, underscoring the critical importance of the policy and institutional environment". In short, this major statistical study found that whatever food security intervention is chosen, there is an essential need to

[2] That an economic approach to food security research appears dominant to an outside scholar (international studies) is not a surprise. Christopher Barrett, for example, identifies as an economist and co-authored the food security entry in the International Studies Association's Encyclopedia (see Barrett and Lentz, 2017).

[3] See also the working paper (whose authors include World Bank and FAO affiliations) that discuss some of the outstanding issues in household food security surveys (Smith et al., 2014).

understand the policy and institutional contexts, which are not captured by the available data collected. Schouten et al. (2018: 14) argue through references to local institutional contexts and the limitations of theoretical triangulation that solving food security issues may indeed require more than unravelling tensions in measurement choices or the hard work of field survey data collection.

In addition, Cafiero (2013: 7) notes the potential for something like a data imperative and argues that concerns in data collection are not ameliorated in practice. He states that data collection may be influenced by what is available rather than considering what data is necessary to substantiate knowledge claims. This subordination of explanatory theory can lead to serious problems and Cafiero's argument is worth quoting at length:

> *In principle, it is only once the scope is defined that the search for appropriate data and theories could start. In reality, monitoring efforts may have started instead from a consideration of which data were available … the growing attention that, over time, has been devoted to specific additional dimensions of food security, without seriously reconsidering the base of data, has greatly increased the possibility of making mistakes in drawing inferences, following the temptation to try and squeeze, from existing data and indicators, information that simply is not there.*

It is important to note that this third category regarding theory has antecedents in decades-old anthropological work on food security. In this perspective, the importance of culture is highlighted in two primary ways. Some scholars (e.g. see the review in Shipton, 1990) argue that anthropology provides a useful perspective to interpret survey data, in particular Early Warning Systems for famine introduced in the 1980s. In short, intensive fieldwork that results in ethnography complements survey data analysis in food insecure situations. Other research frameworks go further, eschewing survey methods entirely and focusing on ethnographic methods to generate knowledge about development (e.g. Ferguson, 1990). Their perspective is that survey data is always incomplete and that there is no substitute for intensive fieldwork (for a similar conclusion in research on informal institutions in comparative politics, see Helmke and Levitsky, 2004). Regardless of the key difference, in both of these perspectives, a shared understanding exists: more survey data may not lead to better analysis, regardless of increases in accuracy and precision, because of this failure to understand the context in which data collection occurs. This is also reflected in development research textbooks (e.g., Scheyvens and Storey 2003). The point here is to recognize that survey methods have promises and pitfalls, and other non-survey-based methods are available and well-known to researchers.

This literature review concludes with answers to questions posed above. First, there is clearly a conventional approach to food security data collection that is rooted in a methodology used in economics. Second, while this dominant approach does recognize issues with data and data collection, it emphasizes the related solutions of more data, novel application of data, and/or measurement innovation. Third, some food security scholars have noted the potential for largely fundamental data collection flaws that remain unaddressed. This critical perspective of data and data collection coincides with research in sociology noted at the outset and with the anthropology cited above. In examining the illustrative case study, this paper seeks to contribute to the literature by further substantiating this critical perspective, by specifying instances of fundamental issues and noting evidence of a data imperative.

Food Security Data Collection in Ghana: an illustration

The following basic methodological and methods questions guided the analysis: 1) what is data and what are the objectives and procedures for data collection? 2) what is the methodology and what are the expected uses of the findings? and 3) what are the potential benefits and problems of the research and what are the reasons given for them?

Keeping these basic questions in mind, the analysis is divided into three parts. The first carefully analyses a country-level report carried out by an international organisation's field office, WFP Ghana. The second examines the subsequent regional bulletins of WFP Ghana, produced alongside local-level government entities such as the Ministry of Health (MoH) and Ministry of Food and Agriculture (MoFA). The third analyses research carried out by scholars, some of whom are affiliated with NGOs, published in academic journals around the same timeframe. The methodologies and methods deployed by this research are treated as data, just as those deployed by WFP Ghana.

Though the documents and research collected here are available online (i.e. can be collected without being in the country), this analysis highlights particularly salient points, supporting them with observations and with implications

based on in-country experiences. In other words, where relevant, insight from the author's situation in-country is included in order to understand the practical context of data collection in the field.

WFP Ghana: Comprehensive Food Security and Vulnerability Analysis data collection

Headquartered in Accra, WFP Ghana is active in collecting data that measures and documents populations vulnerable to food insecurity, and maintains a field office in Tamale, Northern Region. It is considered the primary IO working on this issue in Ghana. When the FAO produced the first report on the State of Food Insecurity in the World in 2009, it relied on case studies drawn from WFP projects. When the US Department of Defense submitted material to Congress in 2009 on the situation in Iraq, it used WFP reporting.

One of the primary tasks of the WFP is to produce regional and country-level reports related to food security, such as the 2009 Comprehensive Food Security and Vulnerability Analysis Report (CFSVA) for Ghana. This country-level study included the collection of original survey data. The CFSVA method and the product itself has been replicated in numerous other countries, primarily Africa and Asia (see also Jones et al., 2013). According to the WFP's website, CFSVAs began to be produced in 2006 and from 2006-2013, 85 projects were categorised as CFSVAs.[4]

It is clear that the purpose of the WFP's 2009 CFSVA (2009: 18) in Ghana was to assist government programming. The stated use of data collection is to document a baseline for the improved implementation of interventions. A connection is made between the survey's "reliable, comprehensive and multi-sectoral information" (i.e., data collection) and solutions to food insecurity. The CFSVA was carried out at national level (surveys were conducted using a typical sampling method), and complementary reporting was to be done at local level. Improvement of reporting was made possible by increasing the scale of the data collection: to incorporate local-level entities in reporting initiatives (WFP, 2009: 12). It is clear that enhanced data collection was intended to result in improved responses to vulnerable populations.[5]

However, the data collection procedure had various shortcomings that were actually noted in the report itself. In outlining its survey methods, the report (WFP, 2009: 21-25) stated that WFP Ghana trained 75 enumerators to carry out its survey of households and communities. The survey questionnaire was completed via group interviews. "321 communities" and "3851 households" are mentioned as evidence of the breadth of the data collection, carried out over a four-week period (25 days). However, it also stated that "the ideal target [for each team of five] of completing twelve households and one community questionnaire in one day could not often be met". Moreover, the time for data collection was noted as "barely sufficient", and it "took place under too much time pressure." The enumerators reached approximately 85% of the stated goal. In addition, perhaps recognising some of the perspectives above regarding the limitations of survey data, the report notes the value of "qualitative data in the form of focus group discussion". However, focus groups were not possible due to a "lack of financial and human resource[s]"[6]. In short, the data collection processes missed their stated goals and could not complement the surveys with qualitative data. To be clear, the WFP report appears to suggest that all enumeration areas had sufficient samples drawn, though the Annex of the Report acknowledged that there may be bias (see WFP, 2009: 145).

This paper is not claiming that the CFSVA has no value. Rather, it is important to note that the obstacles identified are not ameliorated by more data or methodological innovation. These obstacles are more fundamental: time, resources,

[4] In addition, the WFP makes online educational materials freely available for users to carry out food security data collection and analysis in this way (with funding from the European Commission). See: http://learning.vam.wfp.org/pages/pWkshpCourseDesc.asp.

[5] See, for example, a Ghana News Agency (which self-identifies as a news agent of the state) report concerning food security, mentioning the WFP analysis, and citing numbers of vulnerable individuals and regions at risk. The WFP, in their news section, then provided a link to the Ghana News Agency report that included mention of WFP work. See http://ghananewsagency.org/social/wfp-buys-local-rice-from-ghanaian-farmers-13824 and https://www.wfp.org/news/hunger-in-the-news?page=4&tid=193. In addition, there were also reports referencing WFP work and comments from Government of Ghana officials. The data and reporting carried out by the WFP provided the rationale for the promotion of interventions to support food production. See: http://www.ghananewsagency.org/social/ghana-is-self-sufficient-in-food-production-ahwoi-21441 and http://www.ghananewsagency.org/economics/wfp-to-produce-28-000-tonnes-of-food-in-northern-ghana--19104.

[6] See the virtually identical CFSVA author's comments here: https://www.wfp.org/content/questions-questions-and-more-questions. Brought to my attention via personal communication (email), 6 October 2010.

and institutional demands. It is not possible to quantify with any real precision or accuracy the impact on data collection of time pressure or the lack of complementary qualitative data. Of course, not meeting sampling objectives may result in less credibility or larger margins of error, but these are technical errors, not the fundamental ones this paper wishes to highlight. Under the pressure of time and limited resources, perhaps driven by the institutional context, how could researchers ensure that household subjects responded reliably and that the subjects understood the survey questions in the same way as did the researchers and enumerators? The implied answer would be the collection and analysis of qualitative data through focus groups, informal interviews, or some other in situ procedure because, as noted above, that would allow researchers to better understand the context in which survey data is collected. However, this was not carried out.

In the Ghanaian context, the language of development is well-understood across the country, including the less well-performing northern three regions (Northern, Upper East, and Upper West). It is a country with a history of development projects since de-colonisation, organised by IOs, bilateral development agencies, and numerous local and international NGOs (e.g., Killick, 2010). Across the Upper East region, billboards and other signage describing food security projects and their sponsors dot the area. The decades of development projects have generated both healthy amounts of scepticism and some degree of optimism. In this context, survey data for any development indicator (others include UNICEF Ghana's MICS) is understood by the population as potentially political, as they understand the competition for "a piece of the development pie." In practice, survey populations may respond positively to questionnaires because that may lead to the further funding of on-going interventions which then can be shown to be successful and therefore replicated. Populations may respond negatively to survey questions because it may capture the attention of development organisations to address a dire problem.

In addition, when carrying out identical surveys in rural and urban areas, different challenges arise based on living situations that may not be entirely comparable. In less urbanised areas, transport and market infrastructure can shift quickly. Washed out roads or construction may hinder getting goods to market. In the case of Bolgatanga, an entirely new market area (which was actually an old market area) replaced the operating market area in 2011 with the author receiving this information through word-of-mouth, not signage posted by government entities.

One last point in the WFP CFSVA report is worth highlighting. In discussing survey limitations, the report (2009: 25) states that, "in urban areas the main challenge was the administration of the community questionnaire … the concept of 'community' appeared to be difficult to relate to in an urban setting, which may have made the answers less precise and random". More surveys do not remedy this kind of obstacle. If operationalising such a foundational concept presents difficulties, it should compel researchers to study how that concept is understood in that context, not simply note it and move on with the analysis. To explain why the WFP did so, this paper argues that the institution had reason to highlight its value in the Ghanaian development context, as an entity that can lead large-scale data collection efforts. This corresponds to a long-argued role that IOs play in development: to provide (apolitical) technical assistance (e.g., Murphy, 2006).

WFP Ghana Food Security and Nutrition Monitoring System bulletins

After this large-scale country report was completed, reporting at the sub-state level began with WFP Ghana, MoFA, and MoH producing reports under the broad title of the Food Security and Nutrition Monitoring System (FSNMS). These bulletins initially covered the three northern regions of Ghana: Northern, Upper West, and Upper East. They were created by a partnership of multilateral and local government entities to document grain storage, food prices, and estimated values of tradable goods (such as labour or goats) for food. This analysis reviewed the first 12 bulletins published, from June 2009 on through June 2011.

As shown in the previous paragraphs, the WFP again played an integral part in creating data and stating the use or value in collecting it. Unlike the CFSVA, where WFP personnel worked with enumerators in data collection processes, there appears to be little communication and interaction between local government entities that actually conducted the data collection and WFP, despite the idea that WFP personnel saw local partners as essential to the credibility of the reporting.[7] Very few details about the process through which prices are collected were known by the international

[7] This meant having dozens of meetings with local officials and stakeholders before data collection began. Personal communication (email), 6 October 2010.

organisation, even though the analysis and production of the bulletin itself is almost entirely done by WFP staff. Since June 2009, the WFP website has made publicly available a number of bulletins. The use of such documentation for identifying food insecure populations is apparently for writing proposals to successfully secure funds for programming or increasing awareness through advocacy.

The reports themselves invite further inspection and this analysis begins with a summary of differences. First, different time periods are covered. For example, one report covered the quarter of a year rather than a month. In eight reports from May 2010 through March 2011, a conclusion section is added with sentences related to aspects of food security: availability, access, and, on four occasions, utilisation. One report had a dedicated section on the "Migration Situation" (4th Quarter 2009), focusing on migration within Ghana, and two others (March and May 2011) mentioned Ghanaian returnees coming back from Libya and refugees from Cote d'Ivoire. One mentioned the civil unrest in Bawku (August 2010) and four others the effects of market fluctuations in Burkina Faso. Six of the reports mention inflation, the commercial banking sector, or Bank of Ghana policies as having effects on food security. In three instances, reports mention projects of international NGOs or agencies, such as CARE International, IFAD or the WFP itself as producing positive effects toward mitigating food security issues. With the exception of the July 2010 bulletin, all the reports had a section on malnutrition and data provided by the Ministry of Health. Finally, data Annexes, which were not comprehensive, began to be included in September 2010, but stopped after December 2010. These significant differences across reports disclose a lack of consistent standards, which is detrimental to the validity of comparison across cases. However, this inconsistency did nothing to disrupt the idea that these publications would lead to development benefits via optimised policy.

Despite these differences, all the reports did have some similarities and regular coverage of some food security elements. The reports all opened with bullet-point summaries, divided by region. They all addressed climate characteristics for the regions, such as precipitation levels, seasonal forecasting, and any unusual weather events. These were linked to agricultural production. For each region, the report described the prices and price changes for various food staples. This data consistently featured maize and millet, and to a lesser degree, sorghum and locally grown rice. Figures such as line and bar graphs were often created to compare current market prices with their historical counterparts, though complete raw data files were not made available. Clearly, the creators of the bulletins understood some of the value of consistent reporting over time.

With respect to data collection procedures in general, it should suffice for the point this paper is making that in only 3 out of the 14 reports were there specific numbers on how many sentinel sites were reporting data. This is a lack of transparency in data collection. In addition, the mean respondent percentages were 53%. The Northern, Upper East, and Upper West regions reported: 74%, 46%, and 67%; 67%, 33%, and 46%; and 42%, 50%, and 50%, respectively, when sentinel reporting was presented at all. The local MoFA district offices coordinated travel to the sentinel sites identified in the bulletins. In spite of numerous attempts, the author was unable to specifically document exactly how local officials collected data. If their experience was like the everyday Ghanaian, gaining knowledge of prices would have resulted not from posted signage or receipts, but from highly informal, localised practices.

In addition, one notable inconsistency was the handling of goat price data. In 10 of the 14 reports, the sale of livestock or ruminents, mainly goats, was mentioned as one of the primary coping mechanisms for populations to manage food insecurity. However, in only two reports were actual prices reported for goats (June 2009 and June 2011). A third mentioned goat prices indirectly (May 2010). This is unexpected since price reporting can disclose vulnerabilities (see also the 2009 CVFSA). In March 2011, the bulletin interestingly noted how available pasture was decreasing and that this may affect goat "body conditions" which may affect prices. If this were known, it should have increased the drive for consistent goat market price data. Instead, this data was inconsistent, and when prices were presented, there was no context regarding size or weight, or why prices fluctuated.

Interestingly, there were instances where the cultural context at the local level was recognised as an influence on prices. In November 2010, it was asserted that the timing of religious festivals and funeral ceremonies had effects on increasing demand, diminishing supply, and rising prices, leading to favourable terms-of-trade with grains. This was briefly repeated in December 2010. Such observations in these few bulletins suggest that there is value in deep understandings of local contexts. It begs the question of why more instances are not included.

Given these obstacles, both in general and specifically with goat prices, the quality of the survey data can be questioned and thus the analysis and recommendations that are based on it. More specifically, given the lack of consistency in what is being reported, and the introduction and withdrawal of particular variables, any analysis over time may be questioned. Given the wide range of sentinel reporting (one may argue that reporting from the Upper West region was relatively stable) and lack of information on whether or not non-response was biased towards a particular market or set of markets, it is difficult to determine how much confidence to have. So again, data is produced, but what analytical results have followed? Given the inconsistency of collection and numerous variables falling in and out of these bulletins, a defensible conclusion is that these bulletins have begun to identify potential variables and have routinised the practice of data collection in these regions. This achievement does not enable the kind of predictive analysis sought after by researchers in the literature, nor is it firm ground to optimize policy.

Finally, this paper notes that in the Upper East region of Ghana, food markets operate in highly informal ways, which are known through experience. In Bolga, market day is every third day, not a specific day of the week. There is hardly any signage, list of prices, and receipts. There are no public displays of certifications for health standards or licenses to sell particular goods. Measurements are not done with scales, but with used containers. Transportation of goats and fowl includes any space where the animal can fit, in a bowl on a bicycle, on the roof of a tro tro, or in the trunk of a taxi. All of this suggests that this is a challenging environment to collect data with precision and accuracy. However, with time and experience, as with many informal contexts, it is possible to observe relatively stable patterns of action, which in turn makes observing change possible.

Food Security Research on Ghana in Academic Journals, 2008-2012

The analysis now turns to the academic literature on food security in Ghana published around the time of the situation of the author in-country (2008-2012). These articles disclose methodology and methods for data collection and thus can be treated similarly to the WFP research above. The same questions apply as to what is data and its uses, what are the data collection procedures, and what are the potential benefits and problems, and reasons for these.

Several of the research articles relied on food price, crop production, or other data from MoFA or Ghana Statistics Services. This data is considered useful because it is more comprehensive and comparable. Studies that adopt this approach include Armah et al. (2011) and Kuwomu et al. (2011) who used MoFA crop and price data. Karamba et al. (2011) used a country-wide, government-led Living Standards Survey, as did Zezza and Tasciotti (2011, who self-identified as FAO). Boakeye-Achampong et al. (2012) used the food security survey instrument developed by USDA (updated in 2000). In USAID's FY2010 Implementation Plan for Ghana, this US agency discussed the importance of survey data on food consumption and noted how the project would work with Ghanaian agencies to strengthen design and implementation of data collection activities (USAID, 2010). Again, it is clear that collecting more data that is comparable across time in relatively stable categories is an important foundation for research.

This section closely examines four articles, selected because they specifically conducted their own original data collection to measure food security in northern Ghana in that timeframe. Quaye (2008, who affiliates with an NGO) investigated the prevalence of food security in northern Ghana utilising a survey method to obtain data. Latching onto an NGO initiative, the author sampled 10% of those involved in an NGO's farmer assistance program (700 households split across 3 regions in 38 communities). The questionnaire developed was close-ended and specific questions are not listed in an Annex or Appendix. After standard questions regarding agricultural production, food insecurity was specifically measured by the number of estimated months between stock depletion and next harvest (the author also included a question on coping mechanisms). This is a one-dimensional indicator of food security that can, at best, be used to describe general characteristics such as "almost all (97%) of the households interviewed experienced food insecure periods within the year" (Quaye, 2008: 341). Such a claim suggests the magnitude of the problem and how comprehensive any intervention has to be. What it does not do is gather the precise data to provide institutions and policy makers the rationale to take specific, focused action. It may even be further criticised by mainstream approaches because that indicator suggests something of a trivial finding: that nearly everyone experiences food insecurity. The lean season in the north of Ghana unquestionably reduces the availability of food, so perhaps we should ask, "what does it mean to experience food insecurity?" While the paper does note how the Upper East Region is worse off, a mainstream approach would argue that a more complex set of indicators might be able to differentiate the most vulnerable from

the rest of the population and disclose determinants of the most vulnerable.

Rather simple indicators were used in Owusu et al. (2011), which investigated the relationship between non-farm work and two outcome variables: household income and food security. To measure the food security variable, two indicators were utilised. Both were dummy variables (0 or 1) derived from household survey questionnaires, where 10 rural communities were randomly selected out of a pool of 143. The origin of the survey and details about the collection are not described in the paper. However, informal focus group meetings were held in communities in order to identify potential sites and participants. It would have been useful to include what exactly these meetings disclosed, and indeed how participants were actually identified. Regarding the food security indicators, these reported whether or not a household was food secure/insecure (respectively) by virtue of: a) "if the household does not mortgage its standing field crops for current consumption"; or b) "if the household's harvested food stock declines during critical periods of food shortages" (Owusu et al., 2011: 111). The point of this study is to link work with food security, yet again this indicator for food security would be a concern for mainstream researchers as it is two-dimensional and only codes into two categories. In addition, reporting on the informal focus group meetings could have disclosed useful information about the lived experiences of the population. Similarly, Codjoe and Owusu (2011: 756-757) conducted structured, but open-ended, individual household surveys (N=36). They consulted with community leaders to select households across wealth categories. These surveys used questions across three dimensions: availability, access, and utilisation. As a result, more detailed findings were presented. However, the scope was limited to only three communities, and while they utilised "focus groups" in the data collection, there is no mention of any findings derived from them. The purpose of that research was to correlate climate change and food security.

Akudugu et al. (2012) stands somewhat apart from these previous pieces of research. They utilized qualitative data drawn from participant observation, but sought to answer the same kinds of questions as other research. As a result, their findings are not quite as convincing or sharply defined. However, the authors did show how Ghanaians in the local context saw food insecurity as normalised and improvements as a "mirage." Disappointingly, no further explanation for how and why Ghanaians had come to this perspective was offered.

To summarize, the analytical sections here describe a situation where original survey data collection is regularly carried out, but to highly varying degrees of detail. In state-level surveys, there remains precious little time, energy, and resources to do non-survey work, to even meet their own goals for survey completion, or to gain clarity on the most basic concepts. In sub-state-level market price reporting, IOs rely on local partners, who do not carry out the most transparent or consistent of data collection work. This is further complicated by the high level of informality with respect to markets, at least where the author was situated in the Upper East Region (see also Roesel and Grace, 2015). The academic research in this time period typically utilizes a very low number of dimensions and indicators for these dimensions. In cases where more dimensions are utilised, focus groups are incorporated, or a more interpretive, ethnographic approach is used, there is a lack of depth and discussion in reporting findings. It seems clear that a diversity of data collection and analysis modalities is useful, yet discussion on why these particular ways are valuable is stunted or simply non-existent. In addition, cross-cutting discussions comparing the different ways of knowing and their trade-offs are almost totally absent.

Conclusion

Demand for data in food security has only increased since the conceptual foundations were articulated at the World Food Conference in 1974. The need for data to carry out any institutional tasks, such as documentation, advocacy, or intervention, has resulted in data collection becoming a routine practice. In listing the key tasks to meet the challenge of feeding 9 billion people, Godfray et al. (2010) focus on production and yields, diet and nutrition, and waste. These obviously rely on sound data collection. The authors lament that "in the developing world, [food] losses are mainly attributable to the absence of food-chain infrastructure and the lack of knowledge or investment in storage technologies on the farm, although data are scarce."

While collecting more data is important, the contribution here is to further substantiate the claim that problems in food security data collection are not simply solvable by virtue of more data or methodological innovation. In practice, IOs, NGOs, and academic researchers themselves face numerous issues in meeting the demands of scholarly

standards. Researchers often rely on IOs and NGOs in the field for data collection directly, or other resources to facilitate data collection, connect with governmental entities, or gain local knowledge to inform methodologies. The observations presented here indicate that organisations find it acceptable to use data that have numerous issues related to transparency, local context, and resources. Demands to meet deadlines for reports derived from field survey data, to demonstrate value and expertise, appear to override research design demands. Scholars themselves still rarely live up to the numerous insights of the community to employ non-survey methods. While it would be an overstatement to suggest that food security researchers and related organisations are driven by data imperatives to the degree that profit-oriented corporations are, there is enough evidence to warrant reflection and a critical sensitivity in practice.

Based on problems detailed in the analysis above, three ideas are worth further discussion. First, scholars should take seriously the analytical distinction between knowledge production—the primary objective of the researcher—and issue management (see also Rivera-Ferre, 2012). Clearly, research on food security can directly improve people's lives. Irrespective of our philosophical position regarding the relationship between science and ethics, at a minimum we can at least analytically distinguish the between two. In other words, we should talk about both the scientific and the ethical drive to collect data. Scholars should more precisely and openly discuss at conference proceedings, workshops, and in writing, problems with data collection in the field that may be overlooked because of the ethical demands to do something. There remain a stigma and disincentives in the research community to expressly talk about this.

Second, given the number of instances where researchers tout the importance of qualitative data, better and more complete presentations of this data and its collection should be permitted and expected. Hardly any researcher claims that collecting qualitative data through focus groups, unstructured interviews, or ethnographic field notes has no value. Yet time and again, it is the first procedure to be minimised or discarded entirely. In our research practices, we should make available the time, energy, resources, and space in our scholarly activities, outlets, and methodologies to adequately present this data and the data collection procedures, and to properly think through what interesting questions they can uniquely answer (e.g., Yanow and Schwartz-Shea, 2012).

Third, scholars should reconsider their relationships to the populations they study. What are their understandings of the situation? The talk of participatory research remains more of a promise than a reality (see e.g. Cooke and Kothari, 2001), though the increasing inclusion of Africa-based scholars in research journals (several noted above) is a step in the right direction. With respect to the Upper East region of Ghana specifically, one paper that created a participatory 3D topographical map (Dwamena et al., 2011: 191) speaks directly to this issue. In their work with stakeholders, the authors state a common claim about development projects (including those related to food security) that is so emblematic in this context that it is worth citing at length:

> *Stakeholders … responded that most development organizations enter into communities without a detailed idea about what other organizations are doing in the community and the overall development plan or agenda of the community. This normally ends up in the duplication and cancellation of efforts. Where other development initiatives are known, it always happens that the different organizations operating on the ground have different project implementation plans that may contradict. This always confuses poorly resourced farmers which consequently hinders them to fully adopt technology or models that are introduced to them. They also observed that there are no complete data sources on available resources development initiatives in communities where external agencies can build on in their programme planning, therefore making them start from the scratch all the time.*

This rather direct criticism of researchers is the exact problem that such participatory methods were meant to solve. The 3D model the authors created is a table-top piece meant to facilitate planning and assist in arguments for further funding for food security initiatives. While participatory practices were utilised, this 1.9 metre x 1.5 metre table-top map cannot easily be accessed, shared, seen, and studied by local communities. Thinking through objectives and practices from the perspective of the population in question continues to demand our attention and reflection.

It may be argued that some data is better than no data, and that the mass of WFP reporting in developing countries represents a starting point for local-level understandings, not a final destination. In the analysis here, it is argued that researchers should clarify their positions and find pathways to better data that do not simply entail collecting more or utilising a new metric. Fundamental problems should raise fundamental questions: what are local-level interpretations of concepts and data collection procedures? What are the institutional demands faced by organisations involved with

these procedures? How can we incorporate other ways of knowing, besides survey methods, into our understanding of the various sociological, economic, and political dimensions of food security? These are questions worth asking.

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Who Defines Fine Chocolate? The Construction of Global Cocoa Quality Standards from Latin America

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Abstract

The cocoa industry lacks globally harmonized quality standards. This article looks at how cocoa quality has been understood in the absence of industry-wide standards, the current interest in designing harmonized standards, the major debates about their content, and the implications their adoption could have across the cocoa value chain. It highlights the questions and dilemmas that emerge when tastes and senses are subject to standardization efforts, an especially challenging endeavour for a processed product such as chocolate. We argue that the ongoing debates over the content of these standards and their future governance structure reflect broader disputes over who will profit from or pay the most for superior quality cocoa, which is the fastest growing segment of the global cocoa market. If adopted, harmonized cocoa quality standards could gradually modify quality evaluation practices, costs, and opportunities related to the specialty cocoa market. We also contend that globally harmonized standards could affect preferred marketing strategies and discourses of farmers, traders, countries and chocolate makers, opening up opportunities for more farmers and regions to make claims to quality on the basis of "intrinsic" attributes, as opposed to relying mainly on place-based branding strategies. This would gradually reorganize competition between farmers and countries in the fine flavour cocoa market. The article is largely informed by research and discussions taking place in Latin America.

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Introduction

Global cocoa[1] trade is roughly divided into two categories: (1) bulk or ordinary cocoa, and (2) fine and flavour cocoa (FFC). The specialty[2] cocoa market – which includes FFC – is the fastest growing segment of the market, with demand increasing annually at around 9% (Ríos et al., 2017: 29). Curiously, there is no universally accepted definition of fine flavour cocoa, even though chocolatiers claim to recognize it when they taste it. There are also no globally harmonized standards or procedures for distinguishing bulk cocoa from fine flavour cocoa. Still, a panel of experts at the International Cocoa Association (ICCO) regularly updates a list of countries – known as Annex C – considered to be exporters of FFC. Out of concern about the lack of clear definitions and quality standards in the cocoa industry at a time when demand for FFC is growing, a multi-stakeholder initiative emerged in 2015 to develop globally harmonized cocoa quality standards. These stakeholders refer to themselves as the "working group" leading the initiative for International Standards for the Assessment of Cocoa Quality and Flavour (ISCQF). In mid-2020, they shared the first completed drafts with the public for feedback, including standards for how to prepare samples and how to assess them.[3] Drawing on the standards literature, we argue that the shift towards harmonized global standards could signify a potentially substantial change in how the specialty cacao market operates. In this article we use the case of cocoa to explore the transition from a world without harmonized standards to a world with them. We explain how cocoa quality has been understood in the absence of industry-wide standards, why there is currently interest in designing and implementing harmonized cocoa quality standards, and what implications these could have across the cocoa value chain.

Global dynamics of fine flavour cocoa production and trade are closely tied to the construction of particular interpretations of cocoa quality and their associated standards (or lack thereof). Thus, we frame our argument in conversation with the literature on standards, especially as applied to agricultural value chains. Scholars (Timmermans and Epstein, 2010; Djelic and Den Hond, 2014; Loconto and Demortain, 2017) have recently highlighted the paradoxical role of diversity and plurality in the world of standards. Djelic and Den Hond (2014) suggest that exploring this plurality is "an important frontier for the contemporary dense scholarship on transnational standards and standard setting" (Djelic and Den Hond, 2014: 5-6). We build on their argument by analysing how the coexistence of diverse standards is being dealt with in the cocoa industry. We thus fill a gap in research regarding the questions and dilemmas that emerge when tastes and senses are subject to standardization efforts – an especially challenging endeavour for a processed product such as chocolate. We also apply Quark's (2013; 2014) insights about the role of geopolitics in motivating the elaboration of standards and how these can lead to shifts from place- to product-based understandings of quality, which can change power dynamics within a value chain (Quark, 2015). The contribution is primarily empirical, as one of the first scholarly analyses of the attempt to harmonize cocoa quality standards.

The crux of the argument is as follows: the ongoing debates over the content of the new global cocoa quality standards and their future governance structure reflect broader disputes over who will profit from or pay the most for superior quality cocoa at a time when demand is increasing. The stakes revolve around the possibility for different actors to access premium prices associated with selling higher quality cocoa. On the upside, harmonized standards could introduce a higher degree of transparency to an industry well known for its secrecy and subjectivity in its assessment of cocoa and chocolate quality. In this sense, universal standards represent an opportunity for growers – not just chocolate makers – to better understand what is required, in principle, to produce FFC. Standards could also help buyers have more clarity with regard to what they are purchasing, and may facilitate informed comparisons of different cacao lots, providers and origins. Quality standards are never neutral, however, and their content and logistical requirements will favour certain actors over others. Those with the knowledge, resources, and equipment necessary to implement the standards will be at an advantage, for example. As there is also no guarantee that farmers will be able to prove superior quality on-farm, intermediaries and traders may benefit from the premium prices associated with high-quality cocoa more than farmers themselves, as in the specialty coffee industry (see Daviron and Ponte, 2005). Lastly, global standards

[1] The terms cacao and cocoa are used inconsistently in both academic and non-academic literature. "Theobroma cacao L. is the botanical name for 'cacao' and refers to the tree, the pods and the unfermented beans from the pods. 'Cocoa' refers to the manufactured product – the powder sold for drinking or food manufacturing purposes, but recently it has also been frequently used to describe the fermented cocoa beans in bulk" (Sukha, 2016: 7). We use "cacao" to refer to the plants and "cocoa" to refer to the beans, processed products, and the sector in general.

[2] Specialty cocoa is an umbrella term usually used to describe cocoa "specialized in a series of consistent and verifiable attributes linked to the management, origin, and quality that different producing countries offer" (Ríos et al., 2017: 5). FFC is considered specialty cocoa, but not all specialty cocoa is FFC. Specialty cocoas also include organic, fair trade, sustainable, heirlooms, and other certified cocoas.

[3] The draft protocols can be downloaded at cocoaqualitystandards.org.

could affect preferred marketing strategies and discourses, opening up opportunities for new actors and origins to make claims to quality on the basis of "intrinsic" attributes, as opposed to relying solely on the currently pervasive place-based branding strategies.

Several of the authors of this paper recently completed an assessment of the cocoa market systems in six Latin American countries. This involved interviews and focus groups with 230 cocoa value chain participants, including farmers and buyers (see Wiegel et al. 2020). The interview and focus group questions were designed to explore, among other things, the challenges and opportunities for small cocoa farmers in these countries to obtain better prices for higher quality cocoa. One of the themes that emerged in all countries, particularly in interviews with farmers, buyers, and government officials, was the keen interest in superior quality cacao and the varied or unclear criteria against which to recognize it (and therefore to secure higher prices). The idea for this article emerged from that assessment. The data analysed include: the interviews and focus group field notes from the aforementioned assessment; two anonymous interviews with direct participants in the standard-setting process; industry publications; and meeting notes produced by the working group that has been drawing up the harmonized cocoa quality standards since 2015. Given the sensitive nature of the ongoing process of constructing and implementing standards, interviewees did not grant authorization to cite them directly, so their personal voices do not appear here. For this reason, we draw mainly on ideas shared in reports and documents, and use the focus groups and interview data without citing any individuals.

The article is organized as follows. We begin with a discussion of key theoretical insights related to quality standards in agricultural value chains. We then characterize the global cocoa market and explain how quality is understood in the absence of harmonized standards. Next, we elaborate on the role that place of origin and genetics have played in distinguishing bulk versus fine flavour cocoa. We thereafter analyse the proposed global cocoa quality standards and the key actors, motivations, and debates shaping them. Lastly, we hypothesize what the implications of these standards could be and how they might redistribute roles and opportunities across the cocoa value chain.

Quality standards in agriculture

Broadly, standards "are the means by which we judge persons, processes, and things to be superior, acceptable, or unacceptable" (Busch, 2011: 3247). Grades and standards are therefore "ways of defining a moral economy" (Busch 2000: 274). Busch (2000) argues that the establishment of agricultural standards represents one of the most important transformations currently shaping rural life. The influence of private agri-food standards, in particular, has grown significantly in the past few decades (Loconto and Busch, 2010). As the state took a step back from directly regulating numerous aspects of agricultural production and trade in the neoliberal era, private regulators – frequently via third-party certification institutions – became key players in the global agri-food system (Challies, 2012; Hatanaka, Bain and Busch, 2005). Analysing the evolving role and consequences of standards is therefore a key to understanding fundamental changes in the governance of the global cocoa value chain.

Like Loconto and Demortain, we think of standardization as "the dynamic interaction in three spaces (standards in the making, standards in action, and standards in circulation) where diversity re-emerges only to be tentatively reduced or limited through new rounds of standard setting" (Loconto and Demortain, 2017: 382). In this paper we focus on the "standards in the making" process in the cocoa industry because that is where the initiative is currently at. Standard making is essentially about designing and enforcing a classification system (Bowker and Star, 1999). When attempting to create new standards, there is usually an attempt to argue that the chosen standards reflect intrinsic and objective characteristics of a product. The selection of certain "intrinsic" qualities as relevant for defining goodness is however neither natural nor predetermined; it reflects a compromise between different views of what is most valuable and important. Thus, standards embody particular values and preconceptions of what has worth and what does not. They are therefore not simply neutral technical tools and their emergence "is almost invariably the result of conflict or disagreement," in part "because standards create winners and losers" (Busch, 2011a: 33).

Studies about quality standards in agriculture tend to highlight the relationship between the elaboration of standards, and various kinds of power and (dis)advantages. Nelson and Tallontire (2014), for example, argue that it is crucial to analyse the way private standards are used to exert and resist ideational power (the power of ideas in shaping norms) in value chain governance, as opposed to solely material power (for example, the power to enforce standards). Also concerned about the relationship between power and standards, Quark's (2013) study of the cotton industry highlights the crucial role of standard-setting for building hegemony in the world economy and exercising geopolitical power. This article similarly highlights how ideational power combined with quality standards and the measurement instruments

needed to implement them could have material consequences across the cocoa value chain.

Standards are powerful and consequential for at least two main reasons. First, they establish the rules and practices that others must follow. These rules become a form of "codified power reflecting the interests and values of those groups with greatest access to and influence within standards-setting and enforcement processes" (Loconto and Busch, 2010: 510). Second, standards are a source of anonymous power; "even if we know who established them, standards take on a life of their own that extends beyond the [original] authorities in both time and space" (Busch, 2011a: 29). Once part of daily life, standards tend to become naturalized, rendering the work behind their construction and institutionalization invisible. The social construction of standards is most evident when they are first emerging or when they break down or become objects of contention, but once established they are difficult to challenge, change, or eliminate altogether (Bowker and Star, 1999). Thus, once quality standards are widely adopted and accepted, they "tend to rigidify production regimes" (Busch, 2011: 3247).

Several scholars have analysed how transnational standards interact with and are affected by national institutional differences and local standards (Mattlie and Buthe 2003; Thiemann 2014). Thiemann argues that "to introduce contentious transnational rules at the national level, a strong coalition for change is needed which includes rooted cosmopolitans as well as state agencies" (Thiemann, 2014: 28). It is particularly important that the coalition "overcome the opposition of business groups that benefit from the status quo ante" (Thiemann 2014: 29). Djelic and Den Hond (2014) point out that the adoption of global standards – which they refer to as transnational soft law – "creates significant opportunities for localized adaptation or 'translation' but also for shirking and avoiding" (Djelic and Den Hond, 2014: 3). Arnold and Loconto (2021) investigate how producers, faced with a multiplicity of standards, decide to apply them. They propose the concept of "nesting" to explain how they go about the process of selecting which to use and how to use them. The fact that new cocoa quality standards are currently under construction offers a fine opportunity to analyse their social construction, the challenges to their adoption, and their potential implications, and (maybe) to influence their course as they evolve. Before analysing the "standards in the making" process for the new cocoa quality standards, we first discuss the status quo in the industry.

Bulk versus fine flavour cocoa in a world without harmonized quality standards

The bulk-FFC dichotomy fails to accurately capture the diversity of cocoa flavours and qualities that exist, but is nonetheless the language used by most industry participants. Bulk cocoa accounts for roughly 95% of global trade, while FFC amounts to a mere 5-7%. This means that the vast majority of the world's cocoa farmers are relegated to the bulk cocoa market and the related uncertainties of the futures market. Fine flavour status is usually obtained from a combination of particular genetics (Criollo, Trinitario), country of origin (usually Latin America and the Caribbean), and appropriate post-harvest practices (fermentation). Ecuador is the world's largest exporter of fine flavour cocoa (FFC), supplying over 50% of the global cocoa market (ICCO, 2015). FFC is valued for its distinct aromas and flavours, such as the presence of fruity, floral, herbal and nutty notes. There is ongoing debate about how much these attributes are a product of either the cocoa beans themselves or of the post-harvest practices, especially the fermentation process. The truth is, there is no "universally accepted definition, short or long, scientific or commercial, of fine flavour cacao", nor is there agreement on how best to assess a particular flavour attribute (Eber and Williams, 2012: 12). As it stands, fine flavour cocoa is determined by what buyers say it is.

The major global governance institution in the cocoa industry is the International Cocoa Organization (ICCO), originally created in 1972 to oversee the International Cocoa Agreement. The ICCO has been particularly influential in shaping perceptions about which countries are producers of FFC. Since the 1970s, it has published a list (Annex C), updated every few years, of the countries considered to be fine flavour cocoa exporters, along with the percentage of total cocoa exports from each of those countries. The decision is made by an expert panel composed of representatives of companies that buy FFC cocoa to trade or make chocolate. To be considered for inclusion, government representatives must present their case periodically to the ICCO and provide documentary evidence that their country's cocoa is purchased as FFC in the global market. They must include information about who the purchasers are and what they produce with the cocoa, as well as price differentials paid as compared to bulk market prices, and details of any awards won for the quality of their cocoa or for chocolate made from it. For example, Nicaragua used the fact that Ritter buys its cacao at premium prices and that the Ingemann Fine Cocoa company has won prizes for cocoa and chocolate made from Nicaraguan cocoa, in order to achieve fine flavour status (ICCO, 2015). The Annex C list grew from fourteen to twenty-three countries in 2016, nineteen of which are in Latin America (Ríos et al., 2017: 24).[4] Ultimately, however, the

[4] The most recent list of FFC exporting countries published in 2016 includes: Belize, Bolivia, Colombia, Costa Rica, Dominica,

ICCO's distinction between ordinary and fine flavour cocoa relies on market recognition and does not truly reflect either the intrinsic attributes of cocoa grown worldwide, or the potential of cacao farmers in countries not on the list to produce high-quality cocoa. The adoption of globally harmonized quality standards could provide a new avenue for classification as FFC, which could gradually erode the power and influence of the ICCO in shaping perceptions and discourses of what counts or does not count as FFC.

As bulk cocoa is considered inferior in terms of quality and flavour, traders generally receive a higher price per ton for FFC. The commercialization of FFC inevitably requires some method of both differentiation (from bulk cocoa) and standardization (of what counts as FFC). In the absence of globally harmonized cocoa quality standards, diverse practices, standards, and norms, varying both across and within countries, are used to distinguish bulk from FFC. Buyers interested in FFC tend to rely on direct relationships with growers and traders in particular locations. Some bulk cocoa traders and exporters use quality control standards developed by the International Organization for Standardization (ISO) that focus on three aspects: "(1) the average size of the beans; (2) the average percentage of beans showing [defects] and the degree of fermentation; and (3) the organoleptic characteristics of the cocoa" (ITC, 2001: 36). A common quality control method involves a "cut test" whereby beans are evaluated for the presence of mould, infestations, slate and degree of fermentation. Even though quality evaluation procedures vary somewhat by country, most of them focus more on physical traits than on sensory traits. Importantly, buyers are particularly powerful in determining what counts and does not count as FFC.

The price of cocoa futures has fluctuated between US $1,000 and $3,400 per ton since the year 2000. In 2020 prices averaged between US$ 2,300-2,400 per ton (Trading Economics, 2020). Both the New York and the London stock markets make price distinctions on the basis of "origin groups", suggesting that origin as a proxy for quality is institutionalized in the futures market.[5] Some companies have predetermined premiums that they will pay for FFC, above the bulk price, but smaller more specialized firms have their own supply and demand logics and rely on specialist agents to buy FFC directly from particular growers (ICCO, 2019). This is especially true for ultra-premium fine cacao and rare varieties. The ICCO consistently publishes statistics about average prices for bulk cacao, but reliable and verifiable data about price differences between bulk and FFC are scarce and difficult to obtain (Villacis et al., 2019). In 2015, the ICCO shared one of the few publicly available estimates for the average global price differentials for that year, as summarized below:

Table I: Cocoa Production and Prices During 2015

Cacao Type	Annual Production (tons)	Market Price (USD/ton)
Ultra-Premium Fine	12,000 [0.3%]	5,000 – 10,000+
Fine	230,000 [5.7%]	3,700 – 5,000
Bulk Certified	600,000 [14.8%]	3,100 – 3,700
Bulk	3,200,000 [79.2%]	3,000 – 3,500

(Source: Martin, 2017)

The average prices in the table above do not however say much about price variability of FFC within and across different countries.

Chocolate quality claims tend to mention the genetics of cacao beans, as well as the place of origin. Cacao flavour profiles are complex, and the same variety grown under variable environmental conditions and subject to different post-harvest practices can lead to dissimilar flavour attributes. In addition to genetics then, post-harvest practices that vary across place and culture, and "terroir" – the term used in the industry to refer to the overall environmental conditions under which cacao is grown – are crucial as well. The components affecting flavour can therefore be thought of roughly as a series of fourths, where the four major factors are: terroir (place), fermentation, roasting, and genetics (Eber and Williams, 2012: 11).

Dominican Republic, Ecuador, Grenada, Guatemala, Honduras, Indonesia, Jamaica, Madagascar, Mexico, Nicaragua, Panama, Papua New Guinea, Peru, Saint Lucia, Sao Tome and Principe, Trinidad and Tobago, Venezuela and Vietnam (ICCO, 2019).

[5] New York's InterContinental Exchange divides cocoa into three categories: Group A includes cacao from West Africa and is deliverable at a premium of $160 per ton; Group B includes Ecuador and most Latin American varieties and is deliverable at a premium of $80 per ton; Group C includes Malaysia and others delivered at par (Nardella, 2014). The London's Futures Exchange used to have five different origin groups, but reduced them to two in 2017: African and other (Brandon, 2017).

Most chocolatiers agree that "cacao genetics, origin, and proper processing are the essential first steps to creating any fine chocolate. Start with a mediocre bean and you might create something good, but fine? No" (Williams and Eber, 2012: 76). It is therefore necessary to start with a fine flavour cocoa bean, defined by genetics and terroir, since post-harvest practices enhance but do not create fine flavour cocoa.

For decades, it was thought that cacao could be divided into three distinct genetic clusters – Criollo, Forastero and Trinitario – from which all commercial cocoa varieties, hybrids and clones stemmed. This classification has recently been challenged by breeders and ecologists, and a ground-breaking study by Motamayor et al. (2008) demonstrated that there are at least ten genetic clusters.[6] Nonetheless, the three afore-mentioned categories are still the most commonly used terms employed by industry participants. The vast majority of bulk cocoa traded today is considered to be of the Forastero type, while the Trinitario and Criollo types are generally considered to be of fine flavour quality. There are however notable exceptions to this rule. Ecuador's famous Nacional trees are Forastero types, yet they produce FFC with unique fruity and floral attributes. Conversely, beans from Trinitario trees grown in Cameroon, "whose cocoa powder has a distinct and sought-after red colour, have, so far, been classified as bulk cocoa beans" (ICCO, 2019). In short, the cocoa industry is presently characterized by the coexistence of a diversity of conventions and standards. The current harmonization initiative is intended to create order, but as Timmermans and Epstein (2010: 84) note, "any order is a hard-won achievement that requires the submission of diverse actors".

The push for globally harmonized cocoa quality standards

Key actors and motivations

The belief that there is a need for establishing industry-wide cacao quality standards is not new in the cocoa business. Consumption patterns in the industry are changing, and there is rising interest in product differentiation, which is leading to a growing need for effective traceability, certification and quality control systems that distinguish specialty cocoas from bulk cocoa. There is also a generalized perception within the cocoa industry that quality systematically deteriorated throughout the past century, and there is concern about the possible loss of rare varieties that could revitalize breeding programmes. Several companies, scientists, and institutions are trying to incentivize FFC production and to protect cacao biodiversity; some for business reasons, others for breeding purposes, and others due to a passion for distinct chocolate flavours. In 2008, for example, Mars Inc. funded a project that "successfully mapped 92 percent of the 3,500 genes in cacao germplasm" (Eber and Williams, 2012: 7). They made their findings public and published a Cacao Genome Database. The hope is that this information can contribute to a better understanding of the relationship between genetics and flavour potential (Loor et al., 2012). The USDA and Fine Chocolate Industry Association (FCIA), for their part, launched an Heirloom Cacao Preservation Fund in 2012, hoping "to save the Heirlooms or 'diamonds' of cacao – the finest, richest, most complex forms in the chocolate universe – from extinction" (Eber and Williams, 2012: 18). It was in this context of angst about diminishing quality and loss of cacao biodiversity that the initiative for global quality standards emerged.

Buyers are finding that the quality control systems that they have relied on up to now are no longer guaranteeing a consistent supply of FFC in the context of growing demand for specialty cocoa. They are therefore interested in developing new traceability systems, including new quality standards. Several institutions and companies have invested substantial amounts of time and money in trying to better understand the variables influencing flavour and to design quality standards. For example, a $1.67M project sponsored by the ICCO in 2006 sought to "to establish physical, chemical and organoleptic parameters enabling the evaluation of cocoa quality in relation to genotype and environment, and to disseminate selected parameters, methodologies, standards and instruments to be used in the evaluation of cocoa quality. Unfortunately, the project didn't get very far" (Eber and Williams, 2012: 14). Initiatives at the country or company level – for example Tcho's Flavor Labs[7] or Peru's efforts to establish national sensory standards (Wiegel et al. 2019: 21) – have been more effective at designing and consistently using quality standards. These have been limited to standards recognized by a specific company or country and so have not had broad relevance across the industry. So far, no initiative has led to the elaboration and implementation of globally harmonized cocoa quality standards.

In 2015, a multi-stakeholder initiative emerged with the objective of developing globally harmonized cocoa quality standards. The proposed standards are concerned primarily with quality for the chocolate industry, not other cacao-

[6] See Motamayor et al. (2008) for a discussion of the ten genetic clusters proposed, namely: Amelonado, Contamana, Criollo, Curaray, Guiana, Iquitos, Marañon, Nacional, Nanay, Purús. Boza et al. argue that "this new classification more accurately reflects the genetic diversity that is available for breeders" (Boza et al., 2014: 221).

[7] For more on Tcho Flavor Labs, see: https://tcho.com/pages/tcho-sources. Equal Exchange had a similar initiative in Peru that scaled some at country level, but not beyond.

derived products. According to Brigitte Laliberté – one of the facilitators of the standards elaboration process – it all "began at a World Cocoa Conference in September 2015 in El Salvador with a group realization that cocoa did not have a common language and a common understanding of what quality is, what fine flavour is; is it fine or is it flavour?" (Laliberté in FCIA, 2020). In the interest of creating a shared language, conference participants decided to form a working group for the elaboration of international quality standards. The working group believes that "there is a critical and urgent need to: establish accepted, credible, quantifiable and verifiable protocols for assessing and communicating cocoa quality and flavor; facilitate comparison among samples; and provide feedback towards improving post-harvest processes for different cocoa genetics, 'terroirs', and production systems" (Bioversity International, 2019: 5). The hope is that the new standards will aid growers to better understand the characteristics of the cacao that they grow and will provide the means for them to evaluate it.

The eighteen working group members as of 2020 included representatives of international NGOs, industry associations, university-based research centres, global agricultural research institutions, and the private sector.[8] There are notably more voices from Latin America than other cacao producing regions and more influence of US-based actors than European actors. Importantly, there are no farmer-led organizations represented, though many of the institutions and individuals work closely with farmers. This indicates that it is not essentially farmers' interests or priorities driving the initiative, but rather Global North actors interested in the FFC market. The Alliance of Bioversity International and CIAT, with USDA funding, is directly facilitating the initiative. The Working Group decided that the Alliance will continue to coordinate the initiative at least until 2022, when the USDA-funded MOCCA[9] project is scheduled to end (Bioversity International, 2019: 17). The future governance structure is unclear and is a subject of heated disputes.

Attention to both the funding source and the actors with a seat at the table is meaningful for understanding the various interests and geopolitical struggles undergirding the standard elaboration process. Quark (2014) argues that at different moments in time, hegemonic coalitions between various states and firms are formed to establish the rules and standards whereby particular commodities are to be regulated and traded. Her analysis of changes in the global cotton industry reveals that it is not only firms that shape the commodity chain; it is also state institutions such as the USDA seeking to gain geopolitical and economic advantages in part through the design of particular quality standards that best serve their interests. In the case of cacao, it is precisely the USDA that is providing the financing for industry-wide quality standards. Their collaboration with the Alliance of Bioversity International and CIAT (part of the CGIAR system), NGOs, universities, and various private sector groups is likely to result in reputational gains as they seek to influence global cacao governance, speaking to Henson's question about "why firms might engage with government, other firms and/or NGOs in order to develop and implement governance mechanisms" (Henson, 2011: 449). As Boström and Tamm Hallström note, "differences in the access to power resources provide a basic explanation as to why multi-stakeholder organizations are developed in the first place" (Boström & Tamm Hallström, 2013: 102). The asymmetrical power relations and the prioritization of certain types of knowledge and expertise with regard to quality are likely to impact the distribution of benefits and the upgrading of opportunities, or the obstacles. The power of buyers and their profit maximizing logic, for instance, could transform the standards into mechanisms that enhance their power and profits in relation to the supply of FFC, rather than the standards being a tool for transferring value and profit to farmers, as many working group members hope.

From the point of view of the working group members, there has been an explicit attempt to keep the standard elaboration process inclusive and participatory. This is common in multi-stakeholder initiatives as they seek to mimic democratic processes and transparency, given their legitimacy challenges (Boström and Tamm Hallström, 2013; Jongen and Scholte, 2021; Ponte et al., 2011). The first broad consultations regarding the working drafts took place over three days in September of 2017 in Managua, Nicaragua, with around sixty people; and for a half day in October of 2017 in Paris, France, during the Salón du Chocolat gathering with around seventy people. A dedicated team continued to refine the draft protocols throughout 2018, and shared the drafts for additional feedback in Paris in October 2018.

[8] The eighteen working group members are: Alliance of Bioversity International and CIAT, AMACACAO/CUNAKakaw from Guatemala, Barry Callebaut, the Cocoa Research Center (CRC) at the University of the West Indies (UWI), ECOM, the Cooperative Development Program (CDP), the Fine Chocolate Industry Association (FCIA), the Fine Cacao and Chocolate Institute (FCCI), Guittard Chocolate, ICCO, the International Institute of Chocolate and Cacao Tasting (IICCT), Lutheran World Relief (LWR), Puratos/Belcolade, Ed Seguine, TCHO, Valrhona, the World Cocoa Foundation (WCF), and Universidad Nacional Agraria La Molina Perú (UNALM). Financial support comes from: The Alliance of Bioversity International and CIAT, CGIAR, USDA, PennState, Cocoa of Excellence, OCCA, Barry Callebaut, Puratos, Belcolade, ECA, CAOBISCO, and FCC (FCIA, 2020).

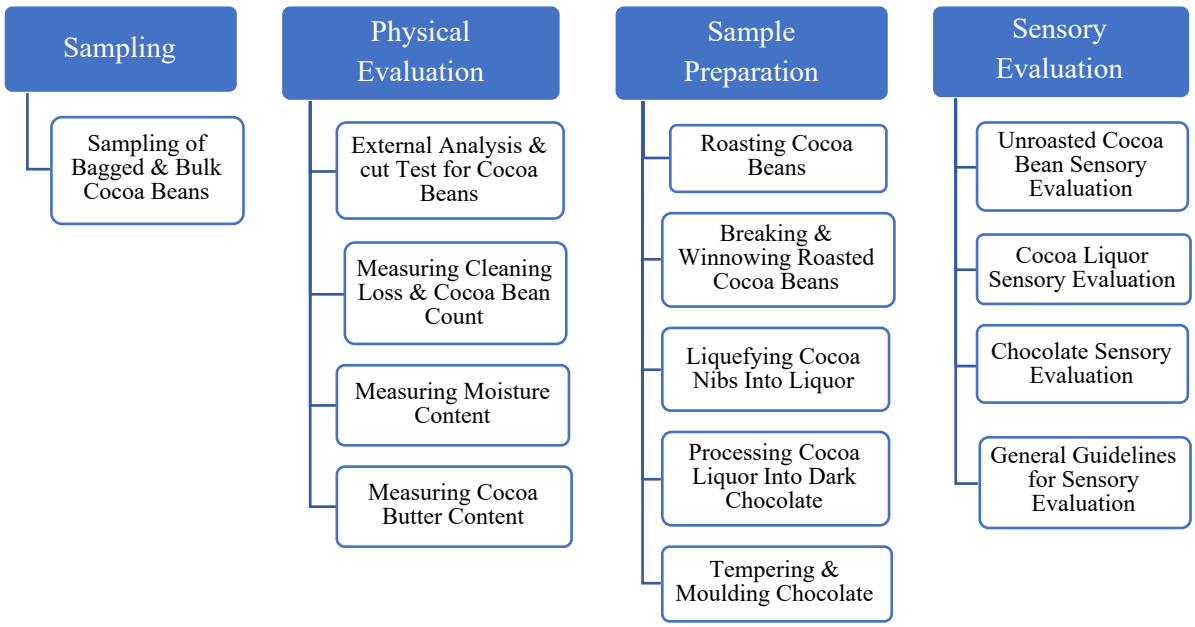
[9] The Maximizing Opportunities in Coffee and Cacao in the Americas (MOCCA) is an ongoing five-year USDA project implemented by the NGOs TechnoServe and Lutheran World Relief in Ecuador, Peru, Nicaragua, Honduras, El Salvador and Guatemala. It plans to begin using the new standards in those countries as part of the project.

Various scholars have drawn attention to the fact that poor producers are frequently left out of negotiations around new standards and certification programmes (Reardon et al., 1999). The cocoa standards elaboration process has been no exception. Importantly, as in other cases, the standards "embody values and norms of Northern consumers, NGOs and companies. Despite varying degrees of 'stakeholder engagement' and participation, the voices of developing country consumers and producers remain relatively marginalised" (Challies, 2012: 187). The ongoing standards construction and implementation process in the cocoa industry affords an opportunity to trace the evolution of who most benefits from new global standards and why, as well as the evolving perceptions of the legitimacy of a multistakeholder global governance initiative.

The construction of the proposed quality standards

As a first step, the working group compiled and studied the quality standards and protocols currently used in the industry, so as to work on the basis of what already exists. Dr Darin Sukha, part of the Cocoa Research Center at the University of the West Indies, was instrumental in this early research. With support from the NGO Lutheran World Relief, he carried out a series of interviews in 2015-2016 to gather as much information as people were willing to share about cocoa quality standards.[10] Given the secrecy that has long characterized chocolate production processes and recipes, some actors were not willing to share information (FCIA, 2020). Still, the working group compiled all publicly available quality standards for cocoa, as well as those for coffee, wine and olive oil so as to draw lessons from the experiences of other industries. The protocols and grading systems developed by the Cocoa of Excellence programme to select the world's best cocoas throughout the past decade were crucial inputs. On the basis of the information obtained, Dr Sukha developed an initial proposal for the new global standards (see Sukha, 2016).

Taking the feedback into account, Dr Sukha developed a collection of individual protocols for assessing cocoa quality and flavour. The fourteen total draft protocols are each organized into one of the four categories, as illustrated below (in ISCQF, 2020: 4):



The protocols describe step-by-step how to: (1) sample cocoa beans for evaluation; (2) assess the physical qualities of cocoa beans; (3) process cocoa beans into unroasted powder, liquor and chocolate; and (4) assess the sensory attributes of the sample in unroasted beans, liquor, and chocolate. The first and third categories define protocols for processing samples while the second and fourth define protocols for assessing the samples. Within each category, separate protocols were developed for different measurements, processes or products. By late-2020, the first completed drafts were shared with the public in Spanish, English, and French, and an ongoing consultation process to collect feedback was established.[11] If all goes as planned, final versions will be published by the end of 2022 or 2023. All value chain actors

[10] Fourteen Skype interviews were conducted with people from: "Lutheran World Relief, Seguine Cacao Cocoa & Chocolate Advisors, Equal Exchange, ITZEL Chocolate and AMACACAO, Fine Cacao and Chocolate Institute, Borlaug Institute for International Agriculture Texas A&M University, Atlantic Cocoa Company, TCHO Chocolate, Guittard Chocolate, 70% and International Chocolate Awards, Guittard Chocolate, Rogue Chocolatier, The Chocolate Life, Chloé Chocola" (Sukha, 2016: 12).

[11] As of 2020, nine protocols were published: (1) Sampling of Bagged and Bulk Cocoa Beans; (2) External Analysis and Cut Test for Cocoa Beans; (3) Measuring Cleaning Loss and Cocoa Bean Count; (4) Measuring Moisture Content of Cocoa Beans; (5) Roast-

and other interested individuals can provide feedback on the draft protocols.[12] The working group is also carrying out anonymous surveys for people to share their opinions, suggestions and comments.

Key debates over the content of the standards

While a detailed discussion of all fourteen protocols is beyond the scope of this article, in this section we highlight some of the major discussions regarding their content. Some significant debates revolved around the following: (1) how to prepare samples, and the form in which cocoa should be assessed; (2) how to best carry out sensory or flavour evaluations; (3) the challenges associated with acquiring the knowledge, training and equipment needed to effectively apply the standards; and (4) who would be responsible for implementing and certifying the appropriate use of the new standards. These debates reveal how standards setting is a process of negotiation. They illustrate the power and conflict-laden nature of the construction and implementation of standards. We elaborate hereafter on each of these four debates.

The draft protocols for sensory evaluation are the product of heated debates regarding the best types of samples to assess flavour potential. The protocols propose sensory evaluation standards for three types of samples: unroasted cocoa beans, cocoa liquor, and chocolate. Only the first two have been publicly shared. The chocolate formulation for the third protocol is currently paused because there is disagreement about how dark the standardized chocolate formulation should be and what impact that might have on flavour diversity. Before publishing that protocol, the working group is carrying out additional research and consultations. A related discussion concerns whether certain parts of the evaluation process should be standardized or not. For example, some argue that the length of time that beans are roasted before tasting should be standardized, not because that is the best roast for all beans, but because it allows one to compare across sets of beans in a standard way that both farmers and buyers could replicate to then, in theory, taste the same thing. The other side of the argument is that not all cacao varieties require the same roasting times and temperatures, and that their flavour can be ruined by certain roasting techniques. In short, there is tension between the value of diversity versus the value and implications of standardization. The ambitious goal of standardizing the evaluation of flavour means that the designers of standards are faced with the challenge of delimiting the techniques used for sample elaboration in ways that may ultimately reduce flavour diversity. The tension lies in the fact that some consider diversity of flavours more valuable than the benefits afforded by global standards.

Another discussion is about whether flavour is better assessed in the bean/raw material or as liquor or chocolate. Those who advocate for tasting the beans are arguing for the use of quality attributes that can most easily be assessed in the country of origin and by farmers. Those who on the other hand argue for tasting in chocolate form claim that any bean may be high quality, depending on how the chocolate maker wants to use it, and that creating bean-based standards will standardize flavour profiles and lead to a loss of flavour diversity. The protocols developed were designed to reach a compromise by detailing sensory evaluation procedures for raw beans, liquor, and chocolate, but the proposed global quality score is based on the evaluation of cocoa liquor. As mentioned above, the details of the chocolate sensory evaluation protocols are yet to be published, partly because of the difficult debate on the definition of an "ideal" standardized chocolate formulation. It is therefore too soon to know whether sensory evaluation in chocolate will affect the global quality score and, if so, how.

Arguably, the most consequential and innovative contribution of the draft protocols is that they offer a universal method for talking about, evaluating and scoring flavour attributes in both a qualitative and a quantitative way. Attributes such as acidity, bitterness, fruitiness, floral tones, and so on are ranked on a scale of one to ten and there is a detailed glossary explaining what the different intensity levels mean for each one. The flavour attributes are divided into three categories: "(1) core attributes: cocoa, acidity, bitterness, astringency and a roasted flavour are expected to be present in every sample and should always be scored; (2) complementary attributes: characteristics that can be perceived but not always found in every sample; and (3) off-flavours: defects that may be present in the cocoa liquor sample" (ISCQF, 2020: 13). One of the most important aspects of the evaluation is that it provides a method for calculating a "global

ing Cocoa Beans; (6) Breaking and Winnowing Roasted Cocoa Beans; (7) Liquefying Cocoa Nibs into Liquor; (8) Cocoa Liquor Sensory Evaluation; and (9) Unroasted Cocoa Beans Sensory Evaluation (FCIA 2020). The re-publication of these nine protocols is in progress in 2022 after having received an initial round of feedback. The five pending protocols are scheduled to be published in late 2022.

[12] In order to download the protocols, one has to register on their website (www.cocoaqualitystandards.org). As of June 2020, at least 280 people had registered, including people from around fifty countries, on every continent (FCIA, 2020). As of October 2020, the number of registered users rose to over 700. Registered users include small and large chocolate makers, chocolate maker organizations, cocoa producers, cocoa producer organizations, cocoa traders, development organizations, independent consultants, research organizations, sensory analysis laboratories, standardization organizations, and universities (FCIA, 2020).

quality score" to communicate the overall impression of the sample with regard to flavour potential, uniqueness, and balance of flavour and cleanliness (ISCQF, 2020: 24). As stated in the protocol itself, "The result of the sensory evaluation is a flavour profile for each cocoa liquor sample, showing the intensity of the evaluated attributes and off-flavours, associated with a global quality score and comments" (ISCQF, 2020: 18). This global quality score is on a scale of one to ten. The hope is that this score will eventually become a simple way of communicating cocoa quality in the global market, similarly to how a score of 80 points or more in coffee is interpreted as specialty coffee.

During one of the meetings, "concerns were raised about the repeatability of assessments, getting the right equipment, and having trained panellists" (Laliberté, 2017: 24). The working group acknowledged that being entirely objective in flavour evaluation "is a difficult task that can be supported by using common physical references for specific flavour attributes, with agreed-on descriptors/glossary of terms to reduce variations" (Laliberté, 2017: 20). The idea is that tasters will rely on samples, so as to be as consistent as is humanly possible in their evaluations. The protocols also require assessors to record the conditions under which the evaluations are carried out, including: number of samples evaluated; location; number of assessors in the panel; use of reference samples; blind control samples; etc. (ISCQF, 2020: 19). There is, of course, inevitably some degree of subjectivity in flavour evaluations even after having completed standardized sensory evaluation trainings. There are pending decisions to be made regarding who will be responsible for distributing samples for sensory evaluations and for training panel members, tasters and instructors. The working group foresees that some form of certification of trainers will be needed for the effective implementation of the new standards, and this tends to imply costs.

There are also different opinions with regard to how much detail should be included in each of the protocols. Some people argue that if they are overly complex, they will be intimidating, and hence make adoption unlikely. Others insist that it is better to have as much detail as possible, to ensure replicability. The working group has opted to prioritize details, on the grounds that it is easier to simplify protocols later than to make them more complex. Effective training is thought to be crucial for the successful adoption and acceptance of the newly developed standards. The challenge moving forward is how to clearly and successfully communicate the quality targets described in the protocols in ways that work independently of culture, language, and variable education levels. In addition to the issue of knowledge and training, the question of the accessibility and costs of required measurement instruments is also controversial. To be able to use all of the protocols, a range of equipment and materials are necessary, and only those with sufficient resources will be able to purchase them.

The working group's intention is that these new protocols will be used by most cacao value chain actors worldwide, including all types of cacao farmers growing any cacao variety. Yet there is still no clarity as to how cacao quality standards will be implemented and enforced. The question of whether there should be a designated institution to work on standard implementation has repeatedly been discussed. In a 2019 gathering, for instance, "Participants discussed the long-term sustainability of this initiative and the possibility of creating a new organization or build on existing ones such as: Bioversity, CAOBISCO, CMA, CoEx, ECA, FCIA, FCCI, ICCO and WCF"[13] (Bioversity International, 2019: 16). Another suggestion was "that more than one organization share responsibilities, covering different aspects of the ISCQF [International Standards for the Assessment of Cocoa Quality and Flavor], such as the keepers of the standards, the development of reference samples, training and certification", similarly to how this is managed in the case of specialty coffee[14] (Bioversity International, 2019: 16). A third possibility is to insert the new standards in the ISO (Laliberté, 2017: 21).

The governance debate is highly political as the working group is composed of representatives of different stakeholders and interests, even if they are united behind the common goal of creating global standards. As Quark reminds us, "Whoever can successfully claim authority over quality standards has considerable influence over how the benefits of trade are distributed" (Quark, 2013: 30). The private sector is pushing to secure control over the standards, while others would like an independent third-party organization that prioritizes farmers' interests to be in charge of the standards. A key concern for value chain actors is how the new quality standards might impact costs and cocoa prices, and who

[13] CAOBISCO is the Association of Chocolate, Biscuits and Confectionary; CMA is the Chocolate Manufacturers Association; CoEx is the Cocoa of Excellence Programme; ECA is the European Cocoa Association; FCIA is the Fine Chocolate Industry Association; and WCF is the World Cocoa Foundation.

[14] In order to implement harmonized quality standards in the coffee industry, new institutions dedicated to this issue were created. The Specialty Coffee Association of America (SCAA), founded in 1982, provided the initial "forum to share ideas and develop quality standards and protocols" (Laliberté, 2017: 10). The SCAA, in turn, established the Coffee Quality Institute (CQI) to promote and oversee the use of the new standards through its Q Program. The CQI now "has over 4,000 certified Q (Quality) Graders around the world" (Laliberté, 2017: 11).

will pay for that. These concerns include "possible costs of modifying the production system to meet the standard, the costs of record-keeping and administration, the costs of implementing farmer training [or] the costs of undergoing an audit" (Bray and Neilson, 2017: 217). Most companies would evidently prefer not to pay more, while those concerned about farmers' livelihoods would like farmers to receive higher prices for higher quality cocoa. Some buyers would like it to be easier to understand quality at origin, in order to improve the quality of what is produced and what they will therefore purchase, while others are concerned about how that might shift farmers' price expectations. The disputes and debates around the new cocoa quality standards can be viewed as an attempt to design "strategic instruments for influencing the distribution of value added along the chain and set inclusion/exclusion thresholds" (Muradian and Pelupessy, 2005: 2033). Whether the standards end up being controlled by the private sector, by an existing institution or a new one will likely have consequences for the costs and benefits associated with the use and implementation of standards in the near future.

Questions abound regarding the future governance and enforceability of the standards. How will the new standards begin to be used and by whom? Who will be responsible for certifying or validating claims of quality? Are private third-party cacao quality certifiers likely to emerge? How will implementation be funded? The only immediate answer is that in 2021 the people working on the MOCCA project started training people on how to perform sensory evaluations. The hope is that this initial work can serve as a testing ground for the new standards and that farmers can then provide feedback that can help improve their content. According to one working group member, the standards are not thought about as mandatory punitive standards but are just meant to be helpful throughout the value chain (FCIA, 2020). As Timmermans and Epstein (2010) point out, if voluntary standards are not to become paper tigers, momentum needs to be created with built-in incentives. Firms are likely to adopt voluntary standards when "there are clearly-defined goals, the scope of the initiative is relatively narrowly defined, and where the objectives of the initiative are more immediately aligned with their interests" (Henson, 2011: 450). Mayer and Gereffi argue that "to the extent that standards can be met without incurring significant costs, or better yet, when they actually are cost-saving, they are much more likely to be adopted" (Mayer and Gereffi, 2010: 13-14). If FFC firms begin to use the new standards regularly and to demand that producers comply with them, these standards will likely become a prerequisite for farmers hoping to supply that market. Still, the organizational and institutional problem is yet to be solved, and tracing its evolution and consequences will be an important subject for future research.

Cocoa quality in a world with harmonized standards

In this section we hypothesize on how the introduction of the new quality standards could affect the prospect of different farmers and cocoa origins inserting themselves into the global FFC value chain. We also discuss how marketing strategies and discourses could change as a result of the adoption of new quality standards. It is evidently impossible to predict how standard implementation will evolve, so we start with the assumption that the standards will indeed begin to be used and acquire a life of their own in specific contexts. Such an ambitious standardization initiative will inevitably produce a series of unintended consequences as the standards begin to interact with local dynamics. As Loconto and Demortain (2017) point out, the diversity that will likely result in the standards being applied and in the circulation process should be viewed as part of the natural dynamics of standards adoption, as opposed to the product of concerted resistance to standards. Here we offer some preliminary ideas regarding their possible implications, but their future trajectory will require further original research.

Presently, West African countries are almost exclusively supplying the bulk cacao market, whereas Latin American countries are viewed as the major players in the FFC segment. We argue that the standards will offer new tools for African and Asian countries to be able to make claims of producing superior quality cacao. As a result, Latin American growers could face growing competition from other regions. Existing marketing strategies that rely on longstanding ideas linking place to quality would be challenged by narratives of intrinsic quality backed up by the global quality scores as delineated in the new standards. In Quark's (2015) terms, the standards could incentivize product-based as opposed to solely place-based branding strategies. A similar process occurred in the coffee industry. Certified quality systems, such as those developed by the Specialty Coffee Association of America, have increasingly replaced origin-based trust narratives. As a result, standards claiming intrinsic quality "partially de-link quality from place" (Ponte and Gibbon, 2005: 13-14). This is not to suggest that place-based strategies would disappear altogether, but they would coexist with other marketing discourses. As a result, the ICCO's Annex C classification of FFC producers may gradually become less meaningful. The dichotomy between bulk and FFC could also lose significance in a world with a wider range of recognized attributes. The grading system embedded in the global quality score provides a language to communicate on quality differently. In short, with the adoption of the new standards, the "rites of passage" (Busch and Tanaka, 1996) required to demonstrate "goodness" and quality could gradually begin to change.

Another significant implication of adopting global quality standards is that some quality evaluation practices and responsibilities could relocate. Historically, most companies have assessed flavour internally, and there has been some reticence to having open-source protocols and standards. Currently, it is the private sector that has most of the power with regard to telling growers whether what they are growing is good or bad. The new standards allow other actors to carry out flavour evaluations, outside the purview of particular companies. Actors with sufficient training and resources to effectively evaluate quality could therefore emerge in producer countries. They would be able to make an independent assessment of quality, opening possibilities for a more informed negotiation between buyer and seller around quality. Some working group members believe that the new quality standards can be a tool for making cacao origins and farmers more visible and important in future definitions of cocoa quality. The intuition is that understanding quality at origin can help make cacao farmers and producer countries more visible "stars" of the show, as opposed to chocolate makers in the Global North receiving most of the attention.

Even though the new standards may afford some opportunities for new countries and farmers to enter the FFC segment, it is critical to recognize that there are significant obstacles for farmers to benefit directly from specialty cocoa markets. The vast majority of the world's cacao farmers are relegated to the bulk cocoa market, dependent on single buyers and fluctuating stock market prices. The FFC segment is still relatively small even if it is growing. Moreover, while some "high-end fine and flavour cocoas have commanded as much as [US] $10,000 per metric ton (MT), the high-end share of the market is less than 12,000 tons annually, less than 0.25 % of the world market" (Villacis et al., 2019). It is therefore important not to have unrealistic expectations about the ease with which substantial price premiums associated with FFC can be obtained. Some of the major challenges farmers face include: the difficulty of changing a farm's genetic characteristics quickly, given that cacao trees are perennial plants; the power of intermediaries, which often means that they, not the farmers, capture premium prices (Daviron and Ponte, 2005); learning how to use the new quality standards and adopting better post-harvest practices all require resources, technical support, and contacts; it is difficult to build new relationships between FFC farmers and buyers; and the costs associated with use of the standards may be an unsurmountable economic burden for many growers.

Tampe (2018) argues that "suppliers can leverage standards to create value from vertical relationships with buyers" but that "standards do not, by themselves, directly contribute to better conditions. They do so indirectly only if suppliers manage to become competitive in an elite market, augmenting rather than dampening unequal trade conditions" (Tampe, 2018: 43). Thus, it is unlikely that in the absence of other contextually-specific support systems for small-scale cacao farmers, they will immediately or necessarily benefit financially from the new cocoa quality standards, especially if they need to obtain some form of private certification. Farmers will benefit from superior quality cocoa only if there continues to be rising demand for FFC cocoa, and provided that there are mechanisms in place that effectively transfer the price premiums to them. In short, quality standards should not be assumed to be homogenous instruments that linearly lead to either upgrading or downgrading. Instead, the benefits and trade-offs are likely to vary across social, economic and environmental dimensions in different contexts (Krauss and Krishnan, 2022: 66). The benefits are also likely to vary across different types of upgrading: product upgrading, producer firm upgrading, country upgrading, labour upgrading, and so on.

Conclusion

The future of quality standards governance in the cocoa sector is currently under dispute. This process is significant to the roughly 6 million cocoa farmers that exist worldwide, over 90% of which are small-scale farmers (Ozturk and Young, 2017: 434). This article has clarified how cocoa quality is currently understood, has addressed the ongoing attempt to institute harmonized quality standards, and has analysed what their implications could be if they were indeed adopted. We have built on the existing literature on quality standards in agriculture by exploring how the coexistence of diverse standards in the cocoa sector is being dealt with by actors hoping to construct globally harmonized standards. We have also addressed some of the challenges that have emerged during the attempt to standardize tastes and senses, a relatively understudied theme.

We have argued that the adoption of the new standards could have direct implications for quality evaluation practices, which could in turn affect the possibility of new producer countries and farmers entering the FFC value chain and capturing premium prices, assuming they overcome a series of obstacles to entry. The standards could also fundamentally change the way cocoa quality is understood and talked about, moving away from quality on the basis of visual/physical characteristics and place-based reputation, towards an understanding of quality that systematically incorporates flavour

attributes and global quality scores. The importance of origin as a proxy for quality will likely endure, as it is codified into markets and sourcing strategies, and these take time to shift. Yet the adoption of harmonized quality standards could nevertheless provide new tools enabling new origins and farmers to make claims to superior quality. This, in turn, could influence preferred marketing discourses and gradually rearrange the way quality-based competition between farmers and across countries is structured and disputed in the global cocoa market. The ongoing debates over the content of standards and their future governance structure reflect broader disputes over who will profit or pay the most for superior quality cocoa, the fastest growing segment of the global cocoa market. The ongoing process of elaboration of standards, as well as their future implementation and governance, merits additional research.

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