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## **X Cultivating cultural sustainability in farming practices**

Katriina Soini, Suvi Huttunen

### **Introduction**

Farming's essence is true to soil. Proper farming might be said to make concrete what is latent in humanity's dependence upon the provisions for human's sustenance. Farming is the activity that locates the human species most surely in the planetary ecosystem. It is on farming that we depend for food and in farming that what we take from the earth is returned to it (Thompson 1995, 3).

The excerpt above nicely captures the human-nature interface in agriculture and links it to sustainability: Agriculture is dependent on natural resources, most notably soil and natural processes such as photosynthesis and procreation, but also on human activities, ploughing, seeding, harvesting and breeding. Consequently, the essence of agriculture may be considered as co-production of 'Man' and 'Nature' (van der Ploeg 2003). This co-production results in different tangible forms of culture, such as food products, landscapes, and animal breeds (see Brites chapter XX). It also results in forms of culture that are intangible, like sensual, bodily and even religious experiences, aesthetics and learning. Agricultural practices shape both the farming environment and the farmers' values and appreciations through mutual adaptations. In that way, agriculture is essentially a mixture of different components of culture such as worldviews, materials and symbols, institutions, and dynamic spatial and temporal processes inherently connected with nature.

The etymology of the word culture suggests a connection between agriculture, culture and nature. "Culture" can be derived from the Latin word *cultura* (noun.) meaning "cultivation, agriculture", and *colere* (verb.) meaning "to tend, guard, cultivate, till". However, the noun "cultura" is only one out of two diversions of the Latin verb. The other is "cultus". While "cultura" is tied to the cultivation of land, "cultus" is the worship of divinity. The two forms of culture were connected in the earlier times as the cultivation of the soil and divinity were both life-giving, with no clear distinction between nature and culture (Fink 1988 in Olstedal et al. 2004). Since then agriculture has, in many ways, been

separated from natural processes, e.g. through various technological means, detaching nature and culture (Renting & van der Ploeg 2001, see Hreinsson in this volume).

Recently, we have seen new attempts in defining the challenging nature, role and meaning of culture in relation to sustainability (Throsby 2008; Soini & Birkeland 2014). Inspired, on one hand, by the co-productive character of agriculture and, on the other by the etymology of “culture”, we explore in this chapter how the *sustainable* agriculture can provide insights for a deeper and more profound understanding of culture in sustainability. Consequently, we seek to explore how the human-nature relationship can be better understood through farming, in order to inform the conceptual understanding of culture in sustainability. In particular, this involves addressing the questions: What should sustain in culture? What does culturally sustainable development entail?

The chapter is based on research conducted by the authors, which has concerned broadly Finnish farmers’ values and attitudes to different aspects of sustainable agriculture as well as their actual farming practices in different contexts: biodiversity at genetic, species and landscape levels, fertilization and manure management, and changes in cultivation practices (see Table 1.). The studies are based on broad empirical material in the form quantitative surveys including open-ended questions and qualitative interviews of Finnish farmers, observations at farm and landscape-levels, workshop discussions and mapping methods. The oldest datasets were collected in 2003 and the most recent are from 2014.

Table 1. The empirical material utilized in the analysis

<b>Data set and year</b>	<b>Description</b>	<b>References</b>
Interviews 2003	Qualitative interviews of 35 farmers and other part time and permanent rural residents. 19 were engaged in farming	Soini 2007; Soini & Aakkula 2007
Survey 2004	Survey to farmers on increasing crop diversity. (n=1020)	Vuorio et al. 2005
Survey 2005	Survey to farmers breeding local breeds (n=570)	Takamaa & Soini 2007
Survey 2007	Survey to farmers breeding local breeds across Europe (involved 61 Finnish farmers)	Soini et al. 2012
Interviews and workshops, 2012	Qualitative interviews of 10 farmers and discussions at two workshops with farmers and officials regarding manure management.	Huttunen 2015; Huttunen & Peltomaa 2016
Interviews, 2014	Qualitative interviews of 31 farmers on the changes in their cultivation practices during the past 20 years. Observational walking tours at the farms.	Huttunen & Peltomaa 2016; Huttunen & Oosterveer 2016

We combined a social practice theory (Reckwitz 2002; Shove et al. 2012) with a framework of culture and sustainability (Soini & Birkland 2014; Soini & Dessein 2016) which enabled us to understand what farmers wanted to sustain on their farms and how this was put into practice. As a result we identified five key dimensions; diversity, fertility, continuity, appreciation and rationalization, which we considered central for the farmers. In the next section we briefly discuss and define our approach to sustainable agriculture and agricultural practices. In the section thereafter, we introduce what we have identified from our empirical material and in the final section we explore our findings in respect to the existing definitions and frameworks of cultural sustainability.

### **Sustainable agricultural practices in cultural frame**

#### *Agriculture as a social practice*

Social practice theory is commonly known as a framework for describing how individuals shape and are shaped by the culture in which they live, and in this way, aims at articulating ways in which identity and individual agency rely on and produce cultural forms. Following Reckwitz (2002, 249) a practice can be defined as “a routinized type of behavior which consists of several elements, interconnected to one other”, including most essentially ‘forms of bodily activities, forms of mental activities, “things” and their use’. Hence, from the practice perspective agriculture becomes a set of interconnected practices: seeding, fertilization, feeding animals, maintaining fences and buildings and so on, constituting the way agriculture is understood and enacted. This theory is most often applied in consumption research, but there are also some examples of agri-environmental studies utilizing the framework (Huttunen & Oosterveer 2016; de Kromm 2015).

In this chapter we define agricultural practices following Shove et al. (2012), who conceptualize practices as constituted of three interlinked elements: material, competence and meaning. The *material* element refers to physical objects related to farming in the natural environment (such as soil, water, and wildlife), but also to the tools, machines and animals used in agricultural practices, as well as the material inputs (seeds and fertilizers) and outputs (harvest, other biomass) related to farming. *Competence* refers to the skills and know-how of farmers gained through education, experience, or tacit knowledge transferred within the farming community. Many skills are mobilized during the range of procedures which constitute the actual farming practices, guiding the farmers on what, when and how to farm. *Meanings* refer to symbols, norms, values and collective conventions that govern actions. In the case of agriculture there are many unwritten social conventions associated with

production actions that are important for cultural recognition as “a good farmer” (Silvasti 2003, Burton 2004, Stock 2007, Sutherland 2013, Huttunen & Peltomaa 2016).

Farming entails several interconnected practices and as such it can be regarded as a bundle of practices (Shove et al. 2012) comprising, for example, seeding, feeding, breeding, ploughing, harvesting and fertilizing – all which can be assessed as social practices (see Burton, 2004). Hence, we contend that agricultural practices are constituted by the three elements mentioned above. The elements are interconnected and form the general understanding of the practice as an entity, a culturally shared idea of what practice is. For example, fertilization is generally understood as including fertilizers and applying them to fields in order to enhance the growth of the plants. When the practice is performed, these elements are concretely brought together and the practice renewed by re-establishing the linkages between the elements. The same culturally shared general practice can be performed in varying ways depending on the details of the elements and ways of connecting them (Huttunen & Oosterveer 2016). *Sustainable agricultural practices* involve somewhat different meanings, materials and competences compared to conventional intensive farming practices.

#### *Sustainable agricultural practices*

Given the multidimensionality and vagueness of the concept of sustainability, ‘sustainable agriculture’ can have several meanings. It has been seen, for example, as an end goal: “a normative framework for operationalizing desirable future end-states” (Renting et al. 2009); a process of transforming agriculture based on sustainability principles, a process for learning (Pretty 1995); and as a movement that balances concerns of environmental soundness, economic viability and social justice (Allen 1991). There is a vast amount of scientific literature that discusses “sustainable” and “unsustainable” agriculture, and a number of indicators have been developed to measure agricultural sustainability. Although the main focus of sustainable agriculture is on ecological sustainability, economic and social, cultural or ethical dimensions, as well as the interconnectedness of these dimensions, have also been recognized.

As with scientists studying agricultural sustainability, farmers determine the sustainability of their agricultural practices in relation to their everyday work environment. Farmers’ perceptions of sustainable agriculture, which are rooted in the localized, context-specific nature of farmers’ knowledge systems (see e.g. Kloppenburg 1991), may differ from scientific understandings of sustainable agriculture. The agricultural practices also vary very much from place to place and time to time – from highly industrial forms to traditional and subsistence farming, reflecting different

objectives, target levels (from subsistence farming to market oriented) and technologies. Obviously, the conditions for sustainability vary greatly between the scales of production. One should be careful not to make any generalizations or justifications about the sustainability of the practices based, for example, on the size of the farm, the way of farming (organic vs. techno-chemical) or product end-users (subsistence vs. market-oriented). Yet, based on the literature and empirical findings we assume that there exists a virtue of farming reflecting certain values linked to sustainability. These values, however, might be distinct from the actual performed farming practices that are shaped by materials, competences and other meanings provided by the agricultural policies, markets and the resources (land, economic resources) available to the individual farmers.

#### *Sustainable culture – cultural sustainability*

Culture has recently been introduced as an explicit fourth pillar or dimension of sustainability in parallel with the ecological, social, and economic pillars (Hawkes 2001; Throsby 2008; Soini & Birkeland 2014; Soini & Dessein 2016; UNESCO 2013). Yet, cultural sustainability is a broad discourse with many different perspectives. In a comprehensive review paper by Soini and Birkeland (2014) the authors discerned seven different storylines, or meanings attached to the concept cultural sustainability, namely; heritage, cultural vitality, economic viability, diversity, locality, eco-cultural resilience and eco-cultural civilization. These storylines built on the three widely known pillars of sustainability: environmental, social and economic.

The relationship between culture and other pillars of sustainability have been further discussed and defined (Soini & Birkeland 2014; Soini & Dessein 2016): In the narrowest sense culture can be seen as a cultural capital that has to be sustained. This can be called *cultural sustainability* or *culture in sustainability* and in the farming context this refers e.g. to knowledge and skills as well as the landscape shaped by farming practices. Culture can also be understood in an anthropological sense as having a mediating role between the other dimensions of sustainability in a certain context (e.g. place). Here culture is defined *for sustainability* suggesting that it is the farming culture, for better or worse, which shapes ecological, social and economic sustainability. The third role of culture encloses the other pillars of sustainability and becomes an overarching dimension of sustainability suggesting sustainability transformation that is driven by cultural change. This refers to *culture as sustainability* or *sustainable culture* and in the farming context it could refer to a learning process towards more sustainable practices (Burton & Paragahawewa 2011).

While the three ways of understanding cultural sustainability described above can be used to discern different perspectives of culture in sustainability, they do not take any position with respect to relationality and normativity of culture or sustainability. Sustainability is a normative concept and such refers to good farming practices. As for the normativity, 'culture' within agriculture does not necessarily promote sustainability as some modern farming cultures have incorporated as cultural norms environmentally unsustainable practices – for example, providing cultural importance to activities associated with intensive agricultural production (Burton, 2004). As for the relationality, both 'culture' and 'sustainability' are context dependent and dynamic in space and time. Therefore, two important questions can be identified. First, do the three above representations of culture in agriculture contain common (cross-representational) meanings that are fundamental to assessing the role of culture in sustainability? Second, to the extent that these common meanings exist, what are the qualities they define and how are we best able to identify and assess them?

From a practice theoretical perspective, culture is produced and reproduced in social practices. When cultural sustainability is understood as driving a sustainability transformation, the social practices in which culture is reproduced become central for the analysis of its sustenance and change. Culture is visible in the meanings, competences and materials attached to practices and, hence, identifying the elements of sustainable practice and how they are connected increases our understanding of what is essential and should be sustained in culture. For this chapter we analyzed how the farmers described their practices without observing how the practices are actually performed by the farmers. When the aim is to understand how sustainability appears in and is a result of practices, it is useful and relevant to analyze farmers talk and perceptions about these practices (Hitchings 2012). This allows us to focus on the meanings while also providing an understanding of how meanings become intertwined with materials and skills and how this both restricts the full realization of sustainability goals and re-shapes the goals. In this way, we are able to give new meaning to agricultural practices as a nature-culture interface, where nature is seen as both restricting and generating culture.

### **Sustainable agriculture practices – the farmers' view**

From our research results we identified three interconnected qualities of culturally sustainable agriculture practices defined by the farmers: *(Bio)diversity* of the agricultural environment, *fertility* of the soil, and *continuity* of farming – particularly at the farm level. In addition, we found that the practices are shaped by *rationalization*, which involves finding a balance between the qualities of the practices and rational decision making of the farmers (e.g. organization of the work and economic profitability). Finally, there is a process of making social and moral judgements on the symbolic value

of the practices. We call this process *appreciation*, which is partly a matter of pleasure and satisfaction, partly related to the meanings derived from their aesthetic representation, and partly embedded in judgments about desirability and quality of the practices. These dimensions are presented in the Figure 1. Agricultural practices are located in the human/nature interface. The key qualities of sustainable agriculture – biodiversity, fertility and continuity – are shaped by rationalization and appreciation which are in a constant dialogue between themselves, but also with the aforementioned qualities. They are further defined and redefined by a broader cultural framework and natural conditions.

< FIGURE IN HERE>

Figure X.1. The three qualities of farming practices, fertility, continuity and (bio)diversity.

In the following section we describe each of the key qualities using three criteria: (1) the way in which the key qualities were described by the farmers, (2) how these qualities contributed to “sustainable” farming and how they are promoted/maintained through agricultural activities, and (3) how the rationalization and appreciation shape the practices related to these qualities. Finally, we discuss the understanding of cultural sustainability in particular in relation to human-nature interface.

### *Fertility*

Fertility relates essentially to the availability of nutrients within the soil and therefore shows a strong correlation with the ability of fields to produce good yields. In general, there are a number of different ways to ensure nutrition ranging from the provision of mineral and organic fertilizers to ensuring the presence of humic matter in the soil to retain moisture, and the availability of clay particles to bind minerals and prevent chemical leaching.

For most farmers in the study maintaining fertility in the long term was a critical factor in all agricultural practices related to cultivation – ranging from tilling, harrowing and sowing to harvesting. However, especially for conventional farmers, the addition of fertilizer in significant quantities was the key means of maintaining soil fertility. This was manifest in their common concern for the low



fertilization limits in the agro-environmental schemes, which the farmers saw as jeopardizing the quality of the yield (Huttunen 2015; Huttunen & Peltomaa 2016; Huttunen & Oosterveer 2016). Besides actual fertilization, some farmers performed specific practices to improve the fertility of their fields. These included adding organic materials, cultivating green manure, using long-rooted and/or nitrogen binding plants in crop rotation or as undergrowth and crop rotation itself (Huttunen & Oosterveer 2016).

Despite the shared goal of maintaining and improving the fertility of the soil, the farmers held different rationales behind the application of fertilizer– resulting in a variety of practices (Huttunen & Oosterveer, 2016; Huttunen & Peltomaa, 2016). For example, farmers could underfertilize the fields as a result of beliefs concerning the cost-efficiency of fertilization (yield gain relative to cultivation cost) (Huttunen & Oosterveer 2016). Another example is the application of increasingly popular no- or reduced-tillage practices. Farmers had mixed views on the impact of no-till on soil structure and fertility and, consequently, its application was mainly grounded in economic reasoning, including fuel savings and reduction in the amount of work (Huttunen & Peltomaa 2016). Farmers also maintained fertility through crop rotation, not only with the intention of increasing fertility, but also to avoid some diseases and maintain the health of the soil. Paradoxically, another motivation for the application of fertilizer was as a means of disposing of animal manure rather than to improve soil fertility (Huttunen, 2015). Farmers judged fertility through observations of the soil and its composition, visual appreciation of growing crops and the actual yield of the crop (Soini & Aakkula 2006). The visual symbols of fertility reinforced its importance in the minds of farmers and was a means of displaying “good farmer” credentials to other farmers (see Burton, 2004) – although the visual symbols tended to obscure the diversity of practices employed.

#### *(Bio)diversity*

Biological diversity in the farming context is understood as diversity at the genetic (farm animal breeds and crops), species (richness of the crop species) and landscape levels (diversity of different habitats). Conservation, preservation and sustainable use of biodiversity have been encouraged among the farmers through state funded agri-environmental programmes. Although the term “biological diversity” itself was relatively unknown for many farmers, biological diversity and its importance for both agriculture and wildlife was widely understood by the farmers (Soini & Aakkula 2006).

Most commonly the farmers understood biodiversity *at the landscape level*, as biological diversity embedded in different landscape elements, although it was sometimes perceived more broadly as “multifunctionality” (Soini & Aakkula, see also Renting et al. 2009 ) and even as a variety of rural livelihoods and activities. The interviewed farmers often considered fields and other agricultural areas (meadows, grazing lands) to be part of the wider rural ecosystem comprised of forest, lakes, rivers and marshes. Many farmers considered this mosaic of rural landscape characteristics as biodiversity rather than ecological hotspots, a perception that they often derived from or associated with game management and hunting (Soini & Aakkula 2007; Soini 2007). At the field level, farmers recognized single landscape elements (e.g. a few trees with some stones in the middle of arable land) as important for increasing the species and landscape diversity and contributing to its aesthetic value. However, the landscape elements were often in conflict with efficient farming as they represented a barrier to conventional field management practices. The farmers also criticized field margins required by the agri-environmental scheme from an efficiency point of view: they were termed “weedmargins” or “trash hay margins”, and perceived to both spread weeds and to be aesthetically displeasing (Soini & Aakkula 2007; Soini 2007).

At the level of *species*, farmers were concerned about the increase of monoculture in agriculture, i.e. cultivation of only one or two crops (Takamaa & Soini 2005; Soini & Aakkula 2007) and in particular barley (Soini & Aakkula 2006). Monoculture was seen as a threat to soil and crop quality in terms of soil structure, fertility and crop diseases, but also as a threat to wildlife. Crop rotation and diversity in the cultivated crops was valued, but often in practice limited due to factors such as grain prices, available machinery, work time and the distribution of farming work as well as cattle feeding requirements. Agri-environmental subsidies aimed at increasing farmland biodiversity by promoting field management for game or nature, also engendered mixed feelings. Fields managed in this manner were not aesthetically valued and farmers practicing this type of cultivation were easily labelled as pseudo-farmers (Huttunen & Peltomaa 2016) – implying that despite the high value placed on diverse farmland and landscape, many felt the diversity should occur outside the “real” farming land.

The farmers widely acknowledged the *genetic diversity* of farm animal breeds and plants. Farmers who maintained genetically more diverse old local cattle breeds saw “sustainable cattle breeds” as representing a more morally acceptable way to practice husbandry (Soini et al. 2012). Due to their genetic diversity, farmers found these breeds more persistent, long lived, resistant to diseases, adaptive in relation to changing environmental conditions, aesthetically more pleasant, and generally closer to humans than other breeds (Takamaa & Soini 2006).

Overall, the farmers interviewed recognized the loss of biodiversity at genetic, species and landscape level. In particular, the decrease of cattle farming and grazing had led to a decline in the amount of grazing land, traditional meadows and woodlands. They experienced this decrease as a loss, but highlighted the rational aspects as new practices that had to be adapted to maintain continuity (Soini 2007).

### *Continuity*

Continuity involves the ability to transfer the farm to the future generation in as good as or better condition than it was received from the previous generation (Silvasti 2003, Dessein 2007). It is regarded as a central feature of good farming practices and encompasses many agricultural practices on the farm. When continuity is eroded (i.e. there is no transfer to the next generation), it can strongly affect the way the land is managed, for example, by removing any incentive to maintain soil fertility or leading to farm abandonment.

The farmers expressed the value of continuity in a number of ways. For example, farmers appreciated multiple temporal layers in the cultivated landscape (traditional biotopes) and associated man-made features (old buildings)– although they were not always able to maintain them due to economic or technical reasons (Soini 2007). Continuity was also considered as a spatially diverse phenomenon. The farmers regarded the agricultural land immediately adjacent to the farmstead as most valuable, something that they wanted to maintain, even if they had to make hard decisions elsewhere (e.g. reforest the fields) (Soini 2007). Continuity was also expressed by the farmers who were maintaining local breeds as a hobby. These farmers considered having a few cows of a native breed among imported breeds a symbol of the continuity either at the farm, regional or even national and international level and saw maintenance of the local breeds as an investment in future livestock farming and food security (Takamaa & Soini 2007). This kind of moral commitment was also observed among the organic farmers, who saw organic farming as best enabling the continuity of the farm in both environmental and economic terms (Huttunen & Peltomaa 2016).

Despite of the desire to maintain some type of continuity, ruptures in practices occurred (e.g. from conventional to organic farming) in order to maintain the overall continuity of the farm. New practices such as growing new crops and adopting new farming methods were introduced in order to maintain overall farm continuity. This led, on some occasions, to paradoxical situations. For example, low

levels of fertilization due to high fertilizer costs could maintain profitability in the short term, but in the long term could lead to a decrease in fertility of the soil and thus threaten the continuity of the farm.

### **Discussion and conclusions**

What can our analysis of farmers' views of sustainability in agriculture tell us about cultural sustainability? What should sustain in culture? First, our analysis confirms that farmers' perceptions of sustainable farming practices illustrate some of the storylines on cultural sustainability identified by Soini and Birkeland (2014). *Continuity* is linked with the storyline of heritage because of a need to conserve and preserve some of the immaterial and material heritage of agriculture, both natural and cultural. It is a continuous, complex and iterative cultural and social process of definition and use that includes the creation as well as the preservation of heritage, i.e. the cultural aspects of inheritance and change (Auclair & Fairclough 2015; 7 - 9). *Diversity* has an ecological, socio-economic and cultural meaning for the farmers. The farmers recognized the value of biological diversity for agriculture but diversity was also considered to have an important intrinsic natural, cultural and aesthetic value. Moreover, the diversity of farms, farming practices and ways of farming contributes to the biological diversity, which supports the notion of biocultural diversity (Blanc & Soini 2015; Brites & X, this publication). *Fertility* was linked to and reflects predominantly the economic viability storyline, but also eco-cultural resilience, which highlights a holistic view on sustainability and the seeking of a balance between humans and nature by aiming for well-being of nature (soil and wildlife) for the benefit of humans and nature.

Our analysis of agriculture and its underlying social practices shows that cultural sustainability entails at least these three key qualities; diversity, continuity and fertility, that are produced in interactions between the farmers and their farming culture and nature inherent in farming practices. The way farmers described these qualities can be interpreted as expressions of resilience and capability creating well-being for both the human *and* ecological systems in the long term. In their views capabilities represent the ability and willingness to maintain diversity, continuity and fertility, while resilience relates to the content and explains why these qualities are important in relation to agriculture. The notions of capability and resilience are not new in sustainability literature, they have been acknowledged as a key issue both within the fields of ecology (Holling 2001) and social sustainability (Burger & Christen 2011). However, our analysis connects capability and resilience to cultural sustainability and suggests that these are the issues that should, in the end, sustain in culture rather than any single practice or material outcome of agriculture.

One of the problematic issues regarding cultural sustainability is how to deal with the dynamic and relational nature of culture in sustainability. Culture, whether conceived in a narrow or broad sense, is not static or universal. Rather, both the material and immaterial aspects are adapted according to the requirements set by place. The social practice approach revealed an important aspect of cultural sustainability by offering evidence of a transformation of the qualities, e.g. regarding biodiversity or fertility perceptions (Huttunen & Peltomaa 2016, Huttunen & Oosterveer 2016). Here, the identified rationalization and appreciation turned out to be mechanisms that are relational phenomena, shaping the practices and eventually also the identified qualities of sustainability. This was especially evident in tensions that appeared when making decisions on biodiversity management and fertility practices. Biodiversity management appeared to be a compromise between appreciation of nature and technical and economic feasibility and resulted in farmers gaining pleasure from small areas or some practices that focused on enhanced biodiversity. Fertilization meant compromising between fertility of the soil and short term economic continuity of the farm. Rationalizing fertilization to the financial situation at the farm often meant decreased fertilization, which may lead to an unappreciated decrease in the fertility of the soil (Huttunen & Oosterveer 2016). An additional component to the relationships between rationalization and appreciation came in the form of agri-environmental policies that did not necessarily fit with farmers' ideas of sustainable agriculture (Kaljonen 2011), but forced them to change their practices.

These examples demonstrate how the rationalization and appreciation change along with the change of the materials, meanings and competences that constitute the practices. Simultaneously they draw together the nature and culture in the practices. The interplay between the nature and culture sets the direction for the change and suggests that paying closer attention to the ways this interaction is occurring in social practices, enables the unpacking of the dynamic nature of culture in sustainability.

Furthermore, the social practice approach applied in this study enables us to elaborate on the relationship between nature and culture in cultural sustainability. At a first glance, nature is present in the material element of the social practice framework, conditioning the practices as well as the culture that the practices represent. Continuity, diversity and fertility exist in relation to nature. However, by being part of the practices nature becomes part of culture, for example, in fertility practices, which are directed at looking after and maintaining soil and the natural environment. The meanings and competences elements of the social practice framework are defined in relation to nature. As fertility is practiced, nature in the form of soil is (re)produced. Yet, this reproduction of nature does not mean that nature becomes subsumed by culture. Farming practices can never totally control

nature, but nature always conditions human practices. Thus the focus on farming practices in this chapter points out how nature and culture are in a dynamic relationship through rationalization and appreciation. Thus rationalization and appreciation processes conditioning the practices help to unpack this dynamic to reflect on the nature-culture interface. From a sustainability perspective, the critical point is, however, where the dynamics induced in the nature-culture interface is leading to. The rationalization and appreciation aim at maintaining capability and resilience, and in this way enable sustainability of culture.

In this chapter we have explored the relationship between agriculture and cultural sustainability. We conclude that agriculture as a model of sustainable agricultural practices inform our understanding of cultural sustainability. It is able to clarify the connections between the humans and nature and conditions for a creating a new Natural Contract (cf. Serres 1995) between humans and the nature that is urgently needed in our times.

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