



Organic Values-Based Supply Chains as a Tool for Territorial Development: A Comparative Analysis of Three European Organic Regions

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Abstract. Recently established organic regions aim to be model regions of sustainability. In the frame of this article we understand organic regions as territories that aim at the sustainable management of local resources, based on the principles of organic farming and agroecology. The contribution focuses especially on the role and configurations of values-based supply chains for the territorial development of such organic regions. Three different case studies, in Italy, France and Austria, are investigated. Principles of organic farming, according to the International Federation of Organic Agriculture Movement and the concept of neo-endogenous development by Christopher Ray, serve as framework for analyses. Finally, we include values-based supply chains into the model of neo-endogenous development for two reasons: first to link values on a territorial level, and second as a tool to permanently apply those values within a region.

Introduction

In recent years, many European countries have aspired to establish model regions of sustainability, to shift from a sectoral to a holistic approach to territorial development. Commonly, UNESCO Biosphere reserves, national parks and other protected areas are termed model regions of sustainability, and instruments for regional rural development (Hammer et al., 2012, 2016; Köck et al., 2013). The basic idea behind such efforts is to combine nature protection with economic development. Recently the energy sector has become more prominent in the discourse of sustainability (e.g. Späth and Rohrer, 2012). In those cases, the notion of sustainability starts from

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environmental concerns. Another approach derives from the notion of endogenous development, basing the economic development on local resources, enhancing human and social capital rather than infrastructure, etc. (Knickel and Peter, 2004). One expression to operationalize the idea of economic development compatible with sustainable use of natural capital, is the creation of 'organic regions' (e.g. Schermer, 2006). According to the International Network of Eco Regions Association, an organic region (respectively bio-district or eco-region) is 'a territory naturally devoted to organic, where farmers, citizens, public authorities, realize an agreement aimed at the sustainable management of local resources, based on the principles of organic farming and agroecology' (IN.N.E.R, 2017). Organic regions further aim to establish a common set of values, shared by economic and societal stakeholders within a certain area, to support a sustainable lifestyle and rural development. Usually they already have an above-average percentage of organic farms or organically cultivated area. Besides aiming at safeguarding sustainable land use, these regions establish, bundle and coordinate organic supply chains to kick-start territorial development and to transfer the values of organic agriculture to other economic and societal sectors (Schermer, 2005; Groier et al., 2008). Nevertheless, the progress of organic regions in Europe is still in the early stages of development. Therefore, definitions are vague, and little is known about either the processes of establishing these regions or their possible effects. However, these regions must be distinguished from other concepts as bio-economy (Marsden, 2010), eco-economy (Horlings and Marsden, 2014) or bio-technology clusters (e.g. Casper, 2007). To not confound the above mentioned approaches, and because the studied regions refer to organic agriculture, we have chosen the term 'organic regions'. In this article we investigate three different organic regions in Europe to explore how territorial development can be achieved within such organic regions, and which bottlenecks become apparent during this process.

Conceptual Frame

Our conceptual framework for the analysis of the organic regions combines concepts of organic agriculture and values-based supply chains approaches with elements of endogenous rural development theory.

The Contribution of Organic Farming to Rural Development

The values of organic agriculture, according to the International Federation of Organic Agriculture Movements (IFOAM), go beyond simple technical aspects of farming. Rather, the values aim to affect actions and processes along the entire food supply chain. Though there are legal obligations related to organic farming and certification, enacting the values is not a legal obligation. The values are based on four main principles presented below (Luttikholt, 2007; Freyer et al., 2016):

- Principle of Health: organic agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible;
- Principle of Ecology: organic agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them;
- Principle of Fairness: organic agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities;
- Principle of Care: organic agriculture should be managed in a precautionary

and responsible manner to protect the health and well being of current and future generations and the environment.

Those core principles, combined with the more recent specific ambition of innovative and inclusive development promoted by the 'Organic 3.0' concept (Arbenz et al., 2016), are considered to be the initial point for organic agriculture to sustainably increase and develop while defying the negative effects of globalization (Luttikholt, 2007). In regions building territorial development on principles of organic agriculture, the main idea is to transfer the principles of organic farming systems from the level of production to a territorial rural development approach, contributing to the socio-economic regeneration of a territory. The organic principles are not only applied within the organic farming community, but transmitted to other actors along various supply chains, including private and public consumers and stakeholders in other economic sectors (Schäfer et al., 2016). The above mentioned organic values are bundled, and several supply chains are merged under the umbrella of territorial development.

Organic farming is, broadly speaking, not only a sustainable way to produce food. Its holistic approach in the sense of IFOAM creates multiple benefits that can potentially contribute to territorial development (Pugliese, 2001; Commission of the European Communities, 2004; Schäfer et al., 2016). It can have a positive influence on the local economy, as it generally strengthens local value chains. Moreover, organic farms are often organized in short food supply chains with direct marketing to consumers, public canteens or local restaurants. The local economy benefits from the reconnection of consumers and producers and, thus, from the added value (Renting et al., 2003). Further, it contributes to the creation of employment in rural areas and to the provision of environmental services that positively impacts rural tourism (Sarudi, 2003; Lobley et al., 2009). To make use of such synergies, organic farms might develop 'into a more complex rural enterprise delivering a broad range of products and services' (Darnhofer, 2005, p. 319). Moreover, even if Smith and Marsden (2004, p. 355) argue for organic farming's positive effects, they admit that 'the particular types of overall supply chain dynamics which are operating in particular types of organic sectors in different local, regional and national settings' must be distinguished from each another.

Processes of spatial clustering of organic farms happen as an opposite of core production areas, as Ilbery et al. (2016) demonstrated for England. Three key factors contribute to the appearance of clustered organic farming: physical factors, structural factors and sociocultural factors. Areas with a high concentration of organic farms – even if located predominantly in less-favoured areas – may take advantage from these territorial characteristics, for example by the establishment of an organic region (Groier et al., 2008). This approach can be distinguished from other economic territorial concepts, such as sectoral cluster approaches, as the main focus of organic regions is much more on cooperation (than on competition) and the focus is rather on an intersectoral economic shift towards sustainability than on economic innovation in general (Asheim et al., 2006; Schäfer et al., 2016).

The Role of Organic Supply Chains

Values-based supply chains (VBSC) differ in several ways from traditional supply chains. They are based on values beyond the economic value, which are shared by

all partners along the chain. While some values are attached to the products and the mode of production, other values are inherent in the relationship between the partners involved (Marsden et al., 2000; Stevenson and Pirog, 2008). VBSCs aim for a long-term partnership while optimizing the value for all partners as well as for the customers, including fair profit margins, fair wages and fair business agreements. Further, not just the collaborative dimensions of vertical linkages in the supply chains are important; the horizontal integration and collaborations among groups of farmers or processors are relevant in these food value chains. Consequently, VBSCs may support the rural economy. Therein the value of trust is a central point, not only in personal relationships, but also in organizational structures (Stevenson and Pirog, 2008; Hardesty et al., 2014). This concept serves an alternative for mid-scale farms to act somewhere between short supply chains (as direct marketing) and long supply chains (as large supermarket chains) as they provide high quality, environment-friendly and socially acceptable products on a larger regional scale (Fleury et al., 2016). Further, it fosters revitalization of mid-scale or family farms, which contributes positively to rural livelihood via ‘impacting agribusiness viability, job creation, and the maintenance of local tax bases’ (Kirschmann et al., 2008). Hardesty et al. (2014) claim that the contribution of VBSCs to the rural economy is still limited. Nevertheless, they see potential for growth, wherefore investments in education, communication, monitoring and scaled infrastructure is needed. However, constantly performed values of a VBSC boost those values simultaneously along the supply chain (Pullman and Dillard, 2010).

Territorial and Neo-endogenous Development as Expressions of Sustainable Rural Development

In a broader perspective, territorial development means ‘any process of mobilizing actors leading to the development of an adaptation to external constraints strategy, based on a collective identification with a culture and a territory’ (Pecqueur in Ben Ouada, 2014, p. 3). One distinctive feature is that development is not based on a sectoral approach alone, but on the development of a territory as such. Similarly, the concept of sustainable rural development, on which territorial development strategies are increasingly based, includes social and natural dimensions. The valorization and creation of social capital is therein a key element of rural development, and therefore rural development processes are mostly based on participatory approaches to trigger local action (Ray, 2000; Pugliese, 2001; Vergunst and Shucksmith, 2009). Further, cultural attributes as food, language, crafts, literature and landscapes are included in the notion of territorial development. By linking cultural values with rural development strategies, territorial development aims to ‘revalorise place through its cultural identity’ (Ray, 2001, p. 16). Thus, it is a ‘culture economy’, in the sense that relationships among resources, production and consumption are reorganized, at least partially, onto the local scale of what Ray (1998) calls ‘cultures–territories’.

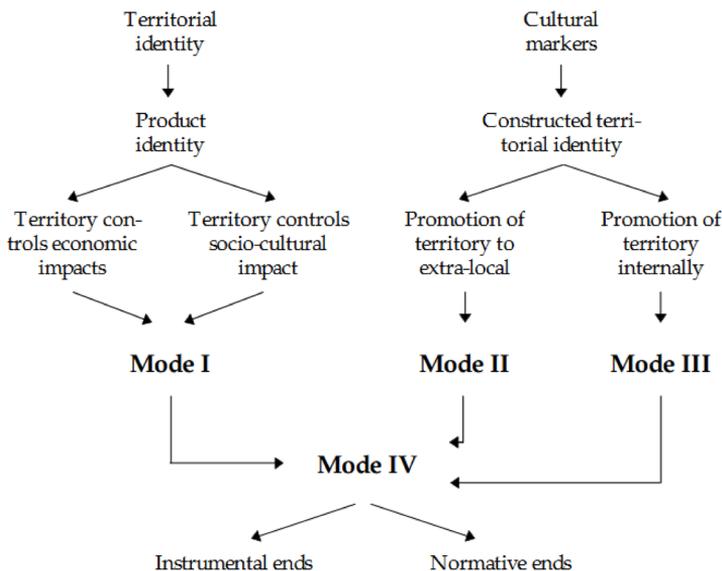
Finally, Ray (1998, 2001) proposes the concept of neo-endogenous rural development, which is based on a culture economy relying on the attachment of products to the image of a region. In his concept, the term ‘endogenous’ focuses on the development up from the bottom – from within, whereas ‘neo’ refers to the involvement of external expertise (Ray, 2006). Therein, the state takes up a role as a ‘co-ordinator, manager or enabler rather than as provider and director’ (Shucksmith, 2010, p. 4). Dynamics within neo-endogenous development processes are led by networks rely-

ing on local and external knowledge to respond to local needs. Therefore not only social capital is crucial within the networks, also institutional capital allow the capturing of local values (Bosworth et al., 2016).

The approach is presented schematically by four operational modes elaborated below (following Ray, 1998, 2001, 2006) (see Figure 1). The first mode includes the subordination of a cultural value to economic interests; it is the commoditization of a regional culture. A certain resource related to place identity is valorized or even created to promote the territory and hence take economic benefit. Examples mentioned include regional agri-food products, regional cuisines and crafts. This mode refers to the 'encapsulation' of the territorial culture within a product. Further, a new image of a region is sold together with the product; therefore the products serve for the construction of a corporate identity and further contribute to promote the region, for example for tourism purposes (mode II). Both existing organizations and new cooperative structures contribute to the visibility of the territory. Taking endogenous development further, mode III focuses on the internal values of a region. Communities, businesses, groups and official institutions are encouraged to raise the awareness of internal values of the local population and to support the valorization of local resources. The creation of social capital within the territory will contribute to a shared identity. Obstacles here may occur regarding to a 'substantial inertia in those areas' (Ray, 1998, p. 7). Mode IV interacts with the other three modes and includes the process that the above-mentioned values become normative for the region. This means that the logic becomes incorporated into the territorial actions of stakeholders. Whereas all modes lead to an instrumental or normative ending, their initial points differ from either territorial identity or cultural markers.

The model presented above seems still relevant for the analysis of organic regions, as it combines the territorial development approach with an economic perspective

Figure 1. Typology of the culture economy.



on supply chains and provides a framework for the combined analysis of different approaches.

The aim of this article is to assess the role of such organic values-based supply chains for territorial development in organic regions. They provide a rather comparable set of values; however, the expressions and processes may differ. Furthermore, we are interested in exploring how such organic VBSCs contribute to the emergence of territorial development. In other words, we aim to understand the interdependence of organic VBSCs and organic regions. Consequently, the article looks into the contribution of organic VBSCs to sustainable regional development

Presentation of the Case Studies

We examined three regions in three different European countries as cases (see Gillham, 2009) for our comparison of single settings. All three regions present themselves as model regions of sustainable development. Furthermore, all three base their development on organic farming. They thus provide a rather comparable set of values. However, as we will see, the expressions and processes within these regions may differ.

The material for this study has been collected in the frame of the Core-Organic II project 'HealthyGrowth: From Niche to Volume with Integrity and Trust' (2013–2016).¹ The sources of data differ from region to region. In all three cases the research groups involved could draw on long established contacts and previous research. In some regions, there is already a rich body of scientific literature or theses available. Data derived from previous research were complemented by the analysis of archival and publicly available information, and statistical sources enriched by expert interviews in each region and on-site observations. The following presentation of the three regions focuses on the history, the main actors involved in the development of each organic region, and the role of organic values-based supply chains within this process. As each organic region has its own development trajectory, the length of the description varies for each section.

Bioregion Mühlviertel

Geography

The Bioregion Mühlviertel is part of the federal state of Upper Austria, delineated by national borders with Germany and Czech Republic to the west and north respectively, the federal border with Lower Austria to the east, and the river Danube to the south. The terrain is hilly and the climatic conditions comparably rough. Agriculture is traditionally based on mixed farming with grassland and cereal production, as well as animal husbandry. Organic farming has a long history and currently 27% of all farms cultivate organically. The market is provided (besides local customers in the region) by the provincial capital of Linz (about 200 000 inhabitants), which is located at the southern tip of the region.

Historical Development

The tradition of the endogenous development approach in the region dates back to the late 1970s. Innovative projects were initiated with a focus on local human,

cultural, and natural resources. Rural development, with the goal of supporting a small-scale farm structure, remained a substantial part of the agricultural sectors' policy. This explains why the people who initiated the Bioregion (and who are still very influential in it) came from the mainstream side of the agricultural administration (Ollmann and Miglbauer, 2004; Furtschegger and Schermer, 2015).

The Bioregion Mühlviertel was formed in 2010 by seven LEADER² regions.³ In the preparation phase, an initial group of them elaborated a comprehensive regional development concept in an extensive multi-stakeholder process. While the initial drivers came from the side of agricultural administration, the integration into the LEADER structure broadened the stakeholder group substantially and includes now a diverse range of economic sectors (Bioregion Mühlviertel, 2010). Since 2015, the Bioregion Mühlviertel has been established as an association. The Chamber of Agriculture, the Chamber of Commerce, the provincial tourism board, the Mühlviertel branding company, the organic farmers association, and the agricultural school (which calls itself Austria's first organic school) form its executive board. A steering group is responsible for strategic decisions. A small core team with a CEO coordinate the day-to-day work. Besides the organizations represented on the board, the association comprises approximately 130 members, including direct-selling farmers, gastronomes, commercial food processors and municipalities (Furtschegger and Schermer, 2015).

Supply Chains

As organic farming has a long tradition within the region and had been one of the cornerstones of earlier attempts of endogenous development, several organic food processors and marketing structures existed prior to the creation of the Bioregion. Organic dairies, bakeries and meat processors have a good reputation even beyond the region. However, now the Bioregion aspires to assemble the different supply chains under a collective umbrella. This is not always without friction, as the Bioregion aims to include as many actors as possible, without compromising the core values. Depending on the background, stakeholders have alternative views on this. Some organic farmers oppose the idea to include processors, who not only work with organic products, but simultaneously operate two different production lines. In the argumentation of the association the aim is to stepwise convert them to entirely organic supply chains. Other companies are processing strictly organic products only, but need to source also from outside the region as sufficient organic supply within the region is lacking. Again, this is in contradiction to the understanding of some stakeholders who want to restrict the Bioregion to regional organic chains only. The Bioregion Mühlviertel supports fair collaboration and initiates new supply chains. Organic food processing companies are the central actors in developing new VBSCs. In general, they are regionally rooted and emphasize a long-term collaboration with fair conditions, with their immediate partners in the chain as well as with their own employees. Those values are extended and applied to all actors along the supply chain, from the farmers up to the retailer and the consumer (Felzmann, 2015; Furtschegger and Schermer, 2015).

The 'Schlägler Bioroggen' (organic rye) provides an example. This is a traditional, local variety of rye adapted to the harsh local climate. Thus, the attributes attached to the product include local climatic adaptation, organic production, specific taste, and a broad range of possible uses. The concerned supply chains include bakeries,

breweries and distilleries. They provide fair conditions for farmers, processors and marketers. Besides these rather long supply chains dominated by medium-sized processing plants, the Bioregion has also supported local direct marketing initiatives, and recently installed an online platform where costumers from all over Austria may order products from the members of the Bioregion. One major actor in establishing and supporting new supply chains has been the agricultural school and training centre in the village of Schlägl. This school was the first one in Austria not only to convert their school farm, but also to redesign their curricula to teach only organic agriculture.

Challenges

On the one hand, the Bioregion Mühlviertel aims to include as many actors as possible. On the other hand, strict guidelines and regulations guarantee common core values. Therefore, the Bioregion's challenge is to achieve the right balance between involving a broad range of the population/economic actors, while maintaining the core values of the Bioregion Mühlviertel. For example, this issue concerns processors who are not only working with organic products, but also simultaneously operate two separate production lines. However, the long-term objective of the association is entirely organic supply chains. Another issue is the lack of sufficient organic raw materials within the region. Large processing operators claim they need to source from outside the region if they want to stay organic (Felzmann, 2015; Furtschegger and Schermer, 2015)

Biovallée

Geography

The Biovallée is located in south-eastern France, in the Rhône-Alpes Region,⁴ corresponding to the Drôme river's watershed, i.e. to the Drôme Valley. It is highly diversified in terms of natural conditions and productions, with cereals, poultry, fruit and seed production in the valley, extensive livestock in the mountains, and wine, cereal and fruit production on the hillsides. Apart from the area close to the Rhône River, most parts of the region are too remote and have a too rough production environment to be competitive in the mainstream market.

Historical Development

Organic farming started in the Drôme Valley in the 1970s. Exchanges between organic and conventional farmers inside agricultural structures, such as technical working groups and farmers' cooperatives, favoured the dissemination of organic values. As a result, in the 1990s, four farmers' cooperatives of the upstream part of the valley, involved in three supply chains (cereals, aromatic and medicinal plants, and wine), decided to collectively develop a programme to foster the structuring and development of organic supply chains. Within 10 years, this inter-cooperative programme allowed reaching an organic farming segment of 10%. With a recent share of more than 30% of organic farms, the Drôme Valley is considered a cradle of organic farming. It also led to a success story with respect to the aromatic and medicinal chains, which allowed the creation of various local processing companies and attracted cosmetic businesses, thus fostering the creation of numerous employ-

ments in the valley.

Another characteristic of the Drôme Valley is its long history of inter-municipal dynamics. The two main communities of municipalities of the Drôme Valley (one located in the upper part and the other located in the downstream part of the valley) emerged in the 1970s, in a context of severe rural depopulation. During the first decades, they coordinated local rural development programmes defined by the state. In the 1990s, the national and EU approaches of rural development shifted from a mere modernization orientation towards a more endogenous approach, i.e. a development based on local resources. That is why, when the cooperatives asked the local authorities of the upstream part of the valley for financial support, the elected officials acknowledged organic supply chains as a resource to oppose the depopulation process, and they therefore decided to set up a whole territorial programme of endogenous development based on organic farming.

In the 2000s, the community of municipalities of the downstream part of the valley, acknowledging the economic vitality of the organic supply chains and the positive image they provided to the upper part of the valley, started taking interest in organic farming as a local resource too. The two communities of municipalities developed a collaborative project of endogenous development based on the development of organic supply chains. Seizing the financial opportunity offered by the 2008 Rhône-Alpes Region call to fund ambitious projects of sustainable territorial development, this project evolved into a much more integrated programme for rural development, aiming at making the valley a pilot region for sustainable development. In this programme called 'Biovallée', organic farming is considered as a key factor, along with the energy and the education sectors, upon which to base territorial development and highlight local expertise.

The initial motivation for the local authorities to engage in this project was to create jobs and to increase the share of the added value produced locally. The strategy was mainly to favour the implementation of organic agro-industrial processors from outside the region in order to 'steer' the conversion of farmers. In other words, their motivation was very different from the values of organic farming. However, throughout the duration of the project, the multi-stakeholder governance tools arranged for the project, as well as the exchanges with alternative actors applying for subsidies, enabled local authorities to become acquainted with the other values related to organic farming development. The objectives of the local authorities gradually changed from economic development, towards a wider general interest, favouring for instance small-scale farming rather than industrial farming (Bui, 2015).

Supply Chains

Since the 1990s, organic farming values are shared on an increasingly broad scale in the Drôme Valley. A growing number of agricultural actors, as well as civil society and local authorities, contribute to this long-term dynamic. Organic farming represents 30% of producers and farmland in 2016. Sixty per cent of the meals served in school canteens are prepared with local products. Local authorities and civil society associations now tackle new issues such as food sovereignty and land access, which is a particularly thorny issue for small-scale and organic farmers or new entrants into farming. New organic supply chains emerged around vegetable gardening, to supply public canteens and private restaurants as well as consumer groups with fresh, local and mostly organic vegetables (Tual, 2011).

Challenges

This positioning generated controversies (Bui and Lamine, 2015). On the one hand, mainstream agricultural actors criticized the project for prioritizing the development of organic farming. Some of them who consider small-scale and organic farming to be niche models, rather than a desirable evolution of local agriculture, are in conflict with local authorities. On the other hand, some historical organic actors thought the Biovallée project hijacked local initiatives for political purposes. Moreover, now that the funds of the Rhône-Alpes Region are depleted, local authorities have difficulties finding the necessary means to continue these efforts. A political turnover almost jeopardized the Biovallée dynamics, as the local authorities of the upstream part of the valley decided not to continue the project when regional funding came to an end in 2014.

In this context, the creation of a Biovallée independent association was crucial. This association, which includes municipalities and municipality communities, private companies, and civil society organizations, was created in 2012 by the local authorities. The association currently assembles more than 130 local actors from a variety of sectors: agriculture, of course, but also tourism, construction, education, culture, energy and mobility. They transmit the notion of sustainability into activities of their sectors. Beyond the Biovallée association, a profusion of initiatives building on these values in a large variety of sectors can be noted, which reflects the normative changes in process. However, the individuals and organizations involved in these initiatives and in the Biovallée association are all already aware of the values of organic farming. The core remaining challenge, therefore, is to cultivate these values among those actors currently unaware or resistant to these values.

Bio-distretto Cilento

Geography

The Bio-distretto Cilento is located in the region of Campania, in the south of Italy. Its landscapes present diversified and unique geographical traits: the long coastland near the Tyrrhenian Sea a few kilometres from the coast, the Alburni mountains with high peaks, sloping hills, ancient human settlements, castles, monasteries and sanctuaries sitting on the ridges, and – in between – the narrow plains of Valle di Diano, located on the bed of an ancient lake and turned into a highly fertile agricultural land. The area is partly included in the National Park of Cilento, Valle di Diano e Alburni, the second largest nature park in Italy, listed among UNESCO World Heritage Sites. Further, the area also includes some famous archaeological sites.

Historical Development

The Bio-distretto Cilento was the first ‘organic district’ in Italy. The ‘bio-distretto’ can be seen as a specific interpretation of the combined notions of ‘rural districts’ and ‘quality agri-food districts’, both defined by the Italian Agricultural Act in 2001. Extending the ‘industrial district’ concept (Becattini, 2000), which focuses on clusters of small enterprises and the local community, the rural district also includes the natural environment, civil society and the production of very specific goods or services (Brunori and Rossi, 2007). The hybrid construction of the ‘bio-distretto’ approach helps explain why a national organization like AIAB (Italian Association for Organic Agriculture), who deals with quality agri-foods like organics and is in-

involved in various rural development initiatives, plays the role of the main promoter of the bio-district.

At the end of a pilot phase of consultation that lasted from 2004 to 2009 and involved a plethora of local public and private actors, an official memorandum of understanding (MOU) to create the 'Bio-distretto of Cilento and Valle di Diano National Park' was signed. Organizations included in the MOU were the organic producer association AIAB, the Città del Bio Association as organic stakeholders, the regional and provincial department of agriculture, and the National Park Authority and Union of Mountain Municipalities as administrative bodies. The goals of the Bio-distretto are to serve as a tool for promotion of organic enterprises and territorial actors, but also to initiate collective decision-making and joint strategic action for the sustainable management of Cilento's resources and potential. In June 2011, a non-profit organization called the Bio-distretto Cilento Association was finally established to ensure a structured and coordinated governance of the Bio-distretto project. It is coordinated by AIAB, which continues playing a crucial permanent bridging role between the 'core institutional group' – currently including 36 municipalities – and 'the field', where activities are carried out and new ideas and initiatives continuously emerge. Apart from the National Park Authority, many of the founding actors are still included in the core group of the Bio-distretto Cilento Association together with various private and public stakeholders. The National Park authority played an important role in the initial phases of the Bio-distretto project; it actively took part in some short supply chain initiatives, as well as in the testing of a participatory organic group certification scheme. It also supported a 'seed savers' project, for which a group of farmers located in the park area collected traditional local varieties of cereals. They are now producing pasta using a newly established mill and a pasta-making plant. In a later stage, the National Park authority significantly reduced its involvement in Bio-distretto activities, but at present, with the newly appointed director of the park, cooperation with Bio-distretto is being revitalized and various new initiatives are being planned. Since no specific budget is allocated at the regional/national level for bio-districts, the members of the non-profit Bio-distretto Cilento Association contribute directly to the management costs of the association with their own budgets. The Bio-distretto's activities have been financed until now through various projects submitted to different funding programmes (Pugliese et al., 2015; Zanasi et al., 2016).

Supply Chains

The backbone of the Bio-distretto production system is made of family farms and small and medium-sized enterprises. Not all farmers applying organic farming practices in the area are certified; due to small farm and business sizes, many producers cannot afford to pay certification costs and would benefit from group certification arrangements, which have been successfully tested in the area. Approximately one-third of all organic producers are grouped in associations and cooperatives, through which they market their products collectively. Through the associations, farmers also collectively buy the external organic inputs that are not locally available. Processing infrastructure includes small on-farm processing activities (mostly jams), some wine-making plants and olive oil mills, two dairy plants and one chestnut processing plant (Zanasi et al., 2016).

Short supply chains, solidly linking local organic operators with consumers, are a

key feature of the Bio-distretto Cilento. Almost all organic food produced in the Bio-distretto is consumed, sold and processed locally. This prevalence of local market outlets consists of direct-marketing initiatives like farmer markets, purchase groups, on-farm sales, and other innovative initiatives, such as 'bio-beaches' and 'eco-trails.' They essentially target the huge number of tourists crowding the Cilento coastland in summertime (but increasingly also off-season), and are not necessarily a deliberate marketing strategy for many operators, but rather the sole option (Zanasi et al., 2016).

A logistic platform was established to support local short-supply chains specifically. This initiative created a 'basket' consisting of local top quality agri-food products, which are marketed collectively on various occasions, helping especially small producers in remote areas to sell their organic products.

Besides organic production, the values incorporated into the products include the notion of the 'Mediterranean diet,' listed by UNESCO since 2010 as an intangible cultural heritage. It originates from the American scientist Ancel Keys (Keys and Keys, 1975), who in the 1960s was the first to study the benefits of the healthy diet of Cilento inhabitants. The diet was rich in vegetables, fruit, pasta, bread and olive oil, with minimal meat, eggs and dairy products.

The long-term commitment and the remarkable efforts of various stakeholders in support of the Bio-distretto project have started producing interesting changes to the region, in line with organic farming principles and values. The number of organic producers and the area of organically managed land have increased, also due to the conversion of public farmland managed by municipalities that have joined the Bio-distretto. One third of all municipalities in the bio-district have signed a formal commitment to promote organic agriculture, to avoid the use of chemicals on public land, and to serve organic food in public school canteens. Renewable energy, green economies, and lifestyle practices, as well as social farming initiatives, are also mushrooming in the area. The introduction of an official 'Bio-Distretto Cilento[®]' label by AIAB strengthens the collective territorial promotion. At the national level, the bio-district approach and its positive implications for rural development are explicitly referred to in the new National Action Plan for Organic Agriculture. Further, the Bio-distretto Cilento model has been retained for the experimentation work in the framework of the National Strategy for the Development of Internal Areas, issued by the Italian Ministry of Economic Development and Finances, and designed to foster a more effective use of EU, national and regional funds (Barca et al., 2014). Finally, within the International Network of Eco Regions (IN.N.E.R.) – which comprises 13 Italian bio-districts and a number of other foreign eco-region initiatives – the Bio-distretto Cilento is a pilot region, promoted at the international level.

Challenges

Despite significant efforts, national and international recognition, and promising achievements at the local level, Bio-distretto Cilento continues to struggle to guarantee long-term funding for the implementation of its activities. This struggle translates into a fragmented sequence of small-scale interventions that sometimes remain invisible to the wider local community. It also continues to heavily rely on voluntary work, and face the negative implications of a frequent turnover of people in decision-making positions in key supporting institutions (Pugliese et al., 2015).

Discussion

The cases demonstrate that VBSCs in the three organic regions contribute to territorial development in at least three ways. First, they increase visibility of the organic region while providing organic products for their local region. For example, they provide food for school canteens in Biovallée and Bio-distretto, and beer for Mühlviertel. They do this in a high-profile fashion, using their attractive logo labeling. This is in contrast to other regions, where organic farmers provide for national or international supply chains without being specifically recognized.

Second, these local supply chains provide connection points to other sectors. The creation of bio-beaches and the formation of eco-trails in Cilento to connect food with tourism, as well as the emergence of a network of 'eco-hosts' in the Biovallée to foster sustainable tourism, are examples of this.

Third, the local supply chains are highly innovative. In the Mühlviertel, the old rye varieties are starting points for new specialties like organic whisky. In the Biovallée, the various technological and social innovations (e.g. aromatherapy for livestock, the farm incubator, hybrid and innovative organizational models), as well as the overall dynamic, attract numerous study groups from all over Europe (researchers, NGOs, elected officials, etc.). In Cilento, promising links with cooking classes, the local cooking school, and other educational institutions support innovation in the area. Social innovation initiatives for the inclusion of disadvantaged people have been established.

In the following section, we discuss the three case studies presented in the light of neo-endogenous development and values-based supply chain concepts. First, commonalities among the cases are highlighted, but occurring differences and bottlenecks are mentioned in the second part of the discussion as well.

Commonalities

Neo-endogenous Regional Development

We can find all modes of neo-endogenous development in the three regions. According to the concept of neo-endogenous regional development (Ray, 1998), mode I builds on attaching products to an existing image of the region. In all three regions modernization of agriculture found its limits early, small-scale farming in hilly and mountainous conditions prevails, and an early focus on organic was a logical consequence. In remote marginal areas in Cilento there were not many alternatives. In the Mühlviertel, the first attempts of endogenous development resulted in a number of local organic initiatives, some of them through cooperatives (like for herbs or dairy), which established supply chains that extended beyond the region. In the Drôme Valley, farmers' cooperatives in the more marginalized upper part of the valley started to establish organic supply chains for cereal and aromatic plants and herbs in the early 1990s, which formed the basis for the local authorities to set up a programme to foster endogenous development. In Cilento, the idea of linking organic production to regional development emerged in order to revitalize the local, rich agricultural and culinary traditions and to guarantee sustainable incomes for local farmers and artisans. In all three regions, the basic idea was the same. The first steps taken towards territorial development were efforts to use the image of a region left out by modernity to develop organic farming. Out of this some successful values-based supply chains emerged, largely implemented by local cooperatives and farm com-

munities.

Mode II is characterized by actively constructing a positive image on the success of existing products. Once successful organic supply chains had been established in the regions, actors interested in regional development started to redefine the already existing image or to create an image as 'organic region'. At this stage the formation of territorial organic initiatives started. The Bioregion Mühlviertel and the Biovallée built upon pre-existing traditional food processing enterprises and initiated new ones. In Austria, this refers to organic processing plants (meat, dairy, bakery) but also, for instance, to the 'Schlägler Bioroggen', integrating already existing but formerly non-organic breweries and bakeries. In France, the success of various existing organic supply chains was one of the starting points for a reflection about an 'organic project' conducted by locally elected officials in the early 2000s. The Bio-distretto used the image as a cradle of the Mediterranean diet and the traditional way of production and lifestyle associated with it. The strategies in this stage differ not only according to the agricultural context, but also according to the background of rural development. In Austria the LEADER network was decisive; in France regional policies offered crucial funding opportunities that strongly influenced the territorial project towards a more holistic, multisectorial and ambitious approach; in Italy the legal acts of the rural districts and the quality districts were combined in the idea of bio-districts (Bui and Lamine, 2015; Furtschegger and Schermer, 2015; Pugliese et al., 2015).

The strengthening of the internal cohesion of the region (mode II) has relied on two processes: the development of localized supply chains and the creation of independent territorial associations. In all three regions, VBSCs within the region are promoted and applied as a tool. The Bio-distretto Cilento focuses on procurement for public canteens and institutions. In the case of the Bioregion Mühlviertel, there is a provincial regulation to increase the share of organic in public procurement. The Biovallée embraces an integrated approach, aiming at working on all the components of the agri-food sector: farmers' set-up, research and innovation, sourcing, processing, and marketing. While supply chains in the Bioregion Mühlviertel and in the Biovallée Drôme sell substantial parts outside the region, in the Bio-distretto Cilento the main costumers are local (mostly seasonal tourists). However, the other two regions aim to extend the scope for shorter supply chains. In all three regions logistic platforms have been established. The internal cohesion of the region (mode III) was ultimately strengthened after a pilot phase, when the initiatives formed independent associations. Through the integration of several economic institutions and actors, as well as the civil society and public institutions, their cooperation is strengthened. In all three organic regions, the establishment of a membership structure transfers ownership to the participating actors. However, this step is rather recent in all three regions, and the effects are not yet fully visible.

Finally, the promotion of organic regional values are gradually spreading and becoming normative for a larger number of local actors (mode IV) in all three regions, which means that the underlying philosophy of the organic regions becomes a guiding principle for future development. Normativity is achieved in different ways and degrees. For example, in all three regions the recently formed associations are becoming important players in the regional development discourse. The Bioregion Mühlviertel is integrated into LEADER groups and involves representatives of all relevant economic sectors into their structure. The Biovallée association has been widely promoting local public and private initiatives, including in national

media and national institutions. This has strengthened the legitimacy of its vision for the territory. The Bio-distretto Cilento has assembled a broad and varied network of institutions and private actors, which have formally adhered to the Bio-distretto charter. Among those are an increasing number of municipalities that are now proactively promoting the bio-district approach and practices.

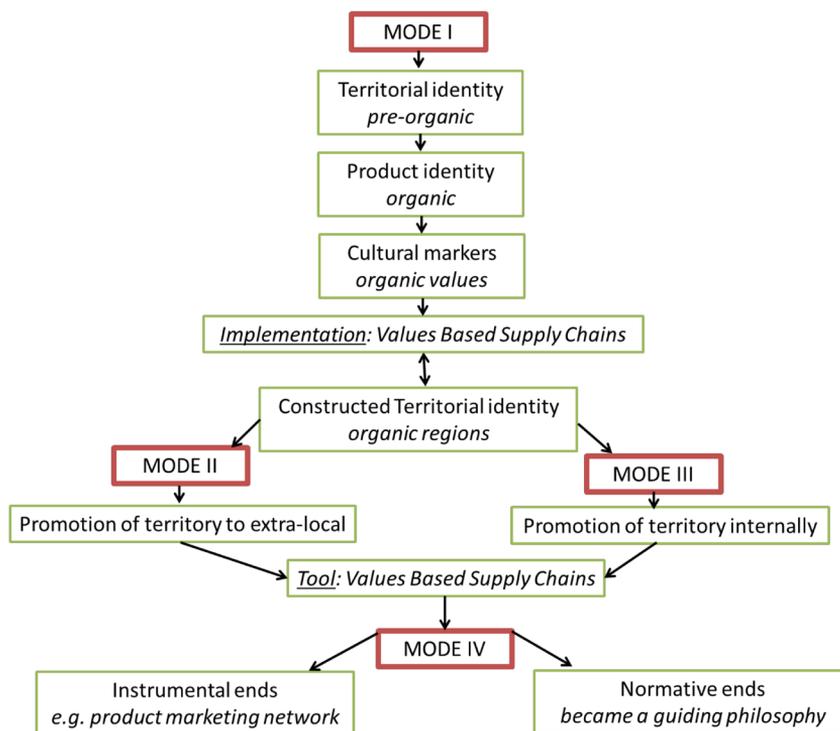
This short analysis shows that the modes of neo-endogenous development are not performed in parallel, as the concept of Ray suggests. However, all regions show evidence of a realization of the specific modes in sequential patterns. Therein, one mode builds upon prior experiences of and results finally into a normative territorial strategy (see Figure 2).

Values-based Supply Chains

All three organic regions follow the main objective of territorial development based on the values of organic farming. Nevertheless, their pathways differ, which can be attributed to distinct historical backgrounds configurations of the supply chains.

The role of the organic VBSCs shifts from one mode to the other. First they integrate the characteristics of the territory where they are located. Organic values and practices can provide a way out of marginalization; in some cases, organics can represent the only viable option. The principles of organic farming (health, ecology, fairness and care) comply nicely with this strategy. Later, the success of some organic

Figure 2. Adapted model of neo-endogenous development.



Source: based on Ray, 1998, p. 19; italics refer to the adaptation to our case studies.

flagship supply chains allows the extension of values to a territorial level, as they become the starting points for the organic territory. The organic values in these supply chains become guiding principles for regional development. The Bio-distretto Cilento provides a nice example of how the principle of health, inherent in the organic principles, matches perfectly with the Mediterranean diet. In the Biovallée, the values of ecology, health, care and fairness are adopted by a large variety of actors from other sectors, such as tourism, housing, education and energy. The Bioregion Mühlviertel provides an example where an original agrarian initiative aspires to influence other economic sectors. In all three regions, the principle of ecology with closed nutrient cycles is translated into the use of renewable building materials or energy sources. Also, the issue of preserving small-scale structures arises. While for the Bioregion Mühlviertel and the Bio-distretto Cilento this seems to be undisputed, in the case of the Biovallée, the Chamber of Agriculture will not support small-scale agriculture exclusively. This is due to the fact that the environmental conditions are marked by a difference between the upper and the lower part of the Drôme Valley, whereas the two others are rather homogenous in their agronomic characteristics.

All three regions combine the notions of 'organic' and 'regional' in their supply chains. This seems to be logical in the case of the Bio-distretto Cilento. On the one hand, there is huge market potential represented by seasonal (and emerging off-season) tourism and, on the other hand, the promoters' strong believe that organic values and practices represent the only sustainable way to preserve Cilento agri-food traditions for local young generations too (not only for tourists), which also explains the promotion of organic foods in local school canteens. In the case of the Bioregion Mühlviertel, the area consists of the hinterland of the regional capital Linz, and much of the products are sold there or even beyond. This creates strong regional processing structures that are sometimes too big to source only organic or only organic from the region. However, these are the flagship members of the association, and its inclusion into the Bioregion Mühlviertel has symbolic value. In the Biovallée, the notions of 'organic' and 'regional' find a variety of translations, ranging from local, short supply chains to long distribution channels that have relocated most of the concerned activities.

Differences and Bottlenecks

Differences appear among the three organic regions under investigation regarding the main actors who lead the territorial development dynamics. Nevertheless, all regions are influenced and guided by several actors on private and public levels. Processors of locally produced food have a crucial role in the Bioregion Mühlviertel. In the Drôme Valley, farmers' cooperatives created the initial impulse for the structuring of the main supply chains, after which the local authorities became the main promoters of the Biovallée and, as such, they have fostered the creation of new organic supply chains by supporting agricultural and civil society actors. In Bio-distretto Cilento, one main actor remains so far the local branch of a national organic association (AIAB) engaged in the development of local organic supply chains.

However, the efforts to achieve a coherent normative development strategy (mode IV) have not been fully successful so far. In the case of the Bioregion Mühlviertel, there are different internal opinions about the inclusion of processors (regional vs organic). Alternative strategies and visions exist in the Biovallée Drôme, and come into conflict in a context where the organic identity has become a matter of controversy

between an 'ecological modernization paradigm,' mostly embodied by mainstream agricultural actors, and a 'radical ecologization paradigm' that was developed by civil society actors (Bui, 2015). In Bio-distretto Cilento, difficulties mainly result from the frequent turnover of decision makers in key institutions, the fragmentation of funding sources and associated interventions (which mostly remain small-scale), and a reportedly still limited appreciation of the Bio-distretto's potential for local development in the wider local community.

Although all four modes of neo-endogenous development are present, in each region there is a prevailing mode that can be explained by its history. In the long tradition of the regional development in the Bioregion Mühlviertel, organic farming had always been a backbone. Therefore, the Bioregion Mühlviertel builds on this, and attaches new products to this pre-existing image (mode I). The Biovallée Drôme seems to have progressed by constructing a new image as a sustainable region building on the success of multiple organic supply chains and initiatives. This strategy is complying with the mode II concept (see Figure 1). In Bio-distretto Cilento case, mode I, II and IV dynamics can be clearly identified, but mode III outcomes are not so evident yet. And still, most farms in the area are not yet all organic. At the same time, the internal cohesion around the territorial project is getting stronger and, over time, the promoters' network has accumulated experience and determination to target more coherent opportunities for visibility and economic sustainability of the Bio-distretto. This will hopefully contribute to enhancing ownership of the initiative in the wider local population in the near future, and reduce its still strong reliance on specific personal and institutional relations.

Conclusion

Even if each organic region under investigation is based on a distinct historical background, they all currently support territorial development dynamics based on the principles of organic agriculture. Sharing these principles along supply chains allows transferring values to the regional level and leads to a common understanding of the goals of organic regions. However, the incorporation of those values is not fulfilled for every single (private or public) actor in the region that leads to a continuous negotiation of the values. Further, some actors are not affected by the appearance of the organic region, so that they do not actively participate in it.

Within the realization of organic regions, the concepts of neo-endogenous development and VBSCs have been merged. VBSCs demonstrate not just the power of internal resources, but also its limits, such as the lack of animal feed concentrates of organic origin in the Bioregion Mühlviertel. Nevertheless, they link the occurring values with the territory. Even if the development paths of the organic regions under investigation differ, and have achieved varying status of institutionalization, they all foster and contribute to a sustainable way of life. In conclusion, the quite recent approach of organic regions can be seen as model regions of sustainability, which is a process rather than a final condition.

To answer the guiding question of this article, how the organic values-based supply chains contribute to the emergence of territorial development, it can be said that VBSCs serve to transmit the values of organic farming to a guiding philosophy for planning and management choices made by territorial actors in two ways. First, in all three organic regions under investigation, VBSCs were implemented in the construction phase to bundle organic products with values of organic farming on a ter-

ritorial level. Therewith, the implementation of the VBSCs contributes to the place branding process. In the management phase of modes II and III, VBSCs are constantly applied, and serve therefore as a tool to permanently transmit and practice the underlying values of the organic region. Therefore, we can conclude that VBSCs are useful to capture values and to further share values among the population of a certain region.

Basing our work on the conceptual framework of Ray's (2001, 2006) model of neo-endogenous regional development, we adapted the model of neo-endogenous development (see Figure 2). In the adapted version, we present the modes as sequential, as they appeared in the organic regions under investigation, and VBSCs twice take the position as a transmitter in this model. First, with their implementation, VBSCs link organic values on a territorial level in the construction phase of the organic region and, second, VBSCs are used as a tool to embed values externally as well as internally.

Notes

1. For further information see HealthyGrowth (2017).
2. An acronym of Liaisons Entre Actions de Développement de l'Economie Rurale, LEADER is the most important EU-frame for territorial rural development.
3. Donau-Böhmerwald, HansBergland, Mühlviertler Alm, Mühlviertler Kernland, Sterngartl-Gusental, Strudengau, Urfahr West as well as the EUREGIO Bayrischer Wald Böhmerwald
4. In France, regions are large administrative perimeters, corresponding to decentralized administrations. The Rhône-Alpes Region is one of the 11 French regions.

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