



## Analysis

# Opening the organisational black box to grasp the difficulties of agroecological transition. An empirical analysis of tensions in agroecological production cooperatives

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## ABSTRACT

Whereas many studies adopting a broad perspective on sustainability have highlighted the differences and interactions between alternative and conventional models of agricultural production, very few have investigated the contradictions internal to farm organizations engaged in agroecological transition. In order to understand the difficulties faced by farmers in combining multiple aspirations, we study agroecological production cooperatives (APCs) through the tensions between their different institutional logics. We use a qualitative analysis to address these tensions, and the responses to them, related to their territorial, self-management, and agroecological logics. Various local actors have different conceptions of agroecology, based on diverse levels of knowledge of agricultural practices and on dissimilar interests. This entails various preferences regarding technical choices and farm management. Agroecology's emphasis on diversity, local resources, experimentation, labour intensity and the long run may contradict financial considerations and the quality of working conditions of farmers. Setting up deliberation arenas is key to elaborating agreed compromises regarding the agroecological conception, as well as the governance of farm organizations.

## 1. Introduction

The urgent need for a transition of agro-food systems towards more sustainable models has been widely acknowledged in recent years (IPES-Food, 2016, 2018). Agroecology has been promoted as a promising perspective to this end (Wezel et al., 2014). And this issue features within Ecological Economics' research agenda for the next 30 years (Washington and Maloney, 2020). However, many studies about agroecology focus on one single aspect of sustainability (Hubeau et al., 2017) and are limited to farm-level analyses. The ecological dimension of farming systems has been widely investigated and numerous publications highlight the necessity, in this context, for deploying and evaluating their capacity for integrating greater energy efficiency (Duru et al., 2015). However, the ecological dimension cannot be considered separately from social and economic dimensions (Aubron et al., 2016; Bacon et al., 2012; Dumont et al., 2016; Kapgen and Roudart, 2020) and the changes necessary for an agroecological transition extend well beyond the farm level (Francis et al., 2003; Wezel et al., 2016, 2020). Transformations in the agricultural sector must be considered in their

interactions with more extensive levels of social organisation (Gonzalez de Molina, 2013; Guzmán and Woodgate, 2013; Mazoyer and Roudart, 2006).

The publications which engage in this wider perspective fully integrating ecological, economic and social dimensions and going beyond the farm level, have analysed alternatives to the conventional agro-food model and trajectories of transition towards more sustainable systems. In particular, there have been studies of the interaction between innovative niches and the dominant socio-technological regime (Bui et al., 2016; Hermans et al., 2016), the lock-in mechanisms supporting the incumbent system (De Herde et al., 2019; Magrini et al., 2016; Vanloqueren and Baret, 2008), and the role played by alternative agro-food networks (Chiffolleau et al., 2016; Forssell and Lankoski, 2015; Maréchal et al., 2019; Whatmore et al., 2003). While these studies have highlighted the differences and interactions between conventional and alternative models, very few have investigated the contradictions internal to those organizations engaged in an agroecological transition.

The aim of the present paper is to investigate the tensions that exist within agroecological production cooperatives (APCs) in Belgium, in

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order to meet the need for a broader understanding of current initiatives towards agroecological transition. More precisely, it seeks to provide an illustrative account of how the agroecological transition may unfold at the micro-scale level, to unravel the internal difficulties faced by these cooperatives trying to put agroecology into practice, and to show how they try to balance the multiple objectives they pursue.

As cooperatives, APCs are different both from the farm organizations prevailing in agriculture, whether these are classified as family-owned, managerial, or capitalist (Bélières et al., 2013; van der Ploeg, 2009), and from traditional agricultural cooperatives that are located upstream or downstream from the production stage (Chayanov, 1991; Valentinov and Iliopoulos, 2013). Like workers' cooperatives in other economic sectors (Audebrand, 2017; Cheney et al., 2014), APC members make decisions collectively, notably on how to allocate the results of their joint activities. In this way, farmers undertake their activities in a self-management framework. In claiming agroecology, APCs pursue a range of objectives, combining the creation and maintenance of a quality working environment with the development of a form of agriculture that is both territorially embedded and ecologically sustainable. Since APCs pursue different goals at the same time, we have analysed them as 'hybrid' organizations, within which it is necessary to manage the difficulties stemming from a combination of potentially contradictory aspirations and practices.

The institutional logics perspective provides insight into organisational complexity and makes it possible to specify the way in which combinations of various logics shape individual and organisational actions (Friedland and Alford, 1991; Thornton et al., 2012; Thornton and Ocasio, 2008). This theoretical and analytical framework interrogates the nature of organisational hybridity—when components that do not naturally align are combined (Battilana et al., 2017)—and its consequences. Studies in this vein thus focus on the ways in which tensions, that emerge when actors and organizations attempt to translate conflicting prescriptions into a set of tangible practical responses, are managed (Greenwood et al., 2011; Pache and Santos, 2010).

In the following, we begin by developing our theoretical approach and defining the principle concepts used in the analysis: institutional logic, hybrid organisation, paradoxical tension (Section 2). In the methodological section, we present our case studies, the empirical data, and the analytical procedure we have carried out (Section 3). The results reveal the properties of the institutional logics used by APCs, the tensions that emerge, and the responses provided for managing the organisational hybridity that ensues (Section 4). In Section 5 we discuss these results and in Section 6 we conclude and suggest new perspectives for research.

## 2. Understanding organisational change through the analysis of internal contradictions

In the agri-food sector in Western Europe, since the 19th century, *service* cooperatives have developed a lot upstream - credit, supply of inputs - and downstream - processing, sale - of the farms themselves (Chomel et al., 2013). With such cooperatives, farmers have organised their relations with the markets, but they have remained independent of each other, as family farmers in most cases (Bélières et al., 2013; Hervieu and Purseigle, 2013; van der Ploeg, 2009). At the stage of agricultural production itself - growing plants and raising animals - farmers have developed for long various forms of mutual aid according to the peculiarities of each regional agriculture (Lanneau, 1975). But, agricultural *production* cooperatives have not developed much. Chayanov (1991) qualified these two types of agricultural cooperation (service and production) respectively as vertical and horizontal concentration.

Between integral agricultural production cooperatives in which all the factors of production and all the products of labor are collectivized at one extreme, and independent farm service cooperatives at the other extreme, O. Schiller (1969) distinguished a third type: the "coopera-

tives for the promotion of agricultural production", in which certain agricultural operations are carried out jointly at the scale of a village or of a fraction of village - tillage or irrigation for example - but in which the land is not pooled. Each farmer is individually responsible for the other agricultural operations, especially harvesting.

In this article, we call "agricultural production cooperative organizations" various *voluntary* forms of cooperation relating to the biological processes of cropping plants and rearing animals, characterized by the construction of a set of collective rules which organize the pooling of certain resources and of certain activities, as well as the sharing of the ensuing results. Such organizations may be formal or informal. In the latter case, they are not "cooperatives" in the legal sense, but they are very similar in practice albeit with different statuses (Plateau, 2021).

Agricultural production cooperative organizations are few in Western Europe. Yet, there is no lack of theoretical arguments for creating them, which intertwine economic, political and ideological motivations (Emery et al., 2017). On the more economic side, it is a question of benefiting from economies of scale and from savings in transaction costs, of spreading the risks related to the quantities and prices of agricultural products, of escaping the market power of other economic actors located upstream or downstream or of acquiring a better positioning in these markets, or of accessing services not provided by these markets (Valentinov and Iliopoulos, 2013). The hoped-for result is an increase in the total factor productivity and, consequently, an increase in the agricultural income of the cooperators.

Beyond these aspects of a mainly economic nature, other frequent motivations relate to the desire to improve the working conditions of cooperators, and to benefit from a stimulus effect stemming from collective work, or to enable their access to production means, land in particular. In certain contexts, strong ideological motivations have supported the establishment of agricultural production cooperatives, as for the kibbutzim in Israel for instance (Van Dooren, 1982). Finally, the practice of cooperation can be an objective in itself, because it involves interactions in accordance with a certain conception of human beings as social beings (Emery et al., 2017). The motivations for setting up agricultural production cooperative organizations are therefore multiple, as the objectives they pursue can be.

However, experience shows that they are not widespread and that many attempts have failed. Several reasons may explain this. First of all, the visceral attachment of each peasant to his land, and beyond that a certain form of individualism (Emery, 2015), are powerful restraints, which also explain why the above-mentioned cooperatives for the promotion of agricultural production (in which land is not pooled) have experienced relative development (Cordellier, 2014; Schiller, 1969). Moreover, the expected economic benefits are far from always materializing. In particular, scale economies appear up to relatively low dimension thresholds, which vary according to the types of production: beyond these thresholds, due to the spatial expansion of the activity, the costs of moving workers and tools and the costs of controlling work increase very rapidly, leading to diseconomies of scale (Mazoyer and Roudart, 2006). On another note, in many cases, agricultural production cooperatives were imposed "from above", by the sole will of the government - for example, collectivization in the USSR from 1929, vilagization in Tanzania from 1967 to 1977. They may then have included people who did not have the same culture, the same political ideals, the same socio-economic status and therefore not the same interests (Obern and Jones, 1981).

A host of other difficulties relate to the internal management of agricultural production cooperative organizations. Organizing the participation of all members in decision-making is often an objective, but it can lead to spending a lot of working time in negotiations. Conversely, delegating management to a small number of people, possibly not members of the cooperative, can lead to frustrations and disputes, or even to divergences of strategies between the management on the one side, the

(other) cooperative members on the other side (Valentinov and Iliopoulos, 2013). As for workers' cooperatives in other economic sectors, certain topics in particular are sources of tensions: distribution of the different tasks between members, remuneration criteria (time, arduousness, qualification, etc.), types of remuneration (harvest shares, money, symbolic rewards, etc.), degree of autonomy and responsibility for each task (Van Dooren, 1982). The remuneration of land and capital contributed by each is another potentially contentious topic (Schiller, 1969). If these tensions are not overcome satisfactorily, a demotivation of workers may ensue, which in turn contradicts the economic objectives of cooperatives.

Despite all these difficulties, in Belgium, since the 2000s, new agricultural production cooperative organizations have been created. Most of them have an agroecological project. We call them Agroecological Production Cooperatives (APCs). They therefore pursue broader aims than those stated above. Overall, the promoters of agroecological initiatives have a more or less extended range of objectives depending on their vision of agroecology: this vision can be limited to the use of environment-friendly agricultural techniques, or it can extend up to including a political project to transform the agro-food system, at the local level or at a larger scale (Bui et al., 2016; Méndez et al., 2013). For some, such a political project goes as far as to question established power relations and to seek forms of emancipation for themselves and for other actors in their communities (Anderson et al., 2019; Ferguson et al., 2019; Giraldo and Rosset, 2018). Between these two poles, there is a whole variety of conceptions of agroecology, which diversely combine ecological, socio-economic, political and, in some cases, methodological principles (Kapgen and Roudart, 2020). Therefore, depending on the stakeholders involved in agroecological initiatives, disagreements may arise on the choice and precise definition of objectives (Dumont et al., 2016; van der Ploeg et al., 2019; Wezel et al., 2009, 2020).

The way to achieve objectives can also be a matter of debate, including in the area of agricultural techniques. Indeed, agroecology does not provide a ready-made set of prescriptive agricultural practices, as labeled organic farming for instance does: agroecology is about building on contextual resources and elaborating tailor-made solutions, being driven by principles (Hatt et al., 2016). However, the principles are subject to interpretation. For instance, the relationship between the nature, productivity and intensity of work on the one hand, and the overall sustainability of agroecological farms on the other hand, is complex (Aubron et al., 2016; Timmermann and Félix, 2015; Woodhouse, 2010). In particular, the respective roles of machines and human labor in production processes are debated (Arora et al., 2020; Bonny, 2017; Calame and Mouchet, 2020). The attention paid to the concrete working conditions of farmers in certain agroecological initiatives goes hand in hand with the call for a certain degree of mechanisation (Dumont and Baret, 2017; Plateau et al., 2019). The share of the work carried out by volunteers or interns is also discussed (Ekers, 2019; Hermesse et al., 2020): is it necessary to strengthen relations with the surrounding community or to counter balance the precarious economic situation faced by some agroecological farms?

Cooperation with other actors in the territory may also generate difficulties (van der Ploeg et al., 2019; Wezel et al., 2016). Lucas et al. (2019) analyze to what extent inter-farms cooperation, designed to share, manage and/or exchange equipment, labor and/or material resources, favors the development of agroecological practices: it appears that it may be hard for farmers pursuing agroecological objectives to find nearby partners who share common technical references, identity and aims. Hence some sort of isolation of agroecological farmers, which is enhanced by the fact that the formal agricultural research and innovation system pays little attention to agroecological topics (Vanloqueren and Baret, 2008). This results in agroecological farmers rather focusing on learning-by-doing processes instead of engaging into knowledge networks. This brings us back to the internal difficulties

faced by agroecological farms, which have been little explored up to now.

With their multiple objectives related to various rationalities, APCs are hybrid organizations. Within organisation studies, hybridity is “a mixing of core organizational elements that would not conventionally go together” (Battilana et al., 2017: 129), such as resources mobilized, identity of members, forms of governance or rationalities (Doherty et al., 2014; Spear, 2011). Thus, APC members have to adapt their internal organisation so as to strike balances between contradictory demands. To analyze this kind of adaptative processes, the institutional logics perspective is especially well-suited as it focuses on combinations of various contradictory logics (Battilana and Lee, 2014; Battilana et al., 2017; Pache and Santos, 2013), all of which ground social configurations and transformations. Thus, ‘a key task of social analysis is to understand those contradictions and to specify the conditions under which they shape organizational and individual action’ (Friedland and Alford, 1991: 256). Institutional logics may be defined as ‘the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality’ (Thornton and Ocasio, 2008: 101). This perspective, offering a non-linear, adaptive understanding of social transformation, shares some foundations with a coevolutionary framework (Goddard et al., 2019; Hodgson, 2010), and extends our ability to think about current socioecological change. At the level of organizations, the institutional logics framework investigates organizations that enact multiple logics at their core (Battilana and Lee, 2014) and makes it possible to closely examine the ways in which organizations and individuals internally manage the institutional complexity they are embedded in (Greenwood et al., 2011). An important task of analysis is to understand the organisational implications of combining logics that provide potentially contradictory prescriptions for action (Pache and Santos, 2013).

The need to navigate between contradictory demands in the very foundations of the organisation generates a range of internal tensions (Smith et al., 2013). Nonetheless, many scholars postulate that these internal tensions should not be understood negatively as *trade-offs* and according to an ‘either/or’ model but as *paradoxes* that lead to productive transformations (Jay, 2013; Smith et al., 2017). As a result of their persistence over time and their interdependency nature (‘both/and’ model), paradoxical tensions actually expand the potential for individual creativity and organisational innovation (Diaz-Correa and López-Navarro, 2018; Dufays, 2019). Within hybrid organizations, analysing the construction of dynamic equilibriums (Smith and Lewis, 2011) helps to identify how actors translate conflicting imperatives into a set of tangible responses and practices (Pache and Santos, 2010), while preventing letting one logic, with its objectives and practices, from dominating another. This focus on tensions and paradoxes ties in both with the political economy approach to agricultural cooperation as proposed by Mooney (2004) and with the analysis of the potential for creative transformation withheld by agroecological initiatives (Stassart et al., 2018).

In adopting the institutional logics point of view in his work on workers' cooperatives, Audebrand (2017) highlights for instance the need to identify paradoxical tensions in order to better understand the nature of the dialogue between alternative organisational models and the dominant economic paradigm. He analyses paradoxes such as those involving organisational aspects (organisation of democratic and hierarchical modes of operation), aspects of identity (the combination of individuals and community-based interests), and the difficulties involved in maintaining the cooperative spirit while ensuring the economic development of the company. The following sections intend to show how and with what results the framework of institutional logics and the related tensions has been applied to the study of APCs in Belgium.

### 3. Method

The qualitative method of research deployed here is based on a strategy of comparing multiple-case studies (Yin, 2009) with the aim of theoretical construction (Haugh, 2012; Strauss and Corbin, 1990). Our research project thus seeks to generate a theoretical conceptualisation of the paradoxical tensions within APCs. With this aim, we have conducted an abductive analysis, going back and forth between the collected empirical data, the existing scientific literature, and our ongoing theoretical construction (Timmermans and Tavori, 2012). Based on such a non-linear process, the research strategy pursues an objective of matching the theoretical framework and the empirical fieldwork (Dubois and Gadde, 2002). However, our method was fundamentally constructivist: it relied on an in-depth fieldwork and it began with the construction of an interpretation of the data collected and actors' lived experience.

#### 3.1. Case studies

Table 1 Lists descriptive information for each of the ten organizations studied. Our sample includes "negative" cases, where cooperative production was abandoned, reinforcing the analysis of tensions and difficulties.

Cases studied are located in Brussels (2) and in Wallonia (8), the southern part of Belgium, where the development of APCs is recent. The first cases of APC known in Belgium date back to the late 1990s, but it is only after 2010 that the movement has really emerged. However, compared to other social types of farms in this country (family, capitalist or other), cooperatives still represent a very small proportion of farms. The farmers in our sample are all neofarmers and nearly all of them had another professional activity before setting up. In most cases, the trajectory has been characterized by setting up a collective organisation and then changing the composition of the group of associates over time. All cases are characterized by the pooling of land and of the labor force between small groups of associated farmers, and by the sharing of the results of their joint activities. The APC movement in Belgium nevertheless includes other types of organizations where not all resources are pooled and where some of the production operations are carried out individually. For example, there is an increase in inter-farm cooperation for crop-livestock integration. These cases of horizontal cooperation take place both within informal bilateral partnership for grazing cover crops, or within the framework of formal cooperation for the promotion of agricultural production.

There is a diversity of social enterprise models in Belgium (Huybrechts et al., 2016), including various types of cooperatives. However, the Belgian legal framework on social enterprises does not distinguish between types of cooperatives, unlike, for example, France which provides for particular statutes for workers' cooperatives (SCOP), for multi-stakeholder cooperatives pursuing a public interest (SCIC) and for group farming (GAEC).<sup>1</sup>

The Belgian agricultural sector has experienced a structural decrease in the number of farms over the last decades, leading to land concentration. Between 1980 and 2019, 68% of Belgian farms disappeared and the average area per farm has tripled (Belgian Federal Ministry for Economic Affairs, 2020). Access to land is difficult in Belgium, due in particular to its high population density and degree of urbanization. The average price of undeveloped agricultural land is particularly high: 62.600€ per hectare for sandy-loam soils, 48.500€ for loam soils and 21.600€ for clay soils in 2019 (Walloon Regional Ministry of Agricultural Affairs, 2020). Prices continue to increase while two-thirds of the cultivated land is rented by farmers (Stassart et al., 2018: 12).

Market gardening, which concerns the bulk of our sample, is little extended in Wallonia with less than 300 producers according to Dumont and Baret (2017), out of over 12.800 farms (Belgian Federal Ministry for Economic Affairs, 2020). However, it is on the rise, including in urban areas where professional installation in market gardening has had some success, including in the APC form (Plateau et al., 2019). The dominance of market gardening in the APC movement in comparison to animal husbandry can be explained by different factors. Integral cooperatives generally do not involve a community lifestyle, so farmers do not live on the farm and cannot conveniently care for animals; the working relationship between the farmer and the animals, which involves bonds of affection and reciprocity, can be compromised if raising is shared among several members; worker cooperatives tend not to develop in capital-intensive sectors, and livestock farming involves more land and capital than market gardening. Capital intensity required for field crops also explains the low development of the APC movement in this type of farms.

#### 3.2. Data

Our overall approach to data collection was structured around an interview protocol built with semi-structured interviews, combined with three other sources of information. Thus, our main category of data consists of a transcription of the various interviews (22 in total, with an average duration of 82 min), the majority of which were conducted face to face with either farmers (15) or with farm advisers and social entrepreneurship specialists (3). The remaining interviews (4) were conducted with two or three farmers from the same cooperative. These 'collective' interviews allowed for a more precise recording of the convergences and divergences in experience and interpretation between cooperative farmers.

Another source of data consists of field observation: visits separate from the interviews, as well as participation in team meetings, board of director meetings, and general assemblies. We also used written sources such as financial and activity reports, juridical statutes, news available on the internet, meeting minutes, an external audit report, application call-outs, and partnership call-outs. These sources allowed to control for some of the biases of the answers to the researcher's questions, notably the social desirability bias (Cowton, 1998), and to cover a wider spectrum of organisational elements.

Finally, a fourth set of data includes the transcription of discussion between and with 13 farmers during a day-long meeting organised in March 2018 by a team of researchers (an anthropologist, an agronomist, a sociologist, and a political scientist). A specific column in Table 1 indicates which APCs in our sample participated in this meeting. The day was structured according to the method of group analysis (Campenhoudt et al., 2005). This approach is different from a group interview structured by the researchers in that the framework is specifically designed so that a group of actors engaged in a particular domain of activity can construct analytical statements based on their lived experience. The objective of this method is to do more than simply collect information, it is to reach an interpretation of how the protagonists experience the phenomenon under investigation. The topics discussed during this meeting included the consequences of the integration of a new partner vis-à-vis the multiplicity of objectives pursued, the ensuing balance established between the various activities carried out within the organisation and the related difficulties; and also the incentives to work hard and to share a sense of responsibility between all partners (employment status, mode of remuneration, governance structure, mechanisms of solidarity). The session concluded with an outlining of the convergences and divergences expressed by the participants about their respective experiences, the tensions that came up, and the proposed solutions.

<sup>1</sup> Société coopérative de production (SCOP), Société coopérative d'intérêt collectif (SCIC), Groupement agricole d'exploitation en commun (GAEC).

**Table 1**  
Synthetic presentation of case studies (2018 data).

N° org.	Creation (–dissolution if applicable)	Type of structure	Productions	Area (ha)	Labor force (full time eq.) (and n° of associates)	Gross product (€)	Data collected		
							N° interviews	Proportion of secondary data	Participation in the day-long meeting
OG1	2015	SCRL FS <sup>a</sup>	MG <sup>d</sup>	0,6	2,5 (3)	68,698	4	High	Yes
OG2	2013	SCRL FS	MG, sheep	4,2	4,3 (5)	220,000	2	Medium	Yes
OG3	2015	SCRL FS	MG	1,2	2,5 (3)	166,000	2	Low	Yes
OG4	2014(–2019)	SCRL FS	MG	2,86	4,5 (6)	79,850	3	High	Yes
OG5	2015(–2017)	IP <sup>b</sup>	MG	> 1	2,5 (3)	No data	1	Low	Yes
OG6	2007	SCRL (2) <sup>c</sup>	goats	25	4 (4)	300,000	1	Medium	No
OG7	2016(–2018)	IP	MG	0,3	1,2 (2)	24,000	1	Low	No
OG8	2016	SCRL FS	MG, bakery	0,6	3 (4)	110,000	1	High	Yes
OG9	2013(–2018)	IP	MG	1,3	2,5 (3)	No data	2	Low	No
OG10	2010	SCRL FS	MG	2,43	2,5 (3)	145,000	2	High	Yes

<sup>a</sup> Cooperative enterprise with limited responsibility and with social purpose.

<sup>b</sup> IP: informal partnership.

<sup>c</sup> A farming cooperative and a land cooperative.

<sup>d</sup> MG: market gardening.

### 3.3. Coding and analysis

We coded and analysed the data following three steps. The first step was coding based on content analysis applied to textual data (Bardin, 1977). We focused on the internal functioning of the APCs. We combined theoretical codes from the literature and experiential codes generated during the analysis of the transcriptions (Lejeune, 2014), the content of which aims to qualify and reflect the reality experienced by the actors.

The second step consisted in carrying out a conceptual translation of empirical data capable of bringing out new perspectives to understand and interpret the phenomenon (Haugh, 2012), here the variety of institutional logics and their properties. This analysis made it possible to identify four institutional logics engaged by the APCs, which in turn were matched with theoretical elements from the literature. The identification of institutional logics was based on an analysis focused on practices, norms, and symbols (Thornton et al., 2012). A property of an institutional logic is a prescription by which APC members strive to abide. The third step consisted in a return to the data, with a new analysis at the organisational level in light of the four logics identified and their properties, leading to the identification of paradoxical tensions and the related organisational responses.

## 4. Results

The results are presented in two sets. The first accounts for the properties of the four institutional logics engaged by the APCs studied: territorial, self-management, agroecological, and commercial logics. Table 2 provides a synthetic view of these properties. The second set presents the predominant tensions encountered by the APCs and the organisational practices deployed in response to these tensions (Table 3). Given that the literature on social enterprises has investigated in depth the tensions produced by the combination of commercial with social or solidarity logics, we have privileged the investigation of the contradictions between logics that are specific to our object of inquiry: territorial, self-management, and agroecological logics.

### 4.1. Properties of the institutional logics engaged by the case studies

The logic of self-management is anchored in the will of the cooperative members to form a working community. Tasks are accomplished according to acquired knowledge and concerted methods. All the cooperative members each have a global perspective on the farming system and are generally polyvalent in the execution of tasks. The cooperative members also construct a collective identity through the values and ob-

**Table 2**  
Properties of the institutional logics engaged by the APCs

Logics	Properties
Self-management logic	Members share the economic risks of the cooperative Producer-members form a working community Decisions are made by those who do the work Working and pay conditions are agreed upon according to the shared interests of the workers
Agroecological logic	Ecological conception and management of agroecosystems Agricultural practices based on a high intensity in human labour Farmers develop techniques based on their knowledge and experiments Internal/local resources are privileged, as well as interdependencies with the biophysical environment
Territorial logic	Strengthening interdependencies with the social and economic environment The cooperative produces goods/services for the sake of the public interest in the territory Local actors are made associates in the cooperative's development
Commercial logic	Strong mobilisation of market resources (input/output) Work organised according to hierarchy, performance, and the division of tasks Responsibilities and labour productivity are valorised financially

jectives that they define among themselves, and they share a common history in the agricultural project.

A second property stipulates that decisions are made by those who execute the task. Everything concerning the organisation of work, the sharing of results, and the economic risks to be taken, is discussed collectively among working members. Unlike hierarchical organisation, self-management breaks with a distribution of power and knowledge between those who run the company and those who do the productive labour in the strict sense of the term (Castoriadis, 1979). 'Those who work in the field own the cooperative and have the greatest decision-making power' (OG3). Because the same people own (access to) the company's productive capital and do the work, we can liken the functioning of APCs to that of family-based agricultural production, as defined by Bélières et al. (2013).

'As soon as there are horizontal decisions to make, the risk must be shared. The losses and the gains have to be shared' (OG1). The sharing of risks between cooperative members as a third property of self-management materialises in two ways. As the above excerpt indicates, cooperative members are remunerated according to the results obtained, and, as in the case of workers' cooperatives, the social capital of

**Table 3**  
Main tensions and related organisational responses to combinations of logics

Coexistence of contradictory factors	Description/illustration of the paradoxical tension	Organisational responses and case studies involved
Combined logics: agroecological and self-management		
Experiments in real conditions AND worker community sharing economic risk	Development of AE* practices calls for experiments by farmers but (1) diversity of individual profiles and situations leads some cooperative members to limit collectively run risks and (2) collective organisation of work complicates management of experimental protocol	(1) Distribution of management of plots among cooperative members (OG1, OG3) (2) Change of cooperative members and clarification of the experimental nature of a new project (OG5)
Desire to strengthen interdependencies between crops and livestock AND community of workers who share the same economic risks	Associating crops and livestock is an important idea in AE, but financial solidarity between poles of activity is complicated by their differing profit margins	(1) Common hourly wage for different poles of activity, with minimal threshold for more profitable vegetable cropping pole (OG2); (2) Solidarity in work (mutual aid), but separate economic management between poles (OG9)
Exercise of high labour intensity agricultural practices AND quality working conditions for producers	AE practices increase demand for labour, while mutual interest of cooperative members is to improve working conditions and reduce hardship	(1) Limitation on motor mechanisation compensated by adoption of low carbon-emitting high performance tools (OG1, OG2, OG3, OG8) (2) Structured call-out for volunteer workers (OG2, OG4, OG8, OG9, OG10)
AE practices call for long-term management of agroecosystem AND decisions made by changing working community	AE practices can only be fruitful if applied over the long term, but with changes in the community of workers, previous decisions can be challenged in the short term	Responsibility for planning crops/agricultural operations taken by most long-standing cooperative members (OG3, OG6, OG8)
Mobilisation of internal/local resources AND sharing of risks and economic results among cooperative members	Priority given to internal or local resources is in some instances compromised by the desire on the part of some cooperative members to limit risks associated with the instability/smaller profit margin of some more ecological resources (e.g. non-hybrid seeds, non-professional compost, in-farm growing of vegetable seedlings, no buying from wholesaler...)	Establishment of spaces for deliberation/decision making to come to acceptable compromises in ecological management and conception (OG1, OG3, OG10)
High intensity of labour required for setting up an ecological agroecosystem AND community of workers sharing economic risks and benefits	In order to establish AE practices and improve the quality of the soil, the first cooperative members invest a lot of time and energy, which benefits new members who ask for equal hourly pay	Before being paid under the same conditions as their colleagues, new associates temporarily perform unpaid work (OG1, OG2, OG3, OG8)

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Table 3 (continued)

Coexistence of contradictory factors	Description/illustration of the paradoxical tension	Organisational responses and case studies involved
Combined logics: Agroecology and territory		
Use of bio-intensive practices AND diversity of actors implicated in management/financing	Lack of knowledge of some local actors about objectives (feed autonomy, improvement of soil quality, reduction in labour...) leads to criticisms of practices (permanent loose housing stalls, geotextile soil cover, creation of tunnels) in spite of supporting AE	(1) Setting up of spaces to create proximities between farmers and communities and to raise awareness about the rationales for the implemented practices (OG1, OG3, OG10); (2) Distinction between juridical structures that are open/closed to exterior associates (OG2, OG6); (3) Education of local actors (land owners, associates, volunteers) (OG1, OG2, OG9)
Use of labour-intensive agricultural practices AND production of goods/services for the public interest of the territory	Support of territorial actors conditioned by combined use of AE practices and participative practices (education, running governance structures, festivities on farm), both highly labour intensive	(1) Structured call-out for volunteer workers (OG2, OG4, OG8, OG9, OG10); (2) Diversification of sources of revenue (paid training, ecopasturing, fruit juicing service...) (OG2, OG8, OG9)
Combined logics: Territory and self-management		
Local actors contribution to the development of the cooperative AND technical choices made by group of producers that can change	Local actors (land owners, associations, local powers) want to make AE practices a condition of access to land, but they are faced with a moral person/group of producers whose composition and values can change	Particular juridical mechanisms for access to land (environmental clauses, conventions for free access to avoid farm leases...) (OG1, OG2, OG3, OG4, OG8)

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Table 3 (continued)

Coexistence of contradictory factors	Description/illustration of the paradoxical tension	Organisational responses and case studies involved
Participation of local actors in financing and managing the initiative AND those who do the work make the decisions	In order to obtain capital and strengthen interdependencies with the surrounding community, some cooperatives open up their capital to wider circles than the cooperative members, complexifying the democratic management of the enterprise	(1) Opening of structure to local actors once the activity is considered stable (OG1, OG2, OG8); (2) Transformation of social shares into obligations without decision-making power, or financing through crowdfunding (OG3, OG9, OG10); (3) Distinction between juridical structures that are open/closed to exterior associates (OG2, OG6) (4) Boards of directors composed principally of producers
Particular attention given to the economic access of supplied quality products AND pay conditions established in the interests of the producers	For some cooperatives, setting prices and determining what kind of product to offer implies synthesising the interests of cooperative producers and those of their potential customers in the territory	(1) Limit the selling prices of products in order to guarantee economic access to the greatest number; (2) Offer a self-harvesting deal to reduce harvesting costs and make the fixed subscription for vegetables more affordable; (3) Combine niche products (sheep's milk ice cream, mini-vegetables for restaurants) and basic food supply; (4) Raise revenues and maintain sales throughout the year through resale deals with wholesalers

\* AE: agroecological or agroecology.

the company is for the most part supplied by the cooperative members (Estrin, 1988).

As a consequence of the above properties, the fourth stipulates that working and pay conditions are determined after collective deliberation and as a function of the mutual interest of the cooperative members. 'We are all self-employed. There are disadvantages to self-employment, linked to the number of hours worked and what that brings in hourly wages, but there are also the advantages of flexible organisation, being able to work when you want, according to the fluctuating weather conditions and things like that. That's something you have to manage also: how to organise the flexibility that everyone wants?' (OG3).

What we have identified as an agroecological logic is based first of all on an ecological conception and management of agroecosystems (Francis et al., 2003; Gliessman, 2014). In the case of the market gardens we encountered, this property is expressed especially by the desire to use less fossil fuels and more living energy sources, together with self-produced inputs (Plateau et al., 2019). The farmers concerned run regular technical experiments, in order to strengthen their capacity for adapting agricultural practices to the economic and ecological characteristics of the local environment. As pointed out by De Schutter (2011), agroecological practices are generally the result of techniques developed out of the knowledge and experience of the farmers rather than being based on advice from agronomic experts.

In our case studies, agricultural practices require a higher than average intensity of human labour. They can be labeled as more 'labor-intensive' than 'capital-intensive' in their implementation of agroecological techniques. This property distinguishes our case studies from another form of 'post-industrial' agriculture where energy efficiency is reinforced through high-intensity technological innovation (Woodhouse, 2010). In an agroecological approach, the valorisation of naturally present resources and energy sources on the one hand, and those produced by the agricultural holding on the other hand, ends up reinforcing the interdependencies between the farm and its biophysical environment. Resources that are local and internal to the cooperative are privileged in the running of the farming system.

As regards the territorial logic, the first property consists in reinforcing the interdependencies and the intensity of the ties between the agricultural holding and the surrounding territory, its inhabitants and its other economic actors. APCs anchor their activities in their territories through a large valorisation and coproduction of local resources and activities.

Territorial interdependencies are moreover favoured by the second property: the production of a certain amount of goods and services for the public interest. As has been shown in studies of the recent growth of social cooperatives, these integrate the collective interest of the community in which they are imbricated into the ends of their own activities (Defourny and Nyssens, 2017; Galera, 2004; Gonzalez, 2017; Lindsay and Hems, 2004). With APCs, this is illustrated in particular (1) in the multifunctionality of the activities, which include community services: management of natural resources and landscapes, awareness raising and training, strengthening of social cohesion on a territorial scale, (2) by taking care to make quality products economically accessible, and (3) in the desire to produce for local distribution and develop 'nurturing projects' that are not based on a purely profit-based selection of products and distribution chains.

As a result, APCs enrol a range of local actors: the cooperative producers create partnerships with other stakeholders from the territory (residents, consumers, local governments, the voluntary sector, etc.) through a range of participation forms (voluntary work, financing, co-decision), so that the APCs exist with multiple stakeholders. Echoing the insights from Lucas et al. (2019), this points towards the importance of building deep and multifaceted relations within the territory for a successful implementation of agroecological initiatives. Our results also tend to confirm the relevance of extending the analytical scope beyond farm-level to embrace the landscape or territorial scale (Wezel et al., 2016).

#### 4.2. Tensions and organisational responses related to the combination of territorial, self-management, and agroecological logics

Table 3 presents, for each combination of institutional logics, the principle tensions encountered by the APCs and the organisational responses deployed. It allows to see at a glance the extent of internal contradictions as well as the organizations' creativity in finding responses to the tensions they encounter.

The tensions between the territorial logic and the agroecological logic, for instance, highlight the difficulties linked to citizens' participation in the APCs and the need to set up places of deliberation to find acceptable compromises concerning ecological conception and management. Cooperative farmers must be able to justify certain technical decisions to their cooperators (partial motorised mechanisation, plastic ground covers, permanent stables...) and explain how these decisions do not undermine their agroecological commitments. Moreover, the combination of vegetable cropping and livestock rearing within a single cooperative reveals the difficulties involved in combining self-management and agroecological logics, as financial solidarity between different poles of activity is put under pressure by their differing profit margins.

## 5. Discussion

Compared to the literature on agricultural production cooperatives, which has investigated the issues of self-management and economic performance, our study also takes into account the territorial and agroecological logics. Compared to the literature on agroecological transitions, which is concentrated on the potential systemic reconfiguration through the scaling dynamics of alternatives and on the identification of lock-ins emerging from the context, our study focused on the internal functioning of a certain type of organizations: the APCs. Compared to the literature on hybrid organizations and their internal contradictions, which has extensively studied the tensions between the commercial logic and the social logic, our results relate to the difficulties of combining three logics: agroecological, territorial, and self-management. We discuss these results below, considering the logics two by two.

Analysis of the combination of territorial and self-management logics has demonstrated how vitally important it is to build a balance between the participation of local actors in the collective enterprise—through financing, co-decision making, and volunteer work—and a self-management logic that requires that decisions principally fall to the workers of the cooperative. While this community participation makes for new opportunities to strengthen territorial interdependence, difficulties arise. These difficulties are in connection with the evolution of the cooperative movement, for which the structural association of a range of categories of associates (users, workers, local governments, the volunteer sector...) has been a recent development rather than traditionally anchored in cooperative practices (Galera, 2004; Gonzalez, 2017; Lindsay and Hems, 2004). Most of our case studies are new cooperatives with multiple stakeholders, in which a specific set of regulatory and mediating processes are necessary in order to harmonise the different interests that are represented, and to resolve conflicts (Münkner, 2004).

In order to preserve farmers' autonomy, interdependencies between different categories of actors at a territorial level must be fully constructed and deliberated on with the producers, rather than imposed on them (Stengers, 2017). The fact that territorial alliances are based on farmers receiving financing or access to the means of production from non-producing local actors, as well as on their participation in defining quality criteria and working and pay conditions, means there is a high risk that producers lose control over the terms of their agreement with the other local actors. This is what the anthropologist S. Narotzky insists on when she reminds us that in each situation one must determine 'to what extent local producers are contract farmers who depend on alternative solidarity consumer groups or, on the contrary, are autonomous peasants that are coproducing an emergent solidarity economy' (Narotzky, 2016: 310). If the mechanisms put in place fail to guarantee the organisation of a deliberative process over the long term, the risk is great that farmers engaged collectively in agroecological transition will end up practising a new form of contractual agriculture. This renders even more crucial for societies to be 'actively involved in turning local farms into a vital asset for providing food and promoting autonomy, while consolidating sustainable and healthy agroecological territories' (Altieri and Nicholls, 2020: 894).

The contradictions highlighted between agroecological and territorial logics reveal another reality, that of a large disconnect between the agricultural sector and its territories (Madelrieux et al., 2017; van der Ploeg, 2009). Indeed, during the last decades, in Belgium, in other rich countries and in some other parts of the world, a peculiar form of agriculture has developed, using big machines, input from industrial origin, genetically selected plants and animals, specializing in a few products according to the ecological and economic conditions of each region, abandoning many other regions for lack of competitiveness and employing less and less farmers (Mazoyer and Roudart, 2006). Combined with rural-urban migration and a dominant culture orientated towards

the urban world, this has led to a progressive dismantling of the ancient reciprocal relationships and proximities between farmers and communities. As a result, farming labour is no longer part of the implicit or explicit collective consciousness. Rebuilding these ties supposes that farmers engaged in APCs raise awareness about the difficulties of their profession.

The tensions we observed in APCs reveal another consequence of this disconnect: an ever growing disjunct between the world of agriculture and (*peri*)urban consumers. While food sociology has extensively highlighted the impact that this disjunct has had on food practices in general (Poulain, 2017), other consequences come into play with consumers who are engaged in a reterritorialisation of agriculture. A very limited knowledge of agricultural practices means that some of these consumers sustain arguments that are basically ideological and disconnected from lived economic realities. Certain objects (tractor, plough, plastic soil cover, hybrid seeds) or techniques (permanent loose housing stalls, permanent exploitation or covering of soil, motorised mechanisation) then fill up the discussion time with farmers. In certain instances, this leaves no room for making collective decisions on important matters such as striking a balance between the ecological footprint, the economic results, and the intensity/hardship of the agricultural labour.

The third and final combination of institutional logics that we analysed involved the tensions between agroecology and self-management. The difficulties that the cooperatives examined here encountered in trying to collectively make agroecology operational show that they do not benefit from a 'ready-to-wear' organisational model (Battilana and Dorado, 2010), one that could offer cooperative farmers a prescriptive framework with which to orient their common activities. Instead, the actors concerned build up their cooperatives through trial and error, and they must do with a certain organisational instability, which can be felt in frequent changes and adjustments. Indeed, the reference frameworks of agroecology are not based on a unanimously shared set of norms and prescriptions (Bui et al., 2019) but on principles which are subject to interpretation according to the context (Wezel et al., 2020). Through these processes of trial and error, APCs may implement a 'hidden potential' for agroecology (Lucas et al., 2019) and participate to the gradual and below-the-radar adoption of agroecological techniques (van der Ploeg et al., 2019).

Workers' cooperatives, reproducing themselves in successive waves throughout history, periodically renew practices of self-management. Representations of democracy in firm have also evolved and raise new organisational challenges. This is one of the reasons why researchers have recently called for more investigations of this type of cooperative in studies focusing on the development of economic alternatives (Audebrand, 2017; Cheney et al., 2014). It is necessary to create and renew spaces of deliberation and decision making concerning the balance between agroecology and social and financial interests. This is indeed required if all the associates of an agroecological endeavour are being in a position to define what compromises are acceptable for each of them and the ways in which individual aspirations can find a place in a collective project. The need for such spaces is made even more apparent when one considers, as a number of authors have underlined, that farmers engaged in agroecological transition are attempting to satisfy a great diversity of aspirations in the development of their activities, in particular in environmental and social matters (Dumont et al., 2016; Morel and Léger, 2016).

## 6. Conclusion

In this paper, we have made use of a perspective on tensions between institutional logics in order to meet the need of a broader understanding of the initiatives being undertaken towards agroecological transition. By analysing tensions in agroecological production cooperatives, we have attempted to reveal contradictions internal to agroecological initiatives that could not have been brought to light with a di-



chotomous approach contrasting alternative and conventional models (Le Velly, 2019). These contradictions shed new light on the difficulties involved in agroecological transition and in the complex, dynamic balance that farmers must strike when making their multiple aspirations operational. Opening the organisational black box, this approach brings insights into the adjustments that must be made in (re)implementing alternative practices in agriculture.

Recent studies of hybrid organizations have called for a widening of research to include organizations that engage in more than two logics (Battilana et al., 2017), which is what we have attempted to do here. Indeed, the common perspective on tensions between the commercial logic on the one hand and another institutional logic on the other hand runs the risk of producing dichotomous analyses. Any alternative norm or practice is then situated in opposition with the commercial logic, and the organisational challenges are often restricted to the conditions of its combination with other logics.

The contribution made by social and cooperative enterprises to the transition towards strong sustainability has been clearly identified (Hudon and Huybrechts, 2017). Analyses of the paradoxical tensions encountered by these enterprises have nonetheless tended to focus primarily on the stakes involved in the multiple indices of their economic and social performance (Audebrand, 2017). But, if an understanding of impacts is clearly indispensable, a focus on internal tensions should not underestimate the importance of analysing just as much the nature and consequences of other kinds of contradictions beyond the micro-scale level, in particular relating to the higher-scale socio-political factors bearing on the trajectories of initiatives engaged in agroecological transition (Aubron et al., 2016).

Finally, just as it is important to avoid the 'local trap' (Born and Purcell, 2006), a perspective on tensions between institutional logics must guard against any 'organisational trap'. To make a pertinent contribution to the analysis of agroecological transitions, studies that follow this path should be complemented by an examination of higher levels' stakes. They should thus include the systemic challenges posed by the transition towards agroecology while also accounting for the socio-political balance of power at play in this process.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships, that could have appeared to influence the work reported in this paper.

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