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Agrifood system between global and territorial vision – Keynote article

Can the territorial food system provide solutions to recurring crises in the global food system?

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Abstract. The issue of food has evolved significantly in recent years throughout Europe, under the pressure of environmental and climate constraints as well as a set of factors related to food dependence and changes in consumption patterns. Short circuit practices, embedded in localized agrifood systems, although in the minority in terms of volumes consumed, are growing rapidly and are a sign of these developments. The recent health crisis has further highlighted the need to think of food as a global system with many variables and multiple interdependencies between these. This article outlines the global food system that has resulted from the modernization of agriculture in Europe and North America, and the powerful movement of globalization on a global scale. It describes the emergence of a territorial food system with characteristics that are distinct from the overall system. Finally, the article explores the alternative nature of the territorial system and its ability to provide solutions to recurring crises in the global food system.

Keywords: global food systems, localized agri-food systems, territorial development, public policy, governance.
JEL codes: Q10, Q20.

HIGHLIGHTS:

- Food systems in agriculture around the world, and particularly in Europe, have evolved towards a globalized system under the pressure of globalization.
- Environmental and climatic crises have highlighted the need for re-territorialization, giving rise to territorialized food systems linked to their national and regional contexts.
- This article examines the compatibility of the two models, their difficult complementarity, and the resulting contradictions for public policy.

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Agriculture around the world has long been seen as a slow-moving activity focused on the imperative of feeding people. The "green revolution"[1] initiated in the early 1960s symbolized this effort to modernize agriculture. The objective of this revolution was to make a technological leap to greatly improve productivity. The ideal invoked was to overcome famines, solve the items related to population growth and the nagging question of the galloping urbanization of the Global South, and therefore to triumph over the dark prophecies of Pastor T.R. Malthus (1798) by reversing the divergence between population growth and growth in subsistence. However, the corollary of the success of this dynamic was the creation of an imbalance in the ecological system (massive rural exodus and the phenomenon of "slums" in the megacities of the South, soil erosion, pesticide pollution, etc.). These imbalances have sharply accelerated with the climate crisis and the pressure to decarbonise the world's increasingly tense global food system.

We will therefore seek in this text to highlight the process of building a global food system that results from the modernization of agriculture in Europe and North America in particular, and the powerful movement of globalization on a global scale. We will describe the emergence of a territorial food system with characteristics that are distinct from the overall system. Finally, the article will explore the alternative nature of the territorial system and its ability to provide solutions to recurring crises in the global food system.

1. EVOLUTION OF AGRICULTURE IN EUROPE: FROM INDUSTRIAL DISTRICTS TO GLOBAL FOOD SYSTEMS

1.1. From industrial districts (ID) to Food Systems

A notable evolution of productive structures occurred in the 1970s, first in industry and then in agricultural production. This period corresponded to the oil crises but also to a (temporary) plateau in productivity. Clerc *et al.* (1983) identify this moment with the end of triumphant Fordism and the entry into an uncertain moment of long transformation called, for lack of better term, "post Fordism". Italian economists revived the observations made by Marshall at the beginning of the century which referred to the existence of "industrial districts" (Bellandi, 1989; Becattini *et al.*, 2014). At the same time, Porter developed a similar notion, the "cluster" (Porter and Ketels, 2009). The evolution of analyses in agricultural production has run parallel to this. Building on the model of local production systems (Courlet and Pecqueur, 1995), which is an adaptation of the Italian district concept to the French case, Muchnik and Sautier (1998) developed the concept of Localized Agri-Food Systems (LAFS). In Muchnik *et al.* (2008: 513), the authors define a system rooted in society where the production process is embedded in the geography of the place: "research work around the theme of localized agri-food systems, which is located at the crossroads of sectoral and territorial analyses, aims to develop a specific theoretical framework to understand the organization and functioning of a set of economic (production, transformation, restoration…), cultural (educational, festive…), and recreational activities (rural tourism, training, competitions…), related to a specific territory, both materially and symbolically. It is a question of understanding the synergies between these different territorial activities to strengthen the anchoring of local production and the development of specific food products." The concept of the LAFS has been very successful in South America, particularly in Mexico (Torres Salcido *et al.*, 2011), Brazil (Muchnik, 2013), but also in Quebec (Jean, 2006), and Morocco (Zahidi, 2023). The concept of the LAFS presents itself as an extension to agricultural production of the idea of industrial districts, developed in Italy, and then of local production systems and lays the groundwork for the approaches to territorial food systems that we develop here.

At this point, we need to differentiate between "local development" and "territorial development" (Pecqueur B., 1989). The term "local" refers to an analysis of spatial scales, which is important, but is limited to the question of size alone, and concerns sub-national spaces. The term "territorial", on the other hand, takes the notion of development a step further, by introducing the idea that it is the actors involved in the search for solutions to a collective problem who are responsible for its solution.

As Del Biaggio, Koop K. *et al.*, (forthcoming 2024) explain, "English-speaking geographers have for long privileged a rather politico-institutional understanding of territory, related to the state and the notion of sovereignty, thus making it a core-concept for political geography (Cox, 2002)".

The approach of the territory as a social construct is another vision found in Italy, notably with Megnaghi (2020), for whom the "territory is a common good", or Dematteis (1995), Turco (2007). The work of the "Groupe de Recherche sur les Milieux Innovateurs" – GREMI –, Maillat (1995), takes an essentially economic approach

[1] This revolution earned the agronomist and biologist Norman Borlaug the Nobel Peace Prize in 1970. For the United States, the challenge of this revolution was also based on geopolitical considerations. Indeed, during the Cold War, it was a question of feeding the Third World to avoid the risk of these populations falling into communist regimes (Cleaver, 1972).

to local innovation systems. Similarly, the "Grenoble school", with Courlet, Pecqueur (2013) and Vanier (2009), have focused on the analysis of specifically territorial resources.

1.2. From Food Systems to localized agri-food systems (LAFS)

Since the early 2000s, many works on the concept of food systems have appeared in the English-language literature in Great Britain and North America. An important body of literature based on these works has been developed over the past thirty years (Cooke and Morgan, 1994; Lamine and Deverre, 2010; Marsden, 2012; Tansley and Worsley, 2014; Mundler and Laughrea, 2015; Brand, 2015).

Food systems have become globalized. And the links in terms of food between production spaces and consumption spaces have become distended, elongated. Not that the links between cities and rural areas have completely disappeared, but they have developed and diversified very widely. They have also relocated (Feenstra, 1997). Indeed, industrial models, in the face of food crises, demands for proximity, quality, truth, etc., plural responses of "re-connection" between metropolises and their living countryside have also developed, producing products from agriculture that is sustainable (or not), organic (or not), or peasant (or claims to be).

It can therefore be said that the concept of food system has evolved significantly over the past twenty years to adapt to the changing context of the dominant productive model. In the first place, the concept of system has replaced the market as a mode of representation of the supply to populations, accrediting the flow approach as we will see in the following section. Secondly, the systems have integrated scalar differentiation in the sense that they are becoming globalized but also "territorialized" and refocused on the local sphere. This dual movement is not contradictory if we accept that re-territorialization is a form of adaptation to globalization (Campagne and Pecqueur, 2014). Lastly, the final avatar of these systems is that they are called upon to be ecological.

This gradual evolution of food systems tends to show that, faced with the market as a supply regulator, there are more complex "alternative" systems. A dichotomy then arises between the (majority) world of hyper-productivity and the (minority) world of proximity of actors and specificity. We find this binary approach, for example in Lieblein *et al.* (2003) where the appearance of the food system, particularly the urban one, is inseparable from the rise of ecological perils and is presented as a response to or "resilience" in the face of (Schipanski *et al.*, 2016) the dominant system. Van der Ploeg (2014, 2017) distinguishes in particular two models of agriculture that he calls *entrepreneurial agriculture* and *peasant agriculture*. The first refers to a model that is globalized, close to industry, and strongly focused on productivity; the second is based on a process of "relocalisation" that is to say, a regaining of control by the producer of their actions and the integration of environmental constraints. To summarize, the author (Van der Ploeg, 2014: 81) distinguishes between peasant agricultural practices that grant a "primary role to the internalization of nature, co-production and coevolution" and entrepreneurial practices characterized by "disconnection from nature and artificialization".

We successively examine the characteristics of the two models by showing that the "relocalisation" model appears as an alternative search for a solution to the crises and dysfunctions of the entrepreneurial model. We will distinguish the *global food system* to emphasize its essentially macroeconomic dimension on the one hand and the *territorial food system* on the other, insofar as the territorial dimension (and not only the local dimension) is paramount, as discussed in Italy (Belletti *et al.*, 2012).

1.3. Emergence of the global food and production system

In the agricultural world, we can identify some major phases without delving into a long and complex history. France, representative of rural Europe, experienced a "rural civilization" period for several centuries, as analysed by Leroy Ladurie (1972), characterised by relative homogeneity of values and stable practices, punctuated by technical advances (but highly dependent on a very restrictive set of heteronomies, made of climatic hazards, political and military variables, and fluctuating markets in which the producer has little control over prices). Referring to Mendras (1967/1984), he notes that "each village was therefore flanked by a surrounding society (the other villages) and by an encompassing or dominant society (urbanites, feudalists, capitalists, bureaucrats, priests or police)" (p. 1).

The First World War was a break in rural civilization with a haemorrhage of young men that left the countryside empty. Following this slaughter, the period from 1918 to the 1950s was characterized by the "repair" of the agricultural world, a rise in production and yields, a gradual concentration of farms (Gervais *et al.*, 1977). The trend was to refocus on the modernization of productive tools and to increase the dependence of farms on the constraints of the agro-industry for inputs and large-scale distribution for market outlets. This period, which required ever-higher standards of profitability, led to a drastic reduction in the number of operators. Inter-

generational cohabitation gave way to dwellings where nuclear families (couples and children) found themselves more likely to adopt urban practices because of the openness of the rural world to industrial practices. The markets became heavily export oriented.

During developments over half a century, sometimes rapid and brutal, we see the emergence of a productive and food agricultural model that dominates global agriculture and whose main characteristics can be identified.

a) Modernization and the search for productivity

First, in the middle of the twentieth century, European agriculture began a process of modernization that profoundly changed the structures of the rural world. At the level of the European Union, this agricultural process is based on the Common Agricultural Policy (CAP) set up in 1962. The phenomenon has taken on a particular magnitude in the French case. As sociologists Hervieu and Purseigle (2009) recall, "[t]here were about 16 million people earning their living in agriculture at the beginning of the 20th century, mainly on farms of less than 10 ha (more than 85% of structures). This represented more than 40% of the French population. At the end of the war, horses were the majority, numbering 1,800,000 and tractors still few, about 100,000. Twenty years later, there were 1,200,000 tractors and 600,000 horses" and "the agricultural consolidation [led] to the disappearance of 835,000 kilometres of slopes and hedges, mainly in the northern half of France, between 1945 and 1985. In the mid-1970s, land consolidation reached its peak with nearly 500,000 ha of land consolidated per year". This effort to adjust structures and techniques is a constant concern in the fight against food insecurity. In this regard, OECD Secretary-General Mathias Cormann recalled that "investments in innovation, new productivity gains and lower carbon emissions are needed to lay the foundations for food security, financial capacity, and long-term sustainability"[2]. It confirms that productivity gains are a founding characteristic of this model, which implies the need to reduce production costs and improve margins to increase revenues. Agriculture must "intensify, specialize, mechanize" (Hervieu and Purseigle, 2009).

b) Globalization

Globalization is the corollary of modernization and productivity. However, contrary to what one might think, this trajectory of the agricultural world is not made homogeneous by the process of globalization. In fact, the opposite is true since this global process feeds and even accentuates the plurality of agricultural realities and models of production and food consumption. Globalization involves all agriculture in the same competitive game, accentuating inequalities according to the competitive performance of one country (or region) compared to the others. In a competitive world, only the best performing agriculture in terms of yield and productivity can remain competitive, which creates a handicap for agriculture in a less favourable context (such as mountain agriculture, dry areas, or areas where soil quality is poor or in decline, etc.). This brings us to the limits of globalization. These limits are growing with geopolitical crises that accentuate the dependencies of nations on an increasingly internationalized food supply.

c) Financial and technological dependence on agribusiness

Agricultural production, in the case of global food systems, is increasingly characterized by the integration of functions, in particular a value chain that links production, processing, distribution and consumption, inserted in globalization. The margin of autonomy is then very low for producers who depend closely on input suppliers and upstream suppliers of agricultural machinery and downstream processors and distributors to consumption outlets. The productive system is itself framed by a financial and banking system that keeps farmers in a spiral of debt. As François Partant wrote in 1988, "Agriculture has been the supporting function of industrial development" (cited by Atelier Paysan, 2021: 13). Van der Ploeg (2014) illustrates the food dependency system installed by this model and the notion of agri-food empire by using the example of the Parmalat group. He distinguishes three levels in the system: the infrastructure (logistics, production, technologies, etc.) constitute level 1; the flows of products and services constitute level 2; and level 3 is the "empire" and concerns the control function. In the case of the Italian group Parmalat, the holding company "Parmalat finanziaria" (Franzini G., 2004) plays this role. The characteristic of this level 3 is not to attribute anything to anyone. "It doesn't produce any additional value. It only means control and appropriation" (Van der Ploeg, 2014: 37). This situation is reminiscent of that of "trusts" in the fields of transportation and oil production in the twentieth century economy in the United States. The monopoly situation then jeopardized the free play of competition and therefore the fluidity of the system and necessitated the establishment of anti-trust laws.

d) Structural changes

In Europe, the phenomenon is the same although mitigated. The average farm size in the EU-28 increased

[2] OECD/FAO (2023), *OECD-FAO Agricultural Outlook 2023-2032*, OECD Publishing, Paris, https://doi.org/10.1787/08801ab7-en.

between 2010 and 2013 from 14.4 hectares to 16.1 hectares. This resulted in an 11.5% drop in the number of farms and a 0.7% drop in agricultural area[3]. Regarding labour, over the period 2007-2013, the overall change in the EU agricultural labour force consisted of a decrease of 2.3 million work units, equivalent to a decrease of 19.8%. Finally, in parallel with the decrease in the amount of work and the number of farmers, we can observe a significant increase in the average size of farms.

According to the Eurostat 2022 report, "agriculture in the EU is broadly divided into three distinct groups: i) subsistence agriculture, oriented towards growing most foodstuffs to feed farmers and their families, ii) small- and medium-sized farms, which are usually family businesses; and iii) large agricultural enterprises. Approximately half (54%) of the standard production generated by agriculture in the EU came from farms in France (17%), Germany (13%), Italy (12% in 2013). Although Romania had about a third of EU farms, they accounted for only 3.4% of its standard production".

These structural disparities show that the modernist model that we call the global food system concerns only a part of the agricultural world located in the northern hemisphere and as regards Europe, rather in the west than in the east.

2. THE CRISIS OF GLOBAL FOOD SYSTEMS AND EMERGENCE OF TERRITORIAL FOOD SYSTEMS

The collapse of the Parmalat group in 2003 (Ferrarini G., Giudici P., 2005) appeared as a first crisis signal for the dominant productive model that enshrines the contradictions of a system moving towards monopoly. A new phase has begun in recent years under the pressure of successive crises. The climate crisis, by changing the material conditions of production, requires a resizing of production modes based on the intensification and growth of inputs. The crisis of globalization evokes new problems of dependence on imports and price control, but also on the world of agribusiness.

The central phenomenon that can be observed is a detachment of the farmer from the living space of their ecosystem in favour of an abstraction of links with invisible and distant actors. In other words, it can be said that the farmer is turned towards his plot but turns his back on the territory on the local society that surrounds him. Magnaghi (2022) analyses it as a deterritorialization that he defines as "a break in the co-evolutionary process between human settlement and nature that characterizes the periods of crisis of a civilization when it loses control of the factors of its own reproduction" (p. 52). The farmer's territory is a living system that must be renewed.

2.1. The ecological and climate crisis and globalisation and its consequences for farms

The COVID 19 epidemic crystallized several latent crises that have strongly impacted agricultural production, among other things. The climate crisis appears to be the significant "mother crisis" of the current period. The first alarms are more than half a century old (Meadows *et al*., 1972). This crisis has accelerated in recent years by focusing on carbon production and its effects on global warming. Many books and articles written on the subject converge on the same question about the medium-term viability of the dominant model based essentially on the sole purpose of productivity gains. Cultivation (and breeding) methods must therefore change drastically in the face of costs and the negative impact of inputs and technologies on the environment.

As a result, a second harmful effect is added to the environmental issue: the dependency effect. At the international level, productive specialization exposes entire regions or even nations to sudden supply disruptions, as we have seen during the Russia-Ukraine conflict. But the effect is even denser at the infra-territorial and local level. Injunctions to productivity gains formulated by the public authorities in exchange for financial aid and loans led to "multiple health issues: occupational accidents, illnesses, depression, suicides; as early as 1965, these health issues, in particular mental health, were already looming in the foothills and mountain areas" (Salmona, 1994). These effects, the consequences of changes in the productive sphere, primarily affect the spheres of intimacy and socialization. Another dependence factor, perfectly parallel to the risk of depression, is dependence on the agro-industrial complex. In a recent collective work, the Atelier Paysan (2021)[4] exposes the extent of independence accentuated by crisis situations. The title of the first chapter states: "industrial agriculture: *a mechanical monster that confiscated the land from humans*" (p. 19). The authors make a rather radical diagnosis that can be debated but which posits: "[t]his agriculture does not feed

[3] Sources: EUROSTAT, Annual activity report 2022.

[4] L'Atelier Paysan is a cooperative (SCIC SA) that supports farmers in the design and manufacture of machinery and buildings adapted to peasant agroecology. The cooperative writes on its website: "By re-engaging producers in the technical choices concerning the tools used in farms, we collectively rediscover a technical sovereignty, an autonomy through the reappropriation of knowledge and know-how" (https://www.latelierpaysan.org).

the population: despite decades of downward pressure on production costs, the food thus produced is both over-abundant and beyond the reach of the poorest" (p. 53).

2.2. A Territorial Food System: Towards Territorial Governance

a) Relocalisation as a first step

Family farming is a traditional first response to defend peasant agriculture that does not have access to a sufficient level of competitiveness to follow the global food model. This is obvious in the countries of the South, but it can also be seen in the North in the least favoured regions.

More than a third of the world's food production is provided by farms of less than two hectares, managed by members of the same family**.** This is the direct legacy of a household-scale, labour-based livelihood model that has largely prevailed since the advent of agriculture several millennia ago. Today, small agricultural units still represent 80% of companies in the sector and are predominant in the countries of the Global South[5]. They make it possible to organize agriculture, forestry, fishing, pastoral production and aquaculture, managed and operated by a family and mainly dependent on their work, women and men included. In this model, the family and the farm are linked; they co-evolve and combine economic roles. It is these small units that are the focus of FAO's Decade of Family Farming initiatives. Family farming is a first step that only concerns production and distribution in local markets. Long devoted to a food activity, or even to self-sufficiency, small family farms have often integrated commercial farming approaches in recent years with innovations in marketing (producers' houses, short circuits). At the same time, initiatives to support peasant agriculture such as AMAP (Associations for the Promotion of Peasant Agriculture) are developing (Mundler, 2009). The "relocalisation" project proposed by Van der Ploeg (2014) is intended to extend to all the functions of the global food system and is presented as an alternative to transition to the dominant food system. The message is simple: it is no longer just a question of overcoming the lack of competitiveness of Southern agriculture, but of re-appropriation of work by peasant farmers by obtaining new margins of autonomy.

b) Re-territorialisation as a second step

The processes of territorial construction by the actors as a solution, at least partially, to the current impasses of the productivist system, stem from our point of view rather from the reconstruction *of a link that has broken between farmers and their territory* in the sense of their surrounding environment and not from a simple physical support for production activity. Thus, if we accept that the territory built by the actors constitutes an environment that forms a system, the variables that constitute it form *a coherent ecosystem*. It is this coherence that has disappeared with "deterritorialization", and which will serve as the basis for the emerging territorial food system.

With the disappearance or at least the weakening of the rural village, farmers have become a minority in their social environment where the constraints of the urban population have increased. Think of the competition between land uses for farming versus play and recreational spaces or the influence of second homes which excessively increases the purchase price of housing for permanent residents, etc. The sphere of intimacy is also the sphere of housing. Finally, the productive sphere is also degraded because agricultural production is increasingly heteronymous depending on agricultural machinery (see the position of the Atelier Paysan, 2021) but also on globalization which leads to a lack of control of market prices.

In this situation, we can speak of a need for "re-territorialization" as a partial but necessary solution to the effects of crises. For Horling and Marsden's paper (2014), "the reconnection between specific foods and specific places is a form of re-territorialisation which attempts to reverse the intrinsically aspatial order of globalised production. (…) Re-territorialisation is an important dimension of what major development agencies such as Organisation for economic cooperation and development (OECD) postulate as the "New Rural paradigm" (NRP) in Europe (p.2)". The search for *coherence* calls into question the aims of the development of production solely in terms of productivity. This coherence corresponds to a reconnection of the places of intimacy, production and sociability, not only in terms of metric proximity but also of world unity or "metabolism" (Barles, 2017; Buclet and Donsimoni, 2020). This concept, which has recently been used in the literature on territorial development, combines ecological and economic development issues. It clearly illustrates the notion of a territorial system essentially consisting of links that are strengthened and allow all actors to interact. Restoring the metabolism of territories by re-weaving the links between the three spheres shows what the purpose of territorial development could be. In other words, the aims of production have evolved towards a globalization of trade and a race to productivity that has disrupted the balance of the articulations between the three spheres

[5] Source: CIRAD May 2023, https//wwwcirad.fr.

(intimacy, sociability and production) and broken the direct relationship between production and consumption for a given population. The need, due to crises, to rethink the relationship with resources opens a way for territorial food systems.

c) Characteristics of the territorial food system

The food system is therefore defined in the first instance by a combination of flows constituting a food chain around the five functions: production, processing, distribution, consumption and recycling. Such a system is open to its spatial environment (urban core, peri-urban, market garden periphery or cereals, etc.). We can talk about *territorial anchoring*. Anchoring can be defined as the set of specific variables involved in qualifying the functioning of the territorial system of a territory that distinguishes it from another. This spatial environment brings the specificity of the system through its geography, history, culture, etc.

Secondly, specificity compensates for any lack of productivity. The case of products labelled by Europe (PDO in particular) is very illustrative of this ability to create new territorial resources that find their market through their superior quality rather than through price competitiveness (Cerdan and Fournier, 2007).

Thirdly, if the global system is based on productivity, its output is composed of a profit, while the territorial food system, which is based on specificity, produces an income actively built by the actors (Mollard, 2021). This annuity can be described as "territorial quality annuity" (Mollard and Pecqueur, 2007).

The fourth component of a territorial food ecosystem is a set of actors whose complexity has increased over historical and cultural developments. *Governance territorial* (Ternaux and Pecqueur, 2008) which the coordination of actors depends on *becomes* the specificities of the place. We are therefore not talking about the given territory, which would be a small pre-cut region, but the territory built by the actors. The latter are consumers (see Slow Food experience in Northern Italy), cultural associations, etc.

CONCLUSIVE DISCUSSION: AN IMPOSSIBLE HYBRIDIZATION OF THE TWO MODELS?

This opposition between the two types of productive order where either productivity or quality/specificity dominates is present in the literature, especially since the emergence of a clear perception of the limits of radical agricultural productivism. Morgan (2009) distinguished on the one hand "the conventional food system of the agro-industrial and agro-tertiary stage (productivist agriculture, concentrated sector where food is deterritorialised) and [on the other hand] an emerging, alternative food system (with smaller companies, localized markets, ecological, ethical agriculture, where food is re-territorialized)" (cited by C. Brand, 2015: 86). However, the models do not coexist in a totally separate way. Industrial production knows how to integrate quality and specific production lives under the constraint of productivity as soon as it goes to market. This is why it does not seem obvious to say that the specificity model can be described as an "alternative" or substitute for the productivity model. However, we can hypothesize a hybridization of the two models which refers to a phenomenon of re-embedding, in the sense of Polanyi (1944), of the economy in society. This is the sense of re-territorialisation that can be observed in these systems that become eco-systems insofar as they refer to a spatial reality that is drawn on a geographical, economic and cultural coherence.

Regarding the relationship between the two food systems and their possible ability to converge, our text leads us to nuance the idea that the territorial system would be an alternative to the global food system or a transition to a post-carbon overshoot of the global food system.

a) A coexistence of the two models

First, the territorial model is justified by the possibility for non-competitive agriculture to maintain an activity and anchor populations through family farming practices that must therefore be preserved not only as a heritage from the past, but also as valuable tools for adapting in future to sometimes difficult production conditions. New resources based on quality specific to each territory and therefore respectful of the environment. These resources demonstrate unprecedented value creation.

It cannot therefore be said that one model replaces another or can do so in the short or medium term. What we observe is a coexistence of the two models sometimes even within the same farm. We observed this during surveys conducted on farms in the Drôme (France) in the early 2000s (Hirczak, Pecqueur and Mollard, 2004). Indeed, we have observed the coexistence on many farms of both a production of PDO olive oil whose prices are set by the local cooperative (the producers are "price makers") and a production of apricots whose prices are set on the market located in Rotterdam (the producers are then "price takers").

b) Which public policy balances the two models?

Public policy differs greatly from country to country, and between liberal and interventionist doctrines.

We refer to the Common Agricultural Policy (CAP) implemented in Europe, the interest of which lies in the elaboration of a supra-national policy that applies to agricultures that are structurally very different (Chatellier *et al.*, 2020). The CAP's two pillars provide support for both models (global and territorial).

The first pillar clearly supports the global food system and the needs of agro-industry, while the second pillar is based on the characteristics of the territorial food system. These two systems cannot be combined, as they contradict each other, and put European agricultural policy in tension between the imperatives of productivity and competitiveness on the one hand, and the need for re-territorialization and respect for environmental constraints on the other. This contradiction was evident at recent farmers' demonstrations across Europe, where concessions made to producers (notably on pesticide use) could only be achieved at the expense of measures to protect the environment. Public policy is reduced to a delicate balancing act between two hardly compatible orientations.

c) A difficult hybridization whose key is in the hands of the consumer

One would be tempted to think of a possible hybridization as the practices of the two models are mixed. But there is a form of mutual exclusion between the two systems through rules and standards, as shown by the differences in pricing following the reference system. This observation can be made in the case of citrus fruits in the Valencia region of Spain (Gallego-Bono, 2007), where we note the weight of the standards resulting from the global standardization model, which is not very compatible with the specific products from the territories. The two worlds have little contact, but the territorial productive food system is organized to resist uniformity and maintain a diversity that is metaphorically comparable to biological diversity, and that alone is capable of fighting against the total standardization that would grind the food system to a halt.

In terms of regional planning, the idea of territorial coherence is reflected in an emerging concept, particularly in the French-language literature (Barles *et al.*, 2017; Petit, 2021): territorial metabolism. It is a question of considering all the flows circulating on a territory and integrating the flows of sociability into the production conditions. We draw the tentative conclusion that it is impossible to change a global food system without changing the social consensus. The evolution of consumer behaviour choices and new hierarchies in their consumption patterns seems to be a prerequisite to initiating a hybridization where the territorial food system could have a subversive effect on the global food system.

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