TOWARDS A SUSTAINABLE RURAL DEVELOPMENT FROM SYAL PERSPECTIVE[1]

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Abstract: *This article wants to go deeper into the debate about the relationship between SYAL and biodiversity conservation. This paper focuses on the potential of "territorial anchoring" and organic production in the Natural Protected Areas (NPA), defining them as instruments for the creation of sustainable rural development strategies. We have three main arguments: (1) organic production has become the best way to reduce pollution from agricultural sources and promote biodiversity in this kind of territories; (2) organic agriculture is the perfect platform to integrate local population into natural resource management; (3) and it is an interesting strategy to add value to low profitable and competitive goods. We will take as reference the case of Natural Park of Sierras de Cazorla, Segura y Las Villas (Spain) to support these arguments. We will discuss this case of sustainable territorial development using the concept of SYAL.*
As a conclusion we can point out that this case has many elements to be considered a Localized AgriFood System (SYAL). Various strategies have been developed collectively rooting for this activity and link this certification in the natural and socio-cultural characteristics of this territory. It has encouraged a regional development model supported by a generic certification through the incorporation of the differential values of the countryside where they are registered and the creation of an image associated with the positive environmental externalities that organic production generates. Finally, one of the main questions has been the establishment of initiatives between producers and consumers by the creation of short-changes supplies

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Introduction

It is becoming more evident that the reconfiguration of food systems will be critical to ensuring the economic, environmental and social sustainability of our societies. For too long the web that links producers, processors, distributors and customers has been out of the public agenda. However, recent increases in food prices and the tensions generated have highlighted the growing economic, environmental and social importance of the agrifood industry. This situation has led to new concepts, such as security, sovereignty or food crises (Lang, 2010; Ploeg, 2010) that become part of the geopolitical debates. At the same time, there is an increasing disconnection between agricultural products and foods products (Langreo, 1988), and the decision making centre have been changing from producers to processors, and finally allocated into distribution networks. This dynamics have a strong impact in rural development, and it can be noticed in the current struggle between agricultural policies, territorial management and development models implemented.

In Europe, agriculture and food disconnection has coincided with the marginalitization of agricultural activities in rural areas and the design of a new rural space. This model -supported by the Rural Development Policy- has developed an economic diversification of these areas through activation of forgotten or underestimated endogenous resources. This model have drawn a new dynamic on these rural areas and explains the progressive specialization towards high quality production of goods, landscape and nature, as well as leisure activities (Ploeg, 2000; Marsden, 2003). This process

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coincided with a change in environmental policy approach from previous positions, where Protected Natural Areas (PNA) where understood as sacred redoubts that should be preserved in isolation, to new understandings that redefine the PNA as the outcome of the interaction among the local population, the territory, and the surrounding ecosystems.

According to Halffter (1996) and Toledo (2005) conservation of natural resources is closely associated with the preservation of socio-economic, cultural, political and demographic features of the territory. To achieve this kind of objective, they recommend the creation of bioregions in order to keep a proper balance between three fundamental axes:

1. Biosocial axiom: conservation of these areas should be associated with the development of societies that live in that environment.
2. Biocultural axiom: it is impossible to raise the preservation of biodiversity without regarding conservation of the culture and viceversa (Toledo, 2001).
3. Bioproductive axiom: is highly related with the other two - implementing activities to promote sustainable resource management to reach better biodiversity conservation.

Rural development strategies based on high quality production -as SYAL (*Agrifood Localized Systems*)- have been proved as one of the most viable for this context. This concept –SYAL- emerged in the middle 90s to analyze the transformation of rural areas, new dynamics of food sector and food consumptions. It is defined as "organizations and service production (farms, businesses agro-business enterprises, restaurants, etc.) associated with the specific territory´ characteristics. The environment, products, the people, their techniques, their behaviour, their networks are combined into an area producing a specific food form of organization in a given area "(CIRAD-SAR, 1996; Muchnik and Sautier, 1998).

Facing the emergence of globalized forms of production and consumption, this approach seeks to strengthen the development of integrated production systems based on local networks of companies and supported by regional processes and institutions; creating strong links between the quality of products, territories and innovation (Requier-Desjardins, 1998). This approach is relevant for our focus, since food security and environmental protection converge on this problematization, as well as the demands about new models of agricultural and territorial approaches. The SYAL perspective allows us to analyze the direct relationship that food-processing industries have with natural resources and the impact they have on the use of biodiversity (Requier-Desjardins, 2007; Muchnik *et al.,* 2008), which refers to the sustainability and future viability of PNA. This article suggests a further contribution to this approach. It goes beyond the conception of a SYAL as the concentration of rural agro-industries, to understand it as a process of territorial qualification based on the different elements that compose it (Requier-Desjardins, 2008). That is, giving special attention to those productive processes that contribute to add value to products and know-how, but also to singular natural resources and ecosystems. This dynamic provides special attention to the convergence between the different spheres of sustainability (economic, social, cultural, institutional and environmental) in order to propose new models of management for territories.

From this theoretical framework, the purpose of this paper is (1) to analyze the potential of organic production in the Protected Natural Areas linking the protection of natural resources and socio-economic strengthening, (2) to assess whether the implementation of these initiatives offer a way to integrate local people in managing natural resources (3) to analyze whether this strategy will overcome the reluctance of people to nature protection figures, often perceived as blocking elements to their territorial development, (4) to discuss this case of sustainable territorial development using the concept of SYAL. In order to illustrate this process we have studied the case of organic agriculture experience which has been taking place during the last 20 years in Natural Park of Sierras de Cazorla, Segura y Las Villas. This area is the largest PNA in Spain, and one of the first andalusian territories where the environmental protection policy was implemented. This kind of questions are considered as very important in Andalusia -the southern region of Spain- because over 20% of andalusian territory (1.8 million hectares) and a significant percentage of the andalusian population are included into one of its 153 PNA. This situation has generated a debate about what

kind of new management methods can be sustainable in an ecological standpoint, and conducive to economic and social development. In addition, this region is producing 7.175 and 582.745 ha., agriculture and livestock production, which accounts for 60% of the area and a third of Spanish certified producers (Dirección General de Agricultura Ecológica, 2007). At the same time, half of the Andalusian area certified as organic is located in any of the PNA in the region (Consejería de Medioambiente, 2006).

This research used qualitative methodology, being a sample of 93 interviews the main source of data. 10 of them were made to key informants from these areas: technical development agents and organic farming, organic producers, managers of the industries of organic products. 30 were made to the three kind of organic producers: farmers, livestock and poultry farmers. And the 53 remaining were made to a range of actors with different relationship with this initiative: entrepreneurs, members of associations, conventional farmers, local politics and members of regional administration. Its representativeness in composition has allowed us to assess the degree of knowledge that local people have about organic production experiences developed in the area, as well as on the image they have of organic production and of this Natural Park.

Protect and preserve: impact of environmental policy in the Natural Park of Sierras de Cazorla, Segura and Las Villas.

Spain was one of the first countries to join the nature protection guidelines, declaring the first National Parks of Covadonga and Ordesa in 1918. Since the mid-80s environmental concern was incorporated into the government agenda, which intervention has generated different types of protection objects with different objectives: scientific, recreational, landscape or preservation; also with diverse degrees of protection. One of the most interesting objects is the Natural Park; it has acquired special relevance because it was designed in order to facilitate the idea of social environment. With this objective was established in 1986, *The Natural Park of Sierras de Cazorla, Segura and Las Villas* (NP-SCSV). Located in north-eastern side of Andalucía in the province of Jaen, it has a total of 209,920 hectares (Fig. 1). This is a large area distributed in 23 municipal districts densely populated, represented by a total of 87,744 inhabitants.

Figure 1. Ubication of Natural Park of Sierras de Cazorla, Segura y Las Villas in Spain.

Although Natural Parks were designed to promote an appropriate balance between conservation and development, in this area the protectionist orientation was dominant; which explains the prohibition of productive activities in some areas. Logically, the implementation of this restrictive policy caused a considerable apprehension in the area that still survives today. The results of research carried out show that 35% of the sample has a negative image of the Natural Park. This is perceived as a source of problems and obstacle to the region development; inhabitants think that its implementation has hardly any advantages (see Figure 2).

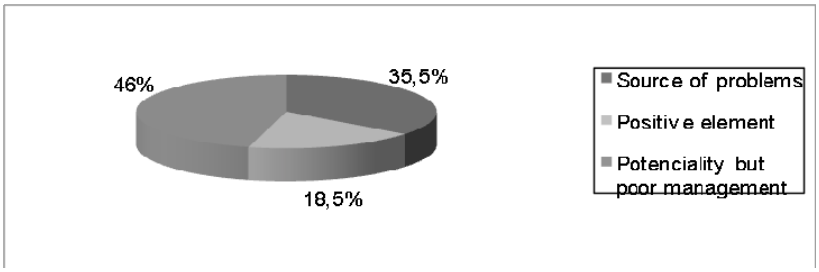

Figure 2. Assessment of the local population about the impact of the Natural Park in the territory.

This negative image does not lie so much in the Natural Park itself, which many regard as an underexploited potential asset, but rather in the mismanagement of the environmental authorities involved. 46% of our respondents think that the social conflict between local population and environmental management could have been avoided by measures to compensate the people for the difficulties created by the application of nature protection in their economies. In other words, such a protectionist policy has led to a process of alienation of the population form their environment. Natural Park is perceived as something different, and not as a fundamental component of their identity, their history and culture (Lozano, 2008). This situation has generated a climate of hostility towards any kind of initiative that has an *environment character*, which is influencing the development of organic agriculture in the Natural Park, as we shall see later.

"Developing" the territory: the intensification of the olive grove

The paradox of implementing environmental and conservation policy is that it has co-existed with an intensive agricultural model for many years, at least in Europe. This agricultural model is based on chemical inputs, genetic innovations and mass mechanization of farming, which means that it is highly polluting and has a strong impact on environmental degradation. In Andalusia, the application of this model, following Common Agricultural Policy (CAP), has generated two types of processes. On the one hand, the diffusion of technology and highly standardized production systems and, on the other, the increasing marginalization of traditional production, linked to local varieties, with the pursuant impact on environment and landscapes (Aguilar, 2007, Aguilar and Lozano, 2008). Our observational unit is a paradigmatic example of this tendency because there has been a shift away from traditional agricultural system based on the interplay between agricultural and forest activities to a new one focus on a single crop: the olive grove.

While the olive has an extensive background in the area, there has been an expansion during the last two decades driven by subsidies from the European Union. Nowadays, this crop occupies 78% of cultivated land in the territory. The intensification of this activity have had environmental consequences: groundwater have been polluted by the indiscriminate application of chemicals and synthetic processes, the landscape have changed, erosion processes have increased, and biodiversity have been reduced.

Thus, this kind of problems is the consequence of implementing several sectors policies with divergent objectives in a single territory. These actions have been contradictory in many cases; intensification of agriculture does not match with natural resource protection. However, the introduction of sustainable development models, and the territorial approach of the European development policy (Esparcia and Noguera, 1999) have begun to change this situation. Indeed, these two changes have supported the development of organic farming in the Natural Park.

The origins of organic farming in the territory. The "greening" of olive oil.

Organic production, also known as *ecological* or *biological*, is a management system for agriculture and food production that seeks to promote the preservation of natural resources, the generation of biodiversity, the respect for animal welfare, and to obtain food without chemical and / or synthetic

wastes (Lampkin et al., 1999). Following the model of territorial approach for development, this production method has become an essential tool for reconciling conservation and development in the Protected Natural Areas (Kaltoft, 1999).

However, the origin of organic production in this area can be traced to the mid 1980s, and it was associated with the need to generate alternatives to the low productivity of mountain olive groves. Thus, it was an attempt to stimulate a marginal territory facing serious problems of depopulation, aging and masculinisation, as many Spanish mountains. The project also pursued to highlight the value of the quality of their oils, to make them competitive on world markets and improve farmers' incomes

In 1986, driven by the Department of Agriculture and Fisheries of the Andalusian Regional Government, farmers from Génave -one of the municipalities located on the northern slope of the Park- decided to start organic production of olives. To do so, they eliminated the use of chemicals and synthetics and introduced innovations in the management of olive groves: fertilization, soil management, pest and disease control (Pajarón, 2007), as well as the manufacturing processes, marketing and sale of oil (Marbán, 2003).

Over the years, organic farming has led to an expansion and diversification of production. Thus, in 2004, when we started this research, the sector had 157 producers with 2.500 hectares of olive trees, woods and pastures, horticultural crops; whose production was processed by 8 organic industries. In contrast to conventional farmers that disclosed an average of 53,2 years profile, organic farmers in the area were younger – with an average of 50.6 years (Lozano, 2009). Likewise, it is noteworthy that one third of organic farmers interviewed had a university degree. According to Pugliese (2001) this is a feature that may have helped to incorporate the innovations involved in this method of production. These aspects also offer good prospects for addressing issues of territory, especially to rejuvenate the agricultural population and to maintain generational replacement in this activity.

According to our survey, environmental concerns are the main motivation for starting this activity, represented by 54% of the sample. Within this group there was to main concerns, the awareness about the impact of industrialized agriculture model on the environment, and the use of chemicals and synthetics products. In second place appears the economic motivation, which was essential for 34% of them, which means that many of them became organic farmers as a strategy to value increase of their production, barely competitive with the major andalusian olive producing areas. It was a pioneering initiative that was reinforced after 1992 following the establishment of the CAP agri-environment oriented financial compensation to farmers who voluntarily introduce agricultural practices that respect the environment (Buttel, 1993). However, most farmers advocating a balance between the interests in creating pollution free farms and promote biodiversity with the development of an activity that allowed them to obtain a minimum profit.

Organic production in Natural Park as model of Syal?

Despite the impact of organic production in the generation of biodiversity and sustained development in the Natural Park during the past 20 years, links between agrarian and environmental policies in the area have barely emerged. The original idea was to link ecological olive growing with the values of the newly created National Park, but the environmental management has shown no interest for such initiatives. Furthermore, while these producers were compensated financially for the development of their practices through agro-environment subsidies, the Governing Board of the Nature Park was only concerned to implement the conservation guidelines to preserve the natural resources. It may be denoted that environmental protection has blocked the development of organic agriculture and, above all, of organic livestock in the territory. Even though the potential offered by this sector for conversion because their extensive nature, adapted local breeds and type of management developed. The reason for this paradox is that most Park's forests are public, so, the registration as organic corresponds to the Regional Government.

This division between agricultural and environmental policy explains the lack of trust on any initiative related to nature protection, and this intense dislike has moved to organic production, which is seen as another attempt to restrict the territory's economic activities in favour of wild life protection. In this sense, there have been numerous conflicts in recent years; perhaps one of the most significant has been the contrary attitude between organic and conventional farmers about the systematic aerial spraying of crops. Therefore, despite the synergies that could be derived from the location of different experiences of production and processing of organic products within this Nature, the fact is that for decades, attempts to associate environmental protection and organic production have resulted sterile, if not counterproductive.

In recent years, however, the situation has begun to change, making way for a territorial model of development. The new model has an impact on relations with the surrounding ecosystem, linking the proper conservation of environmental resources with the promotion of socio-economic activities and cultural elements associated with this particular territory (Lozano y Aguilar, 2008).

The changes started with the design of a set of *Sustainable Development Plans of the Andalusian Natural Park* to establish specific strategies for each of the territories according to their needs and resources. The purpose was to end the problems of depopulation and abandonment of activities that is going on in many of these protected areas. The plan for the NP-SCSV was approved in 2003 and gave great importance to promoting organic agriculture and organic livestock production, considering the clear effect of these initiatives on improving the sustainability of local production system. That meant that for the first time, there is a proactive stance toward organic stewardship promotion.

It is interesting to point out that this first shift coincided with the creation in 2004 of *the General Direction of Ecological Agriculture*, agency responsible for the management and promotion of organic farming policies within Andalusia. The promotion of this kind of agriculture and livestock production in the Natural Parks was one of the fundamental axes of action, not only because the implementation of this activity is easier in these areas, but most of all for the positive synergies that this initiative could generate for the areas in the form of new incomes and jobs. We understand that the confluence of interest and objectives of both administrations has been the breeding ground for the growing number of acres, producers and processors in Andalusian PNAs.

The Natural Park of Sierras de Cazorla, Segura and Las Villas has been receiving more attention lately. The starting point was the coordination of various policy areas (agriculture, environment, employment, health, etc.), as well as the various administrative levels working in the area. For the first time, it has been established a forum for dialogue between local people and representatives of the Natural Park, two traditionally antagonistic groups. They agreed a common strategy for the development of organic production within the protected space (Lozano, 2009). This forum has also enabled environmental management to understand the demands of local farmers, certifying public forest pastures as organic, one of the main obstacles for this economic activity in the Natural Park.

From this common agenda, several initiatives for production and marketing have been created. First, employment workshops on organic horticulture and organic vegetable canning have been one of them. The objective of this initiative was to generate new employment alternatives and promote the creation of companies related to organic production. Secondly small ecological shops (*biopuntos*) were established in the local markets, with the aim of enhancing short chain supplies. A third initiative is related to institutional markets integrated in the *Program of Social Consumption of Organic Products*, which has taken this food straight to the menu of some schools and kindergartens in the area and in the local hospital. All these measures have achieved an important double purpose: to make these products visible, and to spread them among the local population to overcome the resistance and negative stereotypes toward this production system. This double objective is important because encouraging consumption and increasing demand for this kind of food would solve one of the main problems of the organic sector, and also could lead conventional farmers towards conversion.

The results are evident. Despite the low trajectory of the project there have been a dramatic increase in certified area, which has enlarged from 2455.31 ha in 2004, to 7316.6 ha in 2008. Within this numbers, the most significant has been area of pastures and meadows, it never existed before and now represent 40% and 33.8% of the total area certified (2925.31 and 2475.63 ha respectively). In the same way, the land devoted to herbaceous have expanded from 82 ha in 2004 to 388 ha in 2008. Finally, the support of environmental policy for the ecological certification of public pastures has allowed a group of 15 livestock farmers, grouped in a cooperative, to join the organic sector, bringing the number of producers to more than 175. These actions also represent a step forward the active integration of farmers in the management of natural resources and recognition of the importance of sustainable management of livestock can have in promoting biodiversity, wild plants reduction and fire prevention.

The process is enabling the emergence of a SYAL in the area; where it was being pursued one of its objective, strengthen backward linkage, that is, the direct relationship between farmers, livestock, processors and consumers. In this way the latest initiatives aimed at boosting domestic consumption through the establishment of short channels supplies (Lozano, 2007). Even when the experience of *biopuntos* has only been supported for several months, the fact is that some producers have continued with the project by themselves, keeping their place for organic products in the weekly markets in some municipalities. A similar impact in the area is having the maintenance of the *Program of Social Consumption*, which is successfully introducing the new generations to these products, especially fruits and vegetables.

In short, we could say that this strategy and initiatives have led “traditionally” opposed social actors into a new path of rural development whose main outcome is the promotion of organic agriculture and livestock in this NPA. This fact allows us to speak of an emerging ‘Natural Park of Sierras de Cazorla, Segura and Las Villas` SYAL. Our case makes clear that the key factor has been the establishment of networks among the different local actors. The involvement of organic operators -and particularly their internal coordination with other social actors of the territory- were essential for the consolidation and development of organic production. Which shall be considered as an example of organizational innovations of local producers, and the vertical integration of the whole organic production system, generating therefore forms of coordination not only horizontal but also vertical (Boucher, 2004).

Conclusions

This article has analyzed the process of reorientation of environmental policy from conservation guidelines, to other positions closer to the new territorial approach for development. This new framework has explained the expansion of organic agriculture and livestock production in Protected Natural Areas in Andalusia, specifically, in the Natural Park of Sierras de Cazorla, Segura and Las Villas.

First, it has highlighted the impact that the implementation of conservation policy had on the territory and, such as distrust of the local population towards the figure of Nature Park. We denoted the consequences of this implementation in the development of organic agriculture. The causes of it have been not only the passive attitude of environmental agency but also the negative image of organic agriculture emerging from his association with the restrictive policy of environmental agency.

Secondly, the paper highlights the potential that have been generated from the reorientation of environmental and agriculture policy. Active involvement of these administrations in promoting organic agriculture in the territory has been one of the factors which led to the growth in number of hectares and producers in the Natural Park. In addition, these actions involve recognition of the role of local population in the construction of that territory and try to integrate them in the management of resources. This initiative is also an example of the potentiality of the bioregional model and its understanding of biodiversity conservation as an action that must integrates social, economic, cultural and environmental conditions of each territory.

Thirdly, the promotion of organic production in the protected natural areas is, as we have seen, one of the best strategies to promote the axioms of the bioregional paradigm. As we have seen, organic agriculture can contribute to reduce some of the demographic, social and economic problems that face these territories. It can be a viable alternative to traditional production, as this sector is composed of a younger population, with higher education and greater entrepreneurial skills. Organic producers have positive attitudes to innovation and they are pride of being farmers as they contribute with their activity to promote sustainable environments. Similarly, the techniques used in organic farming contribute to the conservation of biodiversity and can help to reduce agrarian pollution and to counteract some negative impacts as erosion and landscape degradation.

Fourthly, we have considered this experience as a *Localized AgriFood System* (SYAL) because various collective strategies have been developed to link this generic certification with the natural and socio-cultural characteristics of this territory. It has encouraged a regional development that tries to root this activity by the incorporation of the differential values of the territory and, above all, by the application of an integral management model. This association that has also been positive for the Natural Park whose image of sustainability has been reinforced by his connection with the positive environmental externalities that organic production generates. This orientation towards quality has required, as we have seen, the incorporation of many innovations in products, processes and techniques, and in the organization established among actors. Such innovations have been closely linked to the recovery of practices and know-how which had remained in the area, despite the gradual intensification of agriculture.

Finally, the element that seems most interesting in SYAL perspective is the emphasis given to the role of local actors and collective action in the generation of these processes. As we have seen, one of the key elements of the consolidation of the SYAL *"Natural Park Sierras de Cazorla, Segura y Las Villas-organic agriculture"* has been the establishment of networks between different actors of the territory. On the one hand, networks between organic producers and between these producers and organic industries have been created in order to strengthen internal coordination. On the other, links between organic operators and institutions and, above all, closer ties between producers and consumers by developing short-change supplies have been promoted.

In short, we consider the analysis of this case as appropriate to explore the concept of SYAL, and it also propose new elements of study related to the potential of this approach for sustainable development models and territorial dynamics generation of qualification.

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