11.1. INTRODUCTION: TERRITORY, DIFFERENTIAL QUALITY AND DESIGNATIONS OF ORIGIN OF OLIVE OIL

Differentiation strategies and, in particular, quality strategies, constitute one of the main competitive options for the majority of exploitations and small-sized agrifood companies located in a rural environment, which are usually in conditions of inferiority in terms of competence regarding undifferentiated products, in which their market is governed by price leadership strategies. Over the last decades, several economic circumstances have contributed decisively towards gradual loss of importance in terms of percentage in the value chain of the stages of the olive oil chain that are more closely related to the territory: the progressive globalisation of the world olive oil markets, the high concentration of market shares in largest bottling-refining companies in the main distribution channels and the hegemonic position of mass distribution in the food chain, amongst others.

In Spain, olive oil has had a long tradition as a product commercialised as a commodity and has been considered as so in the preferences of consumers, even though it is a food product with high differentiation possibilities. The stages of the olive oil production chain located in the rural environment, which correspond to olive exploitations and oil mills, mainly sell bulk virgin oil to the following stages of the olive oil production chain. This oil is used for: i) in the case of low-quality oil, it is refined by the bottling-refining company; ii) in the case of high-quality oil, it is mixed or bottled by the company in question. However, these high percentages of bulk-commercialised oil at not very attractive prices have coexisted since the mid 90s with an intense technological restructuring trend, based on both the incorporation of capital goods and the profusion of good practice codes for the handling of olives and oil. In consequence, there has been quite an important increase in quality of Spanish oil. However, this quality improvement has not been compensated since it is still sold by bulk to the bottling industry, which monopolises, together with the mass distribution, the price leadership strategies.

In other words, due to the fact that the value addition margin of the local agrifood systems, as suppliers of a commodity, is rather scarce, also because the offer is not organised and concentrated enough, there is not other option, when increasing the added value locally, than encouraging endogenous exploitation initiatives for quality oil from the rural environment. However, up to the date, these strategies have not been very usual in Spanish olive oil. Furthermore, we have to consider, from the point of view of the demand, that nowadays, and especially since the last decade, we are coming across emerging possibilities of product differentiation, within the context of a sustainable process of consumption segmentation.

One of the main objectives of the Protected Designations of Origin (PDO), as strategies of differential quality organisation related to the territory, is the constitution of a competitive alternative for those local productive systems specialised in food products, such as olive oil, with a strong heritage and authenticity component associated to differential quality attributes. The main economical object of these differential quality certification processes is to obtain differentiation income from the existence of a collective mark that certifies that certain regulations are fulfilled, which
establish certain quality and authenticity conditions that the oils must fulfil. Nevertheless, the PDOs also carry out other important economic and institutional objectives that are not mandatory by law (Bérand and Marchenay, 2004; Giacomini et al., 2007; Institute for Prospective Technological Studies, 2007; Lagrange, 1999; Perrier-Cornet and Sylvander, 2000; Treggear et al., 2007): i) those that stem from the collective organisation processes that take place between the agents of a local agrifood system regarding quality protection an guarantee tasks; ii) those that stem from the cooperation of the Governing Councils of the PDOs with other institutions in matters of local olive oil development and territorial and rural development. During this last decade we have observed in Spain a significant expansion of the olive oil PDOs, since, despite that the notoriety of branded oils is still scarce, a large number of new designations have appeared recently.

Our territorial object used for the study of olive oil PDOs is the concept of Local Agrifood System (LAS), considered by the specialised literature as a spatial concentration of a diffuse business and institutional network of olive exploitations and oil mills, located in a region with relatively high specialisation in olive oil (ALTER, 2006 ; Alvarez et al., 2006 ; ARTE, 2004 ; Courlet, 2002 ; Fourcade, 2008 ; GIS-SYAL, 2002 ; Moity-Maïzi et al., 2001 ; Muchnik, Sanz Cañada and Torres, 2008 ; Torre and Filippi, 2005). In the case of olive oil PDOs, the Governing Council, the associations for the employment of experts in comprehensive olive oil treatment or production, the ecological olive oil cooperatives, the rural development agencies, the olive museums, amongst other institutions, may build collective synergies, as a result of participating in common olive oil and rural development projects.

The structure of the paper is the following. We dedicate the first section to the characterisation of olive oil LAS in Spain and of the competitive context in which they are developed. Secondly, we deal with the expansion of PDOs in Spain and we analyse the lack of notoriety of oils and the scarce generation of differentiation income in PDOs. The study of economical and institutional functions of the sectorial and territorial governance of olive oil PDOs will be the objective of the three following sections: the inter-institutional cooperation processes in which PDOs take part, the sectorial governance of LAS and the potentialities of PDOs as institutions that can help to improve external territorial factors.

11.2. LOCAL AGRIFOOD SYSTEMS OF OLIVE OIL IN SPAIN

The business network of LAS of olive oil in Spain is mainly constituted by a large collective of olive cultivators organised in oil mill cooperatives – cooperatives cover more than 70%of the total production of olive oil-, as well as a minority segment of private oil mills, which often belong to families that own large-sized olive exploitations. Spain is by far the leading producer of olive oil worldwide: 1,161,000 tons per year (average of three campaigns between 2006/07 and 2008/09), which, depending on the year under study, means between 40 and 46%of the world production. In Spain, with an olive field area of 2.5 million hectares, there are many types of olive oil LAS, many of which practically using a single-crop system, with a rather small-holding property structure in the majority of cases –an average of 4 hectares per exploitation-. Furthermore, olive cultivation is generally a part time activity carried out by rural families, whose main problem is currently is generational change-over. On the other hand, there are 1,700 oil mills spread out around the Spanish

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1 International Olive Oil Council: http://www.internationaloliveoil.org
 territory. However, the dominant stages of the olive oil production chain are both the bottling-refining companies and the Modern Distribution, whose main groups develop intense marketing strategies for the distributor’s brands. Both the industrial sector and the distribution sector purchase bulk oil from the oil mills by means of commercial mediators.

In turn the bottling-refining companies are usually seed oil producers and we have to point out that the first business groups cover a rather high level of concentration of the share of the national market. On the one hand, the brands of the distributor manage to reach a highly predominant position in the sales of olive oil in free-service establishments in Spain, since they currently represent a market share of 53% (for the year 2007)\(^2\). The leading Spanish capital group SOS-Cuétara owns the two leading brands on the national market (Koipe and Carbonell), covering 21.2 % of the Spanish market share for olive oils, both virgin and combination of virgin with refined oil. Furthermore, SOS-Cuétara is in turn the leading oil producer worldwide, since it controls 15% of the world sales of olive oil\(^3\) and owns the main olive oil bottling companies, such as the leading Italian companies Carapelli, Bertolli and Minerva. Likewise, the leading five national groups cover 37% of the market share of Spanish olive oils.

Nevertheless, as counterpoint to the general situation described, a small number of second level commercialisation entities are starting to emerge as companies that sell as a brand in the Modern Distribution line, important amounts of extra virgin olive oil. Therefore, the income generated reverts to the farmers in a more reasonable proportion. The Hojiblanca group is an example in this sense, since it has placed itself as the sixth Spanish company in commercialised volume of bottled olive oil (with company forecasts of 27 million litres for 2008\(^4\)) and the first in terms of sales of extra virgin olive oil. With this competitive panorama in mind, the option to search for competitive advantages through cost leadership by means of large-scale production is not the most feasible alternative for LAS, since it is very difficult to compete in these market segments with the large group of the bottling sector and with the distributor brands. For this reason, the olive oil LAS should be mainly focused on proactively commercialising bottled extra virgin olive oil. During certain campaigns, the difference of price between extra virgin oil and lampante oil, when both are commercialised by bulk, may sometimes only be ten or twenty cents of a Euro per kilogram of oil, which does not really compensate the supplementary costs of producing quality. However, this strategy must not involve forgetting about the bulk market, since the commercial restructuring of olive oil LAS is not immediate: to do so it is urgent to form an important group and carry out the professional development of the bulk market, due to the fact that currently 1,700 oil mills are commercially facing up to a small amount of bottling companies that concentrate a strong negotiation power.

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\(^2\) The source of information on market structure is « Alimarket. Revista», January of 2008: http://www.alimarket.es/

\(^3\) La Alimentación en España, 2008: http://www.mercasa.es/

\(^4\) Día de Córdoba, 26th of December of 2008.
Other additional reasons reinforce the idea of promoting differential quality strategies for extra virgin olive oils closely related to the region. Olive oil, due to the fact that it is one of the main ingredients of the "Mediterranean diet", due to its nature of product that identifies remote ages, as well as due to its potentialities in terms of authenticity, it constitutes one of the products that amass valuable patrimonial resources to be exploited. The geographical, cultural and social diversities, inherent to the territories, condition and affect the configuration of the food heritage. The biodiversity of the local olive fields, the traditional knowledge and know-how, the types of cultivation systems, whether the olive fields are mountain groves or countryside groves are, amongst others, factors that influence the authenticity of the oils. In our opinion, varietal combination is the factor that has a greater impact on the organoleptic authenticity of oils, as can be seen on quality labels regulations, where it stands out significantly. Other elements that appear in the certified quality labels regulations of oils are the following: a high degree of organoleptic excellence, physical-chemical reference standards (acidity, peroxides, UV absorption, contents in moisture and impurities), as well as, in the case of geographical designations, the delimitation of the agricultural production territory and the industrial transformation territory.

Until hardly two decades age, there were only a few territories in the Mediterranean that carried out differential quality strategies with their oils: mainly the olive oil regions of the centre and north of Italy, such as La Toscana and the French Provence. Nowadays, new opportunities arise from the fact that the image of high-quality olive oil is currently acquiring an increasingly positive connotation in consumers that live in developed countries, as well as in the upper-medium stratum of emerging countries. Some causes of this positive image are, amongst others, its universal acknowledgement as a healthy product on behalf of nutrition experts, its organoleptic powers, its relation with the land its culture, or its natural product nature. Certain groups of consumers are starting to customise their consumption depending on multifunctional high-quality oil attributes: sensory, origin, environmental, food safety or respect towards certain productive practices, amongst others. The potential use of these market segments determines new opportunities for small and medium-sized rural companies and different differentiated oils, such as payment oils, ecological oils, comprehensive production oils, oils with PDO, varietal oils, seasoned oils, etc, occupy new niches and segments.

11.3. **SPANISH PROTECTED DESIGNATIONS OF ORIGIN OF OLIVE OIL: A RECENTLY INCREASING HAPPENING BUT WITH A DEFICIT OF NOTORIETY**

In Spain we are currently attending a proliferation of requests for new PDOs of olive oil: in only eight years, from 2000 to 2008, the number of PDOs has increased from 7 to 31: as can be seen on figure 1, 19 that have already been registered in the EU and 12 more immerse in the long process to do so. In the following years the Spanish map of PDOs of olive oil will be completed. Up to the decade that began in 2000, Spain had a certain delay regarding other EU oil producing companies, such as Italy or Greece.
As we can see in chart 1, the curves that represent the volume of oil commercialised with a PDO label in Spain have undergone a clear progression over the last years, especially since 2000. We can observe that the majority of oil with PDO is commercialised on the national market: nearly 90% in 2006. The growth rate of area cultivated with olive trees registered as PDO in Spain is even higher than the growth rate that corresponds with commercialised volumes (chart 2): in ten years, between 1996 and 2006, the area has been multiplied by seven (872,674 hectares in 2006).
However, this boom in the implementation of PDO differs from the proven fact oils with label still have an important deficit of notoriety, which is still rather scarce outside their own areas of production. Olive oil, whilst being a product with large possibilities of territorial differentiation, still has a scarce general reputation as differentiated oil for the majority of consumers. Different empirical studies reflect the low notoriety of Spanish oils with PDO: i) even the provincial consumer outside the PDO does not usually know them much and even less the national consumer (Sanz Cañada, 2001); ii) a 72% of consumers surveyed by the Ministry of Agriculture (Mº de Agricultura, Pesca y Alimentación, 2005), state that they do not know the name of any Spanish PDOs of olive oil.

In this context, although the main objective of the PDO Regulating Councils is the generation of differentiation income associated to the label, in the case of the olive oil sector, the scarce seniority of many PDO, together with the inexistence of commercialisation experiences at a certain level and the lack of investment in commercial structures, affect the deficit of notoriety of oils. In particular, great part of the extra virgin oil that is potentially certifiable as a Spanish PDO of olive oil continues to be sold nowadays by bulk. Some indicators of this restriction refer to the fact that the amounts commercialised with label: i) are not yet very relevant in absolute terms (30,243 tons in 2006, in comparison with the national production that exceeds one million tons); ii) only mean less than half of the 66,816 tons of protected oil, in other words, with potential to be commercialised as a PDO; iii) the oil commercialised with label only represents slightly more than the eighth part of the extra virgin oil produced in regions with PDO (234,816 tons). The scarce exploitation of oils with PDO labels, if maintained on the medium term, could have undesired consequences for producers, since, despite carrying out important efforts in
terms of quality, at olive cultivation and oil technology level, the producers have
to sell the majority of their oil by bulk, with a premium prize that is practically
insignificant with regards to non-qualified oil.

11.4. SPANISH PROTECTED DESIGNATIONS OF ORIGIN OF OLIVE OIL: SECTORIAL
GOVERNANCE AT LOCAL LEVEL AND TERRITORIAL GOVERNANCE

The international references on Social Science, Food and Territory reflect
as their main economic objective, the development of competitive strategies
based on the purpose of generating differentiation income regarding identity
food products, by means of the exploitation of resources such as the territorial
authenticity and specificity attributes of the products. However, as we saw in
the previous section, qualified oils currently have scarce notoriety in Spain and
no radical changes can be foreseen on the short term, although some
successful experiences have been carried out in terms of exploitation of
differential quality related with the territory. Therefore, the question that arises
is the following: why is the implementation of new designations in expansion,
despite the scarce notoriety of many PDOs on the short and medium term?
The answer can be given to a certain extent by the fact that the PDOs can
acquire an significant role in the fulfilment of an important set of economic and
institutional objectives that, despite non being mandatory, may have a relevant
incidence on the rural and local development processes. For these reasons, the
economic and social agents and the public and private institutions promote the
implementation of new PDOs, which may contribute towards the inter-
institutional cooperation and territory development processes, influencing the
achievement of other types of beneficial effects on rural development that do
not lead to the achievement of commercial income, but help to certain type of
intangible assets. In general, many regions that produce olive oil do not have
any sort of inter-professional institution to vertebrate the local olive oil sector
before implementing the PDO.

The construction of the local olive oil sector's articulation and the
exploitation of local oils can be encouraged not only upon initiative of the PDOs
but also under the leadership or partnership of other institutions, based on
different organisational models. Thus, there is more than one successful
proposal. A compilation paper drawn up by Macías (2007), carries out a
comparative analysis of three olive oil LAS, representative of different
modalities of institutional organisation of regions with certain tradition in the
olive and oil sector: the recent PDO of the French Provence (which groups five
previous PDOs), the PDOs of Catalonia and one PDO representative of the
Andalusian mountain olive field (Sierra Mágina, Jaén):

- In Provence, with a low production volume and a high valuation of its
  oils, it is the sector itself, represented by the French inter-professional
  organisation of olive oil (AFIDOL), which has played an important and
  binding role in the activity of PDOs in the diffusion of codes of good
  agricultural and agro-industrial practices, in the organisation of training
  courses and, in general, in the promotion of the technical and
organisational change of LAS; nevertheless the French government funds and cooperates with AFIDOL.

- In the case of Catalonia and Sierra Mágina, the administrations and public policies, in collaboration with local production agents, have played the leading role in the construction of these institutional frameworks: i) in Catalonia, it is carried out at regional level under the sponsorship of the Regional Government of Catalonia in collaboration with PDOs; ii) in Sierra Mágina, the centre of gravity is located in the intense regional institutional framework (Regulating Council, Rural Development Agency, Comprehensive Treatment and Production Associations, etc.), which is not only related with the olive oil development but also with all the rural development processes.

- While in many Andalusian PDO's of olive oil in Spanish mountain regions the majority of oil is continued to be sold by bulk, in Catalonia, with an intermediate production concentration between the French and the Andalusian production, the level of valuation of its oils is very diverse according to the PDO that we take into consideration: the eldest PDOs stand out as well as the evolution boosted by second level cooperatives, such as Uniò, in the Siurana PDO.

We will now analyse two types of positive effects that the implementation of PDOs and their governing institutions, the Regulating Councils, may potentially have on the local and agrifood development. In first place, we want to know if, in the case of Spanish olive oil, if the economic and institutional activity that results from the implementation of a PDO has contributed, and to what extent, towards the competitiveness and governance of LAS and local olive oil sectors. In second place, we want to know what identity product potentialities LAS have, as a result of their collective and institutional actions, in order to contribute towards the improvement of the territorial governance of the region as a whole, cooperating in the generation of external positive factors or in the reduction of external negative factors.

11.5. PROTECTED DESIGNATIONS OF ORIGIN AND THE GOVERNANCE OF THE LOCAL OLIVE OIL SECTOR: QUALITY ASSURANCE AND LOCAL INTER-PROFESSIONAL ORGANISATIONS

The implementation of a PDO necessarily implies, from the very first moment at which the regulations are drawn up, the execution of institutional cooperation processes between local agents. Olive cultivators, cooperative oil mills, bottling companies, etc. have to be represented at the Regulating Council. Thus, as consequence of the collaboration processes between the economic agents of a region regarding the tasks inherent to the functioning of a PDO, sectorial governance actions that go beyond the product's quality certificate functions and the legal protection of label may be carried out, even on the short term (Barjolle, Réviron and Sylvander, 2007; Barjolle and Thévenot-Mottet, 2005; Perrier-Cornet and Sylvander, 2000; Sanz Cañada and Macías, 2005). These functions are really the main ones that figure by law on the general conditions of the quality countermark:
In the first place, the labels of a PDO are usually used in marketing strategies, as quality assurance systems for distributors, therefore saving transaction costs for the exchanges and encouraging vertical coordination relations that maintain the local olive oil sector with subsequent stages of the olive oil chain.

On the other hand, the international literature on LAS reflects that the processes of creation of distinctive signs may constitute efficient tools for the development of local inter-professional organisations. Thus, the Regulating Councils, as institutions for agreements between economic agent, can boost the development of inter-professional activities in areas such as diffusion and adoption of innovation and knowledge processes, the collective activities that involve the encouragement and common image of oil, the promotion of the creation and development of common commercial networks, or the training of human and social capital, amongst other aspects.

Several studies carried out by the research team regarding inter-professional functions and quality assurance functions in Spanish PDOs of olive oil (Macías, 2007; Sanz Cañada, 2001 and 2007; Sanz Cañada et Macías, 2005 and 2008; the information was obtained by means of interviews to experts and surveys carried out on oil mills and cultivators), obtained the following conclusions: i) precisely the functions of the Regulating Councils that refer to diffusion and innovation adoption processes are those that can obtain more significant results on the short and medium term, for example, the adoption of innovations in fixed capital and human assets, as well as the diffusion and adoption of codes of good practice in olive cultivation, in the industry and for the disposal of waste; ii) the beneficial effects on LAS are less important than in the case of collective promotion activities and quality assurance systems; iii) the common commercialisation processes for oil seem to require a certain awareness level and period that is even higher to obtain relatively general success. We are now going to set forward some particularities of the main economic and institutional functions that may be promoted, in partnership with other institutions and agents, by the Regulating Councils of PDOs of olive oil.

a. Interdependence between innovation diffusion strategies and quality dynamics:
Due to the fact that the innovation and knowledge diffusion system promoted by the Regulating Council of a PDO is basically focused on improving the quality factor, there is generally a high interdependence between the innovation strategies and the quality strategies. After having generalised the totality of the Spanish olive business network, especially after the mid 90s, the incorporation of more appropriate process innovations – mainly, two-stage continuous extraction systems, stainless steel oil deposits and bottling lines - , we can state that the Regulating Councils have made a significant contribution towards the rapid diffusion of the codes of good practice in Spanish PDOs of olive oil. Chart 1 shows the critical productive and handling practices that, in terms of collection and production of high-quality oil, have been promoted by the Regulating Councils, which have been increasingly generalised in those PDOs.
with a minimum seniority (those constituted before the year 2000). Amongst these practices, we have to point out the provision of the service of determination of the optimum moment to harvest the olive, for each region at micro-territorial level.

**Figure 2. Critical practices regarding olive oil quality.**

<table>
<thead>
<tr>
<th>Determination of the optimum collection time</th>
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<tr>
<td>Transport conditions of fruits to olive oil mill</td>
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<tr>
<td>Separation of fruits by quality in olive oil mill</td>
</tr>
<tr>
<td>Different treatment of fruits according to quality</td>
</tr>
<tr>
<td>Transformation of olives, at most, 24 hours after harvesting</td>
</tr>
<tr>
<td>Moderate beating temperatures and centrifugation</td>
</tr>
<tr>
<td>Cleaning of installations in olive oil mills</td>
</tr>
</tbody>
</table>

The Regulating Councils also promote other activities, which are used to codify and supervise the application of good agricultural and agro-industrial practices. Firstly, the "supervisors", who are the agricultural experts appointed to the Regulating Council, carry out not only inspection, quality control and certification tasks, but also, in certain PDOs, they provide their support, in the fields and in the mills, for the solution of specific problems in quality matters that the farmers and technicians may come across; in some cases, these tasks are carried out in close institutional collaboration with Comprehensive Treatment Associations (ATRIA), which are associations of farmers with the mission of contracting agricultural experts that assist and help the farmers in matters of cultivation techniques. In second place, the Regulating Councils usually carry out an important activity in terms of training, with help from public funding: for example, training courses for farmers and oil mill technicians. Likewise, they draw up and issue "quality handbooks", that remind the good agricultural practices, especially for the moment of the harvest and transport of the olives to the mill, as well as good practices in oil technology matters. Sometimes they also play an important role in the mobilisation of innovating initiatives, such as the comprehensive production systems.

**b. Quality assurance systems for distributors**

In Spain, distributors do not value properly the authenticity of oils, fact which contrasts with the current situation of certain wines and cheeses. This is due
both to the deficient notoriety of PDO labels for consumers and to the
tremendous importance given by large commercial brands to the oil marks of
distributors. Nevertheless, distributors do seem to value to a certain extent the
excellence qualities of oils with PDO, which may help to improve the
distributor's opinions of oils. PDOs also have potentialities for the development
of traceability systems, due to the fact that the registries of the Regulating
Councils adapt easily to these systems. However, despite the potential
advantages, nowadays a PDO label does not seem like a significant negotiation
element on its own in order to guarantee the presence of a certain oil in the
Modern Distribution line.

c. Common promotion and advertisement activities:

The scarce level of notoriety of PDOs of olive oil leads us to the need of making
a special effort in promotion and advertisement activities, which have become a
necessary condition for the success of commercialisation processes of qualified
oils. In this sense, the Regulating Councils are carrying out a wide range of
promotion activities, which constitute the most important expense entry of
these institutions and usually receive a significant public support: the usual type
of promotion is the attendance to fairs with their own stand, but
advertisements in magazines, radio and press are also often, as well as the
occasional local television advert or advertisements in forums and conferences,
promotional tastings or tourist visits to the PDO oil mills. Nevertheless, the
dimension of the PDOs up to now does not seem to have been enough to
financially deal with the two types of promotional or advertising activities with
largest impact on the consumers, such as television adverts and promotions at
sales points.

d. Is it possible to promote common commercialisation structures
related with PDOs?

Taking into account the tremendous problems that LAS of olive oil have in Spain
to commercialised oils with label, as a result of the absence of appropriate
commercial structures in the olive oil regions and of the resistance to invest in
such structures, it seems reasonable to join efforts in the territorial scope of a
PDO in order to encourage common commercialisation strategies with local
companies. Although this is not an explicit function of the Regulating Councils,
we believe that they could play an important encouragement role in commercial
matters.
The experts interviewed agree in the future importance of second-level
commercialising companies for LAS, both from the point of view of the increase
of economies of scale and reach in commercial negotiations, and from the
perspective of brand-based policies or concentration of promotional and
advertisement strategies. Despite the fact that in the majority of Spanish PDOs
of olive oil there are second-level commercialising companies that group local
industries, a large part of these companies do not yet place their products on
the main distribution channels, due to the fact that they still have an emergent
commercial organisation or due to a project standstill. However, there are
certain significant exceptions to this general rule, such as the cases of Hojiblanca (Antequera PDO), Oleoestepa (Estepa PDO), Unió (Siurana PDO) and Olivar de Segura (Sierra de Segura PDO). On the other hand, the experts reflect that in those Spanish PDOs of olive oil in which there are second-level commercialising companies that group a significant core of local industries, a high institutional relation can be detected, both and organisational and initiatives level, between Regulating Councils and commercialising entities.

11.1. PROTECTED DESIGNATIONS OF ORIGIN AND TERRITORIAL GOVERNANCE: EXTERNAL ENVIROMENTAL, SOCIOECONOMIC AND CULTURAL FACTORS

The activities of the Regulating Councils, as institutions that govern and regulate PDOs, may be capable of generating collective benefits for the whole territory to which they belong, by means of inter-institutional relations that they boost (Casieri, De Gennaro and Medicamento, 2008; OCDE, 2006; Raynaud, Sauvée and Valceschini, 2005; Treggear et al., 2007). The local promotion of quality culture, the participation of DPOs in rural development projects, the generation of corporate capital for the whole territory, the preservation of agricultural biodiversity or the exploitation of the local gastronomic heritages are, amongst others, positive external factors that respond to a wider local development purpose for an entire region. Likewise, the contribution of the collective action towards the reduction of negative external environmental facts caused by agricultural activities and oil mills has positive effects on the natural ecosystems that affect the entire territory and that require territorial governance actions, which involve different local agents and institutions and not only the farmers and mills themselves.

The PDOs of olive oil are an interesting example when analysing the multifunctional behaviour of LAS, understanding that the institutional activities of PDOs produce public assets. We can consider that olive oil LAS can contribute towards the local and rural development of a region by means of collective actions on two main types of external territorial factors: i) the reduction of external environmental factors and external environmental factors produced by the oil milling industry; ii) the promotion of positive external factors of socioeconomic and cultural nature.

Up to the moment there has not been a global policy of revenue for farmers and rural families for their contribution towards the improvement of territorial external factors. We would have to mention as the only external factor revenue policy, the agro-environmental policies of the EU, which have only had a minor impact on the income of the affected olive cultivators: in Spain, for the period between 2000-2006, the revenue has been 266 €/hour. However, the National Strategic Plan for Rural Development 2007-2013 of the Ministry of Environment and Rural and Marine Affairs, drawn up based on EU Regulations 1698/2005 regarding the aid for rural development through the European Agricultural Fund for Rural Development, is starting to draw up a multifunctional approach to rural development aids. Therefore, the promotion policy of external territorial factors is rather a policy for the future instead of for the present.
From the analytical point of view of external environmental factors, we have to point out that olive field LAS have important implications from the perspective of the environmental and landscape management of Spanish agricultural systems, occupying a large extension of area with single-crop nature in many regions. In this context, over the last two decades, Spanish olive cultivation has undergone a sustainable process of productive intensification, boosted by a Common Agricultural Policy (CAP) which has a marked productivist nature, especially before the reform of the Common Organisation of the Oil Market which took place during the campaign 2003/04. Until that moment, the amount of subsidy granted to each farm only depended on the amount of olives produced. Furthermore, the new plantations carried out over the last decade correspond to intensive cultivation systems associated to the increase of irrigation production. On the other hand, we can foresee a significant future growth of super-intensive plantations. We also have to mention that, in Spain, the influence on the cultural practices of farmers of commercial brands that sell supplies has been larger than the influence caused by public training. In consequence, the olive cultivators have adopted over the last decades a productive paradigm of maximisation of the production, without hardly any environmental restrictions, which has generated a high degree of external environmental factors.

On the other hand, a recent study whose aims were to detect and analyse, by means of panels of experts, the R+D+I priorities in the Spanish olive oil sector (Sanz Cañada, Hervás, Coq and Sánchez Escobar, 2008), states that, amongst the main problems that Spanish olive sector has to solve in the future, multifunctional approaches are especially recommended to offer solutions for marginal olive groves. The large extension of this type of olive field, which covers an area of 800,000 hectares according to experts, the scarce unitary size of the farms and the imminent changes undergone by the olive geography, with future downward pressures on international prices, are all indicators of the great territorial magnitude of this event. Marginal olive groves are characterised by not having clear economic feasibility without public subsidies and are at risk of being abandoned bearing in mind the future reduction of direct aid for agricultural production foreseen in the EU policies, as well as an intense competence due to the worldwide increase of intensive and super-intensive productions. These marginal olive field areas, as well as part of the farms with average olive yields, which occupy 120,000 hectares according to experts, generate high levels of external factors, especially in terms of erosion. They correspond to the mountain olive groves with high or average gradient, which is the dominant agricultural system Spanish PDOs of olive oil.

The specialised literature and experts on the matter characterise, by order of priority, the main external environmental and agricultural factors generated by olive cultivation systems in Spain, with special incidence on mountain olive groves (Fleskens and Graaff, 2007; Francia, Durán and Martínez, 2006; García Brenes, 2007; Gómez et al., 2008; Sánchez Sánchez, 2003): i) above all, the problems regarding the loss of soil due to erosion, together with the absence or lack of organic material; ii) the decrease of biodiversity and landscape diversity in olive agricultural systems, due to the predominance of single crops, the intensification and the inappropriateness of handling practices;
iii) the pollution of soil and aquifers as result of the inappropriate and excessive use of herbicides, fertilisers and synthetic phytosanitary products; iv) the cost of opportunity caused by burning the remains of the pruning process, usual practice until not so long ago, and its non-use for the restitution of soil or for the energetic exploitation of its biomass; v) the risks of exhausting aquifers and the cost of opportunity of the use of water, caused by the great expansion of irrigation in crops that have been traditionally dry, although these external factors are mitigated by the generalised use of localised irrigation.

With regards to oil mills, the main external environmental factors produced by oil extraction systems, stem from the waste generated during the production process. In first place, we have to consider that moist press-cakes, which have a high polluting power if they are not treated, are increasingly used, as well as for the traditional production of olive pomace oil, for the exploitation of its biomass for the production of electricity, as proven by the development of new electricity plants around Andalusia, as well as the production of compost: these options have obvious environmental benefits. In the second place, the olive wash-waters, which need to be purified due to their acidity and solid residues, imply the need of a larger diffusion of purifying plants in PDOs of olive oil.

The external territorial governance, socioeconomic and cultural factors may be of very different nature, but we must point out the following, in the case of PDOs of olive oil: i) the encouragement of inter-institutional relations with local development institutions and local agents, which has special importance in underprivileged regions that up to the moment had a very weak institutional and social network; ii) the local promotion of quality culture and the local addition of value for the totality of local productions; iii) the induction of economic diversification strategies in the region, starting with those activities of concentric diversification with which the olive oil sector has clear synergies – "olive oil routes", natural cosmetics with olive oil, etc.; iv) the exploitation of the local gastronomic heritage by means of the promotion of oil cuisine; v) the activation of the human resources and corporate capital of the entire region.

In this context, we have to consider that the millenary olive culture may become a specific resource for territorial capital, scarcely exploited in many Spanish olive oil regions with PDO, but with great potentialities for exploitation, as has been traditionally done in the centre and north of Italy and the French Provence. The construction of a territorial identity based on, amongst other elements, the know-how and cultural and natural heritage, requires the collaboration between institutions that carry out actions of promotion of the territory-product as a whole. Furthermore, these activities are even more necessary due to the fact that the promotional activities carried out by the PDO companies are rather minimal, as we mentioned before. This type of regional strategies, which up to the moment have hardly been used in Spanish PDOs of olive oil, are based on the fact that the Regulating Councils, in collaboration with other local olive oil and rural development institutions, could carry out a joint promotion of the olive oil region\(^5\), including therefore gustatory, historical, cultural, geographical and gastronomic aspects. An example of this type of

\(^5\) Terroir, in French terminology.
alternatives in the organisation of "olive and oil routes", which may insist, not only on the exploitation of the oil, but also on the revitalisation of rural tourism, craftwork sales or on the promotion of the totality of the regional intangible assets.

11.7. CONCLUSIONS

In Spain, the olive oil LAS have to continue with the task of differentiating products as much as possible, which up to the moment has been considered as a commodity. PDOs have the objective of contributing towards the process of territorial differentiation of oils and towards the local exploitation by means of the generation of differentiation income. However, the labels of PDOs of Spanish olive oil have scarce notoriety for national and foreign consumers, partially due to the short life of many of these institutions and partially because of their low level of collective organisation in terms of marketing and commercialisation. As a result, really significant income is not obtained yet. However, this fact coexists with the emergence of many PDOs that are starting to commercialise certified oil, which may respond to other sorts of explanations. The local agents and institutions, whether public or private, continue to encourage PDOs because they carry out economic and institutional functions that stem from their local inter-professional activity, due to the fact that in many of these territories there were not any local institutions to lead the local olive oil development. In particular, one of the functions carried out by the PDOs with greater success has been the diffusion of innovations and knowledge, due to the close relation between innovation processes and quality dynamics; we especially have to point out the central role played by the Regulating Councils in the adoption and supervision of the good olive oil and oil technology practices. The PDOs of olive oil have also partially fulfilled other functions relative to the improvement of competitiveness and the governance of LAS, as in the case of the functions regarding the quality assurance with distributors or the collective promotion activities.

As our final thoughts, we would like to point out the possible core of future actions of PDOs which, in our opinion and based on empirical results given in the present paper, may contribute towards the development of the Spanish olive oil regions. In other words, what current or potential functions of PDOs can be promoted from a territorial and institutional point of view in order to contribute towards the objectives of the local olive oil development and rural development?

In the first place, as an inter-professional platform, the PDOs could collaborate to resolve the urgent problems of the creation of second-level professional commercialisation structures. Although the main actors of this type of activities have to be local olive oil cooperatives and other private companies, the Regulating Councils may assume a more active role as "commercial promoter" in the promotion of the collective brand. The deficiencies that exist in terms of organisational innovations associated to commercialisation processes require an inter-professional action in each olive oil region. If we continue to produce a large amount of high-quality oil at prices that do not compensate the
over-effort made by farmers and industrial operators to obtain such quality, the product quality innovation could be reverted on the medium term. In second place, the differentiation strategies to be promoted by Spanish PDOs of olive oil have to be increasingly tackled by means of multi-attribute quality factor approaches, in order to be able to obtain economies of ranges adapted to a larger segmentation of the demand. Thus, in the current model of adoption of innovations, once a high product quality threshold has been reached, the objective should now be to produce high-quality oil that now incorporates attributes regarding environmental respect, traceability and attributes of landscape, cultural or gastronomic nature, apart from the differentiation due to its authenticity and organoleptic excellence. Integrating comprehensive production requirements into the regulations or into the praxis of the Regulating Councils or promoting intangible assets associated to landscapes of centenary mountain olive groves, are only a couple of examples of the potential incorporation of new attributes to a certain label.

In third place, and based on the idea that the Spanish olive oil sector may acquire a significant multifunctional behaviour in the future of rural development in the EU, we must know and strengthen the potentialities of the PDOs, as a result of the institutional and collective action, in order to improve the territorial governance in the entire region. Thus, PDOs can contribute to create positive external factors, or contribute, by means of collective actions, to the reduction of negative external factors, as consequence of the cooperation inter-relationships of the Regulating Councils, not only with farms, cooperative and private oil mills and commercialising companies, but also with auxiliary industries, service companies, professional associations and trade unions, rural development groups, local development institutions, commerce chambers, etc. This type of aims does not lead to obtaining commercial income, but certain types of intangible assets associated with local and rural development.

From the consideration of LAS as public goods and their inherent condition of intangible assets, scientific research has to provide new analysis methodologies for external territorial factors related with the different lines of action carried out be local institutions, including PDOs. Therefore, it will be necessary to classify olive oil regions in accordance with their position regarding the abovementioned external environmental, socioeconomic and cultural factors, weighted by their relative importance, in order for the public policies to define funding criteria for each one of the measures for the correction or strengthening of the external factors in question. The aim of the public policies not only has to be the compensation of olive oil regions that are underprivileged from the productive point of view, due to territorial equity objectives, but to also reward the production of public goods for their contribution towards the improvement of external territorial factors. Furthermore, another potential objective is to encourage the transformation of attributes that are part of public goods, such as respect for the environment, into attributes of marketable good and that, therefore, are at least partially rewarded by the market.

Finally, it seems totally reasonable that part of the budget locations that are currently used to subsidise market, such as the "first pillar" of the CAP, and that mainly go to the most productive, competitive farms on a global scale —such as
the intensive countryside irrigation farms, should be used for the promotion of the multi-functionality of rural olive oil spaces, as long as they fulfil the condition of producing certain public goods.

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