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Workpackage 3

Assessing the Applicability of Geographical Indications as a Means to Improve Environmental Quality in Affected Ecosystems and the Competitiveness of Agricultural Products

Final Report

Mariano Riccheri, Universidad de Alicante
Benjamin Görlach, Ecologic
Stephanie Schlegel, Ecologic
Helen Keefe, Universidad de Alicante
Anna Leipprand, Ecologic

With the collaboration of Graham Dutfield (Queen Mary, University of London) and Dwijen Rangnekar (University of Warwick)

IPDEV Project Coordinator: Dr. Graham Dutfield, *Queen Mary, University of London*

WP3 Partners:

- Queen Mary, University of London, Ecologic Institute for International and European Environmental Policy, Universidad de Alicante, University of Warwick, IP Bulgaria.

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Acronyms

BESH	Bäuerliche Erzeugergemeinschaft Schwäbisch Hall (producers' group of the Schwäbisch-Hall quality pork)
CAP	Common Agricultural Policy
CMO	Common Market Organisation
EU	European Union
DOLPHINS	Development of Origin Labelled Products: Humanity, Innovation and Sustainability - CT QLK5 2000 00593
GI	Geographical Indication
IPDEV	Intellectual Property Impacts on Sustainable Development -
LFA	Less Favoured Area
PDO	Protected Designation of Origin
PGI	Protected Geographic Indication.
RC	Regulatory council (*Consejo Regulador*)
SD	Sustainable development
SHQ	Schwäbisch-Hällisches Qualitätsschweinefleisch (Schwäbisch Hall quality pork)
WIPO	World Intellectual Property Organization
WTO	World Trade Organization
WP3	Work-Package 3
UK	United Kingdom

I. JUSTIFICATION AND GENERAL METHODOLOGICAL ISSUES.

A. General Objectives of WP3

The title of work package 3 (WP3) is "Assessing the Applicability of Geographical Indications as a Means to Improve Environmental Quality in Affected Ecosystems and the Competitiveness of Agricultural Products from EU regions, Candidate Countries and Developing Countries". The objective of WP3 is to analyse the existing and potential links that can be established between current Geographical Indications (GIs) and regional sustainable development.

A case study approach, centred on European case studies, has been carried out. The European Union appears as a proper lab[2]oratory to study socio-economic and environmental effects GI measures, since it possesses a strong system, with a strong market importance and long standing tradition in the trade of "local" products as well having a well established, "special" or *sui generis* legal system of protection. In addition, despite a single legislation, there are different national uses regarding GIs, with countries like Spain, France or Italy which have adhered to "sui-generis" systems long before the a common European Regulation[3] was established, and others such as the UK or the northern European countries which have protected indications through general laws of unfair competition, passing-off and/or trade mark law[4].

Conclusions will be drawn with particular focus on the utility for regions with a potential to use GIs to enhance the value of 'local ecology', in particular in the developing countries.

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[2] The "Sui-Generis" System, in this case, consists in the adoption of specific laws, establishing a administrative procedures which oblige applicants to define the parameters of their product (mainly the demarcation of the area of production and definition of the product specifications) in order to qualify for protection and obtain registration. The system implies public control and provides a wide scope of protection which impedes use of the Geographical Indication, even if the public is not mislead as to the real origin of the product.

[3] Regulation EC Nº 2081/92.

[4] See Legal Framework, *infra.*

The study has paid special attention to (i) issues surrounding the relationship between the existence of GIs and environmental quality in regions where local or typical products are produced; and (ii) the contribution of GIs to product competitiveness and development.

Conclusions will be drawn from the case studies, which were carried out in such a way as to enable the effects of GIs to be assessed in terms of their environmental and economic impacts.

B. Justification

1. The Function of Geographical Indications: Identifying and Protecting Origin-Specificity Link

GIs are form of Intellectual Property employed to protect the "goodwill" of products with characteristics which are obtained from singular, geographically localized conditions of production.

They are perhaps the most ancient distinctive sign to be found in commerce; protection against the illegitimate use of indications was offered from the beginning of the 20th century in countries like France[5]. In common law countries, different national legal traditions and specific economic contexts meant that different concepts of protection were developed, namely unfair competition and passing off and collective or certification marks[6].

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[5] From the start of the 20th century, lawmakers in France acknowledged the use of indications of geographical origin to identify products with characteristics that could be linked to a certain *terroir*, considering its physical (e.g. agronomic and climatic) and human (e.g. know-how) dimensions. French law offered protection for these indications against imitation (Roncin, 2006). In the 1990s, this system was extended to the European Union by EC Regulations, establishing Protected Designations of Origin and Protected Geographical Indications, in addition to existing Regulations for the protection of designations of wines and spirits (See Council Regulation (CE) Nº 1493/99 on the common organization of the market in wine and (CEE) 1576/89 laying down general rules on the definition, description and presentation of spirit drinks).

[6] Protection through unfair competition laws aimed to provide those in trade with remedy against unlawful or dishonest practices by their competitors and was reflected at international level by Article 10bis of the Paris Convention at the 1900 revision conference. The passing off action was developed as a legal remedy where there is goodwill or reputation attached to the plaintiff's GI products and they are passed off as those of another, misleading consumers and causing the plaintiff damage. Both forms of protection protect traders and producers from the unauthorised use of the GI by a third party rather than creating property rights in the GI. Moreover, the court's decision is only effective between the parties to the proceedings. Certification marks indicate that the goods that bear them have certain characteristics, including geographical origin. The owner of the mark certifies that the goods are

GIs are distinctive signs, and some of their economic functions are the same as those of trademarks. First, they diminish the information asymmetries that exist between producers and consumers by giving the latter "information" about a product, thus reducing the transaction costs linked to learning about the characteristics of the good. Second, signs such as GIs and trademarks enable product differentiation. This means producers can invest in the quality of the product and build a reputation around the distinctive sign, occupy new segments of the market, and derive "price premiums" on the standard value of the product (Rangenkar, 2004).

In synthesis, in both TMs and GIs there is a content of information that allows consumers to identify different products, to associate different characteristics and qualities to each of them, and to attribute different market values. On the other side, from the perspective of the producer, the factor of differentiation *(a distinctive quality, a distinctive image etc.)* allows is an opportunity to search for higher market rewards for the sales of the product.

2. The Bond with the Local Environment

However, the nature of the content of the information given to the consumer by the GI is different to that embodied in a trademark, at least in one aspect. Rather than signalling the entrepreneurial source of a product, GIs indicate a "quality link" composed of three elements: the product, the geographical origin, and the quality of the product which is a result of its geographical origin.[7] The GI, therefore, informs about product specificity (or

compliant and usually defends the mark, but cannot use it on his own goods. Collective marks are broadly similar but must be owned by a collective body, e.g. a producers' association. Both types of mark are enforced under Trade Mark law. SeeDocument Sct/6/3 Rev. "On Geographical Indications: Historical Background, Nature Of Rights, Existing Systems for Protection and Obtaining Protection in Other Countries", prepared by the Secretariat, WIPO Standing Committee On The Law Of Trademarks, Industrial Designs And Geographical Indications, SCT/8/4, 2 April 2002. On passing off, see Cornish and Llewelyn (2003) "Intellectual Property: Patents,Copyright, Trade Marks and Allied Rights".

[7] See, for instance, the work of Barjolle, Boisseaux, Dufour (1998); Barham (2003); Berard, Marcheney, (1996); Moran (1993); Rangenkar (2004).

typicalness); that is, the traits of a product that are unique and derive from the geographical origin.[8]

In most of the literature referring to product specificity and the bond with the *terroir,* we find this link to be understood when taking into consideration the plural factors that make up the product's final – and unique - characteristics. These can be reduced to the physical and the human dimensions of product specificity.[9]

The first are the set of physical factors such as soil, climate or water, which intervene in the making of the produce.[10] But the construction of "specificity" also has a human dimension, composed by uses as well as by *the manner and solutions* of local inhabitants to overcome climatic, territorial and even socio-economic constraints.[11] It has also been stressed that these practices and knowledge frequently show continuity over time, so that they come to be considered as cultural expressions reflecting established traditions.[12]

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8 The link between the characteristics of products and the territory of origin was first observed for wines. These, together with other foodstuffs such as cheeses, were commonly associated with their origin, to which they owed their qualities.

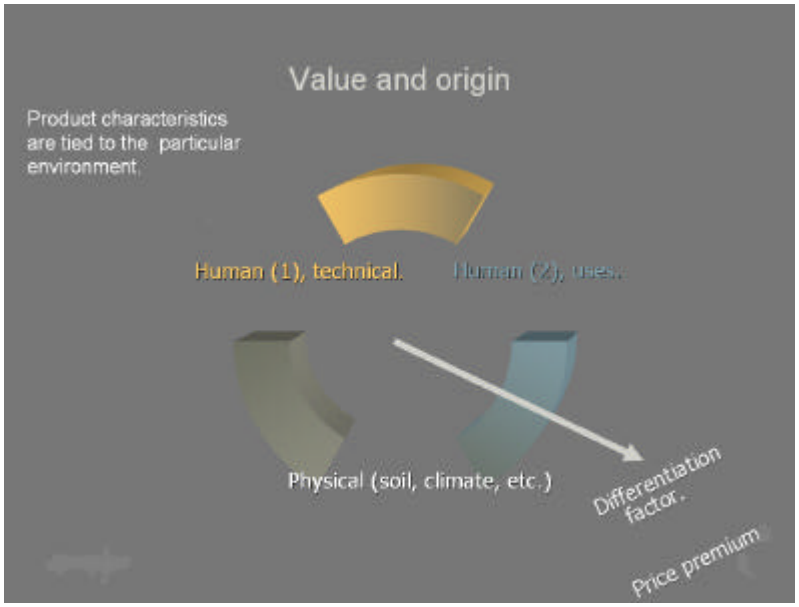
9 For a review of research dedicated to the link between the characteristics of a product and the *terroir* – considering physical and human factors residing in the place origin, see the work of Barjolle, Boisseaux and Dufour, *ibid*.

10 Research in this area has, for instance, included work on the micro-flora of milk – the flora provided by the natural milieu - and its incidence on the sensorial quality of cheese (See for example Bosset J.-O. et alii, (1997) "Comparison of some highland and lowland gruyère-type cheese of Switzerland: a study of their potential PDO/AOC/AOP characteristics", *FAM information* October 1997, FAM Liebefeld); or the relation between the influences of milieu on the chemical compounds found in raw materials and finished products.

11 Behind local products there are techniques and know-how that are developed over time, some responding to the physical and environmental constraints of the land (for instance the terracing of slopes for the purpose of agricultural activity) while others are due to uses and habits (Barjolle, Boisseaux and Dufour, *ibid*).

12 The existence of both such characteristics of GI products (collective and traditional nature of the know-how) has incited the exploration of the potential of GIs as a tool suitable for the protection of traditional knowledge. (Downes, 1997 and 2000; Downes and Laird, 1999; Rangenkar, 2004).

Figure 1 The "Quality Link": The Origin of Products as a factor of differentiation of agricultural products.



The distinctive element of the GI, adding value to the product, is the specificity extracted from the origin. It is this element, as well, which conducts suppliers to the occupation of market niches where consumers are willing to pay a higher price for the product.

3. Geographical Indications and Regional Sustainable Development

The promotion of regional development is one of the objectives of GI policy. In Europe, since GI applies exclusively to agricultural products, the main objective of EC regulations- in this sphere- has concentrated on rural development.

EC regulation Nº2081/92, recently replaced by regulation EC Nº 510/2006, established the principle[13] of the protection of provenance as a means of protecting rural development:

> *… whereas the promotion of products having certain characteristics could be of considerable benefit to the rural economy, in particular to less-favoured or remote areas, by improving the incomes of farmers and by retaining the rural population in these areas…*

[13] There are two other guiding principles: the protection of businesses against free-riding on reputable indications and protection of consumers against misleading labels (Rangnekar, 2004).

Sustainable rural development objectives have also been cited by European Commission officials, such as the Commissioner responsible for Agriculture, Rural Development and Fisheries, as one of the contributions of GIs:

> …*"several studies have shown that they have an important role to play in the regeneration" of the countryside since they ensure that agri-foodstuffs are produced in such a way that conserves local plant varieties, rewards local people, supports rural diversity and social cohesion, and promotes new job opportunities in production, processing and other related services. The needs of today's population are met, while natural resources and traditional skills are safeguarded for generations to come14*".

When addressing their potential contribution to development, attaching particular attention to the issue of sustainability of such development, a case for GIs may be made using two complementary arguments.

a) Products and productions susceptible of being protected through GIs have inherent characteristics which make them an ideal objective through which to promote regional/rural sustainable development.
b) GIs are a means to protect and promote such products and productions.

In relation to the first point; two outstanding traits of GIs, as defined in most of the existing literature, are the close link to the local environment – we will call this "localness"- and the existence of a historic implantation in the territory, where "know-how" related to the production of such products is developed over time -we will call this "antiquity/tradition"[15].

The "localness" of GI products is relevant to the question of sustainable development for several reasons: First, because the presence of economic actors in the same territory guarantees that socio/economic benefits brought by the GI will be captured locally. This socio/economic aspect has been clearly identified and placed as a policy objective by the European when Regulation EC 2081/92 was drafted (see the text from the preamble cited above).

14 See Fischler, 2004.

15 This vision corresponds to an "*ideal-type*" of GI products, which seems to consider GI products as necessarily linked to the territory both in spatial and temporary dimension (see, for example, Barjolle, Boisseaux and Dufour, *ibid*).

But the "Localness" of products may have other implications which imply sustainability of the production of GI-products. The production and trade conditions of such goods, are often defined by these goods. For example, as local products are often, although not exclusively, consumed in local markets[16] there is a higher probability that their supply chains will be shorter with smaller scales of production and less intense systems of production.

In addition, the fact that all or most factors of production are concentrated in the geographical area implies a major involvement of local communities in the supply chain contrary to conditions of agricultural mass-production, where horizontal and vertical integration tends to dissociate actors, and above all, "farm"-house interests from the local region and local interests[17]. In the case of most GIs, supply chain actors *are* also part of the local community; *ergo* with a higher and more accurate perception by producers of environmental restrictions and dangers linked to the production and elaboration of the product.

In relation to the second trait attached to GIs, "antiquity/tradition", it is based on the mentioned fact that the local knowledge related to the production of these goods is often developed over time, incorporating physical and environmental constraints of the land as well as uses[18]. Hence, in this case there is the assumption that belonging to a tradition

[16] Indeed, this is the case for the majority of the products included in this study, with the notorious exception of the Jersey Royal Potatoes (the totality is exported to UK) or the Spreewalder Gurken (sold all over Germany). However, it is acknowledged that in many cases -as happens with number of more famous indications such as Champagne, Rioja, Parma, Turrón de Jijona, Roquefort, Darjeling or Tequila- more distant markets have been developed and exports may represent an important percentage of revenues obtained for the sale of these products.

[17] Indeed, there is a tendency towards major dependence of local agriculture on foreign capital. A characterization of the sector is made in a FAO document where we may read "A small number of companies now dominate each part of the food chain in OECD countries. Chemical companies (now lead players in the seed business) are increasingly linked to grain traders and food processors in the production chain. The same companies buy, ship, and mill grain, then feed it to livestock or turn it into cereal, often crossing several national borders in the process. Fewer, bigger, more diversified across the range of commodities, and more vertically integrated upstream to the farmers' level and downstream in transport and processing - this is how one can characterize trading houses now as compared to two decades ago". (FAO, 2003: Ch. 9) available in http://www.fao.org/docrep/005/Y4671E/y4671e0e.htm#bm14.2 . Also, see recent press notes: "China calls for more foreign investment in agriculture", People's Daily, November 8, 2000 http://english.peopledaily.com.cn/english/200011/08/eng20001108_54640.html .

[18] See footnote 9.

"*…seems to guarantee [that their production has] a certain antiquity, so if the components [of biodiversity, of resources] are in existence today then this is because their use is sustainable"* (Louafi, Russel, 2005)[19].

However, before defining GI products as *traditional,* one must proceed with caution, as this does not necessarily reflect the present situation of many –if not most- of these products. For one thing, the existence of tradition for producing a certain product does not imply that the good is actually produced according to methods unchanged over time.

It is a fact that production methods of GI products evolve over the years. This is even recognized by European Union law which, for instance, allows specifications (GI production rules) to be modified by legitimate groups – subject to the authorities' approval - "in light of technological progress"[20]. Besides, as is the case in Europe, there is no requirement for a product to be traditional in order for it to obtain GI protection[21].

Furthermore, it must be added that "antiquity/tradition" of a product does not exclude the appearance of processes that are detrimental to sustainability, such as the intensification of agricultural productions[22].

Finally, it is interesting to come back to the question regarding the utility of GIs as a factor of "mobilisation" for local communities; as this is an issue of crucial importance, since there is a widely recognised idea that the mobilisation of local communities is an essential element in achieving the sustainable management of local resources[23]. In the context of

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19 Thus, traditional products would comply with the basic rule of sustainability, as defined in the Report of the Brundtland Commission, 'Our Common Future': "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". (United Nations General Assembly document, A/42/427, p.54. 1983, downloadable at http://www.are.admin.ch/are/en/nachhaltig/international_uno/unterseite02330/).

20 Regulation EC 510/2006, Art. 9.

21 Antiquity, or traditional aspects linked to the production of local foods may be useful elements in the establishment of the link between product and territory, to be considered e.g. in the framework of an application for a GI, but they are not a condition to be fulfilled in order to obtain protection (interview with Luis Berenguer, representative of ORIGIN and PGI "Turrón de Jijona").

22 This is the case –for example- with olive-oil, a "millenary" produce of the Mediterranean, which production in the last decades shows clear signs of intensification in many countries –Spain, Italy, Greece-, through increased use of agrochemicals and progressive augmentation of irrigation and disappearance of dry farming (see Beaufoy, 2001).

23 For Downes and Laird (1998: 3), it is widely recognized – for instance in the CBD - that conservation of resources depends on the mobilisation and support of local populations. This is because there is a closer relationship between

agricultural production, this is important because sustainable and unsustainable ways of production may compete on the same territory, so the mobilisation of local people towards the first must be supported in some way (Downes & Laird: 3)

Such involvement and mobilisation of local communities in support of sustainable agricultural production depends increasingly -in the context of the globalization of agricultural production and consumption- on the existence of appropriate incentives.

In agriculture, the sector to which the application of GIs is exclusively reserved in Europe, the creation of proper incentives towards sustainable processes is more often seen as a question of provision of public goods derived from agricultural activities. This leads to a discussion on the environmental benefits of agriculture, addressed in the next section.

4. GIs in the Context of the Discussion on the "Environmental Benefits of Agriculture"

European Union Geographical Indications refer exclusively to products of agriculture or agro-industries.[24] In our study we adopt a comprehensive view of the role of agriculture, which highlights its "multifunctional" character, beyond its acknowledged primary purpose: the supply of food, fibre and industrial products.[25] From this point of view, agricultural activity jointly produces crops and a series of externalities including the provision of certain public goods[26] such as public space and amenities, the preservation of

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local communities and the environment, and because there is valuable knowledge among local groups on sustainable uses and management of the territory.

24 Art. 1 of Council Regulation (EC) No 510/2006.

25 "Multifunctionality refers to the fact that an economic activity may have multiple outputs and, by virtue of this, may contribute to several objectives at once. Multifunctionality is thus an activity oriented concept that refers to specific properties of the production process and its multiple outputs (OECD, 2001: 11).

26 Non-commodity outputs of agriculture should not be considered as outputs in a conventional sense; rather, they are usually the result of different aspects of the agricultural production process. As stated in the aforementioned OECD report; "[Non-commodity outputs] can be associated with the level of input use (the employment effect on agriculture); be tied to commodity composition and farming practices (the impact on landscape and agricultural diversity); be linked to the diversity of intermediate input use (water quality, biodiversity); or be related to the food production itself (global food security). Externalities can be either positive or negative depending on the reference level. Some are tied to agricultural production, while others (such as the establishment of wetlands or the creation of wildlife habitat on farmland, compete with agricultural production for land and other resources." (OECD, 2001:38).

landscapes and the conservation of the wildlife habitats that live on these lands, as well as ensuring food security and preserving cultural heritage[27] (Abler, 2004).

The *joint* nature of the provision of primary and public goods leads us to consider market failures that are related to the provision of public goods: markets for this type of goods are either non-existent or function poorly. The provision of public goods particularly depends on corrective mechanisms, which may be brought about through State intervention.[28] Three means of intervention are mentioned (Belletti, 2002):

- Direct support for the primary product, e.g. direct support measures in the framework of the Common Agricultural Policy.[29]
- Support that targets joint-outputs, e.g. agri-environmental measures incorporated under the RDR.[30]
- The creation of markets and market conditions for joint-outputs, e.g. "Organic Farming" labels, which are directed at consumers.

GIs, clearly, may be related to the last type of measure. Embedded in Geographical Indications are "messages" or information about product qualities that – if correctly defined and communicated to the public - may be transformed into a "premium" on the value of the product that consumers, in niche markets, would be willing to pay. The advantage of the creation of market conditions for joint-outputs is that, contrary to the other two intervention means mentioned, in this case it is the consumers that pay for the provision of positive attributes.[31]

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[27] Negative externalities, however, are also plausible. Abler (2004) and official reports (OECD,2001) point out – among others- the conversion of forest and wetlands to agricultural exploitations, the hazardous use of nutrients, pesticides and pathogens, or soil erosion.

[28] If there was no jointness, and public goods could be provided independently to agricultural commodities, then intervention – or support to agriculture - would not be necessary to enhance multifunctionality (Abler, 2004:3).

[29] These support measures have the disadvantage of promoting both positive and negative externalities of agriculture. As mentioned in one report "At any given level of support there are many farms operating management practices which are not environmentally desirable. For these farms, the incentives established by the support system clearly do not promote, and may work against, environmental goals" (IEEP,2002:8).

[30] Council Regulation (CE) Nº 1257/99 on the support for rural development from the EAGGF.

[31] The multifunctional perspective allows us to decompose the ***value*** of typical products into different blocks, which correspond to different joint-outputs. In the framework of the DOLPHINS project, for instance, the following categories were mentioned: 1)Nutritional value (basic value, identical to that of a substitute product); 2)Hedonic value

The challenge, in this regard, is to explore a) the measure in which local products which are protected through GIs contribute to the provision of public goods *(localness, tradition, quality, safety, respect of the environment, etc.)*; b) the extent to which the provision of such attributes include, in particular, the provision of "environmental quality"; c) if and how GIs contribute to reducing market failures related to the provision of these non-commodity goods *i.e.* when and under which conditions are consumers ready to pay an extra price for agricultural products because of the attributes they lend to them.

GIs, therefore, may act as part of a valorisation strategy which serves an incentive towards activities in possession of this multifunctional character, creating opportunities for rural communities to undertake these as a means of subsistence. Furthermore, as seen in the previous section, in many cases products susceptible of GI protection (local products) appear –at least *a priori*- as being in possession of certain attributes (localness, antiquity/tradition) which could work in favour of sustainability.

5. An Innovative Area of Research

Despite the attention that GIs have gained in recent years, and regardless of the fact that some of these studies have been conducted in the context of issues that explore certain relations that may be established between geographical indications and sustainable development indicators, there are still many areas left to explore.

In general, most of the work carried out is socio-economic research on GIs. This work was published after the implementation of the EC Regulation and in general takes the form of case studies and the exploration of institutional, organisational and juridical aspects.[32]

(extra-quality value);3) Local public value (amenities); 4) Environmental and cultural value (general public value). See Belletti and Marescotti (2002) and Belletti (2002).

[32] For example, the work of Multon, J.-L. (1994): La qualité des produits alimentaires. Politique, incitations, gestion et contrôle. Paris.; Allaire, G. et al (1995): La grande transformation de l'agriculture. Lectures conventionnalistes et régulationnistes. Paris. ; Nicolas, Fet al. (1995): Agro-alimentaire: une économie de la qualité. Paris ; Arfini, F. et al. (1998): Typical and Traditional Products: Rural Effect and Agro-Industrial Problems. 52nd EAAE Seminar. Parma; Beranger, C. et al. (1999): Qualité des produits liée à leur qualité. Actes séminaires des 10 et 11 décembre 1998 à

Along the same lines, several important inter-institutional research projects were carried out, financed by the European Union.[33] Overall, most of the research has been centred on economic and organisational issues related to the collective nature of production of GI protected goods.

In some –more recent- studies, attention has been paid to the contribution of GIs to rural development objectives. However, the focus has been centred on the economic and social facets of rural development and little attention has been paid to the possible environmental effects[34] of promoting typical or local products through GI protection.

In recent times, some attention has been paid to the issue of how GIs may work in order to bridge gaps between intellectual property law and biodiversity conservation regimes (in particular the Convention on Biological Diversity). Many of these studies show that labels indicating geographical origin may contribute to the *in situ* conservation of biological diversity. Indirect contributions to biodiversity conservation may come through the adaptability of GI laws to the protection of traditional knowledge and practices and the promotion of "bio-commerce".[35] However, most such studies and works point out the need to contrast this work with empirical findings.[36]

Paris; Lagrange, L. (1999): Signes officiels de qualité et développement agricole. Paris; DAPP (2000): Recherches pour et sur le Développement territorial. Symposium de Montpellier January 2000. Tome 1: Communications Du Symposium. INRA. Paris; all mentioned by Thiedig and Sylvander (Thiedig and Sylvander, 2000 :4).

33 These are the FAIR Project on PDO and PGI Supply Chains and Institutions (FAIR1 – CT95- 0306) and the already mentioned DOLPHINS. Currently, there are two on going research projects. The SINER-GI (a Specific Targeted Research or Innovation Project financed by the EC) http://www.origin-food.org/2005/index.php?r=1&Largeur=1024&Hauteur=768 and WP3 of the IPdev project. At national levels, other projects exist, such as PRODDIG "Promotion du developpement durable par les Indications Géographiques".

34 The DOLPHINS Project (Development of Origin Labelled Products – OLPs -: Humanity, Innovation and Sustainability - CT QLK5 2000 00593), dedicated one work-package of an extensive research project to the analysis of the state of art of works relating to Origin Labelled Products and Rural Development. In general, it must be said, all works are mainly centred on socio-economic issues such as the effects on employment, farmer income, etc. possibly because the Regulation (EC Nº2081/92) itself only referred to such issues in it's preamble: "the diversification of agricultural production should be encouraged so as to achieve a better balance between supply and demand on the markets; whereas the promotion of products having certain characteristics could be of considerable benefit to the rural economy, in particular to less-favoured or remote areas, by improving the incomes of farmers and by retaining the rural population in these areas…" For an overview, see the Work-programme 3 synthesis *(Link Between Origin Labelled Products and Rural Development)* by Belletti and Marescotti, (2002) and the Final Report by Arfini et al. (2002). The currently ongoing SINER-GI project (http://www.origin-food.org) which followed Doplhins addresses environmental implications of origin products (OP) and GIs in amore specific manner, basically stressing that –by their nature- OPs are more linked to the local environment.

35 See, for example, Downes and Laird (1998) or the work presented in the seminars organised by ICTSD, CAN and UNCTAD "El uso de Indicaciones Geográficas, Denominaciones de Origen o Marcas Colectivas para Promover el

The IPDEV project (WP3) aims to focus on the *lacunae* left by previous research, by addressing such issues as:

- The incidence of local, GI protected agricultural production on the environment.
- The capacity of GIs to promote the competitiveness of local products, in particular environmentally valuable agricultural activities vs. alternative unsustainable or damaging activities.
- The degree of internalization of environmental values in the price paid by consumers for GI products and when it is achieved.
- The implication of local stakeholders, in particular in relation to the integration of environmental concerns in the GI strategy, as a result of the synergies created.
- The capacity of GIs to generate socio-economic welfare for local actors,
- ..in particular the creation of economic incentives tied to environmentally sustainable forms of agriculture.
- The existence of a "greening" process connected to GI products, with a particular focus on the existence of green clauses in product specifications.

C. A Simplified Approach

This work package proposes a simplified approach, which reduces the examination of GI impacts to two main spheres: the effect on environmental quality and the effect on local economic indicators.

However, in order to examine the efficacy of GIs in achieving goals of sustainable development in providing social-economic development, as well as other public goods or "amenities" in spheres such as the environment and environmental quality there is, in reality, no simple approach.

Biocomercio", November 21-23, 2005 http://www.biotrade.org/Events/events_docs/Forth-Nov05-Programme.PDF#search=%22david%20vivas%20indicaciones%20geogr%C3%A1ficas%22 .

[36] On this need, refer to Vivas, D. "Indicaciones Geográficas y protección de la biodiversidad". Presentation delivered in the framework of the Symposium (audio) "Comunidad Andina: Simposio Internacional de Indicaciones Geográficas" Lima, 11 y 12 de enero de 2006. http://www.comunidadandina.org/propiedad/origen_andino.htm

For the analysis in both mentioned spheres, the study of GI regulations and institutions, is one step. However, such an institutional approach must be complemented by an approach which takes into account how the GI is constructed and the effectiveness of valorisation strategies of different actors involved. From previous research[37], it seems that there is no evidence the institutionalization of GIs "per se" will be sufficient for the purpose of promoting regional development (for this it also seems necessary to observe not only the constitution and operation of the supply chain, but also the interaction with other actors and development actions and plans (tourism, natural conservation, promotion of local agriculture and industry) as well as the incidence of broader national and Community legislation.

For this reason, in complementary form, attention to social and cultural aspects connected to the GIs is paid to, with particular focus on synergies which are created by, or in which communities linked to the GI take part.

Figure 2 GIs and their relation to sustainable development.

D. A Case Study Approach

[37] Sylvander, B. (2003).

The method proposed was to conduct a series of case studies. Concrete issues to be addressed in each case study were defined previously, through the establishment of a "case-study report template", covering the facets which would later be interrelated and analysed:

Box 1 Case-Study Report Template

1 The Product and Its Region of Origin

1.1 Product Description
1.2 History
1.3 Area of Production
1.4 Alternative Land Uses and Possible Substitutes

2 Legal Aspects: Product Definition, Control and Protection

2.1 Status of Protection/Labels and Certificates
2.2 Specification
2.3 Monitoring
2.4 Other legal instruments related to the product
(subsidies, environmental conservation, etc.)

3 Environmental Effects Derived From the Production of he Local Good

3.1 Water
3.2 Soil
3.3 Landscape
3.4 Biodiversity
3.5 Energy/Resources/Waste
3.6 Air/Climate

4 Economic Data and Relation to Regional Development

4.1 Importance of the Local Product for the region and GI incidence
4.2 Marketing Channels
4.3 Prices/Price Premiums/Profitability.
4.4 Subsidies and Sponsoring
4.5 Supply Chain Organisation and Distribution of Rents.

5 Marketing/Consumer Perception

6 Stakeholders and Synergies

Case Selection

The general guideline for the selection of cases to be analysed has been to provide a diversity of situations in order to favour cross-comparison and derive conclusions. The final purpose was to examine how a series of pre-established factors applied to each case study, related to different GIs.

The cases studied were selected from a process divided in two phases:

In the first phase, a prospecting task was carried on the basis of information available through official sources, libraries and the internet.[38] A list of 35 potential case studies was then established (see Table 6 in annex).

For this initial selection of 35 cases, the following factors were taken into account:

- Geography: Cases were chosen from countries with different protections and traditions in protecting GIs. The distribution among research institutions is based on criteria of proximity.
- Variety of Goods: A selection of different types of goods was included. The following categories may be differentiated: dairy products (cheese from cow, sheep or goat milk); vegetables (asparagus, gherkins, artichokes, potatoes, tigernuts); meat (pork including ham, lamb and beef); seafood (mussels); cereals (rice); edible oils (olive, pumpkin seed and argane); intermediate products (argane oil, rose oil); mineral water; wines and beverages (cider); tobacco.
- Comparable goods: For the purpose of establishing comparisons, some goods are paired to goods of a similar nature or function (cheeses, olive oil, intermediate products, meat) produced in other regions.
- Plausible links between GIs and environmental quality: Visible or evident elements such as production in protected natural areas (national parks, protected biosphere zones: Idiazábal Cheese, Spreewälder Gurken, Sierra Mágina Oil) and areas of high ecological value (wetlands: Arroz de Valencia), areas with a significant percentage of production under “organic” or “ecological” logos (Sierra Mágina), or those where we find information publicised by *Consejos Reguladores*, or Producer Associations underlining environmentally friendly practices (Mexillón de Galicia). Such indicators of positive linkages were taken into account when selecting cases.
- The availability of information.
- Representation of products protected as PDO (Protected Designation of Origin) as well as products protected as PGI (Protected Geographical Indication)

- ❖ Contrast: Some cases were chosen on the basis of their commercial success or notoriety, and not on their visible potential to contribute to environmental quality. These "ambiguous" or "negative" environmental cases may serve to provide contrasting information for the purpose of further analysis.

All information on pre-selected case studies was put into brief standard fact-sheets, exchanged and discussed. Based on the same criteria, a set of cases was selected for further study and analysis (2nd phase). In the final phase of the project, only the cases for which qualitative value and reliability of information was considered sufficient were retained for the final analysis and conclusions of the case studies.

It must be outlined that the chosen case studies are by no means a representative selection of European cases (there are more than 720 indications for agricultural products[39]). However, the cases chosen are a very useful sample enabling to explore the effects of GIs for different types of products, with different local social, economic and environmental conditions, in countries with different traditions in protecting local products, and with different forms of supply chain organization –including, a diversity in the objectives pursued when adopting a GI strategy-.

Finally, as explained before, the focus has been laid on Agricultural Products from EU regions. Some insights from candidate countries have been synthesised and added to the report, although they are not part of the analysis carried out in this report, due to problems related with the integration of the results with those of other case studies.

The advantage of this geographical focus is Europe can by that serve as an adequate "laboratory" for the analysis of effects, a stable environment where to test methodology and extract conclusions which can then be tested against the specific situations in developing countries.

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[38] A survey was distributed to more than 200 stakeholders in the framework of project presentations, and sent to local stakeholders, with an insufficient reply rate.

[39] The number of registrations of wines and alcoholic beverages amounts to 4,200 (European Commission; "Why do Geographical Indications Matter to Us?" July 2003. in http://ec.europa.eu/trade/issues/sectoral/intell_property/argu_en.htm).

This European based approach, however, does include one weakness: the strong presence of subsidies –both to sustain agricultural production and rural development- create market distortions which impede a more accurate assessment of GI effects on local food production and local sustainable development indicators. The isolation of results on GI impacts in sectors such as the rice or olive oil sector, both organized under CMOs and receiving important Community subsidies[40], may in effect prove difficult as motivations of actors are not always market-driven.

D. Work-plan

The general work-plan to perform this study consisted in

(i) Examining the existing literature and establishing a methodological framework (see Methodological Framework and Literature Review deliverable).

(ii) Defining relevant information to be retrieved for the analysis of environmental and economic impacts and putting it in a "Case Study Report Template" (see section D, above)

(iii) Prospecting potential cases to be examined (see Annex 1)

(iv) Defining the final cases to be studied based on scrutiny of the templates and group comments

(v) Data and information collection aimed at obtaining complementary information through interviews and direct contact with different case study stakeholders

(vi) The draft of descriptive "Case Study Reports", in which all the collected data and information is set out. (see Annex 3).

(vii) The analysis of the case studies and production of a Draft Final Report, presented before a panel of experts.[41]

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[40] Two types of economic aids are available to rice producers: the Single Payment Scheme-SPS and agro-environmental subsidies, which have the scope of promoting agricultural productions whilst protecting the environment and natural space. Moreover, the profitability of rice production in the Albufera wetlands is highly dependent on the existence of such support. As reported, up to 46% of a farmer's income corresponds to PAC and agri-environmental aids (see Report Arroz de Valencia). In the absence of such aids, farmers would lose 450 Euros monthly/Ha. In a similar way, a study performed by the government of Andalucía shows that more than 60% of olive groves would not lead a lucrative activity in the absence of Community aids (see report Sierra Mágina, annexed).

[41] Such presentation took place in Chatham House, London, in October 2006.

(viii) Final Report, including policy recommendations based on findings and conclusions.

Table 1 List of case studies.

Geographical Indication	Type of Geographical Description.	Product		Geographical Area of Production		Associated Trade Mark
Idiazábal	PDO	Cheese (ewe milk)		Basque Aut. Com and West Navarre, Spain		
Diepholzer Moorschnucke	PDO	Meat (sheep)		Diepholz moorlands Lower Saxony, Germany		
Jersey Royal Potatoes	PDO	Potatoes.		Island of Jersey in the English Channel		
Sierra Mágina,	PDO	Extra-virgin olive oil.		Sierra Mágina, Jaén, Spain		
West Country Farmhouse Cheddar.	PDO	Cheese (cow milk)		South West England (Somerset, Dorset, Devon, Cornwall)		
Schwäbisch-Hällisches Qualitätsschweine-fleisch	PGI	Meat (pork)		Hohenlohe Baden-Württemberg ,Germany		
Arroz de Valencia	PDO	Rice		Albufera area of influence, Valencia, Spain		
Spreewald Gherkins	PGI	Processed (pickled) cucumbers		Spreewald, Brandenburg, Germany		

II. LEGAL FRAMEWORK

A. Legal forms of protecting Geographical Indications

Because of differences in legal traditions and historic and economic conditions, a variety of legal concepts for the protection of geographical indications (GIs) have developed at national and regional level. There are four main categories of protection: - Laws relating to business practices, especially competition and consumer protection law.

- Protection through trademark law, in particular collective and certification trade marks.
- Administrative protection schemes.
- *Sui generis* systems for protected appellations of origin and registered geographical indications, of which the EC regional system for agricultural products and foodstuffs is one;

There may be a national protection mechanism that does not neatly fit into one of those categories. Moreover, cumulative application of different protection concepts is common; different means of protection are often available to different categories of product within the same country.

1. Protection of GIs under Laws regulating Business Practices

Rather than creating property rights in GIs, this category of laws serves to protect producers and traders from the unauthorised use of GIs by third parties that carry out commercial acts considered to be contrary to honest business practices, in particular through consumer protection measures or the repression of unfair competition or "passing off". Consumer protection provisions may be general or focused on, for example, trade descriptions, health or safety.

A harmonised multilateral framework for the protection of GIs[42] against unlawful use was created by the WIPO Paris Convention 1883 (as amended)[43], which sets out sanctions for "cases of direct or indirect use of a false indication of the source" of goods, not necessarily on the goods themselves (e.g. advertising); requires nationals of countries of the Paris Union to be given effective protection against unfair competition, defined as "any act of competition contrary to honest practices in industrial or commercial matters" (art. 10bis); and requires national law to provide (undefined) legal remedies.

The WIPO Madrid Agreement 1891[44] within the Paris Union extends protection against the use of false indications to the use of deceptive indications. But, except for regional appellations for products of the vine, for which protection is absolute, the courts of each signatory state may decide that a GI is generic and falls outside the scope of protection (art.4).

The TRIPS Agreement 1994[45], binding on all WTO members, establishes common protection standards for GIs against misleading or deceptive use and unfair competition, but leaves states to decide the legal means. It is, however, accepted that commercial practices that are misleading, or are likely to mislead the public about an

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42 The Convention refers to "indications of source or appellations of origin" but does not define those terms. In its connection, WIPO defines indications of source as including "any **name, designation, sign or other indication** which refers to a given country or to a place located therein, which has the effect of conveying the notion that the goods bearing the indication originate in that country or place" and an appellation of origin as "the **geographical name** of a country, region or locality which serves to designate a product originating therein, the quality and characteristics of which are **due exclusively or essentially to the geographical environment**, including natural and human factors" (WIPO, 2004: 258). Appellations of origin are a special type of indication of source.

43 Revised at Brussels (1897; 1900) (no longer in force), Washington (1911) (no longer in force), The Hague (1925), London (1934), Lisbon (1958), and Stockholm (1967), and amended in 1979. The more recent World Trade Organisation (WTO) Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS) 1994 obliges its members to comply with certain provisions of the Stockholm Act of the Paris Convention (1967), meaning that most Paris Union members belong to that version.

44 The Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods 1891 revised at Washington (1911), The Hague (1925), London (1934), and Lisbon (1958). It was supplemented by the Additional Act of Stockholm (1967). Membership of the Madrid Agreement has always been limited: as at 9 December 2006 it had 34 signatory states, including Germany, Spain, UK, France and Italy.

45 The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which forms Annex 1C to the Agreement Establishing the World Trade Organization 1994 ("WTO Agreement"), agreed during the Uruguay Round of multilateral trade negotiations held in the framework of the General Agreement on Tariffs and Trade 1993 (GATT). As at 11 December 2005, there were 149 members, including Germany, Spain, UK and France and Italy.

enterprise or its activities, in particular the geographical origin of the products it offers, constitute an act of unfair competition.

Similar to the Madrid Agreement, TRIPS provides additional protection to wines and spirits and extra protection to wines. TRIPS distinguishes itself from the WIPO treaties in the area of enforcement by providing central compliance, monitoring and dispute settlement procedures regarding treaty law and setting out common standards on enforcement under national law.

To prevent the unauthorised use of a geographical indication in an action against unfair competition, a plaintiff usually has to show that the use is misleading, damages have resulted or are likely to result, and the GI has acquired distinctiveness (i.e. the relevant public associates goods sold under the GI with a distinct geographical origin and/or certain qualities or reputation).

In general, administrative procedures are used for enforcement and are initiated by a public or an administrative authority following a complaint or monitoring. They may include an order to stop infringement, to give adequate information to the consumer or a fine. But civil proceedings may be initiated by private natural and legal persons or entities like trade associations, chambers of commerce or consumer associations. Civil remedies may include injunctions, damages or confiscation. Lastly, the public prosecutor may commonly initiate criminal proceedings. Criminal remedies commonly include a fine or imprisonment.

GI protection under unfair competition law may be supplemented by specific statutory provisions to protect unregistered GIs. An example is sections 126-129 of the German Trade Marks Act 1994, which provide that natural and legal persons with the right to use an unregistered GI may request the courts to prevent unauthorised use of that GI, if such use would be misleading or would take unfair advantage of the GI's reputation, and to grant damages, as the case may be. Those provisions are based on principles developed by the courts when applying the law against unfair competition to the unauthorised use of GIs.

In common law countries, the action of "passing off" is commonly the basis of protection against dishonest business practices. To succeed in a "passing off" action to prevent the unauthorised use of a GI, usually the plaintiff must show that public "goodwill" or reputation are attached to the products he supplies and that carry the GI, that the defendant misrepresents to the public that the products offered by him originate from the plaintiff, and that the plaintiff is likely to suffer damage as a result.

Lastly, it is worth commenting that under this category of protection, important factors like the area of production and the producers with a right to use a given GI are determined by the courts in the course of legal proceedings. Protection granted to a GI by an unfair competition or passing off action is only effective between the parties to the proceedings and entitlement to protection must be demonstrated every time enforcement is sought.

2. Protection of GIs as Collective or Certification Marks

Because individual trade marks must not be descriptive or deceptive, a geographical term cannot be registered as an individual trade mark (unless it has acquired distinctive character through use or is fanciful and therefore not misleading as to origin). The same principle does not apply to collective marks or certification marks.

Collective Marks

Collective marks are granted to a collective body, e.g. an association of traders, producers or manufacturers, and serve to show that a member belongs to that collectivity. An example is "Woolmark" for wool products. Membership of the association is usually subject to compliance with certain rules, e.g. on the geographical area or standards of production. Collective marks do not directly indicate quality (but may indirectly if the association has a reputation for being associated with quality products).

Under German law, for example, the regulations governing the use of a collective mark may limit its use to products from a defined geographical area. Any person whose product originates in that geographical area and meets any other conditions under the

regulations is eligible to become a member of the association and use the mark. The mark may be licensed.

The protection of collective marks is enforced under general trade mark law. An action for infringement may be brought by the owner of the collective mark, for example if it is used by a person that is not a member of the relevant association.

Certification Marks

Certification marks are owned by public or private certification bodies and serve to indicate that the products they certify satisfy prescribed standards or criteria, which may include geographical origin. Every producer that complies with the standards has the right to use the mark. The certification bodies may not use the marks themselves. To ensure the certification procedure is neutral and impartial, with the application for registration, the owner of the mark must file detailed regulations setting out the characteristics certified by the mark, the authorised users and details on certification and control.

Again, GI protection in the form of a certification mark is enforced under general trade mark law. In principle, if the mark is used in a manner that is incompatible with the purpose of the association or the regulations, the certification mark owner must initiate the action for infringement. If the owner does not take reasonable steps to prevent misuse, anyone can request the industrial property office to cancel the registration. Use of the mark is also necessary to retain protection.

Civil judicial remedies usually include an injunction, damages, confiscation or destruction. In regard to administrative remedies, the customs administration may act to prevent the import, export or transit of infringing goods, e.g. in Germany. Criminal remedies commonly include fines or imprisonment.

In conclusion, the definition of the production area and standards of production form part of the specification to be filed with the collective or certification mark application,

and become part of the registration. But, in contrast to the authorities responsible for administering *sui generis* GI protection systems, the competent authority to receive a collective or certification mark application does not necessarily examine the specifications (delimitation of the production area or existence of a link between the indication and the product's qualities). But competitors and consumers may oppose elements of the application or challenge the validity of a registered mark.

3. Administrative GI Protection Schemes

Where the marketing of a product that carries a GI is subject to an administrative approval procedure, that procedure may be used to control use of the GI, for example on a product label. That applies to the sale and marketing of wines and spirits in many countries like France, Spain and Italy.

Such administrative schemes are a means to ensure fair trade and consumer protection. But they do not enable the holders of the collective goodwill attached to a GI to take individual action to protect that GI. Instead they provide for an administrative mechanism to prevent misleading use of GIs on products. Criminal sanctions usually apply in cases of non-compliance.

4. Sui Generis Protection Systems for Protected Appellations of Origin and Registered Geographical Indications.

The system of protected appellations of origin was developed during the 19th century as a remedy against fraudulent commercial practices involving the origin of agricultural products, especially products of the vine from European vineyards.

Regarding multilateral agreements, appellations of origin were recognised as objects of industrial property protection in the first multilateral agreement on intellectual property, the Paris Convention 1883 (art.1(2)). But the term was not defined at treaty level until the Lisbon Agreement 1958: art.2(1): "the geographical name of a country, region, or locality, which serves to designate a product originating therein, the quality and characteristics of which are due exclusively or essentially to the geographical

environment, including natural and human factors"[46]. If the qualitative link between the product and the geographical area is insufficient, i.e. if a product's characteristic qualities are not due essentially but only partly to its geographical environment, the name is merely an indication of source. The geographical environment includes natural factors, like soil or climate, and human factors like the special professional traditions of the producers established in the geographical area. Agricultural (including products of the vine) or handicraft products may be protected but industrial products may not – the qualitative link of human traditions is lost or overstretched in the industrialization process.

Following an administrative procedure of application, appellations of origin are usually protected by a legislative or administrative act recognising the appellation, the product on which it is used, the geographical area of production and the conditions of use. Public law bodies such as authorities responsible for the administration of protected appellations of origin, trading standards or consumer protection bodies are generally responsible for taking civil or criminal action against unauthorised use.

Registered geographical indications are similar titles of protection to appellations of origin, but the scope of protection and the application procedure vary: following an administrative application procedure, geographical indications are protected by registration rather than the adoption of a specific law.

At treaty level, the TRIPS Agreement 1994 (art.22(1)) defines geographical indications as: "*... indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin*".

Firstly, that dispenses with the appellation of origin requirement for the quality or characteristic of the good to be linked to the territory and allows the product's

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[46] Lisbon Agreement for the Protection of Appellations of Origin and their International Registration of October 31, 1958, as revised at Stockholm on July 14, 1967, and as amended on September 28, 1979. None of our case study countries are signatories of the Lisbon Agreement. France and Italy are (1966 and 1968, respectively). As at 9 December 2006, there is a total of 25 signatory states only.

reputation only to form the basis of the link, i.e. public conceptions and expectations about a good and its geographical origin. Secondly, the definition covers indications like words or phrases, iconic symbols and emblems, scripts and pictorial images, etc., which need not be direct geographical terms, e.g. Feta for cheese from certain regions of Greece and Basmati for rice from certain regions of India and Pakistan (Rangnekar, 2004: 10). Thirdly, there must be a link with the geographical place of origin of the good, which is a wider concept than "geographical environment" as used in the Lisbon appellation of origin definition. Consequently, industrial products with a special reputation due to manufacturing know-how may be registered, e.g. Sheffield Steel. The Treaty does not define the type and size of the territory and the extent to which the good's production process must take place there. The WTO Secretariat's survey of national implementation shows that interpretation varies widely. Rangnekar stresses that, from a legal and economic point of view, protection should require *"a level of homogeneity in the distinguishing quality across goods produced by different manufacturing units*" (Rangnekar, 2004: 11).

Higher protection is provided to geographical indications for wines and spirits and extra protection to geographical indications for wines. Because negotiations on GIs were strongly contested, an agenda for further negotiations was incorporated into TRIPS on establishing a multilateral register for the notification and registration of geographical indications for wines and spirits eligible for protection in participating Member countries and on extending the higher protection provided to wines and spirits to other goods. The EU is in favour of both propositions but "new world" countries are generally against; old world emigrants often took traditional goods, production methods and geographical indications to the new world. Negotiations are ongoing[47].

Finally, under TRIPS, the provisions on protected appellations of origin under the Paris Convention and on registered geographical indications under TRIPS are subject to central WTO compliance, monitoring and dispute settlement procedures and national enforcement mechanisms must meet common standards.

[47] See http://www.wto.org/english/tratop_e/trips_e/gi_e.htm for further information.

B. European Union Regional Sui Generis *System for Agricultural Products and Foodstuffs*

The European Union (EU) system for the protection of designations of origin and geographical indications was introduced in 1993 by Regulation (EEC) No 2081/92.[48] The Regulation does not harmonise the relevant EU Member State laws on the protection of geographical indications. Instead it establishes a *sui generis* Community-wide protection system for Community concepts of geographical indications and designations of origin that covers agricultural products and foodstuffs only (there is a separate *sui generis* EC protection system for wines and spirits[49]; only national protection systems apply to geographical indications for handicraft or industrial products). The system is administered jointly by the Member States and the Commission on the basis of a Community register. That means that agricultural products and foodstuffs originating in the EU may be protected by national systems such as trade mark law or laws on business practices and/or under the Community PDO-PGI system.

Regulation 2081/92 began with a French memorandum requesting a Community measure to protect designations of origin not covered by the harmonised provisions on wine or spirits already in force. That request was supported by Italy and Spain. It is worth noting the countries behind the Regulation; with the exception of Germany, Northern European countries like the UK generally do not have a tradition of providing *sui generis* protection for geographical indications (instead relying on trade mark or business practices law), which means they often have minimum implementation of the Regulation, while Southern European countries usually have well developed and detailed systems.

The presence in the EU of this regional protection system and overlapping different national mechanisms and legal traditions meant that a combination of Northern and

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[48] Council Regulation (EEC) No 2081/92 of 14 July 1992 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs.

[49] Council Regulation (EEC) No 2392/89 of 24 July 1989 laying down general rules for the description and presentation of wines and grapes musts and Council Regulation (EEC) No 1576/89 of 29 May 1989 laying down general rules on the definition, description and presentation of spirit drinks.

Southern EU States formed a suitable "laboratory" in which to analyse the environmental and socio-economic effects of GI protection. We will therefore consider this system in some detail.

Regulation 2081/92 has been replaced by Regulation (EC) No 510/2006,[50] which entered into force on 31 March 2006, during the IPDEV project. The new regulation takes over most of the provisions of Regulation 2081/92. The revision was made to bring provisions on the registration of designations of origin and geographical indications from third countries in line with the TRIPS Agreement and GATT, as required by a WTO Panel Report,[51] and to introduce some new provisions to improve the transparency, legal certainty and enforcement of the system. The modified provisions on registrations from third countries became applicable at the date of entry into force of the new Regulation, but other changes are subject to transitional periods. Geographical indications and designations of origin that were registered under the previous Regulation continue to be protected under the current one. In fact, from 1993, more than 700 names were registered under Regulation 2081/92, including over 150 cheeses, 150 fresh or processed fruit or vegetables, 160 meat and meat-based products and 80 types of olive oil.

Facilitating EU trade within the single market and internationally were undoubtedly important objectives behind the introduction of the regional *sui generis* protection system, but the more specific policy aims are: a unified vision of EU a) agricultural and rural policy, b) competition policy and c) consumer policy (as per the Preamble). These can be sub-divided into:

A 1. Diversification of agricultural production (agricultural)
2. A better balance between supply and demand (market)
3. Development of rural areas – stabilisation of population, increase in farmers' income (rural development)

B 1. Equal competition between producers of protected products

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[50] Council Regulation (EC) No 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs.

[51] WTO Panel Report on complaints WT/DS174 and WT/DS290.

C 1. Clear information on origin to enable product differentiation
2. Credible products in the eyes of the consumer (Barjolle and Bertil, 2000: 9).

These are clearly interrelated: diversification of land use and the reduction of intensive agriculture are considered essential for the conservation of the EU's ecosystems (a move from rewarding quantity to quality). Farmers are also seen as the "guardians" of the land, and without stable income they could be forced to abandon rural areas. The wider economic stability of much of the EU is linked to agriculture: cheap imports of basic foodstuffs and pressure to reduce agricultural subsidies make imperative a new source of income based on quality and a way to differentiate oneself on EU and global markets; there are clear synergies with aims of the Common Agricultural Policy (CAP) reforms. Finally, if protected products are to survive and thrive on the market, they require protection from unfair competition at the production and commercialisation stages and must be clearly indicated to confident consumers who are the potential source of income to support the system.

The Regulation provides for two categories of registered names: protected designations of origin (PDO) and protected geographical indications (PGI), defined as (art. 2(1)):

> The name of a region, a specific place or, in exceptional cases, a country, used to describe an agricultural product or a foodstuff originating in that region, specific place or country:
> (a) the quality or characteristics of which are essentially or exclusively due to a particular geographical environment with its inherent natural and human factors, **and** the production, processing **and** preparation of which take place in the defined geographical area (designation of origin); or
> (b) which possesses a specific quality, reputation or other characteristics attributable to that geographical origin **and** the production **and/or** processing **and/or** preparation of which take place in the defined geographical area (geographical indication).

The designation of origin concept (a) can be likened to the definition of an appellation of origin under the Lisbon Agreement,[52] while the geographical indication (b) is comparable to the definition of the same under the TRIPS Agreement.[53]

Examples of the natural factors under the PDO definition are soil, geographical relief, climate and microclimate, wildlife. Over time, man must have developed human factors or practices adapted to those natural factors such as choice of planting area, plant varieties and planting density, adaptation of the landscape (terraces, irrigation systems, soil improvement), harvesting conditions (dates, methods, sorting) and development of local know-how. For example, the Jersey Royal Potato is linked to Jersey's steep and raised fields (geographical relief) that slope towards the early sun (climate), and the creation of terraces on steep slopes and the use of local seaweed as fertiliser (human know-how). For transformed products, transformation practices must have been selected also (fermentation, drying, heating).

The PGI definition is more flexible than the PDO definition as regards origin: part of production, processing or preparation may take place outside the area provided at least the product's reputation is linked to the place of origin.

To avoid misleading consumers, the name "of an agricultural product or a foodstuff which, although it relates to the place or the region where this product or foodstuff was originally produced or marketed, has become the common name of an agricultural product or a foodstuff in the Community", is considered generic and may not be registered (art.3). This can be seen from the West Country Farmhouse Cheddar PDO: protection of the terms "cheddar" and "West Country" was not sought.

Registration is jointly administered by the European Commission and the Member States. In so far as the Regulation does not contain specific provisions on the design of

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[52] Lisbon Agreement Art. 2(1): In this Agreement, "appellation of origin" means the geographical name of a country, region, or locality, which serves to designate a product originating therein, the quality and characteristics of which are due exclusively or essentially to the geographical environment, including natural and human factors.

[53] TRIPS, Section 3 art. 22(1): Geographical indications are, for the purposes of this Agreement, indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.

Member State procedures, in line with the principle of subsidiarity, Member States apply their national administrative law.

C. Implementation of the EU System.

1. Application Procedures

Regulation 510/2006 sets out minimum requirements for application procedures at Member State level. National law applies where there are no specific requirements in the Regulation, meaning that the procedure varies slightly from State to State, particularly as regards institutional structures for receiving and considering applications. In this section we will consider the provisions of the Regulation and the national systems set up in our case study Member States (Germany, Spain and the UK) plus two other Member States that, like Spain, have a long national tradition of protecting GIs under national *sui generis* systems: France and Italy.

The framework protection process set out by the Regulation is the same for PDOs and PGIs. But as we shall see, national protection systems for PDOs and PGIs are different in some Member States.

Under the Regulation, only groups are eligible to submit applications (art. 5(1)) or, in exceptional circumstances, a legal or natural person (Regulation (EEC) 2037/93[54]). Because any producer located in the relevant area that complies with the product specification is entitled to use a registered name, a "group" is defined as any association of producers or processors working with the same agricultural product or foodstuff, regardless of its legal form. Other interested parties may participate in a group, for example consumers. In the cases studied, producer associations have applied for PDO or PGI protection.

[54] Commission Regulation (EEC) No 2037/93 of 27 July 1993 laying down detailed rules of application of Council Regulation (EEC) No 2081/92 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs.

An application for registration must be made to the competent authority of the Member State where the geographical area is located (art. 5). The national authority will check the existence and history of the product and the production methods as set out in the specifications. From 31 March 2007, it will also have to initiate a national objection procedure open to all those with legitimate interest.[55] France (PGI only), Italy and Germany already publicly consult on applications.

If the national authority considers the application satisfies the requirements of the Regulation, it takes a favourable decision and forwards the application, including the main points of the specification and other documents on which it has based its decision, to the Commission. Otherwise, the Member State authority rejects the application.

The Commission has twelve months to consider a forwarded application (art. 6). If it is approved, it is published in the Official Journal of the European Union. There is then a public objection procedure, followed by registration or rejection of the application by the Commission (art. 7). Registration is by means of Commission Regulation. The same basic procedure applies to applications to amend a PDO or a PGI.

The following table sets out the application procedure at national level in the case study countries of Germany, Spain, the UK (England) and Jersey. For comparison, it includes the national application procedures in two other EU Member States, France and Italy, where there is a developed national tradition of protecting geographical indications for agricultural products and foodstuffs under a *sui generis* system.

[55] Regulation 510/2006 stipulates that the provisions governing Member State procedures only apply obligatorily as of 31 March 2007. But the Regulation that previously governed Member State procedures was revoked with immediate effect as of 31 March 2006. The legislator seems to have wanted the provisions on national procedures to remain applicable in so far as they are identical to the procedures set out in the previous Regulation.

Table 2 National application procedures for GI protection in case study countries and France and Italy.

	Germany	Spain	UK (England)	Bailiwick of Jersey	France	Italy
Law setting down national application process	Federal Law on the Protection of Trade Marks and Other Signs of 25 October 1994, as amended[56]. Trade Mark Regulations of 30 November 1994, as amended.	Royal Decree 1643/1999 of 22 October regulating the application process for registration in the Community Register of PDO and PGI	NA	NA	Rural Code; Consumer Code; Decree no 2000-826 of 28 August 2000 on the examination procedure for applications to register PDOs and PGIs	Ministerial Order of 17 November 2006 defining the National Procedure for the registration of PDO or PGI in accordance with Regulation 510/2006
Receiving body for applications; role	Trade Mark divisions of the Patent Office. Reaches final decision on whether the application complies with Regulation 510/2006 following national public consultation and comments from interested public bodies including the Federal Ministries of Food, Agriculture and Forestry and of Health and interested business organisations.	If the designated geographical area falls within one Autonomous Community, the competent authority thereof. If it falls within more than one Autonomous Community, the Spanish Ministry for Agriculture, Fisheries and Food. Internally assesses application against Regulation 510/2006 and approves the dedicated Regulatory Council.	Food from Britain, a Non-Departmental Body funded by government and industry to develop the market for British food and drink. Internally assesses if application complies with Regulation 510/2006.	Former Agriculture and Fisheries Committee of the States of Jersey. Internally assesses if application complies with Regulation 510/2006.	Ministry of Agriculture. PDO: the National Institute for Appellations of Origin (INAO) receives and initially examines application for a national appellation of origin (AOC). PGI: the Ministry of Agriculture receives application under Regulation 510/2006 together with a national application for a quality label or a certification of conformity or for transitory national protection of the geographical denomination, examines the form, and forwards them to INAO, the Commission for Labels and Certification and the Consumer Minister.	Ministry for Agriculture, Food and Forestry Polices, Directorate-General for the Quality of Agro-food Products. Assesses form and substance of application and seeks the opinion of each Region or Autonomous Province in which the PDO/PGI production zone falls. The Ministry then fixes a meeting with the applicant, representatives of the competent Region or Province and members of the community, professional bodies and economically interested operators for an objective public verification of the application. The Ministry publishes it in the Official Journal for public consultation by interested parties and then forwards the application to the Commission.

[56] For a WIPO-translation of the consolidated German text into English, see: http://www.wipo.int/clea/docs_new/pdf/en/de/de057en.pdf

	Germany	Spain	UK (England)	Bailiwick of Jersey	France	Italy
Receiving body for initially approved applications; role	Federal Ministry of Justice. Forwards application and documentation to the Commission.	Spanish Ministry for Agriculture, Fisheries and Food. Checks requirements are met and documentation in order. Ratifies application to give national protection. Forwards application to the Commission.	UK government Department for Environment, Food and Rural Affairs (DEFRA). Examines form and substance then forwards application to the Commission.		PDO: INAO's National Committee of Dairy Products or of other Agricultural products and Foodstuffs, then INAO's Permanent Committee. INAO proposes that the Council of State approve the AOC in a Decree. It is automatically forwarded to the Commission to be registered as a PDO. PGI: INAO runs a 2-month public consultation and communicates the results to the Commission of Labels and Certifications, which examines the national application for a quality label or a certification of conformity and communicates its opinion to INAO. INAO's National Committee for PGIs proposes to the Agriculture Minister and the Consumer Minister that they approve it in a joint Order and forward the application to the Commission.	NA
Commission Regulation on registration under art. 17 Regulation 2081/92 (case study products only).	No 644/98 of 20 March 1998 (Schwäbisch-Hällisches Qualitätsschweinefleisch), No 134/98 of 20 January 1998 (Diepholzer Moorschnuck), No 590/1999 of 18 March 1999 (Spreewälder Gurken).	No 1971/2001 of 9 October 2001 (Arroz de Valencia), No 2107/99 of 4 October 1999 (Sierra Mágina) and No 1107/96 of 12 June 1996 (Idiazábal).	No 1107/96 of 12 June 1996 (Jersey Royal Potatoes and West Country Farmhouse Cheddar).		NA	NA

2. The Specification: Defining the Local Product

The most important element of the application is the specification. The Regulation establishes minimum content (art.4): the product or foodstuff name comprising the designation of origin or geographical indication; a description of the agricultural product or foodstuff including the raw materials and its principal physical, chemical, microbiological or organoleptic characteristics; a definition of the geographical area and, for designations where the raw materials come from a different or larger area than the production area, details of compliance with protection requirements; evidence that the product or foodstuff originates in the geographical area; a description of the method of obtaining the product or foodstuff and, if appropriate, the authentic and unvarying local methods as well as information concerning the packaging, if the applicant justifies that the packaging must take place in the limited geographical area to safeguard quality or ensure the origin or control; details showing the link between the product's quality or characteristics and the geographical environment or the geographical origin; details of compliance structures; any specific labelling rules; and any requirements laid down by Community or national provisions.

Of our case study countries, Spain specifies further details that must be provided: accreditation of the use and notoriety of the geographical name in the commercialisation of the product; means of presentation and commercialisation and main markets and other data that justify the notoriety of the product[57]. Germany considers the equivalence of yields within a site and area, the traditional use of site and area names and seeks an economically sound demarcation of sites and areas to maintain the site-related character[58]. Italy also specifies additional information, e.g.: details of the historical link between the product and place of production including bibliographic references proving the production of the product for at least 25 years as well as the consolidated use in trade or common language of the denomination applied for; the socio-economic link including the quantity presently produced, predicted quantity of production in 5 years, number of entities involved in each segment of the

[57] See Royal Decree 1643/1999 of 22 October regulating the application process for registration in the Community Register of PDO and PGI.]

[58] See WTO doc. IP/C/W/253 p.20

chain (present and predicted); geographical destinations for the product (present and in 5 years); present and predicted demand[59].

The specifications are vital for producers because they set out the conditions that producers must subsequently comply with. Beyond the necessity of showing that EC and national requirements for protection are met, producers are free to draw up the specifications as they choose, i.e. producers create their own rules and set their own level of discipline regarding production conditions. The specifications become the conditions for inspections. It is, however, in the producers' interests to ensure that the specifications are sufficiently specific and detailed to avoid misuse of the registered name.

Due to the strong geographical link required for PDO protection and the distinctive nature of the products, it can be argued that PDO products are more naturally disposed towards improving environmental quality and rural economies (competitiveness) than PGI products. Nonetheless, PDO product specifications need not have any requirements directly relating to the environment or sustainable development.

3. Monitoring and Certification of Geographical Indications protected under the European Union Sui Generis *System*

Once the PDO or PGI has been awarded, production is monitored and assessed against the Regulation and the specifications by inspecting production or distribution plants, taking samples, inspecting business records or requesting information. Public, semi-public or approved private certification bodies can do this:

[59] Ministerial Order of 17 November 2006 defining the National Procedure for the registration of PDO or PGI in accordance with Regulation 510/2006.

	Germany	Spain	UK (England)	Bailiwick of Jersey	France	Italy
Monitoring/ certification body	Authority of the state (*Land*) government. By legal ordinance, may transfer carrying out of inspections to private inspection bodies, or involve the latter.	Product-specific Regulatory Council (*Consejo Regulador*) approved by the relevant Autonomous Community or, if designated area is in more than one Autonomous Community, the Spanish Ministry of Agriculture, Fisheries and Food.	Applicants must nominate an inspection body, which may be public (e.g. Local Authority Trading Standards Services) or private.		National Institute of Appellations of Origin (INAO). For PGIs only, INAO may delegate that responsibility to a certified inspection body, which inspects the national quality label or certification of conformity on which the PGI is based.	Committee for Safeguarding and Valorisation of national PDO and PGI. Large volumes: carried out by private bodies. Small volumes: carried out by the public body.

Producer associations may also set down their own Code of Practice to ensure specifications are complied with and that all produce commercialised under the PDO or PGI is of a certain quality. Codes may be drawn up in association with organisations with related areas of expertise; the Schwäbisch-Hällisches Qualitätsschweinefleisch Code (Germany) was written in conjunction with environmental, animal welfare and consumer protection organisations. Environmental protection was also woven into the Code for Spreewälder Gurken (also Germany).

Finally, distributors and retailers may impose their own standards of production regarding health and safety, environmental protection or animal welfare, and carry out inspections in accordance with those. This is especially the case in the UK where large multiple retailers are the dominant market force and want to protect their own brand.

D. Protection conferred by Registration

Registration gives an exclusive right to use the registered name to all producers (not only the applicants) that are established in the defined geographical area and comply

with the specifications (art.13). It is a "communal" intellectual property right.[60] This exclusive right comprises the right to market and advertise under the protected name and with the PGI or PDO logo.

Registered names are protected against direct or indirect commercial use of the name for "comparable" products or insofar as the use exploits the reputation of the protected name; any other false or misleading use of the name even if the true origin of the product is indicated or the protected name is translated or accompanied by an expression such as "style", "type", "as produced in", etc; any other false or misleading indication as to the provenance, origin, nature or essential qualities of the product on the packaging, advertising or other documents. Where a registered name contains a generic name for a product, use of the generic word alone is not covered by the above protection, e.g. the producers of West Country Farmhouse Cheddar cannot enforce their right against the commercial use of "cheddar". On the other hand, names protected under the Regulation cannot become generic.

E. Relationship with Trade Marks

A PDO or PGI may co-exist with collective trade marks, e.g. the "Genuine Jersey Royal New Potatoes" brand used for all Jersey Royal Potato PDO production or the various trade marked brands used to distinguish individual Arroz de Valencia PDO producers, and with other distinctive signs such as regional umbrella brands or certification marks, e.g. for organic or conservation-grade production.

The relationship between PDO or PGIs and trade marks is set down in Regulation 510/2006. A prior PDO or PGI application takes priority over a trade mark for a product of the same type or use where registration of the trade mark could lead to confusion or exploitation of the name's reputation (art. 14); the trade mark must be refused or invalidated. However, if a trade mark has been applied for, registered or established by use in good faith within the EU before the designation of origin or geographical indication is protected at national level or the application is submitted to

[60] See case C-108/01, Consorzio del Prosciutto di Parma and Salumificio S and case C-496/00 Ravil SARL and Bellon import SARL, Biraghi SpA.

the Commission, the mark can continue to be used subject to Directive 89/104/EEC to approximate the laws of the Member States relating to trade marks[61] and/or Regulation 40/94 on the Community trade mark.[62] Furthermore, the designation of origin or geographical indication cannot be registered if it would be likely to mislead the consumer due to the reputation and length of use of the trade mark.[63] Spain, for example, requires PDO or PGI applications to include certification from the Central Companies Register and the Spanish Patent and Trade Marks Office of whether any related marks are registered.

F. Other Regulations Relevant to the WP3 Case Studies

Aside from the legal framework linked to the protection of GIs, production of protected products is affected by other laws and subsidies related to environmental protection, the conservation of protected land, rural development or health and safety.

Except for Jersey Royal Potatoes, because of the status of Jersey within the EU, all products studied are subject to subsidies from the Common Agricultural Policy (CAP) through the Single Payment Scheme, tied to compliance with environmental standards. The significance of CAP subsidies varies between products. Some of the markets on which the case study products operate are regulated by Common Market Organisations (CMOs), which aim to implement CAP policies by fixing single prices for certain agricultural products on European markets, granting aid, establishing mechanisms to control production, organising trade with non-member countries and regulating state aid, among other things. CMOs are essential for the economic viability of both Arroz de Valencia and Sierra Mágina olive oil production.

Moreover, the majority of producers and their land benefit from participation in agri-environment schemes derived from EU policy measures, e.g. payment for the

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61 Council Directive 89/104/EEC of 21 December 1998 to approximate the laws of the Member States relating to trade marks.

62 Council Regulation (EC) No 40/94 of 20 December 1993 on the Community trade mark.

63 Questions left unresolved by Regulation 510/2006 are what "bad faith" means in this context, how the registered name and trade mark should co-exist, or what should happen in the case of a well-known trade mark registered in bad faith.

maintenance of hedgerows or buffer zones around fields or significant wetland environments (Albufera of Valencia) and from rural development grants, e.g. for infrastructure improvements or marketing activities.

Some projects gain from LEADER+ projects in their production area: the Spreewald region receives funds to develop its natural and cultural potential while the Sierra Mágina is subject to a project promoting change to integrated agriculture.

At the national level, producers receive State and regional funding for business development (Schwäbisch-Hällisches Qualitätsschweinefleisch) or for environmental protection and related activities, in particular where production is located on protected land. The Arroz de Valencia production area falls under national agri-environment measures for the protection of Spanish wetland environments on the Ramsar List of Wetlands of International Importance. It is of special interest as a habitat for water birds (Royal Decree 928/95 as amended[64]). Regional aid is made available to the owners of all farms located in Albufera Natural park that commit to protect flora and fauna through the rationalisation of agrochemicals and who commit to maintain "traditional" rice agriculture, representing a powerful incentive to do so aside from the PDO. Integrated production systems and organic production are also promoted. Spreewälder Gurken producers indirectly benefit from regional funds from the Federal Nature Conservation Agency under a project to maintain biotopes and biodiversity in the region. They also indirectly benefit from funding to the biosphere reserve by an environmental protection alliance providing education and information activities.

The situation in Jersey reflects that of the EU Member States: a Single Area Payment agricultural subsidy is being phased in and Jersey Royal Potato producers receive grants from a state Rural Enterprise Scheme and payments from a Countryside Renewal Scheme (an agri-environment scheme), as well as state funding for marketing as flag-bearers for Jersey produce and tourism.

[64] Royal Decree of 9 June 1995, BOE no. 170 of 18/7/1995: 21898 – 21906.

Table 3 GI products: Means of protection in WTO Member States.

	Laws Regulating on Business Practices [P]			**Trade Mark Law**			***Sui Generis* Protection**	
Country	*Focus on Unfairness vis-à-vis Competitors*	*Focus on Misleading Consumers*	*Protection against Passing Off*	*Protection against Registration of Trademarks*		*Collective / Certification / Guarantee Marks*	*Prior Recognition Requirement*	
				Any IGO	*Certain GIs / Category of GI*		*No*	*Yes*
EC/MS [a]	X	X		X	X			X
France	X	X		X	X			X
Germany	X	X		X		X	X	X
Italy					X			X
Spain		X		X	X			X
UK		X	X	X	X	X		X
Bulgaria	X	X			X			X
Romania	X			X	X			X
Slovak Rep.	X	X	X	X	X			X
Turkey	X	X		X				X
Morocco	X						X	X
Australia	X	X	X	X	X		X	X
Canada	X	X	X		X			X
Japan	X			X	X			X
Korea	X	X		X	X		X	X
New Zealand		X	X	X	X			[1]
Switzerland	X	X		X	X	X	X	X
USA	X	X	X?	X	X	X		X
Cuba				X			X	X
Ecuador	X	X						X
Mexico	X	X		X				X
Peru	X			X	X		Y	X
Uruguay				X	X		X	X
Venezuela				X	X			X

Adapted from WTO document IP/C/W/253/Rev.1 of 24 November 2003, Table 1: Protection of GIs: Information provided by Members on the means of protection available

[P] The first column is meant to reflect information relating to provisions addressing acts which concern rather the establishment, the goods, or the industrial or commercial activities of *a competitor* and the second column provisions addressing acts rather relating to misleading allegations concerning the goods of *the person who makes the allegations*. In respect of this distinction, see also the guide to the application of the Paris Convention by Prof. G.H.C. Bodenhausen, in particular pages 145 and 146.

[a] Information concerning EC instruments is reflected on the line of the EC and their member States and information concerning other instruments on the line of the member State in question.

III: THE IMPACT OF GEOGRAPHICAL INDICATIONS ON ENVIRONMENTAL QUALITY: SUMMARY OF THE FINDINGS.

A. Introduction: GI products and their Relation with the Natural Environment.

1. The Incidence of *Physical* Environmental Conditions on Product Characteristics

The local environment is normally considered one of the elements[65] that make up the "quality link" that defines products susceptible of being protected as GIs (see Justification and General Methodological Issues, *supra*).

Some of the WP3 studies, it appears that regional environmental conditions may influence the specific qualities of the GI-protected good to different degrees, and in different ways. Some of the products are strongly linked to the specific regional conditions, for example, the Jersey Royal Potato has not been successfully grown anywhere else outside Jersey due to the environmental conditions; likewise the meat of the Diepholzer Moorschnucke depends on the specific fodder and grazing conditions in the region. However, for most of the GI-protected goods, the link between environmental and product characteristics is not as exclusively "defining", and human intervention is also a very important factor in giving the product its final qualities. In this sense, for example, cases such as Sierra Magina olive oil as well as those related with dairy products (West Country Farmhouse Cheddar and Idiazábal) show that the products' specific qualities are at least as dependent on the know-how and production process as on particular environmental conditions.

2. **GIs and Environmental Quality.**

A principal objective of WP3 is to analyse the relationship between the existence of GIs and environmental quality in regions where the protected products are produced.

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65 The quality link points to the elements that compose a GI, i.e. the product, the location and the qualities which derive from that location. The local environment may be considered to be composed of two "dimensions"; a physical dimension (the soil, climate, air, etc), and the human dimension (uses, local know-how, etc) which are determinant for product quality. See "Justification and General Methodological Issues", *supra.*

Products protected under a GI are sometimes assumed to be more environmentally friendly than other products, due to their local reference, predominance of "low intensity" production methods (derived from small-scale, traditional processes) and their potential to mobilise and implicate local communities in the exploitation of local natural resources.

Furthermore, the fact that GI products and production processes are controlled and certified, provide an opportunity to examine if product specifications include environmental quality clauses, which, up to a certain point, is equivalent to measuring if environmental quality has become a part of the product definition.

These assumptions have rarely been tested, which justifies a more detailed investigation. The relation between the environment and GIs has been observed from two main perspectives:

- **The influence that the GI and the related product has on the environment** (**"Impacts" Assessment),** based on the observation of indicators such as, soil, water, air/climate, biodiversity and landscape and lending assessment of GI performance against reference conditions).

- An assessment on other dimensions of the relation between the environment and product such as the dependence of product - qualities on the physical environment, the "greening" of product specifications and the significance of environmental considerations in the objectives and marketing of the GI product.

B. Measuring the Influence of the GI Products on the Environment (Impact Assessment)

1. Methodological Aspects

The main focus of the project was on **the influence of GIs and related products and production on the environment**. In this context, it was observed whether production methods were in line with environmental objectives, and if production processes were

using the necessary environmental resources in a sustainable way or if negative impacts could be found.

Obviously, the production of GI-protected agricultural products has effects on the environment, just as the production of any good would have. Along with positive externalities (the positive "multifunctional attributes" that can be assigned to agricultural products) there may be other negative externalities. Impacts will vary, depending on factors such as the product involved, farming management and local environmental conditions.

It is, however, more difficult to assess the specific effects which may derive from the specific producing conditions which are set forward by GI related rules and conditions (as compared to the production of similar products, not falling under the scope of the GI). Since specific production methods and product characteristics of the GI-protected good do exist, in order to assess the environmental impact of the GI protection it is necessary to consider what the situation would have been in the absence of the GI.

In principle, two methods can be used to achieve this. First, based on the **land-use criterion**, the analysis investigates what the area that is now used for producing the GI-protected good would have been used for if it hadn't been for the GI product. An alternative is the **product-based criterion**, whereby the impact of the GI protected product is compared to the production of an otherwise similar product that is not protected. This requires the existence of a close commercial substitute for the GI-protected product (e.g. West Country Farmhouse Cheddar and non-PDO artisan or premium industrial Cheddar).

What follows is a summary of the findings related to the case-studies:

2. Main Findings

The production processes of the different GI goods differ in many ways. Productions of studied cases are all characterized by a relatively low intensity of production processes. However, great variations among cases may be found: some production processes,

protected by GIs, have been intensified over the last years (for example, in olive production in Andalucía[66]) others remain strictly based on extensive production methods (for example, sheep cheese production in the Basque Country and Navarre)[67]. And small-scale labour-intensive production (such as in the studied case of the Diepholzer Moorschnucke) and larger-scale production of GI-protected products (such as the Spreewald Gherkin) can both be found. In all, it appears that despite certain attributes which may e inherent to products susceptible of GI protection (low intensity, short production chains, etc.; see the comment on *localness* and antiquity/tradition referred to in Section 1) there is great diversity in relation to the to the externalities that productions may have, depending on the product.

Interactions with other sectors, as well as subsidies can have strong effects, too. In the Arroz de Valencia case, for example, it was found that agri-environmental subsidies are determinant to keep rice production profitable, thus acting as a strong incentive for different sectors (farmers, National park authorities) towards the conservation of an environmentally valuable activity, necessary to preserve the wetlands of the Albufera.

Motivations and strategies guiding the implantation of the GI are also relevant to level of impacts: here we find various motivations which range from simple, straight-ahead, strategies seeking to enhance the value of the local product -which production may or may not be environmentally valuable or sound- to integration of environmental goals into the GI strategy –reflected in environmental clauses included into product specifications- such as observed in the cases of the Schwäbisch-Hällisches Qalitätsschweinefleisch (SHQ) and Diepholzer Moorschnucke, or –partially- in the West Country Farmhouse Cheddar cases.

An indicator for a close and beneficial interaction with the environment could have been in the fact that parts of production areas for some GIs are located within nature conservation areas (West Country Farmhouse Cheddar, Arroz de Valencia rice,

66 In Sierra Mágina, for example, traditional olive cultivation predominates (traditional orchards tend to be less intensive, with little use of agrochemicals, low density of the orchards and little to no irrigation) but in the past years there have been signs of increased use of irrigation and other intensification methods (see Report for Case Study Sierra Mágina, Annexed).

67 The exclusive use of autochthonous Latxa and Carranzana sheep, in the PDO Idiazábal Cheese prodcution, restricts possibilities of intensification–due to the characteristics of the animal- . See "Report Idiazábal, Annexed.

Spreewälder Gherkins, Sierra Mágina, Idiazábal production). At the same time, even in such cases, there were not many instances where the GI-protected products where produced under the highest environmental standards, such as that of organic farming, and marketed accordingly (in case of Arroz de Valencia rice and Spreewald Gherkins there are none).

Consequently and due to the different baseline conditions, the environmental effects of production are seen to differ substantially, from environmentally beneficial productions which are protected by GIs tightly linked to nature conservation objectives (such as Arroz de Valencia, Diepholzer Moorschnucke,) to GIs with a neutral to ambiguous effect on the environment (such as the Spreewald Gherkins and the Jersey Royal Potatoes).

The following table below gives an overview about the environmental impacts of the analysed case study products, resulting from their production process.

Table 4 Environmental impacts of GI protected goods and their production process for the issues: Biodiversity, Landscape, Water (including potential impacts of Plant protection/ fertiliser input) and Soil.

Gherkins (cucumbers)	Potatoes	Extra virgin olive oil	Cheese (cow milk)	Cheese (ewe milk)	Meat (lamb)	Meat (pork)	Rice
Spreewald Gherkin	Jersey Royal Potatoes	Sierra Mágina	WCFC	Idiazábal	Diepholzer Moorschnucke	SHQ	Arroz de Valencia
Biodiversity							
+/0	+/0	+/-	+	+	++	+	+
No harm towards species and no negative impacts on biodiversity as compared to alternative methods. The weed that is left to grow may serve as a place to retreat for some species high rate of the land is leased and fields suitable for cucumber production are leased with other land in larger coherent units.Leasing contracts require the tenants to maintain the additional areas (e.g. keeping grassland open), so that gherkin production indirectly leads to landscape protection. (profits enable gherkin farmers to comply with these requirements)	field boundaries, where maintained, provide habitat and wildlife corridor. Jersey Royal is indigenous developed variety. Cover crops for 8 months of the year provide important habitat for birds, invertebrates. Key that Jersey Royal has very short winter/spring growing season.	provide habitats for endangered species only economic most effective varieties used (Piqual).	maintenance of indigenous grass species, and wildlife in hedgerows and woodland	preservation of autochthonous (not highly productive in terms of quantities produced) sheep. Latxa and Carranzana (Carranzana endangered species) rich flora and fauna, endangered species creation of diverse habitats in mountains – mosaics	close relationship between sheep and habitat (breed well adapted to poor nutrient supply) / regeneration and conservation of moorlands ((under supervision of environmental NGO) habitat: maintenance of habitat (wetland and moor) for many rare and endangered species (part. Birds (30 species)) establishment of endangered breed benefits agro-biodiversity breed now also used in other conservation projects	Species: re-establishment of endangered breed benefits agro-biodiversity large areas are grazed and marginal grassland areas are kept open	Habitat: International recognition for it's biodiversity (protected area) Particularly avifauna (around 330 different species, 90 nest regularly) species: The area is of enormous importance for migrating/ water birds. Rice fields provide, shelter, food and water

Gherkins (cucumbers)	Potatoes	Extra virgin olive oil	Cheese (cow milk)	Cheese (ewe milk)	Meat (lamb)	Meat (pork)	Rice
Spreewald Gherkin	Jersey Royal Potatoes	Sierra Mágina	WCFC	Idiazábal	Diepholzer Moorschnucke	SHQ	Arroz de Valencia
Landscape							
+	+	+	+	+	+	+	+
contribution to landscape maintenance	Contribution to landscape maintenance. Jersey Royal Potato growing has defined the Jersey landscape for 200 years	Olives are part of traditional landscapes/ the principal economic activity of the region for centuries.	Contribution to traditional landscape and land-type maintenance	sheep race perfectly adapted to the environment Traditional activity has shaped landscapes (highland pastures). Repetitive, seasonal grazing of transhumant flocks	Breeding can be traced back to middle ages/clse onk to landscape	grassland and pasture areas are maintained (mainly by cattle breed of producers association, but also some pig grazing)	Rice paddies are part of the landscape, and has been for centuries
Water							
-	0/-	+/-	+/-	0	0/+	0/+	+
high water demand compared to the production of cucumbers in other regions (since the water is less well retained by the soils of the region) and alternative crops (but modern and efficient irrigation techniques) water quality effected through the application of fertiliser and plant protection products. (200 – 300 kgN/ha) high fertiliser input, use of fungicides and insecticides (plants are highly sensitive to pests and fungal infestation) follows the principles of integrated production Herbicides are not	freshwater is a finite resource but rainfall is usually plentiful. medium/high fertiliser and pesticide input, although new practices have been introduced to reduce this: cover cropping that is ploughed back in, soil and disease analysis and monitoring, integrated crop management (compliance with - Assured Food Standards, LEAF for export and Jersey Codes of Practice for subsidy). Risk of higher input use by small producers who	Olive trees well adapted to water supply, but increasing water demand, due to higher productivity Water wastes: Expansion of the use of two phase decanters, replacing three phase decanters, reduce water wastes –vegetative waters-. medium/high fertiliser input, use of herbicides and insecticides	although water use is quite high in dairy farming and overall demand is increasing in the area, water is plentiful and the traditional, highly integrated production methods are likely to reduce need. water quality: medium-high fertiliser input, but risk of diffuse pollution lesser than for alternative land uses where these are unsuited to the soil type. Producers follow certified schemes, which reduce pollution risk. Some production is conservation grade or organic and this is likely to increase.		Since little or no mineral fertiliser and plant protection products are used, there is no significant pollution of water resources to be expected from moor sheep keeping no or very little fertiliser and plant protection products specification: sheep are herded mostly on areas on which no mineral fertiliser or plant protection products are applied	pressures on water resources mainly via the nutrient load discharged from the manure (positive compared to standard pork) reduced pressure on water due to limited livestock density and regionalised production process	Rice-paddies are the only agricultural activity which do not imply drying lands out (preserving wetland characteristics) use of herbicides and insecticides exist, but are rationalized. Integrated systems are promoted by administration production in Natural Park: constrictions as to agrochemicals (contribute to the presence of high levels of nutrients in loams), construction of new facilities, and conversion of rice fields to other productions

Gherkins (cucumbers)	Potatoes	Extra virgin olive oil	Cheese (cow milk)	Cheese (ewe milk)	Meat (lamb)	Meat (pork)	Rice
Spreewald Gherkin	Jersey Royal Potatoes	Sierra Mágina	WCFC	Idiazábal	Diepholzer Moorschnucke	SHQ	Arroz de Valencia
applied – weeds are allowed to grow since they provide wind shelter for the gherkins and are then removed manually after some time.	do not export.						
Soil							
-/0	0/-	+/-	+	+/0	+	0/+	+/-
To avert soil erosion foil covering is used on some fields	Some soil erosion due to loss of some boundaries and cultivation on slopes. Use of cover crop and seaweed to add texture and programmes to replace boundaries.	Soil erosion is generally high, due to labour in slopes. Application of natural covers (information and cooperation granted, among others by RCSM), reduces this problem. Desertification	helping conserve local grassland, hedgerows and trees.	higher levels of organic matter, increased soil fertility due to higher defecation of the animals. Grazing in seasons rotates (valley, mountain): recuperation of soils	sheep grazing contributes to favourable nutrient balance and maintaining nutrient-poor soil conditions	(positive compared to standard pork) reduced pressure on soil due to limited livestock density and regionalised production process, solid instead of liquid manure can be used to improve soil structure	Soil erosion is low. Floods guarantee permanent input of sediments (loam). Siltation (natural and man provoked).

In most cases, GI products show a positive relation towards biodiversity and landscape conservation categories. Production characteristics, Regarding the incidence on Biodiversity, it works in two ways:

- The production processes –at the agricultural stage- engaged in order to obtain the GI product contributes positively, or is an essential element, for the preservation of a biologically rich environment. Such is the case in the Valencian Albufera, where semi-natural waterlands depend on the production of rice, the Diepholz Moors, to which the well adapted "M*oorschnucke* " contribute to it's conservation. In other cattle-related activities, West Country Farmhouse Cheddar and Idiazábal , diversity and conservation of grasses is ensured by means of extensive grazing of the animals. The contribution of the GI, in this sense, would be to maintain the viability of ecologically valuable activities because of their contribution to habitats.
- The GI product is based on rare, or autochthonous animal or plant species -including endangered species-, or traditional locally developed varieties. For example, SHQ brought to the reestablishment of local, endangered Schwäbisch-Hall pig breed in the region. Idiazábal admits only the production of cheese which uses milk of the rather unproductive local Latxa and endangered Carranzana races. Diepholzer Moorschnucke were, for sometime, an endangered species, as well as the Jersey-Royal potato variety was developed towards the end of the nineteenth century in Jersey Isl. In this case, the contribution of the GI is to protect and promote activities based on local species favouring regional diversity.

Similarly, the production of the studied products seem to contribute to landscape conservation in all cases, a fact which finds explanation view that most products have been produced in their respective regions for many years. Here, GI protection not only reinforces conservation through valorisation of the local agricultural activities but also by incorporating rules which specifically allocates means in favour of landscape preservation. For example, in the Jersey Royal Potatoes and West Country Farmhouse Cheddar economically viable production enables hedgerows and small woods to be maintained. In the Spreewald case, a very high rate

of the land is leased (between 80 and 90%), and fields suitable for cucumber production are not leased individually but together with other land in larger coherent units. In practice, leasing contracts require the tenants to maintain the additional areas (e.g. keeping grassland open), so that gherkin production indirectly leads to landscape protection.

In the cattle related activities, the role of grazing in shaping landscapes has been highlighted.[68] The Basque mountain and Pyrenees grasslands, for instance, have been determined by centuries of sheep and cow grazing, and must be connected to the influence of this activity on flora biodiversity.

Regarding the other categories observed (impacts on water and soil), the results show no particular tendency, depending greatly on the product and farm management systems.

Some activities may be associated with negative impacts on soil, water, landscape and biodiversity, and, to a lesser degree, on air, climate, waste and energy consumption. In particular, the production of gherkins and potatoes is not always environmentally favourable, due to a high input of fertiliser and plant protection products.

Certain activities have experienced processes of intensification, normally associated with heavier pressures on the environment. This is documented, e.g. through the rapid growth of irrigation in Sierra Magina olive groves, or recurring to polythene sheeting in Jersey Royal Potato production. It is interesting to note, in this sense, that specification rules may be flexible enough so as to allow such space for intensification.

However, in other cases, specification rules include clauses aiming at limiting such processes and achieving higher environmental standards, as in the cases of Schwäbisch-Hall pork[69], Diepholzer Moorschnucke and Idiazábal, with regard to low livestock density.

[68] See, for example, the article included in Bio Science Journal "Role of Grazing in Mediterranean Rangeland Ecosystems" by Perevolotsky and Seligman (1998), where it is argued that grazing, even heavy grazing, is a benign factor for the ecosystem.

[69] The SHQ rules also ensure high animal welfare standards.

In general, however, promotion and support for more environmentally-friendly production methods has increased in recent times, even if not required by the GI specification (e.g. promotion of integrated systems for Arroz de Valencia rice and Sierra Mágina olive oil; financial support for environmentally beneficial actions such as the recreation and maintenance of hedgerows in the case of Jersey Royal Potatoes).[70] This trend is both an effect of EU and national agri-environmental policy as well as an effect of growing consumer demand for more environmentally friendly products.

Also, the contribution of the GI protection needs to be nuanced, since the label does not necessarily cover all production. Whereas Schwäbisch-Hall pork production is 100% covered, only half of the Diepholzer Moorschnucke lamb meat and only a minor proportion (around 10% in the Albufera wetland area) of the Arroz de Valencia rice[71] is marketed as a GI protected.

Evaluation of the environmental effects against the reference conditions

As mentioned, when assessing environmental effects it is necessary to ask what the situation would have been in the absence of the GI protection. Regarding land use, one of the alternatives may even be land abandonment since, in many instances, only the product under study represented an economically viable land use (this could be said, for instance, Jersey Royal Potatoes and Sierra Mágina olive oil). Land abandonment is clearly negative for rural development in general. From an environmental point of view, land abandonment is particularly harmful if the agricultural use of the land contributes to the maintenance of valuable habitats (which is the case for the Arroz de Valencia, Diepholzer Moorschnucke, West Country Farmhouse Cheddar, Idiazábal and Sierra Magina olive oil[72]). By contrast, in the case of the Jersey Royal Potato, the conditions for biodiversity, soil and water could arguably benefit from some land abandonment.

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70 Actions for 2006 taken up by or of future interest to the Jersey Royal Potato producers include hedgerow, bank and dry stone wall creation and management, organic conversion and production, buffer zones and habitat strips.

71 Viability of rice production rather depends on subsidies, including agri-environmental aids. However, since the PDO protected production is growing, the PDO may grow in relevance.

72 The importance of maintaining traditional olive groves in less favoured areas (arid areas in risk of desertification) is well documented. However, increased intensification of production is a threat and entails the risk of reversing the beneficial effects of traditional orchards.

Other than land abandonment, another likely alternative is the production of substitute products, more susceptible of being intensified, in the place of the GI product. Against this benchmark, GI products tend to be environmentally advantageous (with the exceptions and observations noted earlier in this report), since their production methods are usually less intensive and hence more environmentally friendly than those of conventional substitutes (e.g. if products are harvested, processed, packaged and often sold in the same region, reducing transport distances and therefore emissions and energy use; through the mandatory integrated production methods for Spreewald Gherkins; or through reduced plastic wrappings for some West Country Farmhouse Cheddar production). In the case of Idiazábal, the PDO is an important support for the production of cheese under a *fermier* or farm-cheese model,[73] which sets limits on intensification.

Relevance of secondary impacts of GIs and interaction with other sectors

In several instances, analysis of the case studies has shown that the direct impact of GI production methods is not the only factor in their environmental performance, nor is it always the dominant one. Often, the protected product and its production are associated with other sectors and activities, such as tourism (e.g. Spreewald Gherkin) or environmental education (Diepholzer Moorschnucke, Jersey Royal Potatoes[74]). In other incidences, structures like landscape ownership might have an influence on the environmental performance of a product. In the Spreewald case, a very high rate of land is leased and leasing contracts for cucumber farms require additional land to be maintained. For the Jersey Royal Potato there is a disparity in environmental compliance between farms that produce for export (99% of Jersey Royal Potato producers), who are obliged to meet and exceed minimum requirements to access the UK export market and command a premium), and smaller farmers that produce for the local market only.

Moreover, the environmental performance of a GI protected product is often very much connected with the subsidies the product and/ or the region receives. These subsidies

[73] Around 30% of the total production of Idiazábal cheese comes from artisan cheese makers (around 100 cheese houses), which own their own flocks. Artisan cheese makers find support in the PDO which has allowed to construct a goodwill for Idiazábal cheese, based on the maintenance of strict specifications tied to local factors (for e.g. te exclusive use of milk from indigenous sheep races).

[74] The product is central to websites about the Jersey environment, history and culture, local farm shops and conferences on agro-environmental issues, for example by the Jersey Environment Forum.

include support through the EU Common Agricultural Policy (CAP) both from the first pillar (market support; in case of the Sierra Magina olive oil and the Arroz de Valencia rice, Common Market Organisations play a major role) and the second pillar (rural development). Particularly since the CAP reform in 2003, direct and indirect support from the second pillar such as agri-environmental payments (West Country Farmhouse Cheddar, Diepholzer Moorschnucke, Spreewälder Gherkin) the LEADER programme (West Country Farmhouse Cheddar, Spreewälder Gherkin) and payments for less favoured areas (LFA) (Idiazábal cheese, Spreewälder Gherkin, Sierra Magina olive oil) become more important, while market support is also subject to complying with environmental standards[75]

It is often observed that these programmes often have a significant influence on the environmental performance of a GI-protected good. Furthermore, in some cases it is observed that that subsidy schemes are essential for farmers because they determine the economic viability of production (Arroz de Valencia, Sierra Mágina). This is a factor which diminishes the importance (and comparative attractiveness) of GIs as a tool to promote sustainable development, since farm production and management is, above all, driven by the legal conditions necessary to obtain support[76].

C. Other Dimensions of the Relation between GI Products and the Environment

1. Environmental quality in product specifications

[75] An important point of the CAP reform is that all direct aids will be continued until 2012, but will now be subjected to the compliance with certain conditions ("conditionality"). The environmental sphere is now introduced and linked to aids, i.e. "cross-compliance", subduing all payments to the manutention of land in good agricultural condition and the observation of standards on public health, animal and plant health, the environment and animal welfare. However, all direct payments will be gradually reduced, year by year, and the savings will be reallocated to rural development measures ("modulation").

See Council Regulation (EC) No 1782/2003 of 29 September 2003. establishing common rules for direct support schemes under the common agricultural policy and establishing certain support schemes for farmers and amending Regulations (EEC) No 2019/93, (EC) No 1452/2001, (EC) No 1453/2001, (EC) No 1454/2001, (EC) 1868/94, (EC) No 1251/1999, (EC) No 1254/1999, available in http://ec.europa.eu/agriculture/capreform/index_en.htm .

[76] This partially explains why a small proportion of Sierra Mágina and Olive Oil productions -less than 10%- seek GI protection.

Examination of the product specifications of different products shows that environmental quality considerations are not the principal concern of the local stakeholders that engage in the process of establishing a Geographical Indication. In most of the cases observed, the geographical area of production, production methods, products characteristics etc. are described in detail, but no specific environmental requirements or conditions are identified. The cases of Schwäbisch-Hall pork and Diepholzer Moorschnucke are exceptions in this regard, since they use rare breeds and define feeding and keeping practices that go beyond mandatory environmental and animal welfare standards. In the case of Spreewald Gherkins, integrated production is specified as the mandatory production method, which is more environmentally favourable than conventional farming. The Idiazábal cheese specification gives general indications on the size of sheep flocks.

2. Environmental quality as a motivating factor leading to the establishment of GI protection

Related to the above consideration is the role that environmental objectives played in the establishment of the GI protection. In most cases, the primary motivation to seek GI protection has been economic: protection is established in order to define a market niche linked to traditional and local production methods, creating a price premium for the protected product. In addition, the conservation of local heritage (e.g. land use, production methods and cultural landscapes) is also a key concern for most GIs. By contrast, only relatively few GIs were explicitly set up with the motivation to protect the local environment. The Diepholz Moor sheep is a case in point, because it is kept mainly because of the positive effect on landscape conservation, whereas the production and sale of meat is regarded as an ancillary benefit. The establishment of a GI for Schwäbisch-Hall pork was originally also motivated by conservation concerns, in order to save what at the time was an endangered breed. Since then, however, production has also proven to be economically profitable. The agro-environmental services provided to the region by rice production, which provides maintenance of meadows and wetlands, has been a secondary justification when setting up the PDO Arroz de Valencia.

It can be noted that in cases where environmental protection in the respective sector was a motivating factor leading to the establishment of the GI protection, the products are likely to have environmental benefits.

3. The significance of environmental considerations in the marketing of the product

The prominence of environmental aspects in marketing strategies varies greatly among the GIs studied. Some of the product marketing initiatives do not refer to the product's contribution to environmental objectives, even if environmental benefits are applicable (for instance, in the case of Arroz de Valencia). In contrast, an example of a positive environmental performance and an integration of these issues into marketing initiatives is the Schwäbisch-Hall pork. Others exploit the "natural" connotation of their products, even if the actual environmental impacts are ambiguous (which is true for the Jersey Royal Potatoes and Spreewald Gherkins).

However, it is worth noting that, even in cases where environmental benefits are used to promote the product, the PGI or PDO label is hardly of relevance in this sense for marketing purposes. This is because it does not have the appropriate meaning for the consumer, which tends to identify such labels with product qualities –from an organolephtic point of view- linked to the geographic origin, and not to environmental quality as happens with other labels specifically created to certify ecological soundness in production. In theory, an exception to this rule could be made when the territory covered by the indication is meaningful in some environmentally significant way (i.e. when production takes place in natural park or when consumption of the product contributes to maintaining a ecological resources, as in the case of Diepholzer Moorschnucke[77]). This could apply, for instance, when sales take place in, or in the vicinity of this territory: i.e. when consumers are aware of the environmental values of the indication-territory-quality link. In more distant markets, it is clear that GI will only have an appropriate connotation if aided by auxiliary means, such as complementary labels, or appropriate –targeted- marketing campaigns.

[77] Marketing campaigns related to the promotion of this product use slogans such as This is reflected in advertising mottos such as "Save the diversity by eating it" (*Rettet die Vielfalt, esst sie auf*) or "Protect nature with your shopping basket" (*Naturschutz mit dem Einkaufskorb*).

In some case, such as with Jersey Royal Potatoes, the GI label is used for marketing to retailers but not consumers remaining widely unknown to the public.

D. Results and Conclusions

1. The production processes of the different GIs vary greatly. Consequently, the effects of production vary substantially from environmentally beneficial GIs, sometimes tightly linked to conservation objectives, to GIs with neutral or ambiguous effects on the environment. A self-evident conclusion is that environmental impacts are, first of all, dependant on the type of product and characteristics and management of production processes which are protected through GIs.

2. The cases studied, all seem to have one common factor: positive effects have been found in relation to biodiversity and landscape conservation categories. Although it is difficult to single out a reason for this, some explanation may be related to the "inherent" characteristics of products susceptible of obtaining GI protection (PDO and PGI) under European standards: factors and methods of production are local and have existed rather long periods of time.

   Such a model of production, where exploitation of local resources is an important element in local economy and society, may represent *per se* a contribution to the conservation of biodiversity and traditional landscapes. The contribution of GIs, in this sense, is to make such local exploitation viable, by increasing its market value.

3. In contrast, GIs do not seem to impede tension arising from intensified management of these resources. Results show that production of some of these products relies on medium and high use of agro-chemicals or contribute to over-use of natural resources (soil erosion due to agricultural mismanagement, increased use of irrigation in scarce water areas). GI specification rules, in this sense, may limit such processes, but do not do so necessarily, since their purpose is to guarantee origin and quality, rather than environmental quality.

4. Overall, however, some examples with positive cross-category results do stand out.:

    a. The Diepholzer Moorschnucke PDO, which has a primary environmental motivation guiding it and contributes to maintain the habitat of many endangered species and is produced almost without negative environmental impacts;

    b. Arroz de Valencia , the production of which is essential to maintain a valuable source of water and habitat for endangered species;

    c. The Schwäbisch-Hall pork, which is produced under high environmental and animal welfare standards and, moreover, contributes to the preservation of –once- endangered species.

    d. Idiazábal Cheese, elaborated from ewe-milk corresponding to autochthonous varieties of sheep, produced recurring to predominantly extensive traditional grazing systems of low environmental impact which have contributed to the conservation of soil, grass and –in general- landscape features.

5. The measure in which the constitution of the GI has contributed to these positive environmental results is, once more, ambiguous. Depending on the case.

    In the Arroz de Valencia case, the fact that less than 10% of the production is commercialized under the GI label seems to reinforce the argument that farmer's practices are rather economically motivated by agri-environmental subsidies and market support, than by seeking added value through GIs. It is the former which actually help maintain this ecologically vital activity. However, due to the recent implantation the PDO, the growing volumes of rice seeking PDO qualification, the activity of the Regulatory Council promoting Rice de Valencia as well as in the technical assistance field –including in the adaptation to integrated systems- and the coherence of this producton with local culinary needs –Valencian Paella- the Designation is to be seen under the perspective of it's potential.

The Diepholzer Moorschnucke is different, at least, in one sense to the Arroz de Valencia case. Here, all of the production is marketed under the PDO label. However, the PDO appears insufficient to make viable this production. In a similar manner to Arroz de Valencia, the activity receives support –mainly private sponsorship- due to the environmental services provided by lamb production to the local eco-system.

In SHQ and Idiazábal cases, the PDO seems to have an significant role in keeping these productions viable, as other means of support are not as important, and specification rules incorporate environmental "goals" (in particular in SHQ).

6. Taking all of the cases into account, we observe that environmental requirements are rarely included explicitly in the specification of a GI. In most of the cases, the primary motivation guiding the drafting of product specifications defining the GI protected production was economic. However, when environmental quality was a motivating factor leading to the establishment of GI protection (SHQ and Diepholzer Moorschnucke), the product is more likely to achieve an environmental benefit.

7. Another conclusion is that environmental benefits of the GI protected goods are often achieved through indirect secondary effects. In some cases, the price premium associated with the GI protection enables farmers to maintain environmentally friendly production methods, or to support environmentally beneficial flanking measures. Moreover, synergies with other sectors such as tourism contribute to the protection of traditional landscapes and habitats. In many cases, environmental benefits are put forward not by the GI but by EU and national agricultural support measures.

8. Finally, the significance of environmental benefits in the marketing strategies of the products varies greatly. There is no direct causality between the environmental impacts/ benefits of the product and their treatment in marketing. However, even in cases where environmental benefits are used to promote the product, the PGI or PDO label is hardly of relevance for marketing purposes, since it appears not to have the appropriate connotation for the consumer.

IV. ECONOMIC FINDINGS IN WP3 CASE-STUDIES RELATED WITH COMPETITIVENESS OF LOCAL AGRICULTURAL PRODUCTS AND DEVELOPMENT. THE INCIDENCE OF THE GEOGRAPHIC INDICATIONS

A. Importance of the Activity Related to the Production of Local Products, and of the Geographical Indication, in Relation to the Local Economy

- Proportion of the local goods' production which are protected by Geographical Indications

Geographical Indications (PDOs and PGIs) are used to protect distinctive, local products in all of the case studies included in this study. However, the proportion of production of the local goods produced within the region[78] that bear the GI label when finally sold on the market varies considerably. For example, it includes all of the production in the cases of Spreewald Gherkins, Jersey Potatoes and SHQ; most (above 80%) of the production of the dairy products West Country Farmhouse Cheddar and Idiazábal; a significant part (around 50%) of the production of the Diepholzer Moorschnucke, and a minor proportion (below 10%) of the total production of olive oil (Sierra Mágina) and rice (Arroz de Valencia).

That suggests that the importance and the degree of integration of the GI within the sectors vary from case to case, thus ruling out the possibility of a common or single motivation.[79] It is necessary to take this information into account because the potential

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78 In relation to this analysis, these goods would be cheese (ewe milk) produced in the Basque Country and Navarra, cheese (cow milk) produced in Western England, meat (sheep) produced in Diepholz, meat(pork) from Hoenlohe, rice (round varieties) produced in the Valencia region, olive oil, produced in Jaén , Potatoes from the Jersey islands, and gherkins, from the Spreewald region.

79 One observed reason for broad use of the GI in the final volumes produced seems to be the integration of GIs in the early phases of developing a strategy to enhance the value of the local product. In the Spreewald Gherkins case it was clearly observed how the volumes of production started to grow from the moment of the beginning of the negotiations among producers linked to the PGI application process in 1993. From this moment on an ascending curb in yields of cucumbers and consecutive gherkin production is registered to reach a peak of over 38.000 TN. In 2004 (multiplying 1993 production by ten)., with active participation and commitment of local stakeholders, as compared to the "late" introduction of GIs in cases where the good in question is already produced in important quantities–and often diverse qualities- before the GI protection is applied. Such would be the case of Sierra Mágina and Arroz de Valencia, where production volumes of oil and rice were already very high and had a defined marketing

impacts of GI-protection on the local economy will be moderated by the "weight" that the GI has on the local economy.

- Importance of production and employment generated by the local products studied

A number of factors influence production and employment and relate to regional agricultural and general economic trends and include the nature of the product, the agri-environmental conditions and limitations for producing it, traditions in local agricultural production, and existing alternative economic activities and opportunities.

In four cases, Spreewalder Gherkins, Sierra Mágina olive oil, Arroz de Valencia and Jersey Royal Potatoes, the volume of the production is notable and even determinant for the region.[80] By way of statistics, in Spreewalder Gherkins, our research finds that in 2004 there was in excess of 40,000 tonnes of production and the product enjoyed a 25% price premium. Another useful example is Jersey Royal Potatoes, which bucked the general trend of depressed agricultural production and also has remained a significant contributor to GDP. In 2005, 68% of agricultural turnover was from Jersey Royal Potatoes and 3.4% of GDP.

This significance in terms of production is also reflected in **employment creation**. Positive evidence has been found in some cases: Gherkins, Jersey Potatoes, Olive Oil and Rice.

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structure (both being commodities that were sold at international prices) at the moment when the local administrations, together with producers, promoted the GI as part of general quality-oriented strategy.

80 The explanations for such pre-eminence among other agricultural activities may be found in several factors. For instance, agri-environmental conditions, for example extremely dry or extremely humid lands, have been found to impede other less well adapted agricultural activities (the case of the olive tree, adapted to dry farming conditions of the South of Spain, or rice, unique in it's adaptation to cultivation in flooded fields).

In certain instances, the importance of the product in local terms may be due to the existence of a high demand for the local product, in particular when it is sold larger markets, outside of the local territory. This type of demand pressure seems to have an influence in intensification of production systems, as local economic actors wish to increase returns for their production (Jersey Royal Potatoes, Spreewald Gherkins).

EU agricultural policies, in the framework of the CAP, have played an important role in increasing or maintaining production rates of products falling under CMO (Aceite de Oliva de Sierra Mágina, Arroz de Valencia), to the detriment of others. This factor has been seen to be more important there where aids have been linked to volumes of production (prior to 2003 CAP reforms).

In other cases, the relative importance of studied activities is increased by legal limitations to the alternative economic activities, as production takes place in areas covered by protected natural areas - UNESCO Biosphere Reserve (Gherkins), Natural Parks (Sierra, Mágina and Arroz de Valencia, Diepholzer Moorschnucke) .

Here, farming activities and processing of the product hold importance in regional terms. In all of these cases, the actual or estimated workforces are the largest among different agricultural activities. In one case (Sierra Mágina), production activities related to the product – olive oil - are the main economic activity of the region.

In other cases (SHQ pork, Idiazábal and West Country Farmhouse Cheddar), the production quantities and the jobs generated by the local products are limited in regional importance. Yet, such productions are viable and sustainable and are an important source of income for certain families.

In terms of the nature and composition of the employment force, it is often the case that entire families are involved. This occurs predominantly in the case of olive cultivation and cheese production (Idiazábal and West Country Farmhouse Cheddar). In the production of *fermier* cheeses like Idiazábal, it is noteworthy that the integration of cheese production to traditional shepherding and milk farming is only achievable thanks to the incorporation of additional members of the family, generally the women.[81]

A final point worthy of mention is that where mechanization has been introduced, the need for manpower has naturally tended to diminish (the cases of rice and olive harvests).

Contribution of GIs to the local economy

The table below summarizes this discussion by drawing attention to the three factors chosen to establish the importance of the GI in local economies: a) the share of production of the "typical product" bearing the GI in total production; b) the importance of the production outputs of the local good for the local economy and c) the importance of manpower dedicated to the production of the GI in relation to local employment.

[81] In *Idiazábal "Artzai Gazta"* or *fermier* cheeses, work is usually divided between the man, who takes care of cattle and milk production, and women applied to cheese making and commercialization.

Table 5 Contribution of GIs to the local economy

Product	GI	Importance of the local product in relation to the economy		
		Importance of the PDO/PGI coverage in relation to the total production of the good in the same region.	**Importance of revenues generated by the GI related good for the region**	**Importance of employment linked to the GI.**
Gherkins (cucumbers)	Spreewald Gherkin	HIGH. All of the production comes under the PGI label.	HIGH: 10-15% of regional GRP. 40,000 TN (50% German Market)	HIGH: Employment above 4500, has grown at the same time as production (PGI application process). ++
Potatoes	Jersey Royal Potatoes	HIGH: Practically all of the production comes under the PDO label.	SIGNIFICANT: It is the main agricultural product, marketed outside the island (generates revenues). 3-4% GDP	HIGH/MEDIUM: Main agricultural employer.
Cheese (ewe milk)	Idiazábal	HIGH According to Artzai Gazta farmer-cheese maker Ass., 80% of their members are registered in PDO. Estimations say that most ovine milk production reserved for cheese and dairy products is for Idiazábal). Growing	SIGNIFICANT: The official demarcation of Idiazábal is the entire Basque Country and half of Navarre regions, thus relation to the GRP is marginal. However, since much of the production takes place in mountainous LFA, with no alternative economic activity possible, the importance is incremented. 7. million litres of milk--1223 TN. Of Cheese.	SIGNIFICANT: One of the only possible activities in high mountain areas. Circa 500 cattle farms and more than100 cheese makers (90 of artisan cheese). In total, around 600 families + employment in industries between 200 and 300*.
Meat (pork)	SHQ	HIGH: All of the production comes under the PGI label.	SIGNIFICANT 4,000 TN. (100 SHQ farms) total sales volume, 60 million. Contribution to the agricultural segment is high, but contribution to GRP is marginal.	SIGNIFICANT: 100 SHQ producers. BESH staff 250. Indirect effects (butchers).Promotion of local gastronomy (local restaurants).
Cheese (cow milk)	WCFC	HIGH: All production meeting code of practice quality standards near maturity comes under the PDO label.	LOW in relation to local economy 12.000 TN. of cheese per year.	LOW: 13 Family farms, including a trust farm made up of several smaller farms (most family run).
Meat (sheep)	Diepholzer Moorschnucke	MEDIUM: PDO covers 50% of sales (when not sold to slaughter-houses) are labelled.	MARGINAL: Meat production is limited affecting relevance of quantities, sales and employment in local economy.	MARGINAL: 20 jobs. Some indirect effects.
Extra virgin olive oil	Sierra Mágina	LOW: certified oil (40%) sold (bottled) PDO oil (5-7%). Growing	HIGH IMPORTANCE: Some municipalities rely entirely on olive oil production. Olive cultivation: 63575 ha (most of the county).// Olive Oil 40 million kg. Olive Oil production is the principal activity of the County.	HIGH IMPORTANCE: Between 3,100 and 4,500 man/year (over a tot. Population of 54,000).
Rice	Arroz de Valencia	LOW: 7 to 9% of the total production. However, growing.	SIGNIFICANT: Albufera: 14,741 Ha. 104 300 TN (1/4) Spain//Principal agricultural activity. But neighbouring industries and services minimize the relative importance in relation to all economic sectors.	SIGNIFICANT: Farmers: 2700. Tot. Employment est. above 3000. Competing new activities generate more employment (Tourism).

Estimated for all dairy products.

In two cases (Jersey Royal Potatoes and Spreewald Gherkins), there is evidence of a strong relationship between the local good and the local economy, particularly as a high proportion of the local good uses the GI. In these cases, successful GI-based strategies are likely to have a deep impact on the local economy, affecting a wider range of production factors.

In other case (Idiazábal, SHQ), while the proportion of the local good using the GI is high, the potential impact tends to be limited when considered in relation to the entire economy. However, in these two cases the product remains of considerable importance for the agricultural activities in the area.

The Diepholzer Moorschnucke case shows the peculiarity of having a considerable amount of output which is marketed under the PDO logo (50%) for an activity that is marginal in economic terms. This is surely because the PDO forms part of a private local initiative that is not primarily dictated by economic motivations (see chapter on environmental impacts and conclusions).

Finally, the remaining cases refer to products that are of great importance in relation to the local economy (Sierra Mágina, Arroz de Valencia) but where the PDO accounts for a small proportion of production. An explanation for this may be related to the fact that, while they have a long tradition within their regions, their production has been sustained by European Community policies (CMOs in the framework of the CAP and agri-environmental aid).[82] Consequently, recently introduced PDOs, in this context, are likely to be less appreciated by local producers for whom subsidies remain vital for the profitability of their businesses. That said, in both cases there has been a sharp improvement of output on account of meeting PDO specifications, confirming the relative success of local administrations and stakeholders in promoting a switch towards quality oriented production and products.

[82] Regulation (EC) No 1785/2003 of 29 September 2003 on the common organisation of the market in rice and Council Regulation (EC) No 865/2004 of 29 April 2004 on the common organisation of the market in olive oil and

B. The Supply Chain Organization: Integration and Coordination.

The supply chains corresponding to the local GI products studied are short and supply is mainly directed at local consumption. In many cases, there is a considerable degree of integration of the different sequences of production. Also, because of the existing common standards and objectives related to the fabrication and sale of the product, the production phases, activities, etc. taking place within the supply chain tend to show a higher degree of coordination than those found under normal competitive circumstances.

Integration and Coordination: Very high levels of vertical integration are perceived in the production of West Country Farmhouse Cheddar, where practically all of the milk producers also produce and mature cheese, and sell directly to either retailers or consumers. This level of integration is also present in a part of the Idiazábal production, which is dedicated to producing *fermier* cheese (around 120 farmers). However, another portion of the milk farms are dependant on the sale of milk to dairy firms, who then produce and mature the cheese.

In other cases, we observe that forward integration is pursued through different routes. In some cases - in particular where atomization of the production is very high - associative strategies are looked for by farmers to pool processes such as elaboration, packaging and commercialization, which occur at later stages of the supply chain. This is evident in the case of Sierra Mágina, where olive producers traditionally form cooperatives or "Agricultural Transformation Societies" (Sociedad de Transformación Agraria), which possess mills and perform distribution activities, or the case of SHQ, where members of the BESH[83] producer association send animals for slaughter to the slaughter-house owned by the BESH, which later markets the product.

In cases where atomization is not as high, or where large producers exist, integration has been achieved by merging between actors towards the retail-end of the supply chain. For example, in the Jersey Royal Potatoes case, the five largest farms holding the majority of the production have merged with the four main distributors/exporters of the island.

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table olives and amending Regulation (EEC) No 827/68. Rice producers benefit from agri-environmental aid provided for rice production under regulation EC 1257/1999.

83 Bäuerliche Erzeugergemienschaft Scwäbisch Hall is the producer association that applied for the PGI.

Other cases show little to no degree of integration, therefore farmers produce is sold to producers and fabricants at latter stages of the supply chain (Arroz de Valencia, - Spreewald Gherkins, Diepholzer Moorschnucke, parts of Idiazábal and Jersey Royal Potatoes productions).

Geographical Indications are not a factor that force integration of the supply chain. In fact, existing literature emphasizes that GIs may reduce incentives towards integration of the supply chain, by reducing transaction costs among different actors (Rangnekar, D. 2004). Coordination of the actors in the supply chain is, in general, favoured by the existence of the GI, leading to increased communication and actions of the actors in search of common objectives (preservation of product quality, promotion of the GI, etc.) as well as by the creation of structures or institutions that favour and support coordination tasks.

In some of the cases, higher levels of coordination seem to be have been favoured on account of the presence of producer associations. For example, in the SHQ pork case, where the *BESH* has relieved farmers of processing and sales (it pays the farmers a fixed price, including a premium over standard market prices, per animal) and controls and coordinates the entire supply chain. Similarly, the activity of *Artzai Gazta*, the shepherd/cheese-makers association of the Idiazábal production zone,[84] has a great incidence in the coordination of activities between farmers, ensuring the quality of the *fermier* productions and providing marketing platforms for its members, which produce at least one third of the total of Idiazábal cheese. The West Country Farmhouse Cheesemakers cooperative runs marketing, PR and trade relations for the producer farms. These associations have set GIs at the heart of their strategies, although their objectives may not be exclusively related to the GI, but include broader goals.

In other cases, there is less coordination, although this deficiency may be supplanted by the leadership of more important producers at the retail end of the supply chain. When several actors are present at the later stages of the supply chain, although they are obliged to meet common standards and strategies at the production stage, they will become

[84] Spanish Basque Country and West of Navarre.

competitors with different common marketing strategies for the sale of GI protected products, but in specific occasions or campaigns ("industrial" Idiazábal Cheese, Spreewald Gherkins, Arroz de Valencia).

Another singular element related to the issue of coordination, as observed among the cases studied, is the role played by the regulatory councils (*Consejos Reguladores, RC*) of the PDOs in the Spanish cases. RCs are independent bodies established by producers and administered by the public authorities. They have the task of monitoring and certifying the production, as well as defending and promoting the GI.

RCs tend to play a major role in providing means for communication and intermediation among economic actors associated with the GI, who may have different interests. In addition, they provide information in some cases including training (in particular, see Sierra Mágina Report). Actions of the RCs may include sponsorship and the organization of meetings seeking to establish common strategies as well as technical cooperation activities seeking to aid producers and preserve product quality and standards and facilitate market positioning of the product through the organization of commercialization platforms.

It has been claimed that the establishment of these institutions is a reflection of the greater public support for the PDO system in "Latin" countries:

> "The countries of southern Europe have accorded greater importance and means for the support of products of certified origin (France, Italy, Spain et and to a lesser extent Portugal), while northern countries have neither accorded specific aid nor appointed institutions, being happy to act as simple administrative intermediaries between the concerned professions and the European Community". (Barjolle and Sylvander, 2000).

Finally, in one case studied, Jersey Royal Potatoes, there seems to be a great concentration at the level of distribution channels, which are in the hands of the biggest farms, which therefore have greater control and coordination capabilities.

Integration and coordination seem to be two variables that give actors at different levels of the supply chain appropriately greater shares of the returns generated by the premium earned by the GI good.

Integration of milk farming and cheese production, for example, allows the farmers of Idiazábal artisan or *fermier* cheese and of West Country Farmhouse Cheddar to obtain higher benefits per litre of milk than if they sold it to industry for processing. In addition, it allows farmers to capture the price premiums which may be brought about by the PDO-product sales.

In the SHQ case, the high degree of coordination by the BESH producer association guarantees that farmers will receive a fixed premium per kg. of pork-meat from the producer association, which is in charge of slaughtering and marketing.

In any case, since the farmers are members of the BESH, one could say that a "hybrid" type of integration is achieved at the last phases of the supply chain. In a similar manner, the olive farmers of Sierra Mágina form cooperatives with milling and bottling facilities. However, in this last case, the level of coordination among actors of a very atomized sector[85] proves to be difficult with negative consequences such as difficulties in developing common marketing strategies, which tends to weaken possibilities to pool resources for distribution and advertisement.

In other cases, lack of integration and low levels of coordination may affect the distribution of benefits, where applicable, from the sale of typical products. In Spain for instance, a study shows that the lack of coordination between rice farmers and industry has been detrimental for farmers in relation to their price bargaining capacity. In addition, it appears that extra costs in account of incrementing product quality, for instance in the application of *integrated* production and traceability systems, are not fully compensated by extra-revenues at this stage of the supply-chain.

In less integrated supply chains producing GI products, the role of coordination becomes more important. Depending on their situation on the SC, actors will tend to have different perspectives and even contrasting interests[86] related to the characteristics, the production

[85] The PDO Sierra Mágina goups together 24 cooperatives, composed of several thousand members.

[86] An example is the conflict which has surged between the cheese making industries and milk farms on one side, and small farmers producing *fermier cheese* in the Navarre region of Roncal. Roncal is a PDO protected cheese, very similar to *Idiazábal* which is produced with autochthonous *Rasa* and *Latxa* species. These breeds produce high

and sale of the typical product. Therefore, the existence of institutions or organisms ensuring intermediation, such as RCs of Sierra Mágina, Idiazábal or Arroz de Valencia, or by private associations where different stakeholder are represented, are fundamental both as a safeguard to preserve the product specific characteristics and to facilitate communication among actors, reduce transaction costs and preserve supply chain organization in function of the GI product.

C. Marketing and Communication to Consumers

In analysing issues related to marketing and communication the following are specifically considered:

- Marketing channels: The focus has been on what market channels were used for the products, and how does this relate to production structures and country traditions.
- The relation of GIs with other distinctive signs (brands, competing PDOs): Are consumers guided by GIs when they purchase a product or do they rely on brands? What explanations could be forwarded in one case or the other? What is the effect of the proliferation of Geographical Indications?
- Brand proliferation: Is the GI used as a lead in strategies which seek to increase the presence of producers in different product-markets? (horizontal proliferation). Do producers search further differentiation of GI products by generating a range of products that fall within the scope of the GI? (vertical proliferation).
- What information or "messages" are conveyed to consumers through GIs and correlated signifiers? GIs are generally thought to convey different messages to consumers – quality, uniqueness, tradition - which may be "transformed" into

quality milk, but ewes are among the most productive and are not adapt to intensification. *Industria Quesera de Roncal* and the Union representing larger cattle establishments of Navarre (UAGN) have requested that the PDO specifications be "opened" to other breeds which would ensure higher supplies of milk. Opposition to this petition has come from EHNE, the syndicate of small producers, as well as from different PDO representatives (*Roncal, Idiazábal, Iraty, Zamora, Manchego)* which claim that "consumers buy a product associated to a nature and territory, which is strongly is strongly identified to the autochthonous species". The conflict has been further described as opposing "one big establishment against 40 small shepherds" (see "Seis denominaciones de queso se unen contra la inclusión de razas de oveja no autóctona", Diario de Noticias, 16 of august 2006. Pamplona. http://www.diariodenoticias.com/ediciones/2005/01/18/economia/navarra/d18nav54.1

surpluses which purchasers are willing to pay over the standard price. However, the accent may be put on one or several of these "messages". A supplementary question relevant to this study is whether environmental quality is communicated to consumers as an inherent quality of the GIs.

In general, **marketing channel** patterns are diverse, reflecting the different histories of product commercialization, evolution of market structure and local stakeholder strategies. However some patterns may be discerned:

a. In general, although there are multiple channels which may be employed to sell GI products (direct sales to consumers – either through direct delivery, sales in food fairs and events or door-front sales, sales to restaurants, specialized shops[87], etc.) there is a prominence of retailers in the final link of the chain, reflecting a general trend of dominance which derives from scale and scope economic advantages in relation to other firms of the supply chain.[88]

   This prominence was seen to be particularly important in the Jersey Royal Potatoes, Arroz de Valencia, Spreewald Gherkins and significant in Idiazábal cases. In the first three cases, the economic concentration of a few larger firms intervening towards the first-sales stage of finished products (import/export distributers, industries) on account of increased supply capacity, greater bargaining power, and deeper accessibility to big surface retailers. In the case of Idiazábal, this is true for a large portion[89] of the production which is produced, matured and sold by dairy industries. The presence of retailers in the final step of the supply-chain, however, presents opportunities for GI product marketing in regions which are distant to, or at least outside of, the production (and consumption) region. In particular, GI products may be sold through specialized retailers[90] (e.g. as observed in the case of West Country Farmhouse Cheddar). or presented as a part of

[87] In this category we include establishments such as butchers (for meat products), *gourmet* shops selling a variety of quality and typical products, or products with "ethical" and environmental labels (fair trade, organic, etc.).

[88] See Millstone, E. and T. Lang, 2003: "The Atlas of Food: Who Eats What, Where and Why ? " London: Earthscan, cited by Rangnekar (2003).

[89] Around 70% of the production is sold by industries which process milk sold to them by milk farms, while the rest of the cheese is produced by cheese maker families who own their own flocks .

[90] Waitrose, in UK, is a quality-food chain which combines "the convenience of a supermarket with the expertise and service of a specialist shop". See http://www.waitrose.com/about/index.asp .

premium lines of agri-food goods (e.g. Idiazábal, Arroz de Valencia),[91] and there is a tendency to create specific 'white labels' where different GI products are marketed (see 'Relation with other Distinctive Signs', *infra*).

b. There is a greater tendency of smaller producers to perform direct sales (Sierra Mágina, Idiazábal, West Country Farmhouse Cheddar, Spreewald Gherkin, Diepholzer Moorschnucke) in cases where artisan or *fermier* methods of elaboration take place (Idiazábal, West Country Farmhouse Cheddar). Larger industries rely on sales to retail agents.

c. Commercialization usually takes place within the region, in particular production coming from small producers,[92] and often to connoisseur publics. The presence of associative institutions, such as producer associations or PDO-PGI related bodies may facilitate sales by RCs creating tools to enable sales to larger publics and sometimes access to further markets. Such tools include possibilities which range from pooling sales to retailers (Idiazábal, West Country Farmhouse Cheddar), the creation of online shops (Sierra Mágina), the organization of fairs and tourist routes where producers may commercialize their product (Idiazábal) or the direct assumption of all commercialization functions (SHQ pork).

d. The implication of different regional stakeholders in marketing activities may lead to opening of new market channels, where GI products are sold together with other regional products. An interesting case is the development of the "Spreewald-Market" franchise, developed by the *Spreewalderein*[93] to sell local products.[94]

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91 Carrefour, the multinational supermarket based in France, has developed the trade mark *"Productos de Nuestra Tierra"* offering a selection of the "best products of our –Spanish- gastronomy". This is a strategy which is very similar to the development of the "*Reflets de France"* line of products launched in 1996 by this retailer in France (http://www.denuestratierra.com/ and http://www1.carrefour.fr/ccm/content/categories/marques-carrefour/reflets-de-france.jsp).

92 Naturally, some exceptions to this statement can and have been found, as in the case of *Arroz de Valencia* or *Idiazábal* where even some of the largest industries also limit PDO bearing products to sales performed at a local level.

93 In the *Spreewaldverein*, a wider group of regional stakeholders are organised in addition to gherkin producers. Most of the gherkin producers are members of the association.

94 "As a new instrument to enhance marketing and sales of the certified regional products and to improve market access for smaller producers, the *Spreewaldverein* is currently building up a franchise company called "*Spreewald-Markt*". Until the end of 2006, approximately 14 franchisees will sell Spreewald products. About half of the shops and stands are located in the Spreewald region, the remaining half in Berlin. Up until now, the individual franchise shops have been sufficiently profitable to sustain themselves, and the long-term aim of the *Spreewaldverein* is to establish a total of 30 franchise shops across Germany" (see the Spreewald Gherkin case-study report).

Regarding the aspects related to **the communication of the GI product characteristics** to consumers, an initial clarification must be made: the present study is based on the observation of marketing strategies obtained through the interviews with stakeholders (mainly producers and representatives of producer associations and, where applicable, GI management boards). However, a complete study should incorporate information on consumer appreciation of the Geographical Indication. These would entail consumer surveys which were not carried out in the framework of this project. Despite this initial disclaimer, some findings which are extracted from the case-studies deserve to be highlighted.

GIs' relation with other distinctive signs. The first of these findings refers to the relation between the Geographical Indication (PDO and PGI) and Trademarks, which relates to the question of whether and how of GIs serve as means for differentiating products and conveying goodwill as compared to "brands".

In relation to this point, it has been found that an association of the product qualities and the GI seemingly exists in most of the examined cases. In occasions, the "quality-link"[95] appears to be higher than in others, in particular in those cases in which the production regions are historically and notoriously associated with product (Spreewald, Hohenlohe,[96] Idiazábal,[97] Jersey).

Another factor is that this "quality-link" been increased in cases where there has been wider and consistent implication and support from local producers and stakeholders for strategies integrating the GI.

In other cases, it has been observed that brands continue to be an important reference guiding consumer choices. This seems to be the case for commodity products such as rice and olive oil (Arroz de Valencia and Sierra Mágina), where brands have been strongly

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95 By "quality-link" we refer to the association established between product qualities and the location of origin in both physical and human dimensions (see Section 1).

96 This is the region of production of Schwäbisch-Hällisches Qualitätsschweinefleisch. See the annexed SHQ case-study report.

97 Idiazábal is a town located in the Basque Country. The indication, however, is identified by consumers as associated with the type of cheese which is produced in a wide region of the Spanish Basque Country and part of Navarre (Idiazábal case-study report, annexed).

and historically implanted for many years. In addition, in these markets, the phenomenon of Geographical Indications is still quite recent[98] and still holds relatively low percentages of the total productions (see "Proportion of the local good productions which are protected by Geographical Indications", *supra*). Although, thanks to publicity and promotion campaigns, the presence of these GIs is growing, they are still seeking consolidation and are still to be clearly identified by consumers as an indication of product local-borne quality.

A recent phenomenon is the proliferation of "white brands" or "umbrella brands", which allow PDO and PGI products to stand in supermarket arrays under a single general premium product brand. In our opinion, this is a favourable tendency towards recognition of the indications as factor guiding consumers' purchases (differentiation is based on the GI and not on different private brands), but authors are not unanimous on this point, and some alert us on the risks which may come from supermarket-owned umbrella brands.[99]

Another interesting finding which arises in our study is that different GIs often coexist and, up to a certain degree, compete.[100] This occurs when they are in the same category of goods and possess very similar characteristics in nature, presentation and quality. This is particularly visible in the case of extra-virgin olive oils, for which there are twenty geographical indications in Spain, eleven of which are in the same Autonomous Community as Sierra Mágina (Andalucía), and three in the same Province (Jaén). Many show similarities in product specifications, including varieties of olives which are admitted for production. Arroz de Valencia competes with three other PDOs for rice and Idiazábal cheese is, by its primary products, manufacture and final characteristics, of similar quality as Roncal and Ossau-Iraty of neighbouring Navarre and French Basque country.

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[98] PDO status has been granted to Arroz de Valencia in 1997, while Sierra Mágina has this form protection since 1999.

[99] Albisu (2002) also reminds us that retailers' own-brand also pose a number of threats. For example, the most-possibly higher demands for product standardisation might threaten the distinctiveness of the GI- product. It is also the case that the retailer's brand could very well displace the GI-label as being the means for identifying and distinguishing the product or guaranteeing a level of quality.

[100] Competition is however limited because there seems to be geographic barriers to market entries, i.e. a fair proportion of the sales of GI products are local.

Consumers, therefore, may be confronted with multiple, though near identical, indications, most of which have appeared recently, in the last six or seven years. Although the economic consequences of such proliferation of indications have not been addressed, an issue for future research would be to explore the incidence on such proliferation on the potential of GIs to create differentiation and "market barriers" for agricultural goods.

Brand Proliferation: Related to the issue of differentiation, is the question of "brand proliferation", i.e. "the possibility of proliferating the product space within and around the protected indication". In the first case, proliferation is based on "variations of the GI-product",[101] citing a well known example, as those of brands corresponding to different qualities and blends of Scotch Whiskey (Rangnekar, 2004). In the case of GIs studied here this type of proliferation is not generally perceivable, although in some cases it may exist up to a certain degree.[102]

In reference to horizontal branding proliferation, i.e. the product space which is created "around" the PDO, this is clearly noticeable in cases such as *SHQ*, (where the producer association BESH, after the foundational SHQ-PGI project, has developed into multiple projects involving different meat products); in part of the Idiazábal production[103] Idiazábal cheese is a prime product, sold among other types of cheeses and brands are sold); Spreewald Gherkins, (where some companies produce and sell other processed regional vegetables, in addition to gherkins) and Sierra Mágina (qualified PDO extra-virgin olive oil is sold among other qualities of bottled olive oils, including non-PDO extra-virgin oils).

Communication of GI embedded qualities to consumers. One interesting question, which has been observed during the case studies, is related to the "messages" which accompany

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101 This is referred to as vertical proliferation.

102 In Idiazábal the association grouping producers of farm cheese concedes ulterior labels (*Zumitz Green and Zumitz Black label*) to Idiazábal cheeses which have passed a supplementary set of tests and tasting sessions. Arroz de Valencia is a PDO given to rices of the *Senia, Bahía* and *Bomba* varieties, the last of a distinct quality and price. In addition, both white rice and brown rices (i.e. milled and whole grain) may be given PDO status. Organic Farm labels are another distinguishing factor, which accumulates to GI logos. These were found to be present in Diepholzer Moorschnucke, Sierra Mágina, Jersey Potatoes and SHQ cases. In diary products, different degrees of maturing may lead to differences, which are sometimes branded.

103 Industries selling *Idiazábal* cheese also produce and trade other regional dairy products, including non-PDO cheeses such as cheeses made from mixes of cow and ewe milk and even non-PDO qualified, matured cheeses of similar characteristics as Idiazábal.

the GI in the promotion of the regional product, as these may give us an indication of what niche markets are searched for by stakeholders wishing to commercialize the product and how the products are meant to be distinguished.[104] Due to the nature of this study, particular attention was paid to the presence of messages/images which relate to the environmental quality of the area of production.

Among the different messages passed through, the most extended one is probably that of "guaranteed quality" which can be attached to all of the GI products studied. In second stance, there is the presence of messages conveying "uniqueness" or "singularity", mostly referred to taste and organolephtic qualities.[105]

"Tradition" is a message present in many cases (Arroz de Valencia, Sierra Mágina) but it holds particular relevancy in the Idiazábal case, where the PDO product and the shepherding activity linked to it seems to be connected with a certain "sense of belonging". "Authenticity" is the unique message of the West Country Farmhouse Cheddar, which wishes to seek contrast with the standard cheese, which uses the generic "Cheddar" designation.

Regarding messages concerning the environment, these have stronger connotations there where there has been some sort of environmental motivation (preservation of a local species, generation of resources in environmentally-valuable areas) behind the establishment of the GI. There the stakeholders have had more implication in the environmental aspects linked to the product and seem wish to convey them to consumers. The most notable cases in this sense are shown in the SHQ and the Diepholzer Moorschnucke[106] studies. In second stance, it must be noted that the presence of protected natural areas within the GI demarcation may lead to references to the

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104 This information was obtained through interviews with regional stakeholders and observation of promotion of the products in fairs, events and through web-pages.

105 This message is present in most cases but more holds importance in *Idiazábal, West Country Farmhouse Cheddar, Spreewald Gherkins, Jersey Potatoes and Diepholzer Moorschnucke.* An interesting message is that established by *Arroz de Valencia* unique since it is "adapted to local culinary needs" – cooking Paella, thus establishing singular connections with local needs. Similarly, *SHQ* pork meat is connected with German gastronomic uses.

106 The promotion of Diepholzer Moorschnucke includes slogans such as "save diversity by eating it" "protect nature with your shpping basket" .

environmental connotations of the product, although these are often not within the primary message.[107]

A reference to how premiums may incorporate environmental values, since there a motivation to seek sensitive niche markets.

Finally, references to landscape through words and images are very common and may be found in all cases.

D. Price Premiums and Profitability of the Production of GI products.

Much of the attention and interest in GIs relates to the potential of using differentiating signs to create a niche market where particularly local and distinctive goods may flourish. The charm of a niche market is also that a premium on the price may be earned – a premium relative to "similar" goods in "similar" categories as exemplified by the price difference between Champagne and sparkling white wine. However, beyond the existence of a niche market and price premium, it is pertinent to examine how this premium is distributed across the supply chain.

Information on price premiums, measured as the extra revenue perceived per unit sold, as compared to sales of a comparable product, has proved to be difficult to retrieve. Information allowing the most worthy scientific comparison – the price of a GI labelled product compared to the price of a similar or identical non GI product - has not been readily available in many cases, forcing comparisons with other products which may diminish somewhat the value of the results.

Also, availability of information across the supply chain has also proved difficult: Information at the retail level has been easier to find, and there it was found that price premiums with important margins – between 20% and 100%, depending on the good - exist for most products. However, this gives us little information on how the benefits are distributed across the supply chain. At the wholesale or first-sale level, the limited information available shows that price premiums are lower than at the retail level (Arroz

[107] *Spreewald Gherkins, Idiazábal, Arroz de Valencia, Sierra Mágina.*

de Valencia and Sierra Mágina). This confirms our earlier suspicion/observation that the superior bargaining power of supermarkets on account of economic concentration at the retail end of the supply chain allows them to appropriate a larger share of the returns.

When the price of the product is influenced by international prices – as in the case of extra virgin olive oil - we have seen that price-premiums have tended to show a great variability from year to year.[108]

Finally, price premiums for primary producers have been more important in those cases where there is a high degree of coordination of the supply chain (SHQ[109]) or in cases where premiums, in reality, may be reflecting higher costs of production.

In this sense, price premiums perceived for GIs by different actors at the producer level have shown to be important to keep certain products profitable and on the market (SHQ, Spreewald, Idiazábal) but less influential in other cases.

A special mention must be made for certain cases, such as (Sierra Mágina and Arroz de Valencia) where product viability depends less on product price premiums perceived for GIs than on revenues coming from different subsidy schemes of the EU, as well as contribution from private sponsoring (Diepholzer Moorschnucke).

E. Conclusions

1. The utility of GIs to capture of embedded rents of local products is evidenced in several cases of our study, but is not conclusive in others. Success is measured taking into account a series of factors which may evidence the importance of the GI for the local economy (rent and employment generation, the existence of price "surpluses" and distribution of benefits among members of the supply chain).

[108] This is the case of Sierra Mágina OO which price margins –between extra virgin olive oils with and without PDO label, ranged between 0 and 20%, tending to be larger in those years when general (bulk) extra-virgin olive oil prices were at their peak.

[109] A fixed premium of 0.33 Euros per kg. is paid to farmers by the BESH association.

2. The potential of GIs as a tool to generate economic rents and regional development must be nuanced in relation to the importance of the local good susceptible of falling under the scope of the GI, related to general regional economic figures (e.g. GRP).

However, in most cases GIs hold a great potential for promoting competitiveness of the specific local goods, with significant impacts for the sectors which are directly or indirectly related to the production and sale of the good.

3. Two factors appear as key to GI success, according to the case studies: integration and coordination of the supply chain.

4. Production chains with higher degrees of integration, in particular ventures to integrate forward in processing and/or marketing processes, seem to guarantee the capture of higher benefits from sales of GI products with consequent incentives and commitment of producers to product success.

5. The role of coordination: GI-linked production and commercialization chains tend to show a considerable degree of coordination, based on the necessity to adapt common production and marketing strategies among economic actors involved. Coordination is normally ensured by institutions – professional associations, PDO management councils - which not only provide economic services to producers (pool opportunities to diminish costs and increment marketing capacity) but also provide intermediation facilitating communication flows which diminish transaction costs. This role is particularly important since economic actors (for example coexisting farmhouse and industrial producers) may be confronted by different interests in relation to the production and marketing of the product. The evidence from the case studies shows that there is a direct correlation between the existence of strong "intermediate" institutions and coordination. Furthermore, the strength of these institutions depends on the clarity of objectives (either economic, social, environmental or a combination of these objectives) and the degree in which the all stakeholders share these goals.

6. An appreciable socio-economic effect of coordination which has been observed in the case study is that there is a better distribution of rents for different actors economic actors

(for example through the payment of fixed price premiums to farmers by processing industries), at different stages of the supply chain.

7. Price premiums are perceived in larger margins at latter stages of the supply chain. Therefore, in the absence of coordination, actors in the initial sections of non-integrated supply chain (farmers) tend to perceive little compensation in relation to the incremented costs due to complying with PDO standards.

8. Marketing channels: shorter marketing channels seem to be preferred by small producers, which are likely to obtain better profits from direct sales mechanisms. For instance, control over "last sales" is determinant for producers incapable of generating productions of scale. However, the presence of retailers is dominant, with increasing acceptance of GI products and implementation of innovative commercial strategies.

9. A signal of this is the proliferation white brands designed explicitly to sale typical products, including GI-goods.

10. Supermarkets may represent an opportunity to trade products in markets which are outside of the GI territory, but with the risk of creating market pressure which may work against product typicality.

11. Subsidy schemes in the framework of the CAP, particularly in products falling under CMOs, may play a negative role in regard to GI consolidation. Farmers for which subsidies play a vital role in the profitability of their activity are relatively less incentivised and be less driven or motivated towards GI based strategies than those in more "market-oriented" productions.

12. In general, there is little evidence that price premiums paid for GI products may have "internalized" an environmental quality surplus. However, in two cases – SHQ and Diepholzer Moorschnucke - promotion "messages" do underscore that the consumption of the GI protected product has a positive environmental connotation. This allows us to infer that niche markets, where consumers are sensitive to such messages and willing to pay additional prices for environmentally sound products, are searched and often found for these products. In both cases, however, it must be noted that there has been an

important environmental motivation behind the creation of the GI, thus product definition and marketing are accordingly set to search for extra-premiums based on the positive environmental connotation.

V. SUMMARY OF LINKAGES OF GI PRODUCTS TO SOCIAL AND CULTURAL ISSUES

Regional identity, local traditions and history

As specified by Council Regulation 510/2006, geographical indications and designations of origin denominate products that originate in a specific place or region, the quality, characteristics or reputation of which are linked to this region, and the production and/or processing of which takes place in the defined geographical area.

Almost by definition, GI products thus are closely linked to issues of regional identity, and production methods rooted in the local history. The products eligible for PDO or PGI registration often originate from local traditions and have played a more or less important role throughout local history. Many examples of this can be found in the case study products that were analysed. All products have certain unique characteristics such as special taste or particularly high quality that are associated with particular environmental conditions, the breeding history, and traditional processing methods. Often, although not always, the products are based on specific vegetable or livestock breeds, e.g. pig or sheep breeds that were traditionally kept in the region and that often are particularly well adapted to the specific circumstances (e.g. Diepholz Moor Sheep, Idiazábal Cheese, Schwäbisch-Hällisches Qualitätsschweinefleisch), and vegetables such as the Jersey Royal Potatoes that is indigenous to the region and does not exist elsewhere. The products or the activities they are based on can often be traced back through several hundreds or even thousands of years of local history (as is the case for Idiazábal cheese).

The link to regional or local tradition can be regarded as especially pronounced and intricate in the case of products that involve processing according to traditional methods, such as cheese-making, olive oil production or cucumber preservation. Marketing strategies often capitalise on these links, presenting the products as authentic, home-made, and made with special care (e.g. West Country Farmhouse Cheddar). Endangered animal breeds that were saved from extinction such as the Diepholz Moor sheep, or indigenous vegetables with a particular shape and taste such as the Jersey Royal Potatoes, can also be considered important elements of local cultural heritage, as can traditional sheep herding in transhumance in the Idiazábal mountains or on the Diepholz moors.

The link to the region by definition exists in the production process, but may also be reflected in the consumption patterns. In some cases a large share of the produce is consumed in the area of origin, marketing is often addressed to the local population, and the product may be particularly well suited to meet local consumer taste and thus have a high importance for local markets, as for instance in the case of Arroz de Valencia. Regional integration and the link to the identity of the region's residents can therefore also be very pronounced on the consumption side.

In many of the cases that were investigated, the product itself or the animal breed it is based on was "endangered" or struggling to compete with more standardised, industrially produced substitutes. The GI registration and labelling often was one of several factors that contributed to the re-establishment or to consolidation of production.

The promotion of such traditional products, e.g. through the use of GI registration and labels, thus can clearly be a means of strengthening the regional profile, increasing the identification of residents with their region and adding to the uniqueness and profile which may help to increase the region's attractiveness to both residents and visitors.

Effects of GI products on the regional social structure

The case studies that were analysed in summary suggest that GI products tend to have a positive effect on the regional employment situation, although the overall quantitative impact differs strongly between the cases. For instance, while the production of Spreewald Gherkins or Sierra Mágina olive oil create and secure a significant number of jobs in the agricultural and related sectors, the employment effect in Diepholz Moor sheep keeping is marginal.

Traditional processing methods may require a higher input of manual labour than industrial substitute products, which benefits employment. Even where GI production in a given area does not lead to new employment, they may at least limit a general trend towards decline of employment in the agricultural sector. Indirect positive effects on employment were also often reported, e.g. through the promotion of tourism, or through

benefits to the local gastronomy and other companies in the region that either further process or sell the product.

However, what may be equally relevant is that many GI products do not only influence the number of jobs, but also contribute to healthy social and agrarian structures. Production often is associated with conditions that are favourable for small-scale producers, part-time farmers, or family businesses. However, the factors that support diverse, traditional small-scale production structures can be complex and different between individual cases. The professionally and centrally organised group of producers of Schwäbisch-Hällisches Qualitätsschweinefleisch, for instance, facilitates access to markets and guarantees fixed prices, thus supporting small and part-time farmers. Here, and also in the case of the Diepholzer Moor Sheep, the commitment of a single individual has been key to establishing the GI and the institutions that control it. The GI in this way has acted as a galvanising point to promote cooperation between farmers. In the case of Idiazábal cheese, the *fermier* model – farmers producing cheese themselves on their farm as opposed to farmers delivering milk for cheese production to larger companies – turns out to be a profitable and viable solutions for small family-run farm businesses. In the case of Spreewald Gherkins the bulk of production is carried out by few large companies, which however does not seem to threaten a number of small producers who strongly rely on direct marketing and street sale.

The Idiazábal cheese case is the only one that explicitly reports beneficial effects in terms of gender issues, the *fermier* model promoting a strong involvement of women in the production process[110].

Synergies with other sectors

In many cases, positive spill over effects on other economic and cultural activities in the region can be observed.

[110] In farm-cheese cheese production, division of tasks –where men are in charge of flocks and women of dairy production- make woman participation necessary to engender acceptable family income.

The strongest synergies usually exist with respect to the tourism and gastronomic sectors. GI products often have a strong potential to advertise the region and to add to its unique profile and characteristics, which may increase its attractiveness as a tourist destination. Sometimes, as in the case of Spreewald Gherkins, in the perception of the general public there is a strong connotation of the product with its region. Tourism thus benefits from the promotion of GI products, while on the other hand tourists may constitute an important group of consumers and thus support the product and its producers. In consequence, there is often a direct co-operation between regional GI producers and local tourist industries, and regional actors to varying degrees join forces in promotion and marketing activities. In some cases the GI products enjoy sufficient publicity to become an emblem or a symbol for the region (e.g. Jersey Royal Potatoes, Schwäbisch-Hällisches Qualitätsschweinefleisch) and thus contribute to its visibility and profile.

Restaurants play a relevant role in the consumption and promotion of the GI. Interactions between producers with this sector appear as natural and may develop into strong synergies. Gourmet restaurants, for example, are an ideal platform to consolidate prestige based on quality. Traditional or local, restaurants, are common outlets for products, in particular when the product holds importance as a component of the local gastronomy (Arroz de Valencia in Valencian Paellas, SHQ pork, Sierra Mágina olive oil). Sometimes local tradition and prestige go hand in hand, as in the example of Idiazábal cheese: once a year, in the Basque town of Ordizia, the best Idiazábal farm-cheese is chosen. The event constitutes a popular festivity in the region. A testing panel composed experts, as well as a number of world renowned Basque *chefs*, make their selection. The chosen cheese, is finally auctioned and normally bought –with a scope of publicity- by local restaurant owners for thousands of euros.

A more indirect link with tourism can be identified in the role GI products often play for the maintenance of certain distinctive landscape characteristics. In the cases analysed for this report, the regions of origin of GI products often are part of the national natural heritage and comprise natural parks, biosphere reserves or other protected areas. Their special natural beauty or biodiversity resources often constitute important tourist attractions. The GI products often, in some way or other, contribute to the preservation and maintenance of these landscapes. This is particularly evident in the cases where a form of livestock keeping is involved that contributes to the maintenance of characteristic

grassland, pasture, and moorland areas, e.g. sheep herding in transhumance in the Diepholz moorlands and in the hillside around Idiazábal, or milk cow herding in South West England. The animal breeds the production is based on often are particularly well adapted to the environmental conditions and can thus provide useful conservation services to the landscape. Vegetable products may also have a positive effect on landscape features (e.g. *Jersey Royal Potatoes* and Arroz de Valencia), and traditional cultivation and production methods often have less negative environmental impacts than comparable standard products (e.g. Schwäbisch-Hällisches Qualitätsschweinefleisch). Thus, GI products often help to preserve the natural resources that the regional tourism industry capitalises or depends upon.

In many cases additional synergies were also reported with cultural and educational activities, for instance events and parties celebrating local traditions. Local markets and local produce fairs often exist where the GI products are sold alongside other local food, arts and crafts products (e.g. Spreewald Gherkins, Jersey Royal Potatoes). The promotion and marketing of GI products may also be an element of, or may benefit from, broader regional development projects - often the regions of origin of the GI products coincide or overlap with LEADER+ – regions. GI producers are often involved in wider community activities related to local culture, education, health or economic development.

VI. CONCLUSIONS

- **A New Role for Agriculture:** Agriculture in the European Union is faced with a rapidly changing political and economic environment. Food self-reliance is no longer an objective in an integrated and globalized world. Product-related agricultural subsidies, as a means of shielding agriculture from foreign competition, have been under heavy criticism from developing countries. New environmental requirements, such as the EU Water Framework Directive, raise the bar for the environmental performance of the European agricultural sector. Consumers become concerned with the quality of agricultural produce as the negative side-effects of industrialised agriculture – such as mad cow disease – become apparent. Wider demographic and social trends, such as the depopulation of remote rural areas and the dying off of small-scale agriculture, continue in many parts of Western Europe. All this reinforces a new perception by a wide array of stakeholders (Consumers, Farmers, NGOs and Policy Makers) on the different impacts of agricultural activities, with particular emphasis on the functions which go beyond the primary purpose of producing food products.

- **Seeking Comparative Advantages through Specialized Products:** Attempts have been made to re-define agriculture in Europe, to give it a new self-understanding and a set of new objectives. It is commonly assumed that, with some local exceptions, agriculture in Europe will generally not be able to compete with North America and developing countries in the production of staple foods. One possible alternative is the production of biomass to be used as biofuel. However, it is unclear whether this would not be subject to the same competitive pressure as food products. The comparative advantage of Europe is therefore rather seen in specialised products, which adhere to particular standards (e.g. organic farming), or high-quality products that require and embody particular local knowledge. For the latter, production strategies ensured by Geographical Indications is essential.

- **What do farmers (and agro-industries) seek to achieve through GIs?** Geographical Indications may be applied for with different motivations in mind. The primary objective of establishing the GI will usually to achieve a price premium for the produce and thus ensure that traditional or unique local products remain competitive and economically viable. Hence the primary motivation for establishing a GI, as

results from findings of this Work Package, is based on economic considerations established on the premise of achieving product differentiation (competitiveness) based on goodwill or reputation constructed on unique/locally-woven characteristics and certified quality.

- **Socio-economic contributions of GIs**: There is evidence from many cases that GI protection can help producers to reach their economic objectives, and that it contributes positively to regional economic development. Then again, the potential economic impacts of GIs must be nuanced according to the degree of consolidation achieved by the GI in relation to the total production of the local good and *vis-à-vis* competing economic activities. The commitment of economic actors involved in the supply chain towards the achievement of common goal (i.e. to produce and sell a strictly defined product) is essential for GI success, as mere institutionalization of GIs is not sufficient. It is a question of if there are incentives for local economic actors to adopt a GI strategy instead of other activities. In this sense it has been seen that economic actors, in different stages of the supply chain, depend on incentives which may increase proportionally to their capacity of "capturing" the benefits generated by the GIs.

- Two elements have been found to favour the increase in the **capture of rents**: The first element is higher levels of integration. Strategies which have envisaged integration forward have provided producers (particularly in short supply-chains, for ex. artisan or *fermier* cheese producers) with access to the benefits of the entire value-added (the last sale) of the product.

- A second element is related to the **coordination of the supply chain**. Higher degrees of coordination among actors are accompanied by beneficial outcomes such as lower transaction costs and higher synergetic interaction. Coordination is normally ensured by the presence of intermediate institutions, such as producer associations or GI management institutions where producers, as well as other stakeholders participate (*Consejos Reguladores*). The presence – and strength – of such institutions, from the evidence found, seems to favour stability of arrangements among actors (for example, the payment of fixed price premiums to farmers by associated processors/distributors, as in the SHQ – BESH case) and ensure better rent distribution among actors.

- **Environmental quality has been a secondary motivation in GI related strategies.** The GI Regulation of 1992 EC 2081/92 recognized rural economy objectives - restated in similar terms by Council Regulation EC 510/2006- that GIs should help achieve rural economy objectives (improvement of rural local incomes, retention of populations on local areas). No reference is made to environmental objectives, despite the central role that environmental preservation plays in Community rules since the Agenda 2000 reform and notwithstanding the close link of GI products to local environments. Indeed, findings show that there are only very few incidences where environmental objectives have played a central role for the establishment of a GI reinforcing the idea that environmental goals are secondary to economic incentives in GI based strategies.

- There is some evidence to suggest that GI-protected products can be produced in a way that is more environmentally benign than production of standard or industrial substitutes would be. According to the findings of this study, the products protected by GI show **positive results in reference to conservation and maintenance of biodiversity and distinctive cultural landscapes**, and the regions of origin often include protected areas.

- In this sense, GIs may appear as an important complement, to integration strategies for biodiversity-rich farmland areas (such as semi-natural grasslands, areas important for migratory birds and dehesas) in particular to avoid land abandonment in marginal regions.

- On the other hand, there are also examples of GIs where production methods are not different to standard agricultural practices, with associated environmental impacts. In particular**, processes of intensification possible and exist under GI specification rules**. In this sense, findings suggest that despite *a priori* assumptions influenced by an idealized characterization of GIs these, *per se,* show a relatively neutral effect on environmental quality.

- **GIs may act as an incentive contributing to environmental goals whenever the typical product "definition" incorporates "local" attributes of environmental value.** The existing literature on GIs supports the idea that GI success depends on an optimal functioning of a process which begins with the consecution of product qualities according to product definition (specifications), continues with the certification of these qualities and ends with the communication of certified product qualities to

consumers (promotion and marketing). Findings show that in the particular situation where elements connected to the preservation of local environmental quality or biodiversity are a component of the product's definition[111], then GIs could to capture extra revenues which derive from these environmental attributes.

- **GIs in the context of different available support instruments.** GI products often are integral parts of a region's cultural heritage and are strongly linked to regional identity and profile. GI protection helps to conserve unique traditions and methods and thus contributes to maintaining the diversity and richness of Europe's regions. However, GI is rarely the only instrument used to promote localised production with traditional measures; rather, it usually blends in with a mix of other instruments. Localised production is often supported from other sources (RD funds, agricultural subsidies), and will often be linked with activities in other sectors (tourism) that also exploit the regional identity and the green image of a product and its area of origin. GIs, through their strong perception and through the institutional structures which they support / require (producers' associations) can act as a galvanising point for such developments. The challenge is therefore to find the right place and role for GIs in a wider concert of support instruments.

- **Preserving the nature of GIs**. Regulations on GIs, established in the framework of Europe's Common Agricultural Policy, have not been designed to ensure environmental purposes. Rather, the intention of EU legislator has been focused on rural economy goals. To achieve environmental goals in agriculture the EU has established a specific array of instruments and measures which go from "horizontal measures" affecting the CAP to second pillar instruments, such as agri-environmental measures. Keeping clarity over the role reserved to each instrument is important, as GIs already perform essential economic functions which are central to agricultural reform.

[111] As when the territory is a Natural Space of bio-diverse value and the exploitation of the local product is necessary/useful for its preservation (e.g. The flooding rice paddies for the conservation of the Albufera Wetlands, Sheep grazing (contributing to the preservationof semi-natural grasslands) for the Basque Mountains and Pyrenees landscapes, the reinvestment of earnings perceived from the GI for environmental conservation (Diepholzer Moor-sheep, and to a certain measure Jersey Potatoes OR Spreewald Gherkins) or when the species exploited holds –per se- some importance from an environmental point of view (e.g. the preservation of less productive –in dairy terms- local sheep races in Idiazábal).

- Clarity is also essential for consumers, in order to avoid adding difficulties in their understanding of what the PDO and PGI labels, as well as coexisting different logos on the market – organic, quality labels- have to offer.

- **Making sustainability one of the dimensions of the local definition of products.** Although not designed to achieve environmental goals, GIs have a potential to achieve results in terms of environmental quality. This is because there is a new understanding of how products and agricultural activity relate to the "origin" (i.e. the environment). Sustainability is increasingly identified by consumers as a positive characteristic of products. In some cases, such as when the product comes from an environmentally valuable geographical area or when a particular form of farm management appears as an essential element in the preservation of landscapes and biodiversity, the concept of geography – which is so at heart of the notion of GI - is expanded so as to include "sustainability".

- **"Greening" of GIs** may therefore be achieved by raising farmers' awareness of this new "dimension" of GIs, relating sustainable ways of production and local product identity, so as to incentivise the incorporation of the elements of sustainability in the product specifications and convey them to consumers. An element which works in favour of this greening element, as observed in some GIs established on naturally valuable geographic areas, is existence of wider synergies created among stakeholders, including local administration, farmers, producers, tourist operators, rural development associations, environmental NGOs, etc.

- Thus, while the wider use of Geographic Indications by itself does not guarantee more environmentally friendly agricultural practices, well-designed Geographic Indications with "green" potential may help support sustainable economic and social production processes. For wisely designed GIs, there are considerable synergies between the objective motivations behind a GI and wider sustainable development objectives. To better target the instrument towards sustainability objectives and to better exploit such synergies, the following approaches might be taken:

  - Develop assistance for the identification of agriculture with "green" potential susceptible of GI protection (e.g. farming on environmentally valuable areas, local products essential for landscape maintenance or GI linked productions which are traditionally achieved through low-impact management systems). Productions on

semi-natural grasslands, habitats essential for breeding and migratory birds and unique habitats as the *dehesas* should be a priority. Identification processes would best be carried out at decentralized, local, levels.

- Incorporate positive environmental attributes of the product in the process of definition/certification/communication to consumers. This implies including environmental and rural development objectives in the specification of the GI and communicating them to the public as an element which characterizes the local product.
- Use part of the profits from GI to support environmental measures, which can also be of use to promote the product (green image);
- Search further means of differentiating GI products (vertical brand proliferation) by means of exploiting environmentally friendly productions. In this sense, a clear first step would be to develop the potential in synergies with organic production methods;
- Combine GI with support instruments available at the local level (rural development, agri-environmental measures etc.).
- The potential of the instrument to guide consumer choice does not currently seem to be fully exploited. If the PDO and PGI were more distinctive, more easily recognisable, and better known among consumers, they might become labels of similar relevance as organic production certificates.
- Producers can have a large influence on the success of their products. Important factors seem to be the degree to which they join forces in marketing, how they organise and develop markets and distribution channels, and how they ensure and improve market access for their members. Exchange of information on experiences and best practice examples could help to promote the more widespread use of GI in Europe and to facilitate the start-up of new producer groups.
- In this sense, EU initiatives in the framework of RD programmes such as LEADER+ may provide support for local stakeholders for actions in the framework of the "Adding Value to Local Products" and "Best Use of Natural and Cultural Resources" project themes, in particular in areas such as the creation of networks of stakeholders and creating efficient marketing schemes.

- **Potential benefits of GIs in developing countries**. Some of the findings of this research work package may also be of assistance in identifying utility of geographic indications in regions and countries where they appear to be less implanted, in particular in developing countries:

- A first question is related to the applicability of "formal" and complex systems, necessary to guarantee the definition, control and certification of local products. This institutional format is central to the European System, as it is corresponded by consumer awareness and sensibility towards receiving increased product information through institutions and mechanisms ensuring traceability. Moreover, building such a system normally brings reorganization of the supply chains, leading to new forms of entrepreneurial strategies (for example, as seen, farmers searching integration forward towards marketing) and forms of coordination and organization. GI success seems to depend on the actions related to such strategies and organizational issues, with an important role attributed to intermediate institutions where stakeholders of the GI are grouped (producer associations, regulatory councils or –eventually- regional rural development groups with wider objectives).

- The possibility of extending successfully such a system to developing countries goes beyond the mere question of institutionalization of Intellectual Property laws. In some countries, the construction of such a system will be confronted to practical problems due to social reasons and lack of experience in the implementation of GI organization-schemes. In addition, in many cases local agriculture is characterized by lack of formal institutions and codification of production-quality parameters, which may exist under other cultural forms (oral tradition).

- Commercial success, using GIs, will need gradual formalization for processes and knowledge embodied in local products (Larson, 2006). Furthermore, the development of local intermediate institutions are fundamental, to guarantee consensual product definition and to establish appropriate levels of organization, as well as to promote the product in local and distant markets.

- The process of formalization would better be carried out at a local level, rather than under national policy schemes. Localness in definition, control and communication will guarantee a major local cohesion and involvement. Technical Cooperation should be directed to this level.

- At the legal level, a strong protection against usurpation should be combined with flexibility, for instance, in the implementation of traceability schemes. Special protection systems, as in the EU in this sense, may seem appropriate – as compared to trademarks - for the guarantee of high levels of protection beyond mere "risk of confusion". However, local systems may differ in chapters such as requirements regarding legitimacy, specification rules and other requisites for register, in accordance to the structural development of agriculture.

- Regarding the use for GIs for environmental purposes, such as the protection of biodiversity, a point must be made about the specificity of this instrument: it is an Intellectual Property Right which has been designed to protect local goods, with a reputation related with characteristics recognized by consumers. The results of this study suggest that goods protected by GIs have the potential to bring benefits in terms of agrodiversity and sustainable agricultural practices. However, the present study is based on a limited number of case studies, and not all insights from European case studies may be applicable to developing countries. Therefore, an expansion of the sample to more case studies which also cover products from developing countries may be desirable.

- A factor to be taken into account, in this sense, is the dimension of the territory defining the GI. "Smaller" indications, defined on specific territories, will probably lead to major agro or bio-diversity. International legislation is of little help in this sense, since it admits Geographic Indications covering, inclusively, a whole national territory. Once more, work must be carried out at a local level, with high intensity of technical cooperation, to increase the involvement of local farmers in the establishment of GIs to protect and promote the products inherent to their land, as conceived in both natural and human ecological terms.

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ANNEX 1: Comprehensive list of cases surveyed.

Table 6 Initial list of potential cases

Indication	Product	Country of Origin
Marchfeld Spargel	*Asparagus*	Austria
Gailtaler Alpkäse	*Cheese*	Austria
Styrian pumpkin seed oil	*Marrow-seed oil*	Austria
Elenski but	*Meat*	Bulgaria
Hisar	*Mineral Water*	Bulgaria
Gorna bania	*Mineral Water*	Bulgaria
Bulgarian Rose Oil	*Oil*	Bulgaria
Yutun proizhod Dzebel	*Tobacco*	Bulgaria
Melnishko vino	*Wine*	Bulgaria
Asenovgradski mavrud	*Wine*	Bulgaria
Roquefort	*Cheese*	France
Schwäbisch-Hällisches Qualitätsschweinefleisch	*Meat (pork)*	Germany
Spreewälder Gurken	*Gherkins*	Germany
Diepholzer Moorschnucke	*Lamb/mutton*	Germany
Maleshevsko	*Cheese*	Macedonia
Tikveshko carno	*Wine*	Macedonia
Argane Oil	*Oil*	Morocco
Borsec	*Mineral water*	Romania
Murfatlar	*Wine*	Romania
Dealul	*Wine*	Romania
Alcachofa de Benicarló	*Artichoke*	Spain
Torta del Casar	*Cheese*	Spain
Idiazábal	*Cheese*	Spain
Cabrales	*Cheese*	Spain
Sidra de Asturias	*Cider*	Spain
Jamón de Huelva	*Ham*	Spain
Dehesa de Extremadura	*Ham*	Spain
Mejillón de Galicia	*Mollusc*	Spain
Sierra Mágina	*Oil (Olive)*	Spain
Arroz de Valencia	*Rice*	Spain
Chufa de Valencia	*Tigernut*	Spain
Edermit	*Olive oil*	Turkey
Single Gloucester	*Cheese*	UK
West Country Farmhouse Cheddar	*Cheese*	UK
Orkney	*Lamb Beef*	UK
Jersey Royal Potatoes	*Potatoes*	UK

Source: IPDEV.

Table 7 Case Study Reports

Indication	Product	Country of Origin
Hisar*	*Mineral Water*	Bulgaria
Bulgarian Rose Oil*	*Oil*	Bulgaria
Schwäbisch-Hällisches Qualitätsschweinefleisch	*Meat (pork)*	Germany
Spreewälder Gurken	*Gherkins*	Germany
Diepholzer Moorschnucke	*Lamb/mutton*	Germany
Borcsec Mineral Water*	*Mineral Water*	Romania
Idiazábal	*Cheese*	Spain
Sierra Mágina	*Oil (Olive)*	Spain
Arroz de Valencia	*Rice*	Spain
Edermit*	*Olive oil*	Turkey
Royal Jersey	*Potatoes*	UK
West Country Farmhouse Cheddar	*Cheese*	UK

*Not included in final case study analysis.

ANNEX 2: Summaries of the Analysed Case Studies.

Case Study Summary: Jersey Royal Potatoes

Brief description of product (specification) and area	Vegetable. New potato indigenous to the island of Jersey in the English Channel. It has not been successfully grown anywhere else. Environmental issues: water pollution from inputs, loss of some field boundaries causing habitat loss and allowing erosion, use of polythene sheeting to keep early fields warm.
Background/history/motivation	Economic: increased international competition, Jersey is outside CAP. Brand-building strategy to highlight uniqueness of origin and quality to retailers and to protect the "Royal Potato" name from competitors. Important traditional product for local culture.
Status of protection (PDO or PGI), other labels/trademarks	PDO since 1996. The States of Jersey are in charge of monitoring compliance with product specifications. Marketed under "Genuine Jersey Royal New Potatoes" brand and logo. Growers part of "Genuine Jersey" island umbrella brand.
Environment: Overall assessment	Environmental effects: production has, overall, a positive effect in light of worse alternatives (land abandonment and rural decline), considering that there are no substitute crops of comparable economic viability (although diversification is being promoted). Problems came from intensification in the 1980s – with consequences for water pollution and soil erosion. All production now has to meet minimum Jersey environmental standards to receive a subsidy and the standards required by British retailers for export (99% of production). The quality of Jersey produce and the island countryside is now being promoted.
Environment: Most important effects (positive/negative?)	(-+) water: as Jersey is a small island, freshwater is a finite resource but rainfall is usually plentiful. There are occasional drought years when desalination for drinking water is necessary and the crop on the sandier west coast may be irrigated. But this is rare and relatively small-scale because most rain falls during the growing season. (-) medium/high fertiliser and pesticide input, although new practices have been introduced to reduce this: cover cropping that is ploughed back in, soil and disease analysis and monitoring, integrated crop management (compliance with Assured Food Standards, LEAF for export and Jersey Codes of Practice for subsidy). Risk of higher input use by small producers who do not export. (-+) Some soil erosion due to loss of some boundaries and cultivation on slopes. Use of cover crop and seaweed to add texture and programmes to replace boundaries. (+) Contribution to landscape maintenance. Jersey Royal Potato growing has defined the Jersey landscape for 200 years. (+) Biodiversity: field boundaries, where maintained, provide habitat and wildlife corridor. Jersey Royal is indigenous. Cover crops for 8 months of the year provide important habitat for birds, invertebrates. Key that Jersey Royal has very short winter/spring growing season. (+) Some organic production and likely to increase with UK consumer demand as new premium market. (+) No GMO varieties.
Effects on regional economy: overall assessment	Agriculture is no longer one of the main activities on Jersey. It has decreased 26% since 1970s and suffered 1998-2004. Jersey Royal Potato production was the only arable crop to buck the trend 2003-2004 and is the key sustainable crop and an important export product.
Economy: key data (e.g. scale of production, jobs, price premium...)	In 2004, agriculture accounted for 5% GDP and 1.4% GVA. In 2005, 68% of the agricultural turnover and 3.4% GDP related to the Jersey Royal New Potato.

	In real terms, the total value of exported arable crops fell by almost 50% from 1998-2004 and there was around a 25% fall in the potato area 1999-2004. There was an improvement of around a third in the export value of Jersey Royal Potatoes from 2003-2004, however, while that of tomatoes, flowers and others continued to fall. Production: Seasonal average of around 45,000 tonnes, depending on the weather. Price on producer level per tonne: £523.83 (2000); £749.06 (2001); £519.09 (2003); £753.24 (2004); £531.77 (2005 provisional). 99% of production is exported to the UK, 1% consumed on Jersey.
Organisation of producers' group, structure of production and marketing. What role does producers' group play?	Since 2004, all dedicated export production comes under one private company, Jersey Royal (potato marketing) Ltd, formed from four established marketing groups and five of the largest growing units, from seed crop to harvest, grading, packing and marketing. Any other producers who wish to export must go through the company, or use eCommerce/post. Some growers sell all of their produce on the island through supermarkets, farm shops, restaurants etc (1% of the total). Marketing emphasises uniqueness of product and Jersey countryside origin, quality/taste and discernment. Aims at ABC1 consumers. An image of the Jersey landscape is present in the brand logo, but the PDO is not.
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	Jersey is not a member of CAP. Jersey agricultural subsidies have recently been decoupled and a variable crop-related payment is gradually being replaced by a Single Area payment that depends on compliance with environmental standards. A Rural Enterprise Scheme provides support for rural economic diversification (not necessarily to an agricultural activity). A Countryside Renewal Scheme is open to all landowners who receive a payment per item or per environmental action per year to support defined environmental actions on their land e.g. creating hedgerows.
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Synergies are promoted with Jersey as a tourist and business destination (the Jersey brand). The Jersey Royal Potato is key to the Island's identity and defined its landscape. Production is important to the rural economy, although diversification is encouraged to ensure sustainability.
Characterisation of the case – Role of GI for the product. What is particularly interesting, what can be learned from the case?	The main aim of the PDO is as a marketing tool in relationships with distributors to justify a premium price and protect market share from competitors: it is a guarantee of uniqueness and quality in a highly competitive international market. However, the PDO was awarded in 1996 and 1998-2004 the sector struggled. Restructuring the production and distribution chain to increase integration and reduce internal competition, a strong "Genuine Jersey Royal New Potato" brand and marketing strategy have been vital for recovery. Changes to and integration of environmental protection into subsidies and support are also important for rural sustainability. >> the PDO is an important element in strengthening the brand and retaining market share to ensure sustainability, but is not enough on its own. >> consumers are considered to not recognise or understand the PDO logo and it has been removed from the potato logo in favour of a depiction of the Jersey landscape (expressing the environmental link in a way consumers are thought more likely to understand).

Case Study Summary: West Country Farmhouse Cheddar

Brief description of product (specification) and area	Cylindrical or block-shaped pale yellow hard cheese, made on the farm from raw or pasteurised cows milk from producers' own herds in South West England (Somerset, Dorset, Devon, Cornwall) except in times of shortage when it can come from farms in the surrounding area (Gloucestershire, Wiltshire). The curds are separated, cooled and cut then turned and stacked by hand in a process called "cheddaring". The cheese is matured in the area for at least 9 months. The area is permanent grassland.
Background/history/motivation	Economic: CAP, deregulation of UK dairy market and cheap industrially-made cheddars and imports, bargaining strength of UK multiple retailers. Orientation towards quality, authenticity, differentiation and traceability.
Status of protection (PDO or PGI), other labels/trademarks	PDO since 1996. Monitored by a private entity (Product Authentification International) to ensure compliance with the Regulation. Variously certified by baseline Assured Food Standards scheme, Linking Environment And Farming (LEAF), Soil Association (organic), RSPCA Freedom Food (livestock welfare) and retailer schemes. Some production of named farms sold under "West Country" brand created by the producers' association or under multiple retailer premium white brands, sometimes incorporating the PDO symbol.
Environment: Overall assessment	Dairy farming to produce West Country Farmhouse cheddar has, overall, a positive effect in light of worse alternatives (loss of permanent grassland through land abandonment, conversion to arable farming where unsuited to the land, development). Helps conserve traditional landscape, knowledge and methods. Highly integrated production system. Farmers strive to maximise milk output but PDO cheese production linked to producer interest in conservation, animal welfare, organic production, other traditional products.
Environment: Most important effects (positive/negative?)	(+ -) although water use is quite high in dairy farming and overall demand is increasing in the area, water is plentiful and the traditional, highly integrated production methods are likely to reduce need. (+ -) water quality: medium-high fertiliser input, but risk of diffuse pollution lesser than for alternative land uses where these are unsuited to the soil type. Producers follow certified schemes, which reduce pollution risk. Some production is conservation grade or organic and this is likely to increase. (+) soil: regional poor soil structure and heavy rain creates risk of water pollution where land use is inappropriate. PDO maintains dairy farming and is likely to permit correct stocking rates and grazing intensity, helping conserve local grassland, hedgerows and trees. (+) Contribution to traditional landscape and land-type maintenance. (+ -) Biodiversity: maintenance of indigenous grass species, and wildlife in hedgerows and woodland. (+ -) Energy/Waste – because of highly integrated, traditional production, this is reduced compared with industrial cheddar making (e.g. reduced transport, plastic packaging, energy for pasteurisation in some cases).
Effects on regional economy: overall assessment	Marginal.
Economy: key data (e.g. scale of production, jobs, price premium...)	12,000 tonnes per year. Family-run farms, plus employees on larger farms. Total average around 10 people directly involved in cheesemaking per farm. Indirect effect on jobs in livestock care, marketing, PR, packaging and retailing. Price Premium (consumer sale) average of around £10.40 kg compared to £7.80 kg for industrially produced premium mature cheddar. No premium at consumer level compared to artisan farmhouse cheddars outside the PDO.

Organisation of producers' group, structure of production and marketing. What role does producers' group play?	West Country Farmhouse Cheesemakers' cooperative runs marketing, PR and trade relations for the producer farms. Present in all national and regional media. Has role in wider promotion of PDOs and PGIs: leading London conference and PDO/PGI lunch. Strategy: tap into interest in local and regional foods and premium products produced on a small scale, importance of people and place in contrast to mass manufacture and the industrialisation of agriculture. Unite producer and consumer. Highlight uniqueness of the landscape and farmers.
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	Product: CAP dairy subsidies and quotas, agri-environment and rural development schemes. Marketing subsidy from Milk Development Council (UK public body). Region: LEADER+ and Local Food Works projects on local food in production area but not specific to the PDO. Taste of the West industry body promoting local food and drink in general.
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Synergies exist with regional identity and culture, tourism.
Characterisation of the case – Role of GI for the product. What is particularly interesting, what can be learned from the case?	The main aim of the PDO is to promote quality, uniqueness ("real" cheddar) and authenticity. Important effort to maintain sustainability and create a niche, value-added product in a struggling UK dairy sector. Highly integrated production; dairying is suited to local permanent grassland landscape. Regional identity. Difficulties: comparatively low consumer and retailer understanding/recognition of GIs in UK, simple cheddar is a commodity, bargaining power of retailers, industrial cheese moving into premium market and import success of foreign speciality cheeses. But consumer, media and retailer interest is growing in the PDO, expected to lead to increased "West Country" brand sales and a higher profile for PDOs on packaging and marketing.

Case Study Summary: Spreewald gherkin

Brief description of product (specification) and area	Pickled cucumbers traditionally produced in the region. Raw material at least 70% from the region, processing according to traditional recipes, fresh & high-quality ingredients Brandenburg/East Germany. Region suffers from economic (high unemployment) and environmental (former coal mining) problems. LEADER-region, includes UNESCO biosphere reserve.
Background/history/motivation	Re-establishment of traditional & popular product that was threatened by West German competitors - positive connotation of the indication was exploited by companies who did not produce in the region. Primarily economic motivation, plus regional identity aspect
Status of protection (PDO or PGI), other labels/trademarks	PGI since 1999, additional umbrella trademark label "Spreewald"
Environment: Overall assessment	Environmental effects ambiguous – positive and negative impacts can be identified, weighting not possible. Intensive farming practices for cucumber production, but negligible share of total agricultural area is concerned.
Environment: Most important effects (positive/negative?)	no organic production, but integrated production is mandatory (-) high water demand (but modern and efficient irrigation techniques) (-) high fertiliser input, use of fungicides and insecticides (+) mostly short transport distances – regionalised production cycle (+) contribution to landscape maintenance
Effects on regional economy: overall assessment	Successful economic activity. Considerable income generation, sales volumes and creation of jobs. Important role for economic development of the region.
Economy: key data (e.g. scale of production, jobs, price premium...)	40,000 tonnes of cucumbers harvested in 2004; sales of major companies in the range of several ten million Euro; price premium around 25%; 4,450 employees (many of which seasonal workers)
Organisation of producers' group, structure of production and marketing. What role does producers' group play?	Spreewaldverein – wider group of regional stakeholders; most gherkin producers are members. Three large gherkin producers who supply supermarket chains at large scale, several smaller producers relying more on direct marketing. Some joint marketing activities co-ordinated by the producers' group under the umbrella trademark label, otherwise marketing on individual basis. Marketing emphasises quality/taste and regional origin, no specific reference to environment.
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	Financial support from EU funds, most notably LEADER programmes, has supported the establishment of the product on the market (e.g. market surveys) and supports the development of the region in general. No specific subsidies to gherkin production today except for cucumber farming on less favoured areas.
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Gherkins play key role for regional profile and positive image of the region, thus important synergies exist with tourism, cultural and recreational activities.
Characterisation of the case – Role of GI for the product. What is particularly interesting, what can be learned from the case?	Protection of GI (both national and EU protection) crucial for economic success of the product. Positive image of Spreewald gherkins already existed, and could be utilised through the protection of the indication. Inhomogeneous production structure (few large versus several smaller producers); intensification of common marketing is recommended by studies.

Case study summary: Schwäbisch-Hällisches Qualitätsschweinefleisch (SHQ)

Brief description of product (specification) and area	Fresh pork produced on the basis of traditional local pig breed. Detailed production guidelines concerning breeding, livestock keeping, feeding, transport, slaughtering, quality control and marketing, several rules are related to the environment (e.g. limited livestock density). Area of production: Hohenlohe region in Baden-Württemberg. Agriculture, esp. pig keeping, plays important role in the region.
Background/history/motivation	Pig breed used to be dominant in the region, but became endangered with the advent of industrial/mass pork production. Initiative of one individual (today president of producers' group BESH) saved and re-established population. Primary motivation: saving pig breed and traditional high-quality pork products, coupled with ambition to make it economically viable.
Status of protection (PDO or PGI), other labels/trademarks	PGI since 1998; additional trademark protected under national patent law, the label indicates the PGI status.
Environment: Overall assessment	Pig keeping according to production guidelines is clearly beneficial compared to conventional/industrial pork production. Organic branch exists. Environmentally compatible production is declared aim of the producers' group; group is involved in environmental projects.
Environment: Most important effects (positive/negative?)	(+ compared to standard pork) reduced pressure on water and soil due to limited livestock density and regionalised production process (+) re-establishment of endangered breed benefits agro-biodiversity (+ compared to standard pork) reduced energy demand due to short transport distances and special pig housing facilities
Effects on regional economy: overall assessment	Very successful economic activity. SHQ was basis for impressive expansion and diversification of production – group today runs a number of programmes and markets a range of agricultural products
Economy: key data (e.g. scale of production, jobs, price premium...)	4,000 tonnes of pork per year, total sales volume (all products) about 60 Mio Euro per year. BESH activity creates considerable value added which mostly remains within region. Production costs 12% higher than standard pork, compensated by 20-30% price premium. Fixed price premium paid to farmers. 250 staff plus indirect effects.
Organisation of producers' group, structure of production and marketing. What role does producers' group play?	Professional organisation, producers have to be members. Centralised structure – BESH organises and supervises slaughtering and marketing of products (minor share of direct marketing at farms). This structure enables the creation of favourable conditions for small and part-time farmers and improves their market access (E.g. own slaughterhouse). Promotes healthy agrarian structure and secures income and jobs. Marketing strategy emphasises relationship between production processes, product quality, regional origin and the environment. PGI itself does not play large role in marketing.
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	General no special funding apart from usual agricultural subsidies. Support granted for investments of the group (slaughterhouse) and to individual farmers for conversion of their farms.
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Pork production and other BESH activities contribute to shaping regional identity and strengthening residents' identification with their region. Group participates in research projects with universities, co-operates with environmental NGOs, and is committed to promoting the use of protected GIs in Baden-Württemberg.
Characterisation of the case – Role	Case shows that regional products and traditional production methods can be

of GI for the product. What is particularly interesting, what can be learned from the case?	economically viable and highly profitable. PGI appreciated as instruments for securing investment and protection against fraud. Key factors for success: professional marketing from the start, high level of organisation, momentum of one individual, organisation of the market and facilitation of market access for individual farmers through large and professional organisation. BESH manages to ensure that benefits provided by farmers and special quality are valued by consumers.

Case study summary: Diepholzer Moorschnucke

Brief description of product (specification) and area	Lamb meat produced from local sheep breed kept in the Diepholz moorlands (Lower Saxony). Extensive keeping – sheep are herded on moorlands and adjacent areas and feed almost exclusively on wild plants. Sheep grazing is employed for landscape conservation – sheep are particularly well adapted to special conditions.
Background/history/motivation	Sheep breed used to be widespread in the region, but was unable to compete against meat sheep breeds. Initiative of one individual (one of currently four farmers) saved and re-established population. Primary motivation: saving sheep breed and conserving moorlands. Profitabiliy of products secondary concern.
Status of protection (PDO or PGI), other labels/trademarks	PDO since 1998, additional trademark protected under national patent law.
Environment: Overall assessment	Clearly beneficial – conservation of landscape is major aim of the activity. No negative impacts on environment, preferable to alternative agricultural and livestock management practices. Unique, close relationship between sheep and habitat.
Environment: Most important effects (positive/negative?)	(+) regeneration and conservation of moorlands (under supervision of environmental NGO) (+) no or very little fertiliser and plant protection products (+) sheep grazing contributes to favourable nutrient balance and maintaining nutrient-poor soil conditions (+) maintenance of habitat for many rare and endangered species (+) re-establishment of endangered breed benefits agro-biodiversity (+) low energy input, short transport distances
Effects on regional economy: overall assessment	Production level is low, growth potential limited. Thus minor impact in terms of production quantity, creation of value added and jobs.
Economy: key data (e.g. scale of production, jobs, price premium...)	Four sheep farms, approx. 2000 to 2500 lambs marketed per year. High production costs, not compensated by price premium although it is 50% or more of the usual price for lamb/mutton. Large share of meat has to be sold via conventional market (not under PDO label, no price premium). Marginal effect on employment.
Organisation of producers' group, structure of production and marketing. What role does producers' group play?	The four farmers are associated in a producers' group, but common activities are limited. Farmers have different priorities, use different sales channels, and organise marketing mostly individually. Efforts to improve marketing exist and focus on increasing the share of direct marketing and on enhancing the co-operation between the farmers. Total production and revenue volumes too low for the creation of a common marketing organisation. Marketing strategies emphasise relationship between product quality, production conditions and conservational benefits. Key message to local consumers: protect your own environment by purchasing this product. PDO label does not play large role.
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	Sheep farming dependent on state subsidies and private sponsoring, revenues from meat marketing are not sufficient to sustain the activity.
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Certain degree of publicity of the products and contribution to strengthening regional identity and promoting regional development. Synergies with tourism and involvement in community activities and education.
Characterisation of the case – Role	Meat production can be seen as "by-product" of conservation activity.

of GI for the product. What is particularly interesting, what can be learned from the case?	Benefits of PDO both for protection and marketing are limited. Consumers pay for quality, but only to a limited extent for regional/environmental benefits provided. Primary conservational aim of moorsheep grazing generates costs that are not covered by prices, thus additional support is crucial.

Case Study Summary: Idiazábal

Brief description of product (specification) and area	Dairy product. Ewe Milk Cheese. Basque Country and Navarre (mountains). Milk farming through shepherding (extensive production). Ancient tradition. Autochthonous sheep races. High rate of self elaboration by farmers (Farm Cheese).
Background/history/motivation	Shepherding in the region comes from prehistoric times. Motivation: Cultural: importance of preserving a long lasting tradition. Socio-Economic: avoiding demographic desertification of mountain regions. Add value to local product.
Status of protection (PDO or PGI), other labels/trademarks	DO in Spain since 1987 (EC since 1993). The Regulatory Council of Idiazábal RCI is in charge of monitoring compliance with product specifications and ensuring that the Regulation of the PDO Idiazábal RPDOI is applied.
Environment: Overall assessment	Extensive system of production lessens the impact on the environment. Traditional activity has shaped landscapes (highland pastures). PDO qualified sheep -Latxa and Carranzana-: autochthonous sheep.
Environment: Most important effects (positive/negative?)	There are two organic cheese producers within the PDO (one experimental farm). Extensive model of production which competes with more intensive models (caw milk). (+)Environmental impacts are low. (+) Contribution to landscape maintenance. Landscapes are often described as “semi natural” due to repetitive, seasonal grazing of transhumant flocks. (+) Biodiversity: preservation of autochthonous (not highly productive in terms of quantities produced) sheep. Latxa and Carranzana (Carranzana in peril). (+) Biodiversity: creation of diverse habitats in mountains –mosaics-.
Effects on regional economy: overall assessment	This activity affects between 500 and 550 families. Estimated annual sales could reap 12.000.000 – 15.000.000 Euros. Benefits captured locally. Employment creation and profitability in *fermier* model (very extended) Good impact on regional image. Synergies and spill-over effects (tourism). PDO has had enormous success. (Little to no producers are out of the system).
Economy: key data (e.g. scale of production, jobs, price premium...)	Certified cheese: +66% between 1995-2003 (today 1223 TN of cheese). Practically all ovine milk production sold for making dairy products goes for Idiazábal production. Price premiums are difficult to calculate (no non-PDO reference). Profitability for small producers is larger under *fermier* model than under industrial model. Job creation (fermier model is *start-up* friendly). Activity is not subsidized.
Organisation of producers’ group, structure of production and marketing. What role does producers’ group play?	Supply chain: 500 cattle farms sell milk to 20 cheese producers and industries (70% of the market). Some milk cooperatives. 120 farm cheese producers.. *Artzai Gazta (association grouping 117 shepherds producing fermier cheese) in lending technical assistance to producers, informing consumers. Great importance since it gives platforms for commercialization of fermier cheese: 1) Organizing gastronomic tours –artzai tour- and organizing fairs enabling direct sales. 2) Brokering sales to retailers.3) Creating new labels –exclusively*

	for DOP products- (Zumitz green and black labels) for differentiation of through quality. Marketing emphasises quality, artisan elaboration, and historic link with environment.
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	Role of subsidies. The market is not regulated. Compensatory payments exist for farmers on less favoured regions (Mountains), investments on agricultural holdings, setting up young farmers.
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Synergies exist with tourism, cultural and recreational activities (Abundant Natural Parks, gastronomic routes and tradition). Great synergies between PDO and *Artzai Gazta* in **quality supervision and product marketing**. Synergies with MENDIKOI (Centre for training and Rural Dev of the Basque Country, **creation of a Shepherd/cheese maker school)**. Synergies with technological institutes (ITG Navarra; Neiker, Basque country=**animal technologies, animal health).** Leader + initiatives related to this product not found
Characterisation of the case – Role of GI for the product. What is particularly interesting, what can be learned from the case?	The PDO is one element clearly inserted in local Rural Development strategies which show through different initiatives aiming at developing quality, organizing existing rural production towards markets, developing opportunities for rural populations. Important level of synergies among stakeholders. The PDO has strongly contributed in creating a positive local image, based on local environment and tradition which is attached to cheese. Direct contribution by adding value and goodwill. Positive incidence of the GI for the environment comes from the promotion of traditional non intensive methods of production.

Case Study Summary: Arroz de Valencia

Brief description of product (specification) and area	Commodity. Round Rice (Japonica) varieties –*Bahía, Senia, Bomba (high end, gourmet)* - with high local acceptance (*paella*). Natural Park (wetland) with high degree of water management due to rice fields. International recognition for it's biodiversity.
Background/history/motivation	Traditional product. Economic motivations; 1) Policy Changes, CAP (Rice CMO), liberalization of trade, EBA agreement: 2) Market conditions, concentration of commercial sales channels; PDO seeks orientation towards quality and differentiation for a commodity subject to international price variations–farmer and industry initiative - Growing, but still low, (<10%) acceptance of the PDO.
Status of protection (PDO or PGI), other labels/trademarks	PDO since 1997. The Regulatory Council of Arroz de Valencia RCAV is in charge of monitoring compliance with product specifications and ensuring that the Regulation of the PDO Arroz de Valencia RPDOAV is applied.8 trade marks plus several white brands with PDO logo.
Environment: Overall assessment	The area is a wetland, protected under national, international and EC regulations. Conserving rice activity is said important to preserve wetland habitats (recognized by Rural Development EC rules). Producers committing to the preservation of "traditional" rice production receive economic aids. (+++)
Environment: Most important effects (positive/negative?)	There are no organic producers. The production being a Natural Park, there are constrictions as to agrochemicals, construction of new facilities, and conversion of rice fields to other productions. (+) Water availability: Rice-paddies are the only agricultural activity which do not imply drying lands out –agricultural alternative land uses are prohibited. High levels of water management, but preserving wetland characteristics. (+) Soil erosion is low. Floods guarantee permanent input of sediments (loam). (+) Rice paddies are part of the landscape, and has been for centuries. (+) Biodiversity: The area is of enormous importance for migrating/ water birds. Rice fields provide, shelter, food and water. (+) PDO contribution: technical cooperation for rational use of inputs and agricultural practices. Valorisation of an environmentally important production. (+-), use of herbicides and insecticides exist, but are rationalized. Integrated systems are promoted by administration with the aid of RCAV (see, for example, pheromone treatment for borer plague.. (-)Water and soil contamination: eutrophication resulting from waste waters of populated neighbouring areas. High organic presence in water reduces fertiliser input inputs in rice. Loams in certain area register presence of contaminating agents. (-) Siltation (natural and man provoked). (-) Air: rice hay which cannot be recycled is burnt.
Effects on regional economy: overall assessment	Due to its unique adaptability to wet areas, it is the main agricultural production. Valencia Rice is 4th rice producing region of Spain, but only second producer of round rice. Completely dependent on agricultural and agri-environmental aids.
Economy: key data (e.g. scale of	Albufera: 14,741 Ha Producing 104.300 TN (1/4 of Spain).

production, jobs, price premium...)	Estimated employment:.2700 to 3500 (farmers, seasonal manpower for harvest, industry– PDO importance in local production–low, but growing. 7 to 9% // Gourmet variety growing in importance// Price Premiums: reaps are perceived at the end of the supply chain (up to 60% in supermarkets), but remain low (3%) for farmers first sales (high concentration of latter stages of the supply chain).
Organisation of producers' group, structure of production and marketing. What role does producers' group play?	Low integration. Half the farmers are under cooperative organization (pooling stocks and sales costs). No farmers process rice. Industries pack and put the product in the market. (PDO=4 cooperatives and 8 industries). Some industries are not regional. The product is mainly consumed locally (Valencia Aut.Com.) The Regulatory Council is very active in organizing promotion campaigns. Promotion of high end product (Bomba) in restaurants. Connecting the product with local culinary habits. Marketing emphasises, taste, quality in connection with local culinary needs, and connection with local environment (wetland).
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	Two types of subsidies in the EC framework (Compensatory payments provided by Rice CMO and Agri-environmental payments, of rural development regulations) are received by 95% of the farms. Profitability (per hectare) exists only in presence of subsidies (subsidies represent around 46% of total income). Rice is perceived as a strategic resource, considering agri-environmental importance. Several LIFE projects (Recuperation of dune areas, habitats, fight against light-contamination, sustainable management of rice-hay wastes).
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Synergies exist. Rice farming is protected because of it's importance for the environment and tradition. Therefore, synergies which coincide in the defence of this activity include rice farmers, environmental groups, Natural Park authorities, the water management institutions. By action of the RCAV, restaurants and traditional gastronomy linked groups have come to reinforce synergies.
Characterisation of the case – Role of GI for the product. What is particularly interesting, what can be learned from the case?	The GI is a means to conserve an activity which is menaced for several reasons: a) the nature of the product/sector –a commodity with increasing competition from big producers of Asia. b) changes in CAP due to international commitments of the EU. c) lower profitability as compared with alternative agricultural productions (citrus). The PDO seeks to connect a typical product with culinary tradition and create a "niche" for round rice of the Albufera. The importance of the product for the environment is also in the heart of the PDO, although for producers the main compensation for environmental service comes from EU subsidies. Environmental services are not included in the price premium.

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Case Study Summary: Sierra Mágina

Brief description of product (specification) and area	Commodity. Extra Virgin Olive Oil produced in Sierra Mágina, Jaén. (Jaén is Nº1 world producer). Olive oil production is the principal economic activity and has great tradition. Environmental problems:Desertification. LEADER-region. Natural Park.
Background/history/motivation	Economic; Changes in CAP (Olive CMO); orientation towards quality and differentiation –Administration initiative- Important traditional product. PDO represents 5-10% of total olive oil prod, but a higher 30%-40% of the extra-virgin oo.
Status of protection (PDO or PGI), other labels/trademarks	PDO since 1999. The Regulatory Council of Sierra Mágina RCSM is in charge of monitoring compliance with product specifications and ensuring that the Regulation of the PDO Sierra Mágina RPDOSM is applied. Norm 45011 enables the RCSM as a certification entity.
Environment: Overall assessment	Environmental effects: olive oil production has, overall, a positive effect facing worst alternatives (land abandonment and desertification), considering that reforestation is difficult. Worst problems are intensification –with consequences on water use, pollution and soil erosion-) RCPDO contributes in conserving traditional methods, limiting –somewhat- pressures for intensiveness and giving technical cooperation for ex: orienting production towards more integrated systems.
Environment: Most important effects (positive/negative?)	There a are few organic oil producers within the PDO, but successful (Trujal de Sierra Mágina). Integrated production is not mandatory, but methods which are recommended by the RCSM bring production close to integrated production standards. (-) increasing water demand (since irrigation augments productivity). (-) medium/high fertiliser input, use of herbicides and insecticides. (-+) Soil erosion is generally high, due to labour in slopes. Application of natural covers (information and cooperation granted, among others by RCSM), reduces this problem. (-+) Water wastes: Expansion of the use of two phase decanters, replacing three phase decanters, reduce water wastes –vegetative waters-. (+) contribution to landscape maintenance. Olive groves have occupied the scenes of Jaén and Córdoba slopes. Olive trees are a part of traditional landscapes. (+) Biodiversity: Olive groves provide habitats and food for several species of insects and larger animals. (-) Biodiversity: despite the richness and varieties of olive trees, PDO favour the protection of the varieties with good properties for oil production (Piqual, in the case of Sierra Mágina). (-) Some studies mention that only organic olive oil production is sustainable (only two oil mill/cooperatives). Intensified traditional such as Sierra Mágina groves, although less harmful than completely intensive groves, are not sustainable.
Effects on regional economy: overall assessment	Agriculture, in particular olive production, is the main activity of Sierra Mágina. The main industrial activity is oil production. It is important as an employment generator. Production falling under PDOSM has increased greatly, which shows good acceptance among local producers, switching from a production oriented activity to more market oriented (quality).Traditional deficiencies in marketing are being corrected through investment in bottling and packaging at the production level. However, olive oil production is still dependant on subsidies (CMO) to keep the activity profitable (1/3 total

	income)
Economy: key data (e.g. scale of production, jobs, price premium...)	Sierra Mágina has 63,575 Ha. olive groves (the greater part of the county). Producing 40 million kg. olive oil. Certified olive oil = 15 to 16 million kg. Estimated employment: between 3100 and 4100 jobs (total population 54,000). Price Premiums (1rst sale) vary between 4% to 10% for big packages (5l) and 5% and 25% for small bottles. .
Organisation of producers' group, structure of production and marketing. What role does producers' group play?	Olive producers are grouped in cooperatives, for milling and trade. Some family firms exist as well. A recent trend in industry is the incorporation of bottling facilities, allowing direct marketing from producers. Important rates of autoconsumption. The Regulatory Council is very active in organizing promotion campaigns. Contests prizing best extra virgin olive oils are organized since 2000. Marketing emphasises quality/taste and regional origin. Reference is made to the natural park. An image of the Mágina mountain range is present in the logo.
Role of subsidies – national/EU funding supporting the product or the region (e.g. LEADER)	The Olive Oil Market is Regulated in the framework of the CAP. Financial support is important to keep the activity profitable. 2003 CAP reform has substituted aids given on the basis of production for a system of single payments. Subsidies represent around 1/3 of the income generated by olive oil production. In the absence of subventions, only the most intensified olive groves would subsist. S. Mágina is a Leader + zone; includes projects on transformation towards integrated systems of production in agriculture in general.
Synergies with other sectors/issues, e.g. regional identity, social structure of the region etc.	Synergies exist with tourism, cultural and recreational activities (Sierra Mágina Natural Park). However, in comparison to other PDOs on famous Natural Parks (Sierra Cazorla) Sierra Mágina is less able to exploit synergies in this sense.
Characterisation of the case – Role of GI for the product. What is particularly interesting, what can be learned from the case?	The main aim of the PDO is to promote quality (extra virgin OO) and seek diversification. High quality oils represent 1/3 of the oils produced in the region. An interesting point is that the Regulating Council not only serves in the standard role (ensuring that specification rules are met, certifying the product etc.) but has contributed to create a market oriented production culture (increase in PDO qualified production, incorporation of bottling facilities in mills, enabling direct sales, are manifestations of this). The main contribution to the environment comes through technical cooperation given by the PDO regulatory council to producers –promoting rational use of inputs and land-. However, the sector remains dependant on Community aid to remain profitable.