European Commission

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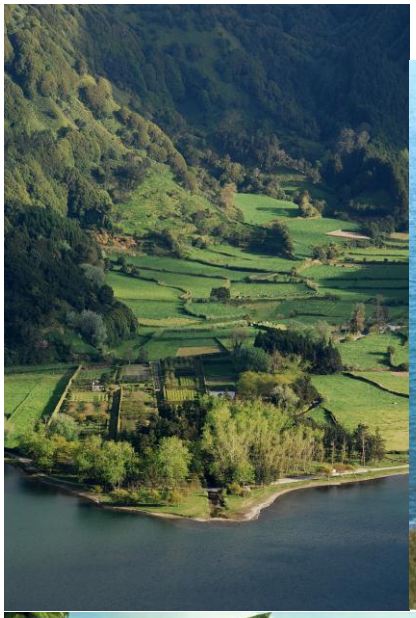

2013

Report EUR 26265 EN

Joint Research Centre

European Commission
Joint Research Centre
Institute for Prospective Technological Studies

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JRC84949

EUR 26265 EN

ISBN 978-92-79-34485-5 (pdf)

ISSN 1831-9424 (online)

doi:10.2791/36013

Luxembourg: Publications Office of the European Union, 2013

Printed in Spain

EU Island Farming and the Labelling of its Products

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2013

Joint Research Centre

Acknowledgements

The first section of this Report is built upon a substantial contribution by Robert Read ('Drivers of Growth in Islands: Implications for the Agriculture & Food Sectors in EU Island Regions') and contributions from Fabien Santini and Fatmir Guri. The second section is built upon a substantial contribution of Audrey Aubard ('Labelling Practices for Food Produced in Islands'), complemented by Fabien Santini. The third section compiles three case-studies prepared respectively by: Demetris Psaltopoulos, Dimitris Skuras and Alexandra Goudi, concerning the Greek islands; Luciano Guttierrez and Maria Grazia Olmeo, concerning Sardinian products; and Rob Mc Morran concerning Scottish Islands. The overall coordination has been ensured by Fabien Santini and the full study has been reviewed by Fatmir Guri, Audrey Aubard, Demetris Psaltopoulos, Robert Read and Sergio Gomez y Paloma.

This Report has benefited greatly from the inputs of all participants in the workshop organised on 13-14 June 2013 in Seville. The agenda of this workshop and the presentations are reproduced in the Annex to the Report. Further contributions by several workshop participants are presented in boxes in the first and second sections of the Report, in particular, Robert Read, Anna-Karin Utbult-Almkvist, John Walsh, Joao Lanca, Marie-Pierre Bianchini, Laurids Siig Christensens, Aguasanta Navarrete Garcia and Antonio Bentabol Manzanares.

The authors would also like to thanks Michael Erhart, Antonia Gamez Moreno and Monika Turek from the Directorate General for Agriculture & Rural Development as well as support from the different organisations representing island authorities, stakeholders and farmers: CPMR, ESIN, INSULEUR, AREPO and COPA-COGECA, in particular Jean-Didier Hache, Anna-Karin Utbult-Almkvist, Silvia Delgado Carballar and Olivier Lemerle, Laurent Gomez and Javier Valle. The interest and support expressed by Jacques Delince and Sebastien Mary from the JRC-IPTS, Philippe Monfort from the Directorate General on Regional Policies and Athanasios Kizos from The University of the Aegean should also be acknowledged as well as the logistical support provided permanently and efficiently by Leonor Rueda.

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List of Abbreviations

- AFS: Assured Food Standards

- AOSIS: Alliance of Small Island States

- AREPO: Association des Régions Européennes des Produits d'Origine

- AWU: Annual Work Unit

- CAP: Common Agricultural Policy

- CFP: Common Fishery Policy

- COPA-COGECA: Committee of Professional Agricultural Organisations and General Confederation of Agricultural Cooperatives

- CORINE: Coordination of Information on the Environment

- CPMR: Conference of Peripheral and Maritime Regions of Europe

- CTM: Community Trademark

- DG AGRI: Directorate-General for Agriculture and Rural Developement

- DG REGIO: Directorate-General for Regional and Urban Policy

- DOOR: Database of Origin & Registration

- EAFRD: European Agricultural Fund for Rural Development

- ESIN: European Small Islands Federation

- ESPON: European Observation Network, Territorial Development and Cohesion

- EU: European Union

- FADN: Farm Accountancy Data Network

- FUA: Functional Urban Areas

- GDP: Gross Domestic Product

- GI : Geographical Indication

- GVA: Gross Value Added

- INRA: Institut National de la Recherche Agronomique

- INSULEUR: Network of the Insular Chambers of Commerce and Industry of the European Union

- IPTS: Institute for Prospective Technological Studies

- ISTAT: Italian National Statistical Institute

- JRC: Joint Research Centre

- LEAF: Linking Environment And Farming

- MEGA: Metropolitan European Growth Areas

- MIRAB: Migration, Remittances, Aid & Bureaucracy

- MS: Member States

- NUTS: Nomenclature des Unités Territoriales Statistiques

- ODARC: Office du Développement Agricole et Rural de Corse

- OECD: Organisation for Economic Co-operation and Development

- OHIM: Office of Harmonization for the Internal Market

- OQT: Optional Quality Term

- PDO: Protection of Designated Origin

- PGI: Protected Geographical Indications

- PPS: Purchasing Power Standard

- PROFIT: People, Resource Management, Overseas Engagement and Para-Diplomacy, Finance and Transportation

- R&D: Research and Development

- RUP : Regions Ultra-Peripheriques (Outermost Regions)

- SAM: Social Accounting Matrix

- SIDS: Small Island Developing States

- SIFN: Small Islands Food Network

- SITE: Small Island Tourism Economies

- TM : Trademark

- UAA: Utilised Agricultural Area

- UK: United Kingdom

- UN: United Nations

- WIPO: World Intellectual Property Organisation

1 Executive summary

EU Policy interventions in favour of islands have, to date, focused either on structural policies aiming to reduce the handicaps faced by EU islands or on compensation policies to compensate for the specific handicaps of islands using targeted subsidies. In the framework of the EU agricultural products quality policy, another idea has emerged; a proposal that products from islands (in this particular case, island farming) should benefit from a specific labelling scheme (an Optional Quality Term, OQT, in the sense of Regulation (EU) No 1151/2012) that ensures appropriate information for consumers and protection for island farmers. The purpose of the present Report is to assess the extent to which such an OQT ("Products of Island Farming") can be justified by the specific features and issues relevant to EU island farming and its products and could contribute effectively to addressing these specific features and problems. The Report builds on contributions by the participants at the Seville workshop of June 2013 as well as on previous multi-disciplinary research on the issue and related topics (geography, economics, sociology, politics and environmental science, etc.).

In spite of a rather straightforward common sense definition of what is an island (a piece of land surrounded by water), the concept of islands has given rise to many different definitions, reflecting the main objective of the person defining the concept. For the purpose of this Report, the Cohesion Policy definition has mainly been used ("Island Member States eligible under the Cohesion Policy (i.e. Cyprus and Malta) and other islands except those on which the capital of a Member State is situated or which have a fixed link to the mainland" (excluding therefore Ireland, the United Kingdom and the main Danish islands). The EU islands included in this definition represent a total of around 300,000 islands, mostly in Sweden (over 220,000) and Finland (around 75,000), as well as in Greece and Croatia (around 1,000 in each) and other Member States (in total, 16 out of 28). These islands represent approximately 2.9% of the total EU area and are characterised by a high degree of isolation (i.e., simultaneous remoteness and peripherality).

EU islands support 3.1% of the total EU population (around 15.3 million inhabitants). Only some 300 have permanent populations of more than 50 persons. There are big differences in terms of size; the largest islands or archipelagos being more populated than several Member States (e.g., Sicily with 5 million inhabitants and the Canary Islands with more than 2 million inhabitants) while the smallest ones are uninhabited, at least not permanently. Most EU islanders live on Mediterranean islands (70%); Outermost islands, whether Atlantic ("Macaronesian") or Tropical (27%), while the remaining islands (Baltic, North Sea, Channel and Coastal Atlantic) are less populated (3% of the total EU islands population).

EU islands benefit from a unique natural capital, reflected in a high rate of endemism of flora and fauna, which suffer from fragility caused by the pressure of human activities. Many EU Islands are characterised by a high share of mountain territories, such that the pressure of human activities on the environment and resources is particularly strong on their coastal plains. In terms of cultural identity, isolation has facilitated the development of strong island identities, with local savoir-faire and traditions. In general, but not always, they benefit from specific governance arrangements (full autonomy in some cases – the Channel Islands are not part of the EU, the Åland recognised in 1921 by the League of Nations) or, at least, separate local administrative authorities.

The economies of EU islands are particularly concentrated in tertiary activities, including tourism in many as well as financial services in some. Manufacturing however, is in general

under-represented. Farming and food industries are also more prevalent in EU island economies than the EU average. Agri-food activities represent 6% of EU island GDP (against an EU average of 5%). In certain islands, there is strong evidence of a decline in agricultural activity (the Balearics, Sicily, Madeira) while in others the situation seems more encouraging (the Azores, Crete).

There is a strong predominance of specialised crops in EU island farming (fruit, vegetables, potatoes, wine, olive) as well as some animal production (goat and sheep in particular). Sicily alone accounts for more than half of the fruit and vegetables production of EU islands while Crete is also an important producer of olive oil. The distribution of animal production is more equal between several islands (Sicily, Sardinia, Azores, Réunion, etc.). In contrast, cereals and arable crops as well as granivore livestock production (pigs, poultry) are marginal sectors on EU islands. A large share of island agricultural output is exported off-island (on average 60% of agricultural products and 35% of food industry products) but mostly within the same Member State (over 85% of the total EU island agri-food output).

EU island farming suffers from the effects of isolation and small size, as are most other island economic sectors. Isolation has a strong impact on the cost of transport; increasing the price of inputs – such as fertilisers, seeds, plant protection and animal health –putting downward pressure on export prices as well as making exports subject to climatic and other unforeseen events. The small size of island economies adds to their difficulties by impeding scale economies, limiting competition and rendering the main food processing industries less profitable (e.g., slaughterhouses). In addition, natural resources (land, water) are also under strong pressure given their limited availability and competition between agriculture and other economic activities, notably tourism. This situation implies a certain specialisation of EU island economies in a limited range of products and sectors. In particular, sourcing ingredients / raw materials for food products within the same island is often difficult (e.g., the supply of durum wheat produced in Sardinia is not sufficient for ensure the production of the local traditional carasau bread).

The specific situation however, varies between every island: the combination of isolation and the specific sets of constraints faced are unique in spite of some common features.

In this context, the development of local value added is a key means to enhance the growth of EU islands. Better labelling and protecting those products where significant value added is generated on islands can contribute to achieving this objective. Other ways are to further diversify in food products at different levels of quality, promote local linkages (e.g., common strategies on tourism and agri-food products) and develop export markets. The Corsican regional policy for agri-food products reflects these objectives very well, based upon the quality and tradition of local products. Consequently, initiatives and policies related to the labelling of agricultural and food products should be at the heart of such strategies.

Overall, a very large number of trademarks and sales names refer to the term ‘island’ (and translations) or the name of specific determined islands for agri-food products. It is striking however, that only a very small number of these trademarks and names refer to the term ‘island’ in a generic way; i.e., not referring to a specific island. In this case, it is often in an elaborate way for labelling products that are not wholly the product of island farming. The vast majority of trademarks and sales names referring to an island refer to a specific one, for example, Sal de Ibiza®, Gourmet Sardinia®, etc.

In parallel to the individual and private initiatives described above, a certain number of collective and certification trademarks with a territorial component should be mentioned. They

are driven principally either by private stakeholders (e.g. Genuine Jersey, Ø-Specialiteter) or, more directly, by the local regional authorities (e.g., the set of Canarian warrantee marks, Sicilia Agricoltura, Marca Açores). These usually contain unharmonised rules concerning the origin of products, raw materials and ingredients, place of production and processing. Indeed, the requirements are so different from one scheme to another that they do not permit easy comparisons by consumers. They also often go beyond the simple labelling of agri-food products, incorporating goods and services more broadly, such as handicrafts, restaurants, hostelries, etc.) and are part of a wider branding strategy of the islands. Once again, these collective / certification territorial trademarks focus on specific and identified islands, not on the generic concept of insularity.

The existing official EU quality schemes can also be used to valorise EU island farming agri-food products, notably the outermost territories logo. This conveys in a semi-generic manner the fact that products come from outermost territories (which are mostly islands, with the exception of French Guiana). These logos however, are specifically for products of high quality. Therefore, the logo is only authorised de facto for products that have undergone other quality certification or assurance schemes, such as the territorial trademark mentioned above or geographical indications.

The other EU official quality schemes relevant for islands are geographical indications, PDO and PGI. Around 10% of EU geographical indications are islands and this ratio is above 20% in several Member States, such as Greece, Italy, Sweden, the United Kingdom, Ireland and Denmark. Similarly, more than 20% of geographical indications in oils and fats (olive oil), fruit and essential oils, gums and resins as well as wool are produced exclusively on EU islands. Most of these geographical indications are of a small to very small size: out of 110 denominations, only 9 exceeded €10 million in turnover, 2005-08. The most important one by far is Pecorino Romano. Overall, it is estimated that the total annual turnover of EU islands PDOs and PGIs is approximately €355 million, representing around 5% of the total agricultural output of EU islands. Approximately 25% of the sales of EU island geographical indications are sold out with the Member State in which production is located (a larger share than for agri-food products from EU islands in general). The labelling rules for of EU island geographical indications do not insist on the inclusion of the insularity of their territory (beyond simply naming the island concerned or, at most, including the shape of the islands in the logo of the designations).

The labelling practices followed by stakeholders in EU island farming products are therefore very diverse but it is striking that there have been virtually no initiatives (private, public or regulatory) aimed at promoting the idea of island farming products to consumers. In spite of the multiplicity of examples and schemes involved however, it seems that only a small share of EU island farming products are already covered by labelling practices that aim to valorise the (specific) insular origin of these products. This leaves sufficient room for possible new initiatives.

The more detailed studies of the cases of Greek islands, Sardinia and Scottish islands illustrate the diversity of situations of island farming products.

Agriculture in the Greek islands is important for the country as a whole and the associated local economies. In general, Greek island agriculture is smallholder-based, hardly sustaining single households, and oriented towards dry olive groves, rain-fed cultivation and vineyards and sheep- and goat-raising. The food sector on the islands is important in terms of employment and incomes but its small average size imposes cost inefficiencies. The major products are wines, olive oils and cheeses, with some notable and rare vegetables. The specific

characteristics of the island products are induced by climate and soil, vegetation, specific animal breeds alongside cultivation and processing methods. Over a long period of time, these factors have developed and interacted to overcome environmental and locational constraints so that they are now embedded in the culture and tradition of the islands.

Three very different Sardinian products were also examined: Pecorino Romano received a PDO in 1951, and is now one of the best-known cheeses in the market; Carasau bread has not yet obtained any protection; and a Myrtle berry liqueur producer introduced a voluntary certification system. In marketing terms, Pecorino Romano cheese is an international product and is especially successful in the USA, the principal market for Carasau bread remains Sardinia; while the Myrtle liqueur is mainly sold in Italy. Because the markets for these products are very different, both the consumers and the competitive environment are also quite different.

In Scotland, island food products also have a relatively distinct set of characteristics, which relate strongly to their surrounding 'environment of production'. The environmental characteristics of island areas (climate, soil, proximity to the sea etc.) and high quality of raw materials have a clear impact on the taste, flavour and texture of meat and dairy products, resulting in distinctive island-specific products such as Orkney beef and Shetland lamb. An emphasis on local provenance and 'enforced' self-sufficiency has also resulted in the development, over a very long period, of specific 'island breeds' of sheep and cattle, which have evolved within their island localities. Island-specific techniques in food production have also developed (e.g., dry stirring in cheese production). The requirement to be self-sufficient throughout history has also resulted in a variety of embedded traditions and practices (e.g., cheese-making on Orkney, smoked fish- and the harvesting of seaweed) that provide a cultural backdrop for current food producers to link with.

Many different agricultural and food products are available in all three island regions. They are marketed through well-developed geographical indications or one of the many current initiatives attempting to provide regional branding and connecting the agro-food sector to tourism activity. Island producers appear to be confident about the future in terms of maintaining output and the prospects for expansion. In this context, the introduction of a specific Island label could be a useful marketing tool for these products, with growing consumer awareness about provenance. Emphasising native breeds, local provenance and identity, high quality, best practice in animal husbandry and adding value locally, island food producers might be well-positioned to take advantage of a dynamic market and constantly evolving policy framework. As noted in the Greek and Sardinian case studies however, the diversity of products and marketing frameworks and strategies might make it complicated for a single "island" label to cover this diversity.

In fact, the introduction of an "Island Farming" OQT has some clear potential benefits. Island farming products deserve to be protected both in export markets and local markets (including sales to tourists visiting the islands) against fake island local products. An OQT would provide a clearer legal base than the general labelling rules to ensure this protection. An OQT has the additional advantages of being simple to implement and not encompassing high costs for producers (in particular, the predominantly small producers). Further, it can convey to consumers common messages and cues related to island farming; in particular, the specific, unique and fragile natural and cultural capitals of islands. On the other hand, the absence of existing labelling initiatives or practices relating to islands or island farming products that do not refer specifically to a determined island is an indication that stakeholders do not seem very interested by such a generic "island farming" OQT. In addition, the high degree of

specialisation of islands, including within the agricultural sector, would make it difficult to ensure that island farming products are produced on the basis of high levels of island raw materials and ingredients, particularly for animals and processed products. Finally, the addition of a further labelling scheme to the already diverse existing ones for island products could result in creating a certain risk of dilution of those existing schemes with strong control and certification mechanisms. All in all, a compromise solution might be to establish a quality term that would include an option to complement the OQT "product of island farming" with the name of the island or archipelago concerned, thus retaining most of the advantages of the OQT and discarding several of its disadvantages.

2 Introduction

Islands have always played an important role in human culture. Early civilisations like the Minoan or myths like that of Atlantis are located on islands which, because of their isolation and boundedness, require special journeys to visit them. The mixed feelings expressed by islanders when a fixed link is created – for example at the time of connection of Skye to the Scottish mainland (Royle, 2001) – and the frequency with which islands are used as the primary scenes for artistic expression (Defoe's Robinson Crusoe and Stevenson's Treasure Island, Gaugin's Polynesian period, etc.) also reflect the importance of islands in man's imaginary. Even with respect to agriculture and food, the concept of islands gained importance in early history as places for sourcing products not produced on the continents (sugar for example from French Antilles and the Canary islands).

More recently, islands have become an object for EU structural policy intervention as their specific development constraints justify actions to facilitate their economic convergence with the rest of the European Union. As pointed out by various reports on islands issues prepared by the European Parliament, the Economic & Social Committee and the Committee of Regions during the last 15 years (Moncada, Camilleri et al., 2010), it is now recognised by the Treaties and several pieces of EU Regulations that insularity and the problems it raises, as well as the structural and socioeconomic characteristics of islands, justify the design and implementation of specific policy interventions.

Islands are mostly targeted by structural measures within regional and rural development policies, as well as by measures which offer compensations for their remoteness (POSEI or Small Aegean islands Regulations).

Regarding policies related to the improvement of the quality of agricultural products, the question arises about the usefulness of providing a new optional quality term for the products of island farming (similar to the optional quality term for mountain farming products).

The aim of this Report is therefore to describe the supply chains of island farming products with a view to identifying the critical arguments for and against specific labelling of such products. Article 32 of Regulation (EU) No 1151/2012, on quality schemes for agricultural products and foodstuffs, lays down the obligation for the European Commission to explore the possible creation of a new term (a purely written expression, with no figurative content - such as a logo –, to be indicated on the labels of products) to be used for the description of island farming agricultural products (i.e. not including complex food products, such as prepared dishes, bread or pastries, confectionery, beverages such as spirits, beer or cider etc.) intended for human consumption (therefore also excluding feed or raw materials for non-food use such as wool or cotton). Such a term would be reserved to agricultural (including raw materials) and 'agricultural' processed food products which originate from islands (with processing also taking place on islands) and should benefit producers through the increase of value added.

This Report builds on the previous research by geographers, sociologists, political and environmental scientists as well as, to a lesser extent, economists. Several large-scale multi-disciplinary studies are particularly worthwhile to be mentioned, including the Planistat study in 2003 and the two recently finalised projects under ESPON (EUROISLANDS and GEOSPECS). The main features on EU islands prepared by Eurostat are also utilised. The intense research activity on small island developing states (focusing on structural aspects and to a much lesser extent on the islands farm economy and food chains), though not directly

applicable to EU islands, also has provided some relevant points of comparison and elements of discussion.

In the context of the above-mentioned topic, the JRC-IPTS therefore organised a workshop in Seville on 13 and 14 June 2013 (see Annex) to discuss the issues at stake and provide inputs for deciding whether or not to create a new optional quality term for products of island farming. Further reflection, drawing upon the available literature, completes the workshop discussion.

The Report is organised in four sections. In the first section, island farming in the EU is described and discussed. This includes:

(i) the question of defining the precise delineation of islands in the EU; their main features with respect to physical, natural, human, cultural, social and economic capital;

(ii) the characteristics of the agricultural sectors, farms and food products produced in EU islands and

(iii) finally, a discussion of the constraints faced by the EU island farmers, the drivers of growth available to them and possible strategies for their development.

In the second section, the present labelling practices of EU island farming products are described and analysed, including commercial names and trademarks, private, public and EU official quality signs and marks. The main objective of this section is to better understand the usefulness and place of a possible new optional quality term for the products of island farming. A specific focus is applied to geographic indications (PDO and PGI), which are instruments of critical importance for high quality products in the EU. Some further thoughts on agricultural and food products and supply chains are also presented in three specific case studies for different insular regions (Greek islands, Sardinia and Scottish islands). Finally, the conclusions summarise the main findings of the Report and bring together some further reflections on the case of specific labelling of island farming products, including building on the lively discussion during the Seville workshop of June 2013.

3 Island farming products, their importance and the challenges they face

Island Farming makes a significant contribution to EU agriculture and island farmers face specific challenges in producing and placing their products on the markets. Before discussing island farming and its products, it is useful to consider the definition of what should or could be considered as "islands" for the purpose of defining the products of island farming.

3.1 The Geographic & Economic Diversity of EU Islands

3.1.1 Definitions

The concept of "island" seems rather simple to define; 'a piece of land surrounded by water' (Oxford English Dictionary, as quoted by Royle (2001)). Indeed, it is because of their clear delineation that islands have been considered to be useful self-contained objects of research to test theories of sustainable development (Kerr, 2005). Contrary to other geographic concepts, such as mountains, it would therefore appear relatively easy to define islands, for whatever purpose. In spite of this simple and clear cut definition however, it is difficult if not impossible to agree upon an exhaustive list of islands in the world. This is because of interpretative difficulties.

Geographers discuss various cases, such as the islands surrounded by water only at high tide (e.g., Mont-Saint-Michel in France and Lindisfarne in the UK) or islands accessible by submersible roads (Noirmoutier in France and Mandø in Denmark). Another topic discussed concerns islands permanently connected to the mainland by a fixed link. In some cases, where the connections are multiple and integration with the surroundings complete, it is evident that the insularity character has disappeared (e.g., Manhattan Island according to Royle, 2001) but, in other cases, connection and integration to the mainland is still weak.

Thresholds in terms of areas or populations have also been developed; at the lower bound, to separate rocks and cliffs from islands and, at the upper bound, to distinguish continents from islands. All of these thresholds have been subject to criticism. For example, the Scottish Census of 1861 defined islands as pieces of land inhabited with sufficient pasture to support at least one sheep, smaller places having no such status (Royle 2001). Another example concerns French Polynesia, officially composed of 115 islands, many of them surrounded by atolls. Tahiti itself could be counted as a single island or as 12 to 14 islands if dry areas of the surrounding reef around are counted (Royle 2001). At the upper bound, there is some consensus among geographers that Greenland is the largest island and Australia the smallest continent.

The International Convention on the Law of the Sea also addressed this issue through its Article laying down the rights to exclusive economic zones. A rock that cannot sustain habitation is not supposed to permit the award of such a zone. Rockall however, a 74 m2 rock 461 km west of Scotland, has been added to 'that part of the United Kingdom known as Scotland' by the Rockall Act of 1972 and a former soldier stayed 40 days in 1975 to further establish British sovereignty (Royle 2001). Similarly, French authorities regularly ensure the habitation of several isolated islands around the world through temporary occupation by soldiers, e.g., Clipperton island in the Pacific Ocean (Taglioni, 2011).

Geographers and economists also discuss about small economies, with a strong focus on islands but also small isolated economies with similar characteristics as islands (e.g., Ceuta and Melilla (Spanish territories located in North Africa) as described in Planistat 2003). Several concepts developed in the literature are described in Box 1.

Box 1 - Typologies of Small (Island) Economies

Several typologies of small island economies have been proposed:

Small Island Developing States (SIDS): The SIDS concept was officially recognised in 1992 by the United Nations and confirmed by the Barbados Conference (1994) on small island developing states as a separate group with common development problems. Its function is primarily political, raising issues relating to sustainable development and climate change. SIDS now has 52 members, many of which are also members of AOSIS (Alliance of Small Island States), which negotiates on their behalf within the UN system. A fundamental shortcoming of this official designation is that not all SIDS are small (some being substantially larger than the one million population UN threshold), not all are islands, not all are classified as developing and some are non-sovereign.

MIRAB (Migration, Remittances, Aid & Bureaucracy) Economies: This concept was advanced to explain the distinct structural characteristics of small island economies in the South Pacific (Bertram and Watters 1985). These economies have experienced substantial levels of out-migration because of low incomes and limited local employment opportunities, leading to a heavy dependence upon inflows of remittances from expatriate workers together with foreign aid. Many of the structural features of MIRAB economies however, are prevalent in other poorer small economies outside the Pacific. Some more successful small economies however, are now net importers of labour.

Small Island Tourism Economies (SITEs): This definition refers to the significant contribution of tourism to economic activity and growth in many small economies, particularly those in the Caribbean (McElroy 2006). The approach focuses solely on the tourism sector to the exclusion of other activities, notably the primary sector and financial services, regardless of their economic contribution.

PROFIT: This refers to people, resource management, overseas engagement/ para-diplomacy, finance and transportation (Baldacchino 2006). By incorporating the potential structural trajectories of small economies as well as the political economy of jurisdictional discretion, this approach represents an identity rather than a dynamic model of the growth of islands.

None of these typologies provides a full and satisfactory dynamic explanation of the growth of small (island) economies. Nevertheless, they all represent potentially testable hypotheses regarding their validity and applicability to small economies generally.

For statistical purposes, Eurostat laid down in 1994 some statistically relevant criteria for the purpose of focusing strictly on islands – i.e, populated, with real challenges arising from their insularity (Dijkstra and Poelman 2011):

(i) A minimum surface of one km^2;

(ii) A minimum distance from the mainland of one km;

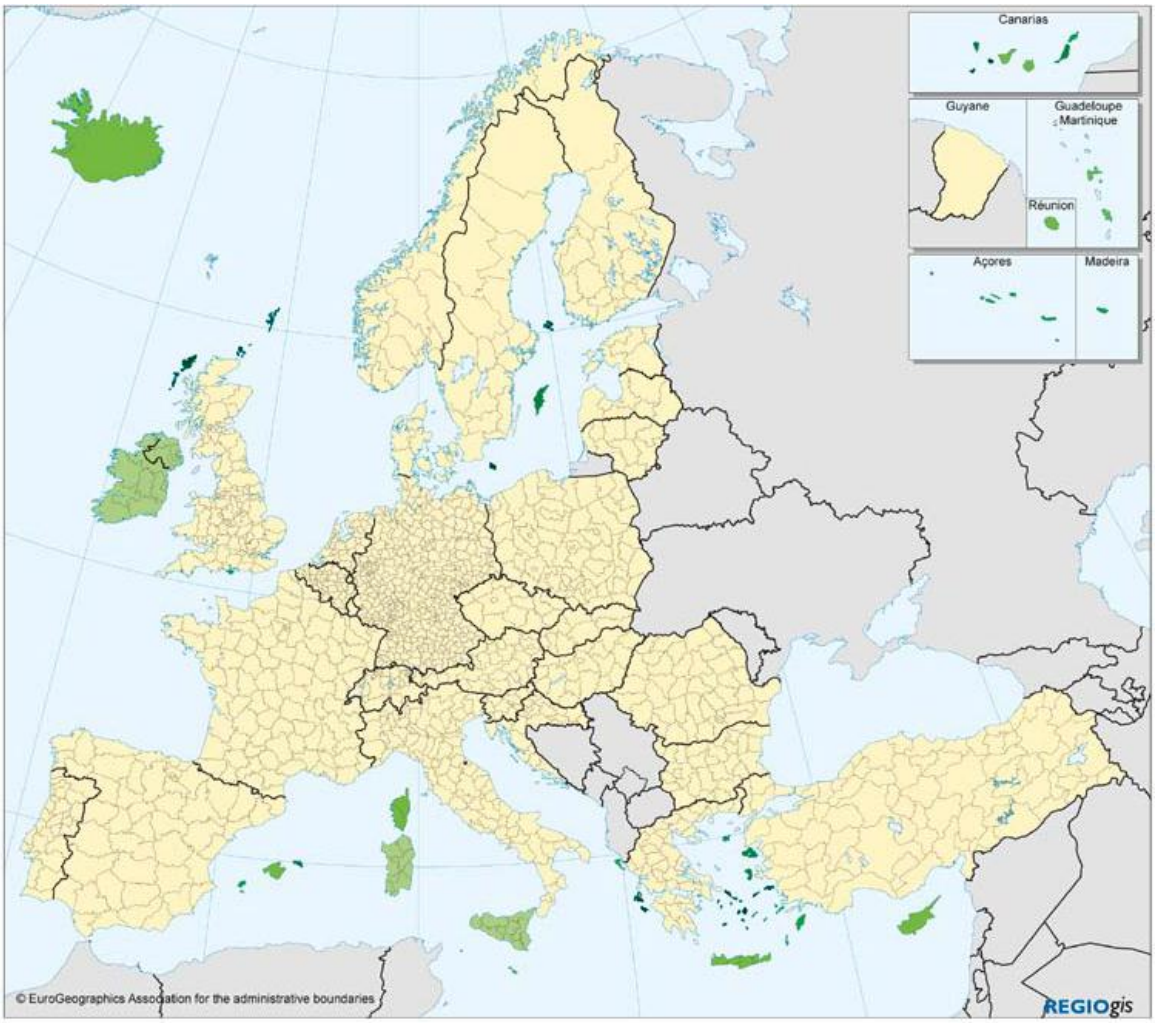
(iii) A resident population of more than 50 persons;

(iv) No fixed link (bridge, tunnel, dyke);

(v) Absence of a capital city.

The fifth criterion, initially considered (EUROSTAT 1994), discards from the definition of islands both Great Britain (also discarded as fom1994 with the official opening of the Channel tunnel) and Ireland, as well as, from 2004 onwards, Cyprus and Malta. According to Dijkstra and Poelman (2011), this criterion is not applied anymore, as reflected in map 1.

Map 1: EUROSTAT Definition of Islands according to Dijskstra and Poelman (2011)



Source: Dijkstra and Poelman 2011

Several of these criteria are subject to interpretations: given measurement uncertainties, the minimum distance criterion of one km can be difficult to apply; there may be fixed links between islands, etc. Likewise, the statistical approach may not reflect actual problems of insularity, as mentioned by Planistat (2003). Coastal islands at a distance of less than one km from the mainland may face similar problems of marginalisation to other islands. With regards to the population threshold, there is little justification for treating the citizens of islands below 50 inhabitants any differently to those of other more populous islands. Further, archipelagos of more than 50 inhabitants composed of several small islands of less than 50 inhabitants each are also omitted (typically the case in Finnish and Swedish islands). Finally, permanent links, popular in particular in Scandinavia (ESPON 2013a), do not completely offset the challenges

of insularity owing to their marginalisation and maritime environment. There are also cost-related issues of using permanent links such as bridges given that a toll is often charged, even for residents, therefore re-creating a disruption in transport. In addition, a permanent link offers a solution to physical disruption, but the psychological impact of insularity often remains even after such an infrastructure is in place (ESPON 2013a).

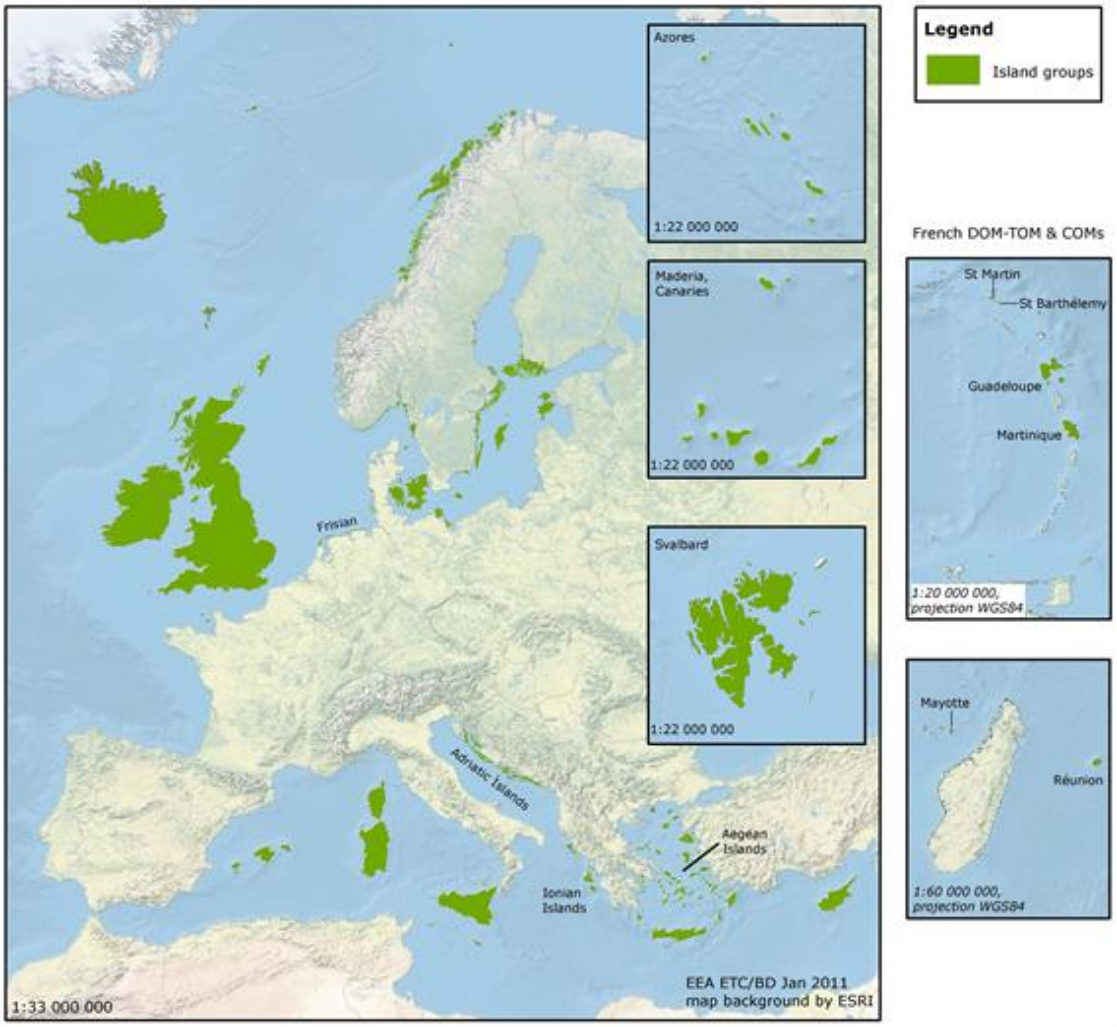
The statistical criteria laid down by Eurostat to simplify data collection therefore implies a loss of critical information that needs to be taken into account to better reflect the reality of islands and for effective policy formulation.

Islands are also defined in the context of EU regional policy. In addition to outermost islands, Article 174 of the EU Treaty recognises the need for particular attention to be paid to development and territorial cohesion for several types of more vulnerable regions, among them explicitly "islands". Article 52 of the Structural Fund and Cohesion Fund Regulation (Council Regulation (EC) No 1083/2006 of 11 July 2006) states that "Island Member States eligible under the Cohesion Fund, and other islands except those on which the capital of a Member State is situated or which have a fixed link to the mainland" are considered to be islands (Monfort 2009). This definition enables the addition of all the small and coastal islands discarded by the EUROSTAT definition and includes the two small island Member States that are Malta and Cyprus, but not Ireland or the United Kingdom (the latter being connected by a fixed link, the Channel Tunnel). The criteria relating to the presence of a capital city and the eligibility to Cohesion Fund intervention were discarded in 2010, thus implying that Ireland as a whole, as well as Northern Ireland, could be integrated into the EU islands (Dijkstra and Poelman 2011). ESPON (2013a) however, does not consider Ireland as an island for several reasons: autonomy of decision, at least for the Republic of Ireland and a large total population (6.1 million inhabitants, including Northern Ireland).

It should also be mentioned that the European Agriculture Fund for Rural Development (EAFRD, Regulation No. 1698/2005) also indirectly considers insularity as one criterion to be taken into account for different rural development measures (Moncada, Camilleri *et al*. 2010): outermost (Regions Ultra-Péripheriques, RUP) territories and small Aegean islands. With respect to the latter, specific measures are in place for agricultural products. However, the concept of islands is not defined in this context. All islands therefore seem to be potentially covered, included those with a fixed link. One indication of this is that large islands (explicitly Crete and Evia in Greece) are excluded.

Another approach reflected in Map 2, refers to biodiversity, which includes islands with fixed links (the main UK, Danish and German connected islands are considered as islands). According to this approach, European islands are classified in several groups: Arctic, Baltic, Atlantic, Continental (mainly Denmark and Germany), Mediterranean and Macaronesian islands (the Canaries, the Azores and Madeira) (Epple and de Soye 2010).

Map 2 European Islands According to the Biodiversity Information System for Europe



Source: Biodiversity Information System for Europe (www.biodiversity.europa.eu)

Table 1 provides a list of EU islands, differentiating between those corresponding to NUTS2 areas or NUTS3 areas, for which there is better data availability, and others, whether or not with fixed links.

Table 1– List of NUTS 2 and **NUTS 3 for Island Regions and Other** EU **Islands**

Member State	NUTS 2 island areas	NUTS 3 island areas	Other islands
Denmark	-	DK014 Bornholm	407 other islands, 327 uninhabited, 80 inhabited in 1991, 50 of which without fixed link: - Fanø, Mandø, Samsø, Laesø and 12 other west coast islands (Jutland). - 17 islands related to Sjaeland,

			among them Fejø, Orø, etc. - 17 islands related to Fyn, amomg them Aerø. Note: six large and populated islands are connected to mainland and between them: Sjaeland (Copenhagen), Fyn (Odense), Langeland, Lolland, Falster and Mon.
Greece	GR22 Ionia Nisia GR41 Voreio Aigaio GR42 Notio Aigaio GR43 Kriti	GR221 Zakynthos GR222 Kerkyra GR223Kefallonia GR411 Lesvos GR412 Samos GR413 Chios GR421 Dodekanisos GR422 Kyklades GR431 Irakleio GR432 Lasithi GR433 Rethymni GR434 Chania	Total number of island between 1.200 and 6.000, 167 to 223 inhabited (all islands including those listed under NUTS 2 and NUTS 3 areas). In addition to NUTS 2 and NUTS 3 areas, about 40 small and medium sized form the group of coastal islands. Three groups can be distinguished: - the North Aegean islands such as Samothraki and Thasos; - the Sporades archipelago (Skopelos, Skiros etc…); - the coastal islands of Attiki, including the Argos-Saronikos archipelago (Egina etc.). GR 224 Lefkada is an island NUTS3 region with a fixed link (therefore not considered by Eurostat as an island). GR 242 consists in vast majority in the island of Evia, connected with two fixed links therefore not considered as an island by Eurostat.
Spain	ES53 Baleares ES70 Canarias	ES531 Eivissa y Formentera ES532 Mallorca ES533 Menorca	3 islands in Galicia (two of which connected with a bridge), 1 in Alicante.

		ES703 El Hierro ES704 Fuerteventura ES705 Gran Canaria ES706 La Gomera ES707 La Palma ES708 Lanzarote ES709 Tenerife	
France	FR83 Corse FR91 Guadeloupe FR92 Martinique FR94 Réunion	FR831 Corse du Sud FR832 Haute Corse FR910 Guadeloupe FR920 Martinique FR940 Réunion Mayotte	Around 30 inhabited coastal islands, mostly on the Atlantic coast (three of the largest ones being connected with a bridge: Oléron, Ré and Noirmoutier) and fez win the Channel and in the Mediterranean sea.
Ireland	-	-	53 inhabited islands, 3 of them partly connected two at low tide and one by cable car.
Italy	ITG1 Sicilia ITG2 Sardegna	ITG11 Trapani ITG12 Palermo ITG13 Messina ITG14 Agrigento ITG15 Caltanissetta ITG16 Enna ITG17 Catania ITG18 Ragusa ITG19 Siracusa ITG25 Sassari	Four extra groups of islands: - the Tuscany archipelago (6 islands: Elba, Giglio etc…); - the Ponziane islands (Ponza and Ventonene); - islands of the Gulf of Naples (Capri, Ischia, Procida); - 3 small islands in Puglia. Note: both Sicily and Sardinia are surrounded by small islands recorded in the NUTS 3 islands regions mentioned (e.g. Lampedusa, Pantelleria and the Eolian islands)

		ITG26 Nuoro ITG27 Cagliari ITG28 Oristano ITG29 Olbia-Tempio ITG2A Ogliastra ITG2B Medio-Campidano ITG2C Carbonia-Iglesias	
Malta	MT00 Malta	MT001 Malta MT002 Gozo and Comino	
Portugal	PT20 Açores PT30 Madeira	PT200 Açores PT300 Madeira	
Finland	FI20 Åland	FI200 Åland	75.818 islands of which 8.105 within Åland.
Sweden		SE214 Gotlands Län	Oland as a large island, with fixed link. “There are about 221 800 islands in Sweden. Stockholm County has the most islands, followed by Västra Götaland (county). At the end of 2008, 1 085 islands had a permanent population. 598 of these islands did not have a fixed link to the mainland” (SCB 2009).
United Kingdom		UKJ34 Isle of Wight UKM64 Western Isles UKM65 Orkney Islands UKM66 Shetland	Scottish islands not recorded under the 3 NUTS 3 island regions of Scotland, from South to North: - Clyde islands (4 islands among which Arran and Great Cumbrae); - Bute island;

		Islands	- 19 Argyll islands, among them Jura, Islay, Mull etc. - 15 highlands islands, among them Skye (connected with a bridge) and Rhum. About 10 islands in England, among them the isles of Scilly in Cornwall, Holy island in the North East, etc. 12 islands in Wales, the main one (Isle of Anglesey being a NUTS 3 region (UKL11), but connected to the mainland by a bridge). Other Welsh islands are Skomer, Ramsey, Skokholm etc. 1 island in Northern Ireland (Rathlin); In addition, several islands not part of the EU or the UK but treated as such for goods and services should be mentioned: Isle of Man, Jersey, Guernsey and other Normand isles (Alderney, Sark, Herm).
Estonia	-	-	Saaremaa, Muhu, Vormsi and Hiiuma islands
Netherlands	-	-	5 Frisian islands Several islands with fixed links in Southern Netherlands
Germany	-	-	Three groups of islands: -7 East Frisian islands (119 km^2) - 8 Schleswig-Holstein islands or groups of islands (498 km^2), the two main ones (Sylt and Fehmarn) are connected to mainland (embankment and bridge) - 5 Mecklemburg islands (1374 km^2), the two main ones (Usedom and Rügen) connected to the

			mainland
Cyprus	CY00	CY000 Cyprus	
Croatia	-	-	1.185 islands of which 48 inhabited Main islands listed by UNEP (1998): Brac, Cres, Hvar, Korcula, Krk, Mljet, Pag

Source: own elaboration from Eurostat (1994), UNEP (1998), SCB (2009), TEM (2009), Croatian Statistics (2009), Monfort (2009) and ESPON (2013a).

In sum, depending upon the criteria applied in terms of minimum size and/or existence of fixed links, the precise number of islands in the EU varies and in fact there is no consensus on the total number of EU islands. Every definition is correlated to the main concern underlying the definitional process. In the case of the labelling of island farm products, the main object to be labelled needs to be further precisely identified in order to decide which definition to apply. Further elements of reflection are therefore developed in the conclusion following a more precise description of island farming products and their current labelling practices.

3.1.2 Global picture: islands in the EU and their diversity

This section describes the principal common features of EU islands as well as their diversity. Most official quantitative data is only available at NUTS3 level; at a lower local level, information is scarcer and/or inconsistent between sources and/or Member States. It is therefore difficult to present a precise and exhaustive vision of EU islands. There are however, several seminal works from Planistat (2003), DG REGIO (Monfort 2009; Dijkstra and Poelman 2011) and ESPON (2013a and 2013b) which are referred to extensively.

i. Physical Characteristics:

In terms of total area, Planistat (2003) estimates that in the EU-15, islands represent a surface of 100,000 km^2, roughly 3.2% of the total area (outermost islands not recorded). ESPON (2013a) carried out a similar inventory for EU-27 plus Croatia, Turkey and Norway, estimating the total area to 136,077 km^2, equivalent to 2.9% of the EU-27 area and 4.0% of the ESPON area (the ESPON area corresponds to the EU-27 + candidate and potential candidate countries + Switzerland).

EU islands are under strong geomorphological constraints. More than one third (34%) of the 56 EU-27 island regions can also be considered to be mountainous, thus representing 11% of the total EU mountain regions (Monfort 2009). On the basis of the total ESPON area (EU + potential candidate and candidate countries + Switzerland), 71.9% of the area and 54.5% of the population of islands without fixed links correspond to mountain areas (ESPON 2013a). The share is lower for islands with fixed links (40% of the area and 6.2% of the population respectively). This implies greater pressure on essential resources, such as drinking water, energy, raw materials, living space and arable land in the coastal parts of islands (Monfort 2009). Other types of constraints for the Northern islands in particular include difficult climatic conditions for agriculture (wind, maritime influences, etc.) and (often) soil conditions for agriculture. Moreover, most EU islands are archipelagic (groups of islands), adding to the geomorphological constraints for “islands of islands”. Of the 286 islands counted by Planistat

(2003), two-thirds (188) are part of an archipelago and the others isolated. The Åland archipelago includes 6,500 islands, only 60 of which are inhabited (Baldacchino and Pleijel 2010).

In addition, the geographical location of EU islands demonstrates their remoteness within the EU: 21% of EU island regions are also outermost regions (Monfort 2009). In fact, of the EU outermost regions, only French Guiana is not an island or archipelago. The remoteness of non-outermost islands varies: the distance between islands and the continent ranges between several hundred metres up to 430 km in the case of Sardinia.

Remoteness implies isolation and poor accessibility. In 2007, EU island inhabitants had access to only 144 daily flights within less than a 90 minute road trip (while, on average, people in the EU have access to more than 700 flights) (Monfort 2009). The multi-modal Accessibility Index, constructed to measure the accessibility of different areas in the EU, is below the EU average for all island regions (ESPON 2013b). Only the Balearics and the Isle of Wight come close to the EU average (index 100), the lowest accessibility being for the Scottish islands (less than 40).

Such isolation and remoteness goes together with peripherality and distance from the markets for EU islands (ESPON 2013a). Apart from single state Islands (Malta and Cyprus) and Denmark, national capitals are not situated on islands. Most EU island regions (71%) are border regions (Monfort 2009). The list of 1595 dynamic cities (FUA- Functional Urban Areas) and of 70 of them with transnational importance (MEGA: Metropolitan European Growth Areas) across the EU, includes only 15 FUAs (e.g.,Cagliari, Catania, etc.) and two MEGAs (Valetta and Palma, Mallorca) located on islands. With only 1.1% of the total EU FUAs islands are therefore out of the main flow of urban dynamism (ESPON 2013b).

ii. Natural Resources:

The natural capital of EU islands is of utmost importance. The index of proximity to natural areas (bodies of water, Natura 2000 areas, natural areas defined by CORINE land cover such as forests, wetlands, etc.) is high for island regions (165 for an EU average index of 100), as high as for mountain regions (Monfort 2009).

Islands landscapes are highly valued and a key asset for tourism activities: when asked about the main drivers of attractiveness of their island, business people on Skökar (Åland) cite the beauty of the natural surroundings as being foremost (Baldacchino and Pleijel 2010). Landscapes could however be under threat from excessive expansion of tourism-related activities (as in the Canary Islands (ESPON 2013a)).

Islands are also recognised to be important places in terms of biodiversity. Flora and fauna are more restricted than in neighbouring mainland areas (Epple and de Soye 2010) since many species cannot reach them, particularly in ‘oceanic’ islands. Further, populations of isolated species may adapt to local conditions and evolve (e.g., the Skomer vole mentioned by Royle (2001)). Although islands represent only 5% of the world’s surface area, endemic island species represent 20% of the vascular plant species and 15% of all mammals, birds and amphibian species (Epple and de Soye 2010). The different pressures and threats (e.g., absence of carnivores, low level of land use etc.) suggests that some species have found refuge on islands. This can drive islands to become veritable biological sanctuaries, thanks to their isolation. Flightless birds (dodo, kiwi etc.) are examples of species that could only survive on islands; agility and speed being less important, they could increase in size (island gigantism). Gran Canaria is the home to half of the species that are endemic to Spain (ESPON 2013a).

Mediterranean and Macaronesian islands are the ones mostly characterised by a high level of endemism. In addition, islands are at the heart of marine biodiversity, as they host a high share of EU coastal, littoral and shallow waters. They also play a key role in bird migration, and as nesting places for turtles (e.g., Zakynthos) etc. (Epple and de Soye, 2010).

Biodiversity and natural resources on islands are facing critical risks. The introduction of predators and direct human impacts are the main source of concern. When the British took Ascension Island in 1815, it was mostly inhabited by marine birds; within 50 years of the introduction of cats and dogs, most marine birds had disappeared from the lower slopes of the island (Royle 2001). Similar phenomena can be seen for flora because of imports of invasive species and/or the introduction of grazing pressures. The impact of uncontrolled tourism on biodiversity should also be mentioned. Other risks to islands biodiversity are related to their greater exposure to climatic extreme events (storms, hurricanes) and to climate change and rising sea levels, all of which place islands at risk of ecological catastrophe (Farruggia 2004; Epple and de Soye 2010; ESPON 2013a). The Biodiversity Information System for Europe states that 'of the 724 recorded animal extinctions in the last 400 years, about half were island species'. The vast majority of endangered endemic island species are located in Mediterranean and Macaronesian islands.

Fishing resources in islands are suffering from the same problems as on the mainland: overexploitation but also the introduction of alien species, impact of climate change on water temperatures and currents, diseases linked to the presence of fish farms etc. In the Outer Hebrides, for example, the fisheries sector has declined the most in absolute terms, with a severe decline in wild salmon and trout stocks (ESPON 2013a).

Islands also represent important resources for renewable energy (Monfort 2009). Several islands (Green Islands) have engaged in a policy of full renewable energy sourcing. For example, Eigg in Scotland, Samsø in Denmark, and larger islands such as Bornholm, Baleares, Gotland, the Canary Islands are all well advanced (Manniche, Larsen *et al.* 2010; ESPON 2013a; ESPON 2013b). The development of renewable energies in islands however, is hampered by difficulties in storing energy in the absence of sufficient power links to the mainland (ESPON, 2013a). El Hierro (Canary Islands in Spain) is interesting in that the wind turbines act together with a water reservoir situated in altitude so as to 'store' the electricity.

iii. Demography & Human Capital:

14.9 million people (3% of the EU-27 population) were located in the 56 NUTS3 island regions in 2006 (Monfort 2009). Our rough estimate of the population in other EU islands (not covered by NUTS3 areas) amounts to 400,000 additional inhabitants (which is also the population estimated by ESIN for the small islands they represent). In total, 3.1% of the EU-27 population (15.3 million people) live on islands. ESPON (2013a) reaches the same estimate for the EU-27, which is 2.6% of the ESPON area (EU-27 plus candidate and potential candidate countries plus Switzerland).

While islands are spread all over the EU, 85% of the population (outermost regions excluded) is concentrated in five island groups (Sicily, Sardinia, Crete, the Balearics and Corsica) and 95% in the Mediterranean sea (Planistat 2003). On the basis of a larger universe (all islands with or without fixed links – including Danish islands and Iceland – in the EU and candidate countries, including outermost islands), 54% of islanders live on Mediterranean islands, 23% in Northern areas (Baltic, North Sea, Norwegian islands), 16% in Atlantic islands (including the Canary Islands and Portuguese outermost territories) and 7% in French the outermost islands (ESPON 2013a). A more recent count made by the authors on the base of latest (2010-2011)

NUTS-3 level Eurostat demographic data, shows that the distribution of population between the different groups of islands is as follows in Table 2.

Table 2 – EU islands population by group of islands (in thousands inhabitants)

Mediterranean islands	**Atlantic islands**	**French outermost**	**Northern islands (Baltic, North sea, Channel, etc.)**
11,008 (69.7%)	**2,621 (16.6%)**	**1,675 (10.6%)**	**486 (3.1%)**
Main regions: Sicily (5,049) Sardinia (1,675) Baleares (1,030)	**Main regions:** Canary Islands (2,107) Azores (267)	**Main regions:** Réunion (834) Guadeloupe (450) Martinique (391)	**Main regions :** Isle of Wight (141) Gotland (57) Bornholm (42)

Source: Authors elaboration from Eurostat

In general EU islands are relatively densely populated, particularly those with more than 5,000 inhabitants which have a density more than 150 persons/km^2 (Planistat, 2003). Only 2% of EU island regions can be considered to be sparsely populated regions[1] (Monfort, 2009).

The average annual island population growth rate of 0.85% is slightly higher than the EU average (0.37% in the period 2000-2006). Smaller islands (below 4 to 5,000 inhabitants), as well as archipelagic island territories in general, show negative demographic growth (Planistat 2003). In terms of ageing, a similar threshold of 4 to 5,000 inhabitants can be found, above which the share of people below 25 years old is above 30% (27.7% at EU-27 level) and the share of people above 65 years old below 18% (30.2% at EU-27 level). A study done by Baldacchino and Pleijel (2010) on the demographic evolution of the different islands and municipalities of Åland shows that the demographic dynamic is, in general, quite positive (nearly +1% per year from 2000 to 2007), particularly in the main island (Mariehamm) and islands connected by a fixed link (Vårdö) but negative in small islands (with less than 500 inhabitants or far away from the main island like the island of Geta).

In terms of educational attainment, on average, 22.4% of the EU population aged 25-64 had attained tertiary education level in 2005. This share is lower than 20% in all of the Southern Europe islands (except Cyprus) and just 10% in Sicily and Sardinia. The situation appears to be better in Northern islands. In all Member States though, the share of tertiary education level is lower in island regions than in the whole country on average, even in islands having universities. This might also reflect the importance of tourism in island economies, an activity largely based on labour with low levels of educational attainment (ESPON 2013b).

In terms of research and innovation, the situation is generally poor because of a lack of highly educated and skilled people as well as by lack of research institutions, in particular private ones. Less than 1% of the GDP in island regions is devoted to R&D (less than half of the EU

[1]Sparsely populated areas are 'areas made up essentially of NUTS-II geographic regions with a population density of less than 8 inhabitants per km², or NUTS-III geographic regions with a population density of less than 12.5 inhabitants per km²' (Paragraph 30(b) of the Guidelines on national regional aid for 2007–13 (2006/C 54/08))

average) and, in certain cases, even less: Åland, 0.16%, Balearics 0.33%. The poor availability of vocational training is also cited as being a constraint (Baldacchino and Pleijel 2010).

iv. Cultural and Social Capital: the Strength of Local Island Traditions:

Islanders are generally considered to have strong cultural identities deeply rooted within their islands (ESPON 2013b). "Islands becomes the center and other groups are often considered inferior" (Kerr 2005). Further, their social structures often extend beyond the boundaries of the island itself: large numbers of islanders might be present only for a part of their time (Kerr 2005).

Most of the EU islands have suffered invasions and changes of 'owner' in their histories. This has led inevitably, to the evolution of complex and rich cultures, encompassing a variety of influences. For example, the Shetland Islands and Orkney Isles were initially populated primarily by (Christian) Picts. They were integrated into the Kingdom of Norway in the early Middle Ages (about 875) and repopulated by Norse people, before dominion passed to Scotland (and its landowners) in 1469. Since the mid-XIXth century, the Viking backgrounds of the islands have been revived and celebrated anew (Grydehøj 2008). Sicily has had successive Greek, Roman, Byzantine, Arabic, Norman and Spanish domination, leading to its population resisting Italian unification (ESPON, 2013a). The Canary Islands were for centuries subject to the 'Blood Tribute': Canarian families held hostage by Spain were returned in exchange for merchandise. Emigration from the Canary Islands to South, Central and North America was so substantial that the emigrated population developed its own culture, calling itself "Isleños" (islanders) rather than Spanish (ESPON 2013a).

Isolation also led religious orders to use islands as places of retreat throughout Europe: in Skökar (Åland), the Franciscans founded a monastery in the XVth Century (Baldacchino and Pleijel, 2010). Nowadays, there is a trend towards spiritual and retreat tourism. Artists welcomed in residence on islands also form another trend; for example in Yeu or Kökar.

In terms of language, the strength of island cultural heritage is demonstrated by the existence and survival of specific languages or dialects: Swedish in Åland, Sicilian dialect, Corsican, Gaelic in the Outer Hebrides, etc

v. Economy:

EU islands are lagging behind the EU in terms of GDP. In 2006, the average GDP per capita of island regions was only 79.2% of the EU average (Monfort 2009). There appears to have been some convergence since this gap decreased by 3.3 percentage points 2000-2006. Some islands however, have incomes that are well above the EU average (e.g., Åland has a GDP per capita 47% higher than the EU average one). Others are well below the EU average (e.g., Medio Campidano in Sardinia (Italy) at 57%, (Monfort 2009) and Saarema (Estonia) below 50% (ESPON 2013b)). Overall, more than three-quarters of EU-27 islands have incomes (GDP per capita) below 80% of the EU-27 average one. GDP growth is greater in those island regions that are less mountainous (Northern ones) and with fewer individual islands (Planistat 2003).

In terms of the general employment structures of EU islands, the primary sectors (agriculture, forestry, fisheries, others) remain slightly more represented on islands than in the rest of the EU; however, most EU islands are located in EU-15 where the share of primary sectors uis significantly lower. Only the Balearics and the Isle of Wight have a share of primary sector employment lower than the EU-15 average (Planistat 2003). Oil extraction explains the high share of the primary sector in certain islands (Orkneys, Shetlands in Scotland) (ESPON 2013b). Smaller islands have a larger primary sector employment share relative to bigger islands (10.6% vs 6.3% (ESPON 2013a)).

Secondary economic activity is comparatively weak. Manufacturing represents only 20% of island employment versus 25% on average in the EU (Montfort 2009). This may be explained by logistical difficulties, which have adverse implications for manufacturing productivity and profitability. Islands with fixed links exhibit greater shares of manufacturing than other islands (ESPON, 2013a), this implying the importance of a "safer" and cheaper transportation for both inputs and outputs.

Islands generally specialise in tertiary sector activities, notably tourism, financial services and public services. The tertiary sector share in overall employment is higher in islands (74%) than the EU average (68%).

Tourism appears to be the most important sector for island economies; 27 of the 31 countries where tourism represents more than 20% of total economic activity are island states. In fact, control rather than the encouragement of tourism is a principal concern of many islands (Kerr 2005). Many EU island regions specialise in tourism activities (accommodation, restaurants), such as the Balearics (ESPON 2013b) and the Canary Islands. In the latter, tourism contributes one third of total GDP, employs 37% of the population (ESPON 2013a). The retail and tourism sectors account for 31% of EU island employment and this share is even higher in Atlantic and Mediterranean islands – respectively 37% and 32% (ESPON 2013a). Other islands benefit from specific tax schemes (e.g., Åland's duty free status) that favour trade and/or financial services. Finally public administration is also prominent in most EU islands (ESPON 2013a).

Overall, this indicates a high degree of dependency of EU island economies on a limited number of specialised productive sectors; in particular tourism, agriculture and/or fisheries.

The unemployment rate of island regions is above the EU average in 2007 (11.6% compared with 7.5%) and, in the period 2000-07, its level decreased strongly (by 7 percentage points). There are however, substantial differences in unemployment rates between EU islands: the lowest is 3.9% in Cyprus in 2007 while it is more than 25% in Réunion. More than half of the islands regions however, have unemployment rates above 12% (Monfort 2009).

Remittances and aid are important for island economies (as in the above mentioned MIRAB case). For example, Remittances from Tongans working off island amount to more than 66% of the country's GDP (Kerr 2005). EU islands probably rely more on aid in the form of fiscal transfers rather than remittances but little actual data is available.

Isolation implies a greater distance to public services such as health and education in islands than on average (Monfort 2009). In 2001, the access of the inhabitants of EU island regions to health and education was more difficult than on the mainland: 27.8% of islanders need more than 30 minutes to reach an hospital (compared to an EU average of only 10%) and 36.8% of islanders need more than 60 minutes to reach am university (EU average is 7%). Regardless of location, the available infrastructural provision (education, health, sanitation, leisure, transport and trade) falls drastically in islands with less than 5,000 inhabitants (Planistat 2003). For larger island regions, the situation appears to be similar to the EU generally; e.g., numbers of doctors or hospital beds per inhabitant (Planistat 2003).

vi. Governance:

There is a variety of differing levels of governance on EU islands, with implications for their endogenous development. Figure 1 illustrates diagrammatically the different levels of independence of islands, which can be applied to EU islands (Kerr 2005):

(a) Fully independent states, such as Malta or Cyprus;

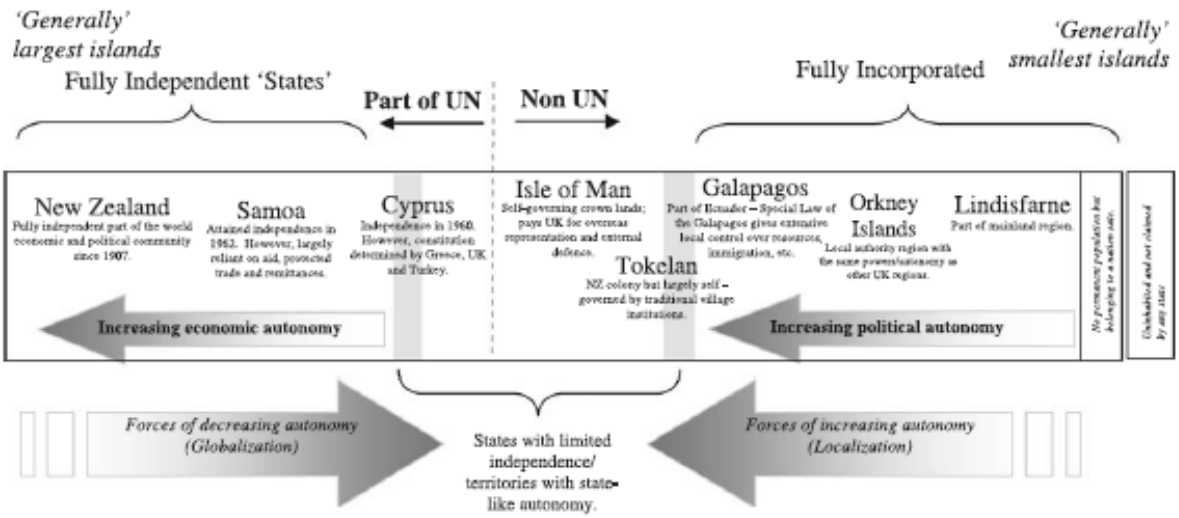
(b) States with limited autonomy (the Isle of Man and Jersey – neither part of the EU – e.g., Åland (recognised as autonomous by the League of Nations in 1921 and benefiting from a specific Annex to Finland's Treaty of Accession (Baldacchino and Pleijel 2010));

(c) Regions with a higher or similar degree of autonomy with respect to other regions in the same state (the Balearics, Sardinia, Corsica, Sicilia, etc.);

(d) Islands which benefit from having an administrative centre located there (Crete, Orkneys, etc.);

(e) Islands included in larger administrative regions comprising parts of the mainland but with municipal autonomy (Ile d'Yeu, Lipari - comprising six of the seven Aeolian islands etc.); and, in some cases, even part of a mainland municipality (Finnish, Swedish islands, etc.).

Figure 1 - Islands Autonomy (Kerr, 2005)



Source: Kerr, 2005

Islands are subject to two common but opposing trends: globalisation is decreasing the autonomy of sovereign states while localisation is increasing the autonomy devolving jurisdictions at the lowest level. The level of self-governance and autonomy seems to be higher in EU island regions, corroborated by a higher number of public positions per head than the EU average (Planistat, 2003).

vii. Diversity & Typologies of Islands:

On the basis of their size alone, several EU islands have more than one million inhabitants (Sicily and Sardinia) and are more populous than some Member States. Others are rather large with more than 250,000 inhabitants (Tenerife, Gran Canaria, Mallorca, Crete, Corsica, Martinique, Réunion, Guadeloupe, Cyprus, Malta, Madeira). At the other end of the spectrum, some very small islands are not permanently inhabited. ESPON (2013b) distinguishes four size-categories: (i) 15 large islands with more than 50,000 inhabitants; (ii) 44 medium-sized islands with 5,000 to 50,000 inhabitants; (iii) 303 small islands with between 50 and 5,000 inhabitants; and, (iv) 228 very small islands with fewer than 50 inhabitants.

The size of Sicily implies that it does not suffer from the effects of insularity as much as smaller islands (ESPON 2013a). Nevertheless, the size of its population and available land mass has only mitigated these effects: there still is transport disruption, peripherality etc. in a large island such as Sicily. Planistat (2003) seems to draw a line between relatively dynamic

and comfortable islands with more than 5,000 inhabitants and smaller ones facing general ageing and depopulation.

Box 2 - Small Islands in the EU

The members in ESIN are national associations who work for small islands and archipelagos in Europe. Today, the Federation has ten members, one from each country; Denmark, Estonia, Finland, France, Greece, Ireland, Italy, Scotland, Sweden and Åland. ESIN´s simple criteria for definition as a small island is: the island is surrounded by water and has no fixed link to the mainland, the island has no regional administrative authority and it has a permanent population that can vary in number from one to several thousands. There are in total about 1,200 small islands among the ESIN members, with a total of about 370,000 permanent inhabitants. Most of these islands have a population of less than 1,000; many have only a few families.

Learn from farmer to farmer

During 2004-2006, ESIN carried out an Inter-Island Exchange Project with a study of a number of important themes. "Agriculture and Nature Preservation" was one of 18 subjects. The participants in the network meeting were mostly farmers but also other professionals. Farming is in strong decline on many islands and the aim of the meeting was to examine strategies to promote island farming and present examples of good practice that involve adding value to farming and farm products as well as involving farmers as preservers of the environment.

There are a growing number of initiatives for marketing locally-produced food. Islands are easy to define, surrounded by water, giving a clear limit to the area where products come from. It is not the same as on the mainland where one area ends and the next one starts. An island can hold endemic species just because they are isolated and hinder insects and birds from carrying seeds. The water can also help prevent diseases spreading among animals, crops and plants. It is not always possible however, to keep the whole value chain on the island. If the arable land on the island is too poor, farmers may have to sell their livestock for fattening and finishing on the mainland. For example, this is common in Scotland. With extensive farming, it can be difficult to get the fat quality required by the market. Then you have to see the other good qualities of the meat: the sheep and cattle have not been raised in a "meat factory"; they grow more slowly and build their muscles from moving around and grazing the landscape. They are often raised in an environmentally-friendly way, which you also can taste. There is a need for local slaughterhouses that minimise the long transportation times of livestock and make it easier for farmers to sell their products on the farm or at least locally.

There are several good initiatives; for example, a community-owned slaughterhouse on the Isle of Mull in Scotland and Ö-slakt ("island slaughter"), which is a small slaughterhouse that can be reached both by boat and from the mainland south of Stockholm in Sweden. This was built to facilitate farming on the islands in the Stockholm Archipelago.

There are courses in “food craft” to raise the value of producing on a small scale, where also good quality of the food is in focus. This is a way to help farmers to start processing the raw material that you produce on your farm or island.

A challenge for farmers

Farming has always been, and still is, important on small islands. In the past, there was agricultural activity on each and every island, often in combination with fishing. It was usually production for your own household. Today, the trend in Europe is bigger and bigger farms. This is usually not possible on small islands, where nature itself sets a limit to what you can do. To earn more from your farm, you need to find new ways to get a better price for your products; for example, by processing the raw material on your own farm and by labelling and giving the products a story.

Farming on small islands is very different depending on where in Europe you are. What we have in common is that farming is often declining, the small scale, high costs of transportation, with fewer farmers on an island, you can´t share expensive machinery with other farmers, old buildings, the high price of land because of competition with use as a holiday home, conflict with tourists etc. But some of these factors can also be positive in the promotion of locally-produced food where people are willing to pay for the extra costs that come with farming on an island. With island labelling, it can be easier to find the products and people are reminded of a special landscape and a good memory that comes back together with the taste of food produced on the island.

The landscape on the islands is shaped by its inhabitants, including farmers with their livestock. If the grazing stops, the whole landscape will change. The farmers are doing an important environmental service that is valuable for everybody who visits the islands.

How to use labelling

Labelling PDO and PGI is very unusual in Scandinavia and in some other countries in Northern Europe. It is hard to say why. Maybe countries in Southern Europe have another tradition; for example, when it comes to wine it is more well known that taste is very different because of origin. So it would be a problem if labelling ‘Product of Island Farming’ would have to be combined with PGI and/or PDO. It also hinders producers who work with innovative initiatives for products (for example, the criteria of certifying a history of at least 25 years production in the same place and in the same way, hinders new starters).

We need to find a way to certify that the essential raw material comes from the island and that it is processed on the island. That must be the important criteria and definition of an island product but not in combination with PGI and PDO.

Given that many producers are individuals or family businesses with only a few people, this labelling process should be producer- and user-friendly and should not involve any additional costs or create additional burdens.

Sweden - farming on small islands in the archipelago

Sweden is the country in Europe with the greatest number of inhabited islands. There are about 500 inhabited small islands with a total resident population of about 32,000, ranging from one to about 5,000. Many of these islands have a population below 50. This is because of the archipelago habitat that you also find in Finland.

In 2005, the National Association for the Swedish Archipelago (a member of ESIN) undertook a census of farmers on all small islands in Sweden. This census showed the number of farms, number of livestock, cultivated areas, grazing areas, age and gender of the farmers, transportation situation etc. In 2005, there were about 240 active farmers working all year round on more than 100 small islands without a fixed link to mainland. This census is now being updated to see the current situation and how it has changed in the last few years.

Because of rocks and mosaic landscape, farming is usually based upon keeping sheep or cattle and you only harvest winter fodder for your own livestock. On a few bigger islands you also find grain, potatoes, other vegetables and beets. After the census, a network of farmers on the small islands was set up. Together, we can try to influence rules and legislation, to inform authorities about real island life, to compare and learn from each other.

The census also describes the variations in economic support for transportation in different regions in Sweden. Many of the farms are situated on islands that have no public transport at all for heavy goods. Instead, you need to have your own boat and, if you don´t, you will need to hire somebody to provide the ferry, which can be expensive.

Transportation is one of the most important issues when you run a farm on an island in Sweden. During a normal winter, the archipelago is covered with ice and snow. More populated islands can usually be reached by public ferries but, if you live on a small island, all heavy goods need to be delivered before the ice. (Although sometimes public or private winter roads on the ice can be used if the quality of ice is good enough). This also means that it can be difficult to send livestock to slaughter during the winter.

A farm in the Swedish archipelago comprises both land and water, so the pasture can be spread out on several islands and islets. This means that you have to move the sheep and cattle across the water when they need new pasture. Most farmers keep their cattle or sheep on only one island but there are also those who move their livestock between up to 30 small islands and islets. If you want your farm to get bigger, to use more hectares, it often also means more transportation across water.

As in many other places, farming is declining in the Swedish archipelago. This is most obvious on the islands in the northern part of Sweden. These are close to major cities where other sources of income are tempting the farmers to change lifestyle and instead work with services or tourism. It is easy to give up farming but very difficult for a new farmer to start from scratch on an island. It is not only about the high costs of buying land, livestock and machinery. You also need special skills to operate a boat, to move livestock between islands, to manage most things on your own and cope with an isolated life. Some manage it, some do not. So, it is important to take good care of those who are farmers today, to create legislation that helps them and doesn´t hinder the small farms.

High nature values and food production

You often find high nature values with a high biodiversity on small islands just because there has been active farming for many years. Where farming is declining, you can quickly see how you lose these values as bushes and trees soon take over the landscape. If houses are built on the land, it will never be arable again or used for grazing. The pastured island landscape is unique. The farmers produce both food and a landscape. It is important to see both of these elements. We might not produce large amounts of food but it is often done in an environmentally-friendly way; there are many organic farms on small islands. The EU support for environmental services for nature preservation often play a very important role in making it

possible to continue farming on small islands. There is always a worry however, that the rules will be changed, that money can be drawn back by the authorities because of changes in EU or national legislation. This means that we need to find alternatives that give the farmer improved incomes and greater financial security. This is one of the reasons greater added value on their products would be welcome by farmers on the small islands in Europe.

Author: Anna-Karin Utbult Almkvist (ESIN)

There have been other typologies based, for example, on the combination of size and geomorphology criteria. The size (area, population) and the geomorphology (presence of mountains) are criteria that enable a typology of islands in the EU, distinguishing between Mediterranean and Outermost islands on one hand (populated and mountainous) and Northern and Atlantic ones (smaller and less populated) on the other (Planistat 2003).

Other classifications have been developed: by ESPON (2013b), using the two dimensions of size and economic dynamism; and Armstrong, Ballas *et al.* (2006), who apply cluster analysis to 123 Greek and UK islands, according to physical and economic variables. The latter conclude that area and population size are not systematically related to economic performance, which improves in certain well-established situations: e.g. small islands with poor accessibility and greater remoteness perform poorly. In addition, improved accessibility and tourism development (especially in Greece with a better climate) enhances economic performance. The performance of islands like the Orkneys and Shetland is largely determined by the presence of a specific natural resource (oil) while comparison is difficult for very large islands like Crete (half a million inhabitants).

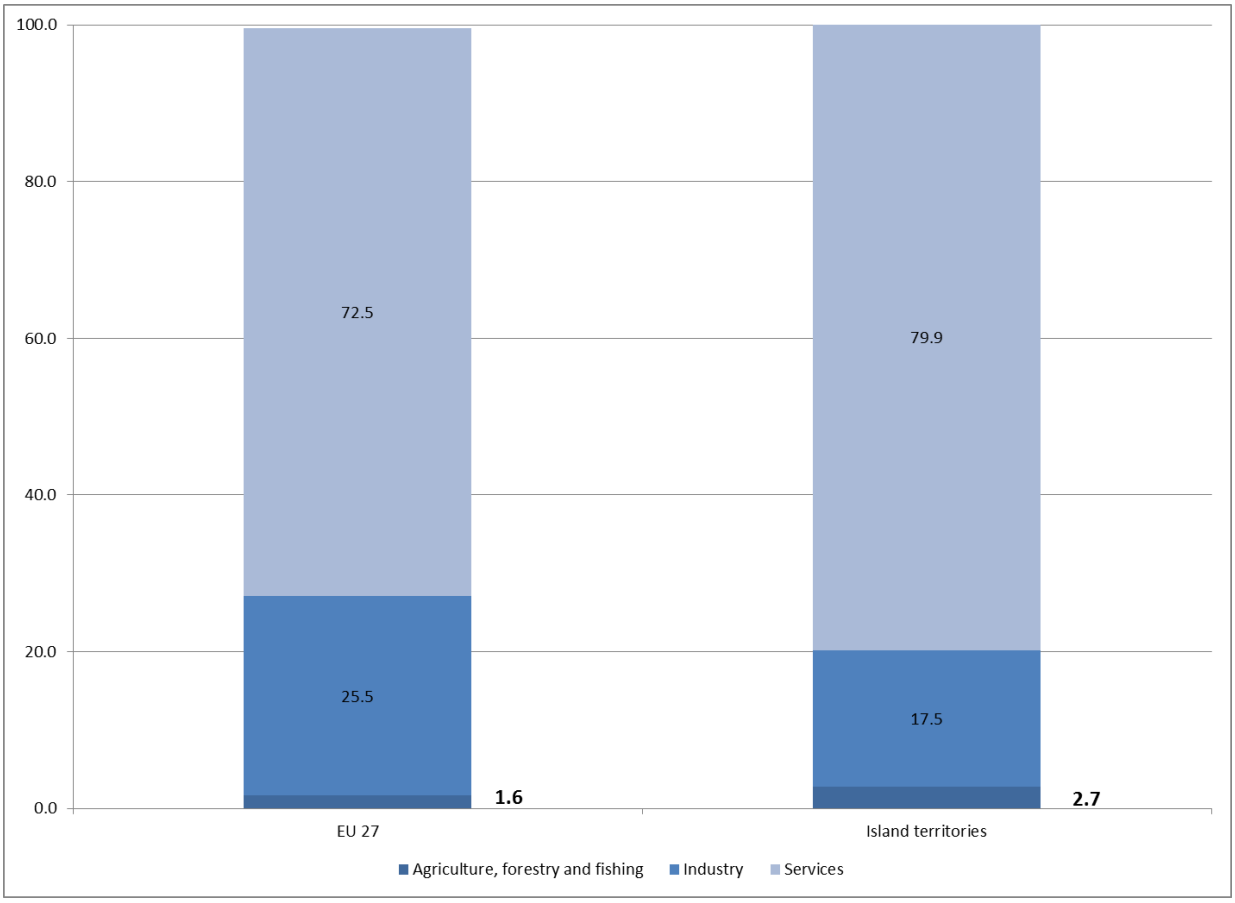
In sum, islands are different because they face a combination of isolation (remoteness from main markets, quality, frequency and cost of connections) as well as physical and human constraints (space, natural resources, population and market size). As Jean-Didier Hache stated in his Seville workshop presentation in June 2013 (see Annex), each island has its own distinct combination of isolation and limitations but overall they share a common mix of features implying the fragility and vulnerability of their economy, society and natural capital.

3.2 The Importance & Diversity of Island Farming

3.2.1 Agriculture & Food Sectors in EU Island Economies

Agriculture and food are two important sectors for the economies of EU islands. The agriculture, forestry and fisheries sectors represent 70% more of total GVA (Gross Value Added) in islands than on average in the EU: 2.7% of GVA of EU islands compared with 1.6% of total EU GVA. In absolute terms, this GVA amounts to €7.1 billion.

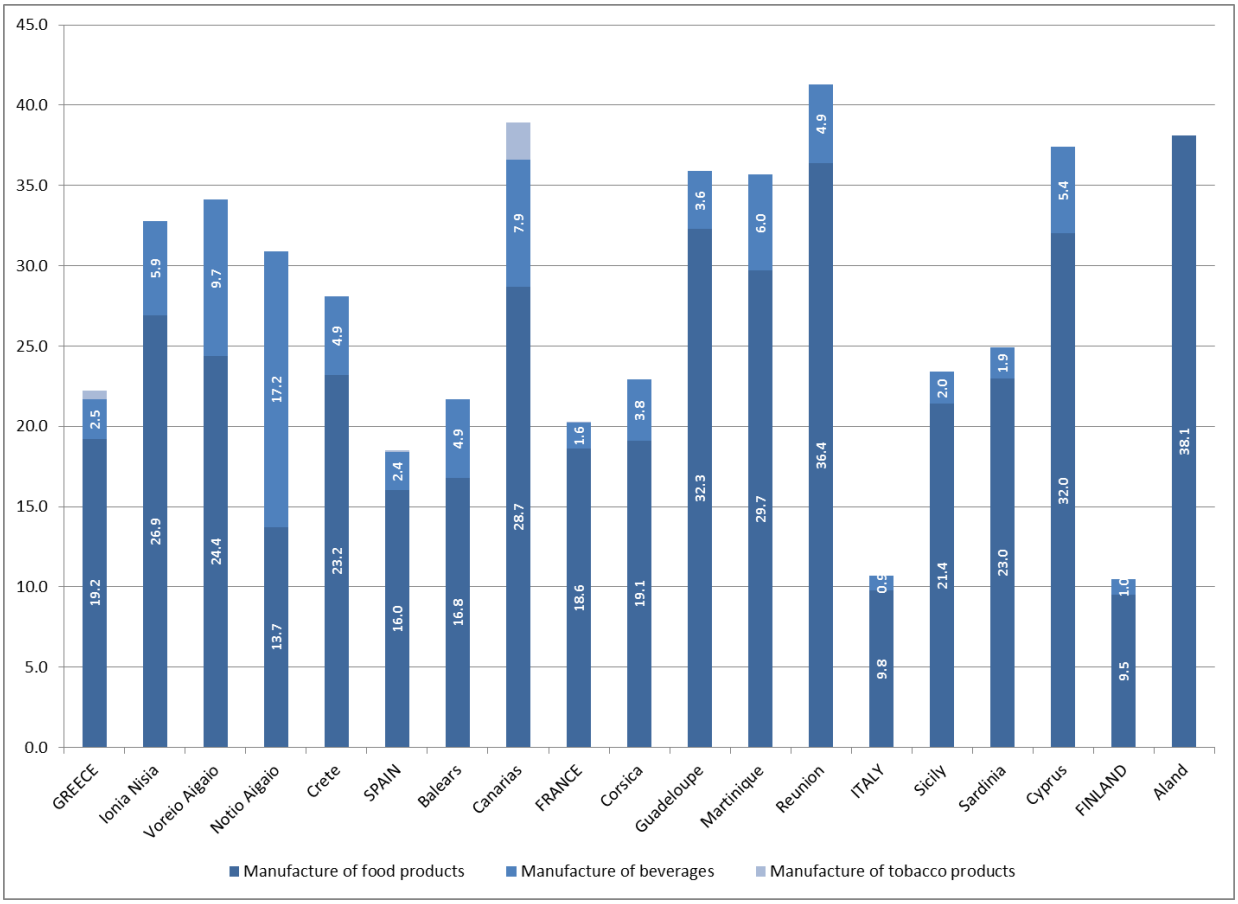
Figure 2 - Distribution of GVA Between Primary, Secondary & Tertiary Sectors (% of total- average 2007-2010)



Source: Eurostat

In the overall weaker secondary sector, food industries are more important in islands than in continental Europe. Data from the Eurostat Structural Business Statistics shows that food industries represent 19% of industrial employment in EU islands versus 13% at EU level. In many islands, the food and beverages industries exceed one third of the industrial employment (see below). The food manufacturing sector alone represents 1.7% of the GVA of EU islands (€4,1 billion).

Figure 3 - Distribution of Employment in Food and Beverage Industries (% of total industry sector – average 2007-2010)

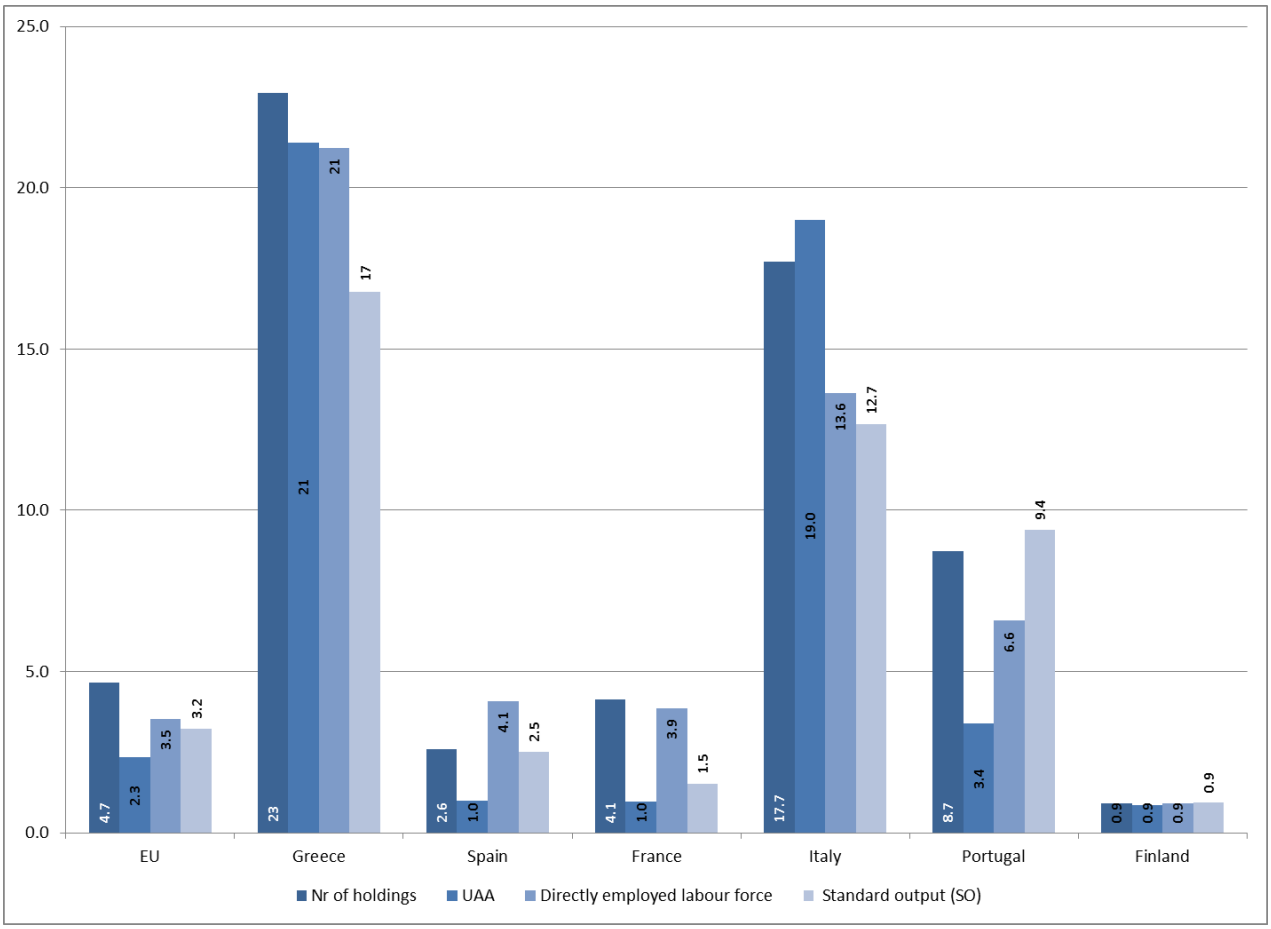


Source: Eurostat

Overall, the agri-food sectors of EU islands represents more than 6% of their GDP compared with less than 5% at the EU level. This still represents a small share of EU island economies (as well as of the EU economy in general).

In addition, island farming has specific features. The following figure provides details of different indicators from the Farm Structural Survey, such as the number of farm holdings, utilised agricultural area, agricultural labour and standard (theoretical) output calculated on the basis of the distribution of farm types and farm sizes.

Figure 4 - Share of Island Territories for Different Agricultural Indicators (average 2007-2010)



Source: Eurostat

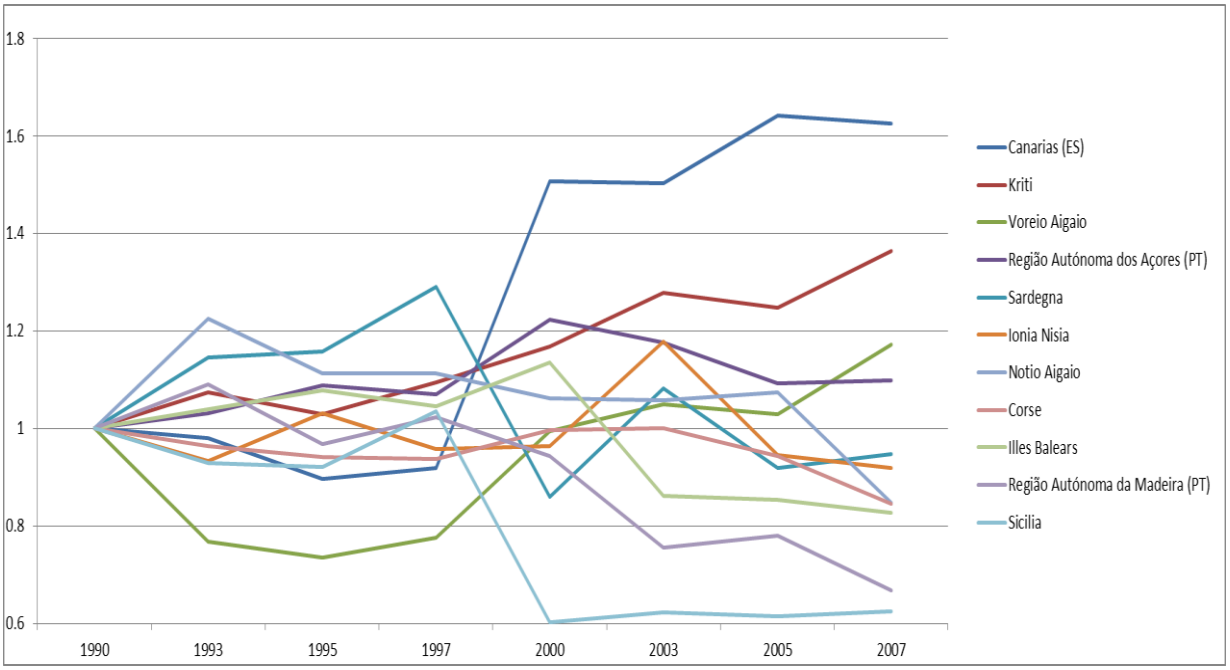
The area dedicated to agriculture on islands is proportionately smaller than on average in the EU. The island UAA represents 2.3% of the EU UAA but represents approximately 3% of the total EU area. Islands however, have an above average number of holding (in particular) and labour force employed. This indicates that island farms are generally much smaller and more labour-intensive than continental ones. This gives much more weight to the importance of agricultural activity to EU islands in terms of employment and impact of population than the economic weight in terms of GVA or GDP.

In total, in 2010, there were 572,170 farm holdings in EU islands at NUTS2 level. Projected in proportion of the population in other EU islands, this would mean that there are approximately 599,000 farm holdings in EU islands. This means 38 farms per 10,000 inhabitants: on average in the EU the ratio is of 24 farm holdings per 10,000 inhabitants, which means there are 60 % more farm holdings per inhabitant on EU islands than on average in the EU 27.

Greece and Italy are the two Member States with the greatest weight of islands in their overall agricultural sector (respectively 15.8% and 12%), mainly because of the contribution of Sicily, Sardinia and Crete (69% of the total island agricultural output). It appears that average farm size is larger on islands than in the respective Member States only in Italy (on figure 4, the share of Italian islands in UAA is higher than the share of Italian islands for the number of holdings).

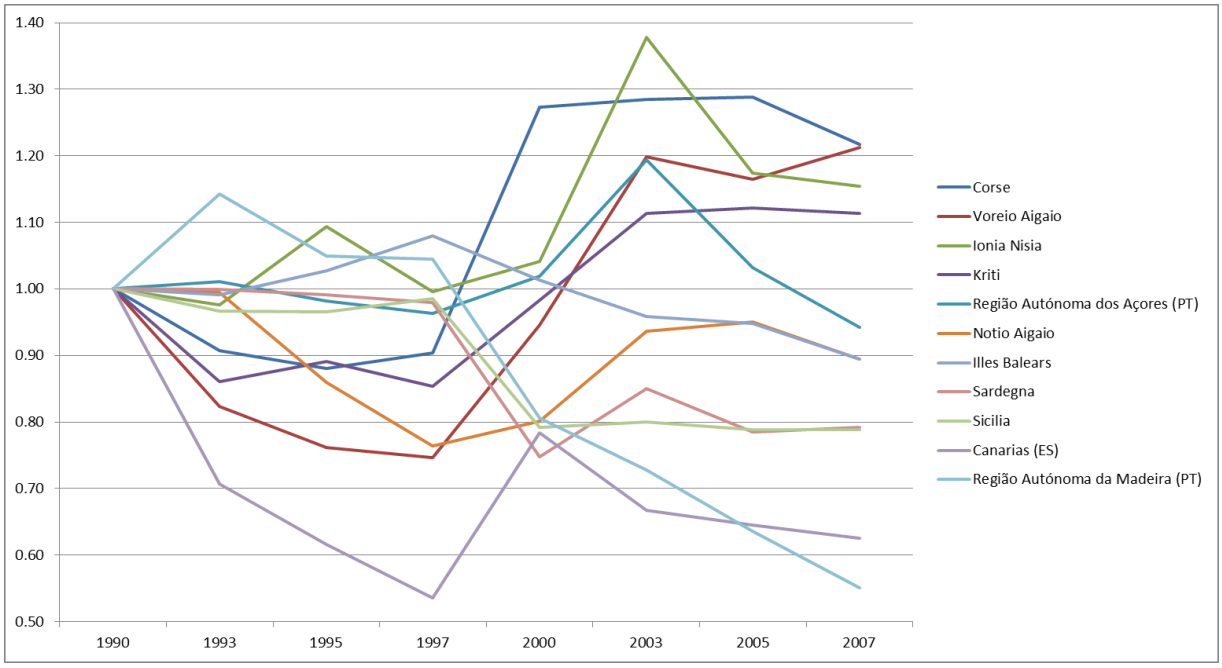
There is evidence of a decline (threats) of agriculture in certain islands. This is mentioned regularly in the literature and specifically for islands now focusing on tourism such as Canary Islands (ESPON 2013a); Åland (Baldacchino and Pleijel 2010), etc.. Further, Govern de les Illes Balears (2012) shows that the UAA in the Balearics decreased by 17.9% between 1999 and 2009 (the double of the overall rate for Spain) and 28.9% for irrigated areas (which remained stable overall in Spain). Similarly, the number of animals in the Balearics decreased for all types, ranging between 14.3% for sheep (ovine) and 51.1% for poultry. This contrasts with the situation in Spain generally where only the population of herbivores (bovine, ovine, goats) decreased only slightly. As shown in figures 5 and 6, the total UAA and the total livestock has decreased significantly in many different islands. However, there are also counterexamples of EU islands where agricultural activities have developed in the recent years, for example livestock in Greek islands, Corsica or Azores; or crops in Canary islands, Crete or Azores.

Figure 5 – Evolution of total UAA in EU island regions (index: 1= 1990)



Source: Eurostat

Figure 6 - Evolution of total livestock units in EU island regions (index: 1= 1990)



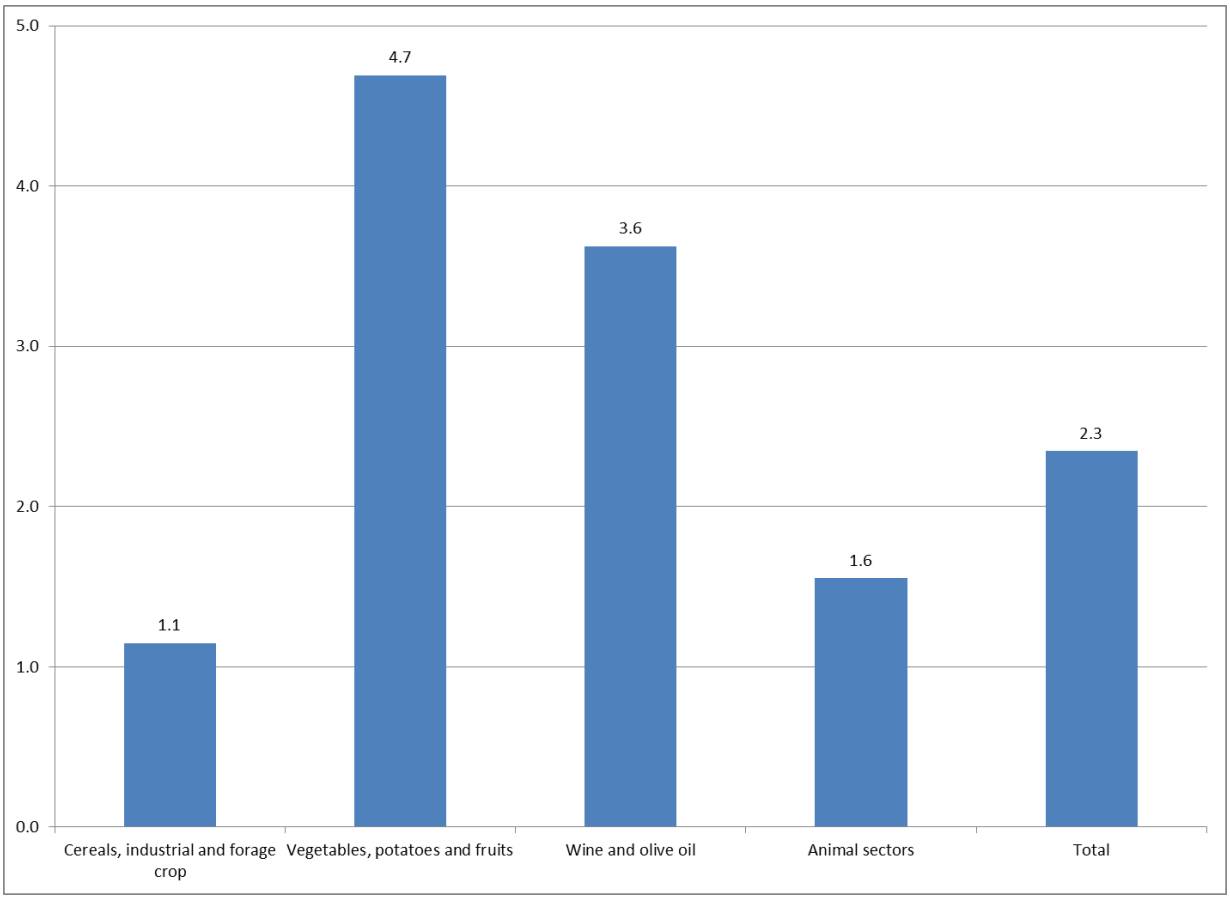
Source: Eurostat

3.2.2 Agricultural sectorial distribution in EU islands

EU islands specialise principally in two sectors of agriculture; fruit and vegetables and specialised crops (olives and vines). These sectors represent 4.7% and 3.6% respectively of total EU production by value. Together they represent close to 60% of the total value of production of EU island farming, while these sectors represent only 30% of the total EU farming sector output by value.

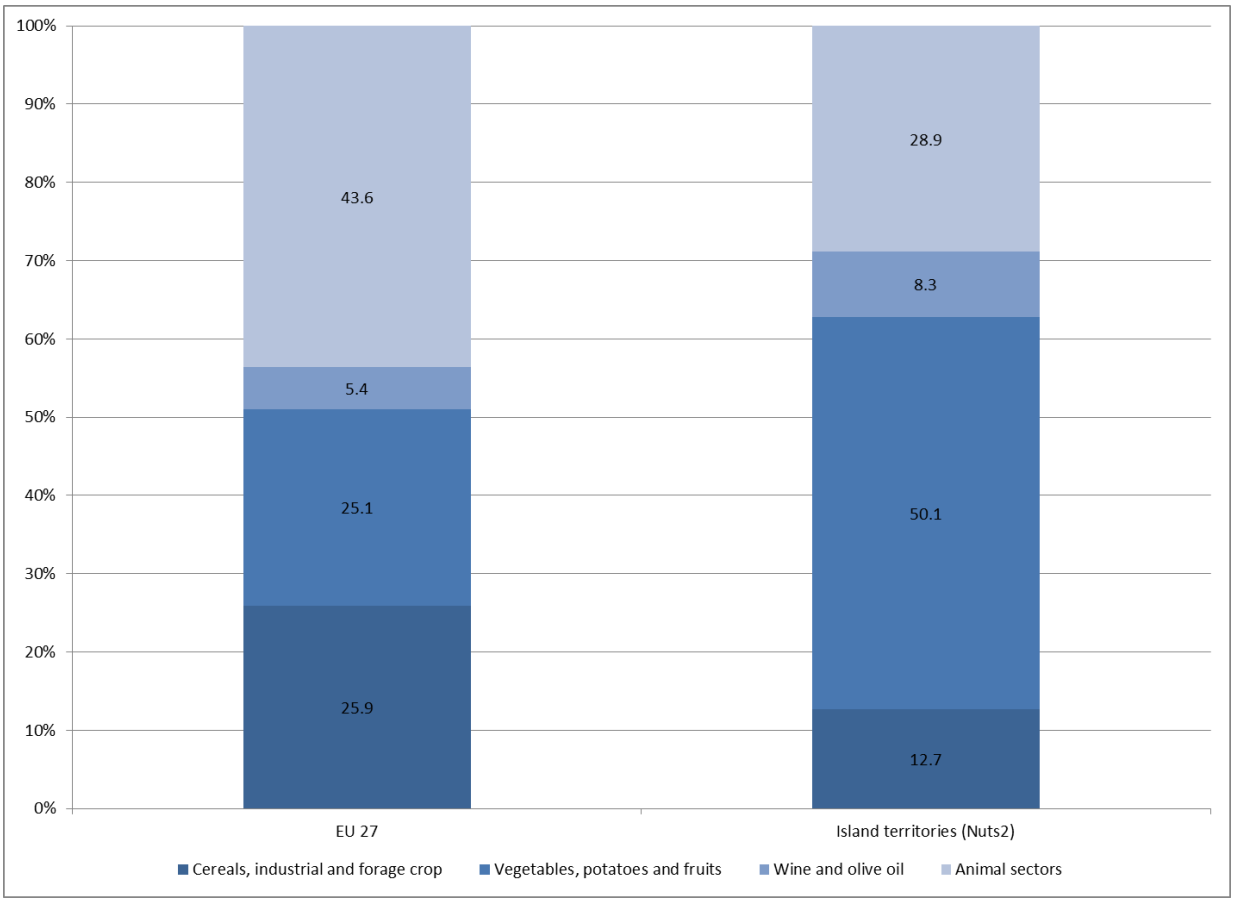
Cereals and arable crops are under-represented (with some exceptions: cereals in Sicily, sugar cane in some tropical islands). Overall livestock production is also under-represented but remains important accounting for one-third of total output.

Figure 7 - Share of Island Territories (NUTS2) in Different Agricultural Sectors (% of total EU27 value of production in basic prices, average 2007-2010)



Source: Eurostat

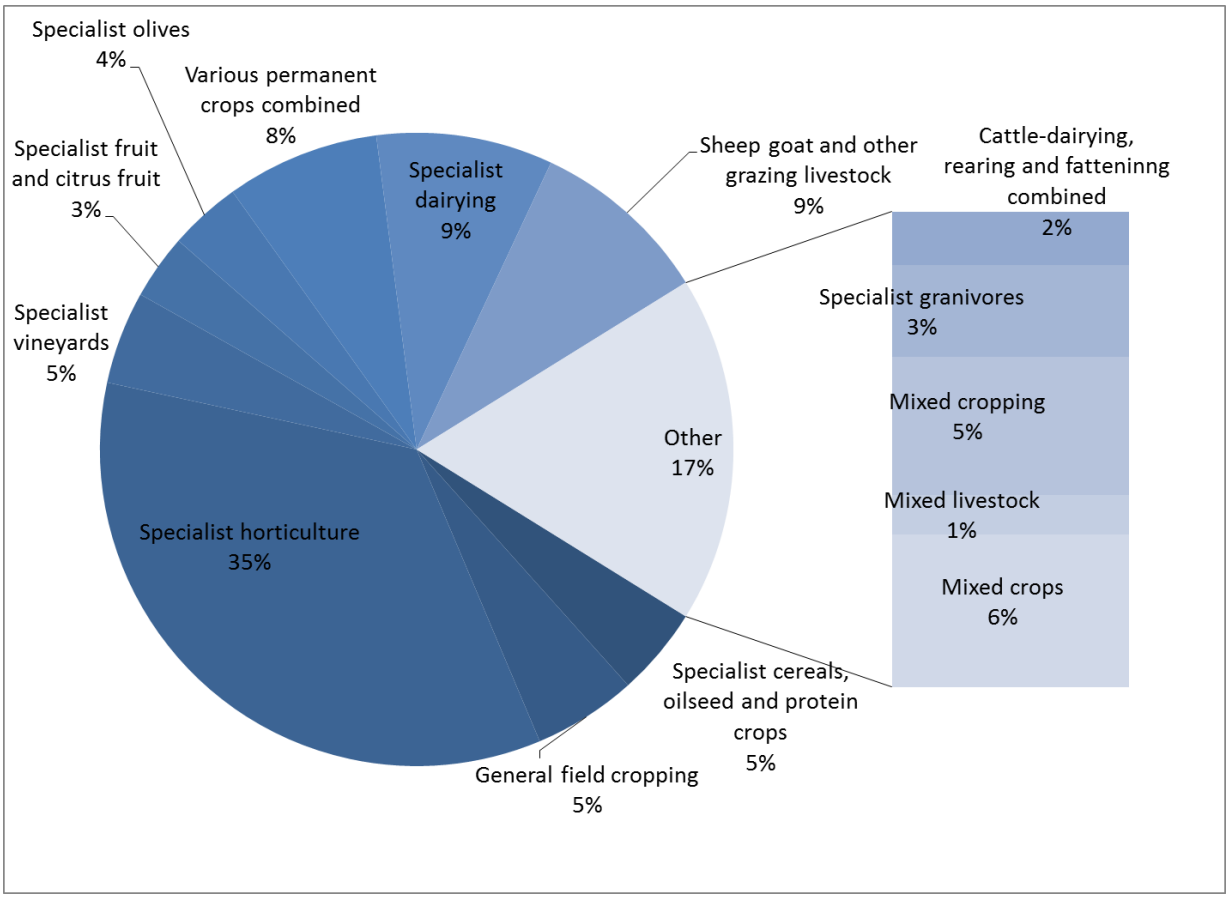
Figure 8 - Distribution of main Agricultural Sectors in Island Territories and Total EU (in % of total value of production in basic prices, average 2007-2010)



Source: Eurostat

In the EU FADN (2007 and 2008) sample, 4,018 observed farms were located in islands. This sample includes all NUTS 3 islands territories, and adds some information not available on NUTS 2 level (e.g. Scottish islands, the Isle of Wight, Gotland and Bornholm). This makes it possible to reasonably derive - by multiplying the output from the farms in the sample by their respective FADN weight (the variable SYS02) in the total number of farms, - an estimate of total farm output in islands. The average value for 2007-2008 is €11.427 billion representing a significantly higher share – 3.9% - of total EU output than on the basis of GVA data. The distribution of island farms by type shows the leading role of specialist horticulture producers (in terms of output) and sheep and goat farms in terms of farm types.

Figure 9 - Output value of Island Farms by Type of Farming System (TF14) in percentage of total

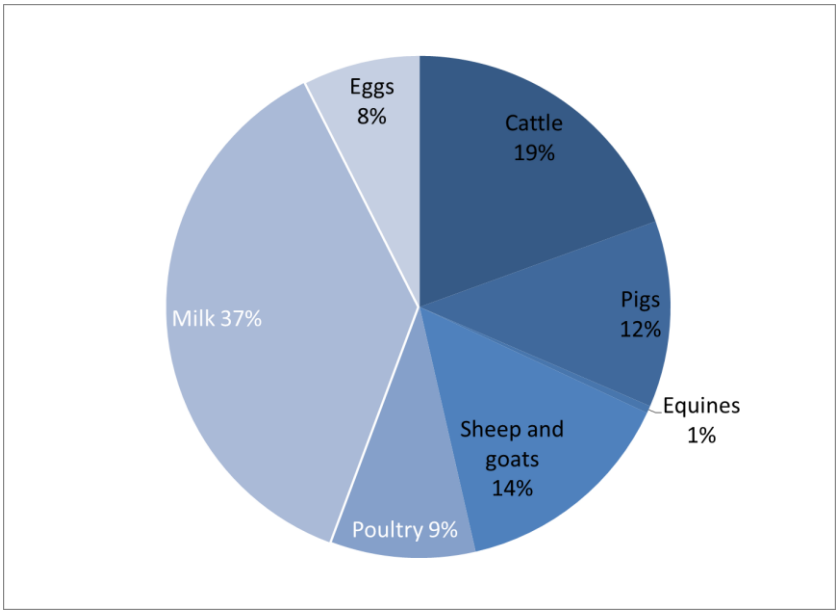


Source: Authors calculation from EU-FADN (2007,2008) – DG AGRI

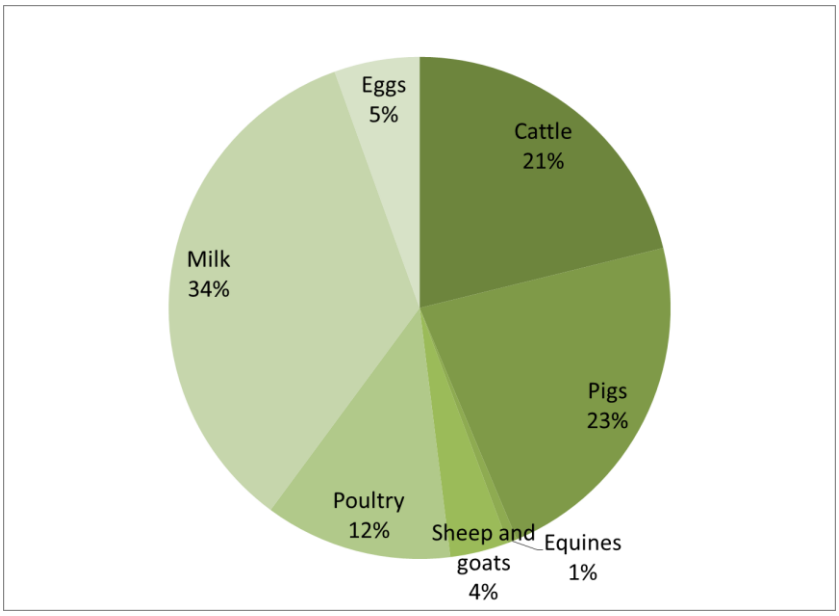
In terms of the distribution of animal production, the key point is the importance of sheep and goat. This sub-sector is three times more important in islands than in the EU on average in terms of share on the total livestock production. In contrast, pig production is much less important in islands than in the rest of the EU.

Figure 10 - Structure of Total Production Value for Animal Products (% of total, average 2007-2010)

Island territories (NUTS 2)



Total EU-27



Source: Eurostat

Box 3 – Irish islands agriculture

The Irish agricultural industry has undergone significant changes in recent years. Farmers are a declining proportion of the national workforce and the average age of farmers is increasing. The proportion of land under agriculture in Ireland is decreasing. However, the agri-food sector remains a key element of the Irish economy, when other inputs such as food processing and marketing are included.

Activity in the agriculture sector varies from island to island. Although figures are not available for every island the age of farmers appears to be largely in older categories. Farm size ranges between 2 and 80 ha. The majority farm either sheep flocks or suckler cattle, however pig, goat and poultry farming is on the increase. There are 557 herds registered on the islands. 45% of all island households have registered herd numbers and an average of 65% of farmers is in the Rural Environment protection scheme (REPS).

These figures do not include increasing numbers of islanders involved in organic horticulture who do not have herd licences nor are registered owners of the land they farm. Over thirty individuals and groups participated in the Islands Organic Strategy and none of these are registered land or herd owners. These organic growers all farm well under the 5 hectares required for support from mainstream programmes funded by the Department of Agriculture. Most of the organics growers farm less than 0.2 hectares and this amount constitutes a viable operation, supplying locally grown produce to a small island community and summer visitors. This group needs training and other supports to develop small farming enterprises and to diversify into slow food production. Island farmers traditionally used sustainable and environmentally friendly methods and older farmers especially have a great deal of knowledge and experience, which could be used to support the development of organic horticulture on the islands.

There is potential on the Islands to market their produce collectively under an Islands brand and to also develop a local food industry for the tourism and local markets. There is a market for local food and this can be developed further to sustain Island communities. It is recognised that the agricultural sector contributes to the islands' economies. Island farmers are important customers for ferry services for example, and thus improve the viability of such services.

Two of the island organics groups have attempted to set up mini markets for selling locally produced food. They report that increasingly strict regulations, hygiene etc., aimed at much larger enterprises, make it extremely difficult for them to set up. There is no history of community owned/public markets on islands either, for which mainstream funds are available. These groups need capital supports for setting up as well as training in health and safety and enterprise development.

Consumers are more prepared to pay for Island products as the Islands are seen to be clean and green, friendly to the environment, local, unique and the industry will sustain Island communities. For example Island sheep in Ireland are seen to be a speciality as they spend their entire lives on the Islands eating traditional grasses which give the meat a unique flavour.

<u>Training on the Irish Islands</u>

Over the last year the Islands of Arranmore in Donegal, Inisboffin in Galway and Bere Island in County Cork have come together to develop agriculture on the Islands. The group work with Taste4Success Skillsnet, a training provider that provides accredited training in areas such as

fish filleting and handling, food hygiene, butchery skills, bread making, brewing and distilling. They are currently providing the training on the Islands and Inisboffin is planning to hold a food festival in October as part of this initiative. The project also promotes rare breeds of cattle, sheep, pigs and poultry to increase the biodiversity of farmed livestock and has become involved with the Irish Rare Breeds Society to further these aims. The project plans to develop the food product on the Islands and market them under an Island brand.

Examples of produce on the Irish Island

Arranmore

Seamus Bonner on Arranmore farms outdoor-reared, rare-breed pigs. The bacon is cured using locally grown herbs and spices and sausages and other pork products are flavoured with seaweeds foraged on the island. The aim is to produce low volume, high value produce such as air dried meats and sausages which will be marketed under an Island brand when available.

Bere Island Honey

Barry Hanley a farmer and tourism entrepreneur on Bere Island produces a range of honey under the brand Bere Island Honey. The flora of Bere Island produces a distinct flavour of honey which is unique to the Island.

Cais Gabhair Arann

Cais Gabhair Arann have a goat farm on Inishmore producing a soft goats cheese and plan to extend their product range in the future to semi hard cheese, yoghurt, etc. they also have a visitor centre and viewing area to see how the goats are milked and see how and where the cheese is produced also visitors can meet the goats. Their farm shop stocks their products and locally made jams, preserves etc.

Inisboffin

Biabofinne is a group that was formed on the Island to promote locally grown food and to work with farmers and growers to get accredited training on the Island. Plans for the future are to develop an Island food festival for 2013 and to develop an Island brand.

Oileáin Cleire

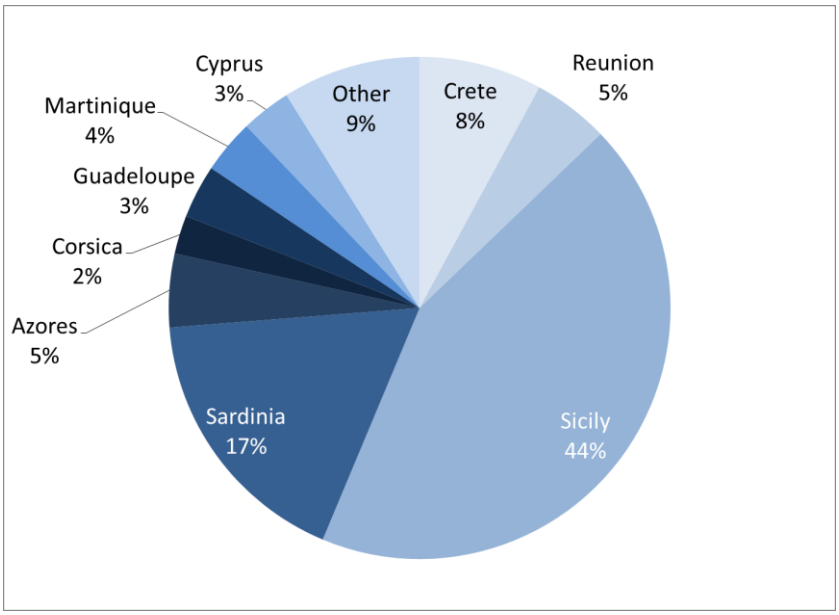
Ed Harper runs a goat farm on Cape Clear Island that produces ice cream for the local and tourism market. Also on cape Clear Mártín O' Méalóid produces a range of lettuces and salads for the Island and mainland markets. The products are delivered to hotels in the area and also to a select food store in the Dublin area.

Author: John Walsh, Bere Island, Ireland (ESIN)

3.2.3 Regional distribution of farming on the EU islands

The two largest Italian islands represent more than half of the output of EU island farm production (61%). Crete, the Azores and Reunion represent a further 18% between them while the other islands, including the two island Member States, are less important.

Figure 11 - Geographical Distribution of EU Island Agriculture (% of total EU island value of agriculture production, average 2007-2010)

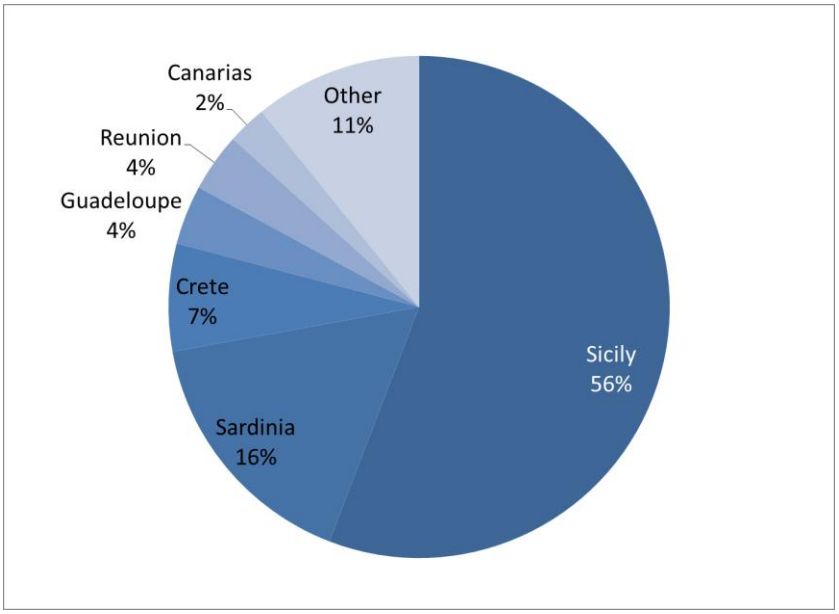


Source: Eurostat

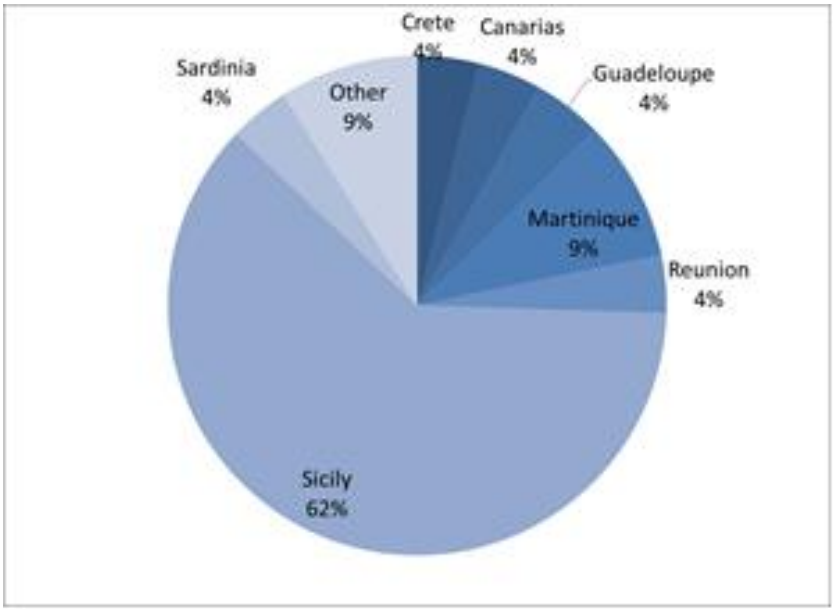
Vegetables production in EU islands is highly concentrated in Sicily owing to large areas of covered crops for vegetables (in Ragusa and Siracusa Provinces in particular) and significant output of citrus, nuts and stone fruit. Sardinia and Crete are also large vegetable producing islands while the Canary Islands (formerly large producers of tomatoes) are no longer a major producer of vegetables. The production of fruit is more evenly distributed and banana-producing islands take a larger share (Canary Islands, Guadeloupe and Martinique) than other Mediterranean islands.

Figure 12 - Distribution of Vegetable & Potato and Fruit Production in EU Islands (average 2007-2010)

Vegetables and potatoes



Fruit

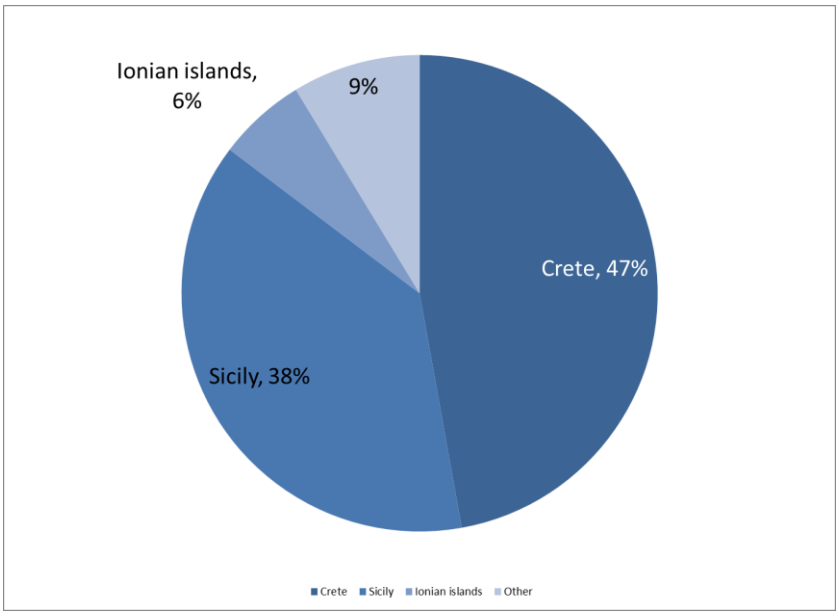


Source: Eurostat

Overall, the total value of production of vegetables and potatoes in EU islands is €1.832 billion (3.7% of total EU production). The total value of fruit production in EU islands is similar (€1.795 billion), but this represents a much greater share of total EU production (7%). This is because of the importance of both Sicilian production and banana production located exclusively on EU islands.

Crete and Sicily are responsible for most of the production of olive oil in EU islands, the rest being produced in other Greek islands and Sardinia. Outermost islands are not producers and production in the Balearics is not significant in terms of volumes. The total value of production (€440 million) represents 10% of the total value of EU olive oil production.

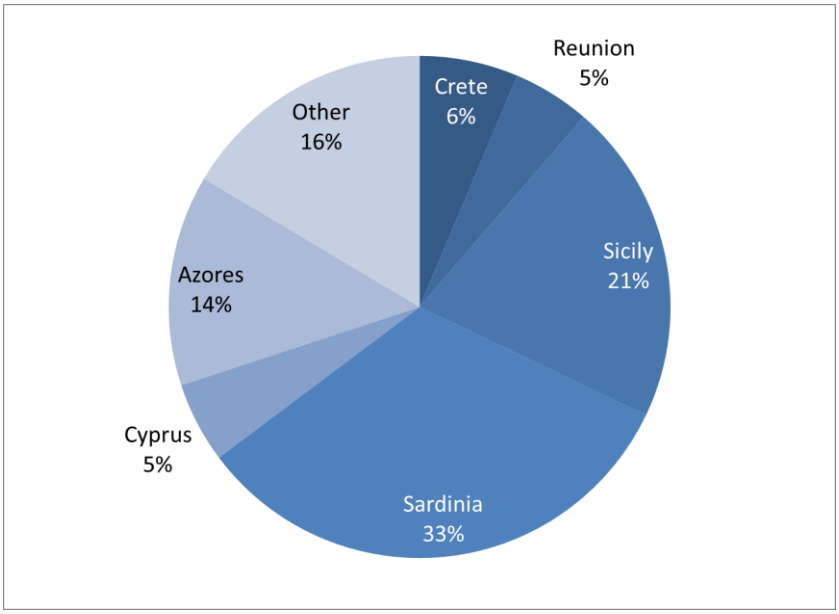
Figure 13 - Distribution of Olive Oil Production in EU Islands (average 2007-2010)



Source: Eurostat

With respect to animal production (dairy and eggs; meat), this is spread more evenly across several islands. Sardinia, Sicily and the Azores together represent more than half of total animal production in EU islands worth €2.2 billion (1.6% of total EU animal production).

Figure 14 - Distribution of Animal Production in EU Islands (average 2007-2010)



Source: Eurostat

3.2.4 Trade of Agri-food products from EU islands

The trade patterns captured in the regional Social Accounting Matrixes (SAM) compiled by the JRC-IPTS for the year 2005 might be used to understand the destination of trade of agri-food products. Further details in the methodology followed to obtain such SAM can be found in Mueller and Ferrari (2011). It has to be clarified that the construction of regional SAM implies a certain of assumptions, particularly in absence of official statistics on regional and inter-regional trade, and the results shown below shall therefore be considered to be estimates of the orientation towards the exterior of the islands concerned.

Table 3 – Exports to the mainland (domestic / other MS and third countries) for agriculture and food manufacturing commodities

NUTS 2 Island region	Domestic exports - Agriculture	Domestic exports – Food industry	Domestic exports -Total Agri food	Other MS and third countries exports -Total Agri food
Ionia Nisia	35,6%	52,0%	42,2%	11,4%
Voreio Aigaio	55,2 %	75,2%	63,1%	11,4%
Notio Aigaio	62,5%	13,2%	36,1%	11,8%
Kriti	65,4%	87,0%	66,4%	10,2%
Baleares	55,9%	48,0%	49,4%	17,2%
Canarias	73,4%	35,2%	45,1%	17,8%
Corse	49,3%	21,6%	31,8%	17,3%
Guadeloupe	80,0%	20,0%	67,5%	14,3%
Martinique	63,2%	26,6%	47,3%	15,9%
Réunion	65,2%	48,4%	60,5%	14,8%
Sicilia	72,3%	17,7%	46,3%	12,0%
Sardinia	67,6%	33,0%	47,5%	12,5%
Åland	79,3%	NA	NA	NA
Azores	64,5%	17,9%	51,0%	9,6%
Madeira	87,9%	17,9%	80,9%	7,3%
Malta	1,5%	31,4%	21,8%	
Cyprus	16,6%	33,4%	27,2%	

Source: Authors calculation from Mueller and Ferrari, 2012

On average around 60% of the EU islands agricultural output and 35% of their food industries output is exported out the EU islands, mostly towards the Member States they are attached to. This confirms that islands agri-food sectors are open to trade (not only with regards to imports). However, the share of products traded with other Member States (and third countries), which implies there is a European dimension to the EU islands agri-food products, is low, although still significant: between 7% (Madeira) and 18% (Canary Islands) of the agri-food output is exported in another country.

Box 4 – Azores and its agriculture

Azorean markets are isolated from external markets : Distances between Azores and the World – External markets: Funchal, Madeira (700 km), Lisbon (1 500 km), Canary Islands (1 500 km), Madrid (1 916 km), Brussels (2 770 km), USA (3 400 km).

The Azores is a small archipelago with 9 islands and predominantly rural (OECD methodology) region, whose population (247 000 hab.) is concentrated (78%) in two main islands. The Regional economic activity is concentrated in the tertiary sector (83% of total GVA in 2010), where the weight of public services is significant (55%). The agriculture and food sector (animal production and dairy sector) have a significant importance in the regional economic activity (8,5% in 2010).

The Azores suffers all the constrains linked to its ultraperipheric condition (as defined by the EU). Its social and economic development relies on the valorisation of its environmental/geographic conditions and human capital, and on the correct adaptation of national and EU policies to its specificities and needs.

Agriculture represents 8.5% of total regional GVA and the industry related to food sector represents about 80% of the total business of the regional industrial sector. In 2011, 12.5% of the active population worked in the primary sector. Farmers in the ages categories less than 35 years old and over 55 years old represent, respectively, about 8.1% and 48% of the total. The UAA (120,412 ha) represents 56% of the total area of the region. About 94% of the UAA is occupied by forage crops and permanent grasslands, reflecting the main importance of animal production.

32% of Portugal´s total milk production (552 000 000 lts) in produced in 2.5% of the Portuguese territory with 2.4% of the Portuguese population (milk year 2012/2013). Milk sector represents 70% of agricultural economic activity. Bovines slaughtered in Azores (2012) – 55 012 heads / 12 623 ton. Local market/External market – 40% / 60%.

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3.3 Difficulties & Assets of Island Farming

3.3.1 Constraints for island farming

Many of the constraints on island farming, as for other economic sectors, derive from certain key characteristics of small (island) economies:

i. Isolation:

Isolation has an obvious negative impact on the cost of transport related to the agri-food sector. Accessing an island implies crossing a piece of water is at least an inconvenience and, in many cases, an expense owing to loading, unloading (and the correspondent paperwork, insurance costs etc.) including higher risks of ferry or boat disasters (Royle 2001; Armstrong, Read *et al.* 2006). Even in the case of a fixed link, there are additional expenses such as taxes or tolls to recoup the investment cost of the link).

Despite the improvements in vehicle, port and infrastructural technologies is reducing the impact of isolation.

This negative impact has three dimensions (triple effect):

(a) inputs can cost up to two or three times more than on the mainland. This is especially the case for low value and high volume inputs; e.g., feed such as hay. Energy costs are also affected and, in general, all inputs, equipment and services (e.g., a vet might need to come to the island in many cases). In the Balearics for example, in 2011, feed was 36% to 55% more expensive than in Spain, fertilisers 20% and fuel 5% more expensive (Govern de les Illes Baleares 2012).

(b) In accessing markets, island farmers incur greater transport costs (ferries and/or trucks) than those on the mainland located closer to consumers. Armstrong, Johnes *et al.* (1993) also highlight the cost and logistical impact of asymmetric trade flows with large import volumes but lower exports such that lorries and boats return with smaller loads.

(c) The risk of disruption, such as adverse weather and strikes, also increases the costs of transport and insurance as well as reducing the flexibility of producers.

Both the unreliability of transport and its vulnerability to climatic events and natural disasters has a potential impact on the economic performance of islands (Briguglio 1995). Such risks are particularly relevant in winter but capacities may also be limited during summer because of flows of tourists, such as the case of the Outer Hebrides (ESPON 2013a).

ii. Small population:

A small population implies first a lack of critical mass, preventing the economy reaching the minimum efficient scale to benefit from scale economies (Armstrong, de Kervanoel *et al.* 1998). This limits the range and scale of feasible productive activities and therefore the number of firms, with possible implications for local competition (Armstrong de Kervanoel et al. 1998). Limited competition, monopolies or at best oligopolies lead to higher costs and lack of market transparency (Armstrong and Read 1998). This is particularly true for manufacturing but also for utilities and some services because it is difficult to support competitive large-scale industries and therefore such industries and services are often smaller than their mainland counterparts.

Island firms are often smaller than those on the mainland and therefore find it difficult to compete in regional and global markets, particularly if they rely upon costly imported inputs. Low levels of investment, poorer infrastructure provision and limited public services and administration further hamper island economies (Briguglio 1995; ESPON 2013b).

The lack of a critical mass of population also constrains the depth of local economic structures and therefore the potential for local linkage-creation. This impedes the development of local clusters and agglomeration and so adversely affects the sustainability of SMEs (Read 2004). Some of these effects however, may be assuaged by the emergence of regional and national cross-border clusters (Armstrong and Read 2003) with nearby "off-island" centres of activity; e.g., Singapore and Malaysia, Balearics and Barcelona, etc. On the other hand, it can be argued that isolation might on the contrary benefit to local –linkage creation.

In the case of food industries, the small size of islands implies higher costs from the under-utilisation of processing facility capacities and compliance with EU hygiene standards. In the Scottish islands for example, live animals (sheep and lambs) are exported for slaughtering and re-imported as fresh meat for consumption. The provision of a local slaughterhouse of EU standards became a priority objective of the local authorities in Jersey (Keefe 2006)).

iii. A Limited Resource Base:

A Limited Resource Base has two dimensions. Firstly, most small economies have limited and homogeneous onshore natural resource endowments although some, notably islands, do possess substantially larger marine Economic Exclusion Zones (EEZs). If present however, they are likely to be undiversified. This has consequences for agriculture: pressure on land and water (tourism, urbanisation), housing markets and land prices. In the Balearics, the price of agricultural land is 86% higher than in Spain and has increased by 60% in the last ten years compared with 40% in Spain (Govern de les Illes Baleares 2012).

Water is a key issue in Mediterranean islands. For example, in south and west Sicily, 500,000 people suffer regularly from water scarcity, which has major implications for regional economic performance (particularly for crops and livestock). The population's fresh water needs were resolved in the 1970s by constructing desalination plants, including smaller ones other islands such as Ustica, Lipari, Lampedusa, Linosa, Pantelleria). This has avoided the high

cost of shipping low quality water by boat (€10-12 per m3) (ESPON 2013a). Water is also provided by desalination plants in the Canary Islands.

More generally, the limited capacity of islands implies tight environmental feedback loops (Kerr 2005): environmental impacts are directly visible and close to the source of pollution because there is insufficient space to segregate economic activities. Small size also implies an increase of vulnerability to natural hazards (Briguglio 1995; ESPON 2013b).

Secondly, small population constrains local labour supply except where mass commuting is feasible, so limiting reliance upon large-scale labour-intensive industrialisation. In addition (as mentioned above) out-migration of human capital limits the quality of skilled labour available locally. The growth strategies of small economies should thus focus on developing higher value added (niche) activities that rely upon human capital and specialist skills as well as (possibly) natural and cultural resources (Armstrong, de Kervanoel *et al.* 1998). The success of such a strategy however, is likely to depend upon investment in the provision of education and training, the creation of local employment opportunities and the retention of appropriately skilled labour (Read 2010).

iv. Constrained Specialisation & Diversification:

Small economies tend to be highly specialised with relatively undiversified production and export structures. They are dependent upon a limited number of geographic export markets (Armstrong, de Kervasnoel *et al.* 1998). The potential for diversification however, is heavily constrained by diseconomies of scale effects. Relatively small shares of world production mean that islands are often pure price-takers, completely dependent upon the evolution of international markets. This is also true within the agricultural sector. Specialisation might result in the 'crowding-out' of all other production (Kerr 2005). A striking example is Jersey, where 45% of the agricultural land (25% of the total area of the island) is covered by potato fields, 99% of the output of which is exported (Keefe 2006). As a secondary consequence, specialisation also makes it difficult for island food processors to source raw materials locally (e.g., durum wheat for carasau bread in Sardinia, barley for beer in Ibiza, etc.).

Islands are therefore more sensitive to international economic shocks (Briguglio 1995) and changes in their terms of trade that affect their comparative advantages. The 2008 global financial crisis has hit islands severely because of their focus and specialisation on financial services and tourism (Read, Armstrong *et al*. 2012). Tourism in Northern islands (e.g. Jersey, Isle of Man) since the 1990s has declined greatly because of both price competition from the South and low-cost mass air transportation (Armstrong and Read 2006). Many small economies however, have shown themselves to be particularly adept at responding rapidly to such changes. Further, inflows of remittances (and aid) play a part in alleviating the impact of bust-phases of such cycles.

v. Openness to Trade & Comparative Advantage:

The small number of goods and services produced on small islands owing to specialisation implies a heavy reliance upon imports. This gives rise to substantial asymmetries in their patterns of trade (Kuznets 1960). Import dependence necessitates the pursuit of highly open trade regimes by sovereign states ('structural openness') to finance domestic consumption through exporting based upon underlying comparative advantage. This is confirmed by the data on freight per inhabitant which is higher in EU island regions than on the mainland (Planistat 2003). Exporting also alleviates some size constraints through enhanced efficiency resulting

from greater specialisation and economies of scale. This imperative is important less for non-sovereign small states since any local trade deficit can be financed by central fiscal transfers via social and regional expenditures (Armstrong and Read, 2000).

vi. Skilled Emigration & Inflows of Worker Remittances:

Limited domestic employment opportunities in more remote and/or poorer small economies give rise to substantial migratory outflows, particularly of highly-skilled human capital. This migration has two additional determining factors; to improve the quality of life, including access to higher education; and 'circular' flow, with returnees having secured target earnings (Read, Armstrong *et al.* 2012). There is a standard inverted 'U' relationship between migration and home per capita GDP for small economies (Beine, Docquier *et al.* 2008). But migration rates from those with populations below 0.5 million are several orders of magnitude greater - 43.2% versus 7.4% for other developing and 3.5% for high income economies in 2000 (Docquier and Schiff 2008). In Western Europe and the Middle East however, these flows have been reversed in more prosperous small economies. One consequence of substantial out-migration from poorer small economies is their high dependence upon inflows of remittances (Bertram and Watters 1985).

vii. Regional Integration:

In spite of the prevailing economic 'wisdom', small economies are not necessarily the greatest beneficiaries from economic integration, including being a constituent part of a larger economy. The impact of bloc membership, also incorporating larger economies, is very much dependent upon the common external trade barriers and local trade tax income effects. It also depends on the consequences of the post-integration spatial restructuring of productive activity, particularly through agglomeration in larger and more centrally-located members. These adverse effects can be seen to be partly the consequence of a loss of local policy autonomy.

viii. Optimal Policy Design & Growth in Small Economies:

Effective policy design is as an indicator of good governance and social cohesion and a key factor in economic growth. Many small economies have made very effective use of their limited decision-making autonomy to support growth. Their strategic flexibility has enabled them to develop bespoke growth policies that reflect local challenges and pursue specialised niches within the global economy. This is a particular feature of many small economies in Europe but not necessarily those within the EU where such autonomy is lacking. Many EU islands are incorporated into larger decision-making agglomerations including the mainland which reduces their control over prioritising local growth objectives through budgets and targeted expenditure.

3.3.2 Enhancing Growth in EU Island

The empirical literature describes successful economic growth strategies of small island states aiming to overcome the challenges of insularity:

(i) specialisation in high value added niche markets;

(ii) rapid and flexible policy responses, helped by higher local social capital;

(iii) a high degrees of trade openness;

(iv) being ‘unimportant’; e.g., the development of offshore activities;

(v) financial support from former colonial powers (aid);

(vi) migrant remittances;

(vii) attractiveness to tourism activity; and

(viii) effective management of permanent and seasonal migration (Armstrong et al., 2006).

Several of the strategies adopted by non-sovereign (or less sovereign EU islands) cannot (easily) be implemented because of the EU policy framework which applies to EU islands and limits their sovereignty ,as any other area in the EU.

Until the 2008 economic crisis, Europe was one of the most dynamic global growth regions and the one with the most prosperous small economies. While the relative performance of EU island regions with respect to the EU as a whole has been convergence (weak), in absolute terms however, their per capita incomes remain above islands in any other global region. EU island regions (compared to non-EU islands) benefit greatly from their location within Europe but many are disadvantaged relative to the EU mainland in terms of competitiveness because of their remoteness and peripherality. These factors compound the effects of insularity, giving rise to increased costs associated with infrastructural provision, agglomeration and accessibility – all of which generate higher trade costs and limit growth opportunities (Spilanis, Kizos *et al.*, 2010). These effects echo the adverse competitive (and living standard) implications of high trade costs for small economies generally (Winters and Martins, 2004).

The openness of small economies to the broader, regional or global economy has important implications in terms of their exposure to external shocks (growth volatility) as well as their capacity to deal with these shocks (resilience). Growth volatility is positively associated with improved economic performance. This is because, while greater specialisation gives rise to greater concentration in export products and export markets – so increasing susceptibility to external shocks – along with openness to trade this simultaneously increases resilience (Easterly and Kraay, 2000).

A pressing issue for EU island regions is therefore how to enhance their growth convergence with the European mainland given the constraints imposed by their size. In the context of agriculture and the potential gains from labelling the products of island farming, several factors may enhance their economic performance (and improve their resilience) (Read, 2010):

i. Increasing Local Value Added:

The standard means to increase value added is to upgrade technological and human capital inputs by introducing new or improved production and processing techniques. This enhances efficiency and therefore competitiveness. This is especially desirable for small economies because any increase in output is not reliant upon commensurate increases in (imported) inputs. Since local R&D and innovative capacity is constrained by diseconomies of scale, they tend to rely upon external sources of innovation. Accumulating and utilising human capital is critically important in enhancing the competitiveness of small economies but, as stated earlier, many relatively poorer peripheral regions – including many EU island regions – face a ‘brain drain’ that reduces their absorptive capacity. Improvements in the competitiveness of key sectors are therefore critically reliant upon the periodic renewal of technology and retention of skilled

labour. A further element of the value added discussion is the capitalisation upon special and/or distinct local process and production techniques, which can be drawn out via labelling. Local value added can also be enhanced by means of greater marketing effort to deliver actual and/or perceived improvements in product identity and quality through better product differentiation and positioning. Product labelling is an important element of such a marketing effort and offers a means for EU island regions to create and support a distinct niche identity through the 'Products of Island Farming' labelling concept or other practices discussed in the second chapter of this Report.

Box 5 - Corsican Policy for Agriculture: Quality and Identity

Regional policy for agriculture

Agricultural development should be based on Quality and Identity. The obtention of Official Quality Signs (PDO and PGI) should allow differentiating from standard products and improving producers' income, protecting skills and ensuring the long-term survival of related products and production activities, The link to the place of origin and the resource as a basis for the product's typical characteristics and identity (in particular genetic resources such as local breeds) helps improving land management and is a strong factor in building a region's gastronomic image.

Structured production chains and product certification have several impacts:
* In terms of quality: bringing people together improves product knowledge and skills are preserved and even developed. Moreover, this relational space offers other prospects for dialogue, in the area of marketing for example.
*In terms of quantity: certification, accompanied by product promotion through an official quality sign, generally leads to an increase in demand which has a significant economic effect. We then see production growing.
* In terms of spatial planning and maintaining biodiversity: certification is a tool that helps establish and strengthen activity in the designation areas. Certification is also an effective instrument for land management and biodiversity (preserve traditional landscapes and local breeds)
* In cultural terms: Certification helps to regenerate places and encourages people to recognize them as places of value rather than disadvantaged areas. It also has value for the people who live in these places, their history and their culture.

Two concrete initiatives reinforcing this strategy can be quoted:

*** The regional label for short-supply chains (La route des Sens Authentiques- Strada di i Sensi)**

The scheme aims at promoting and valorising the rural areas and the productions associated, in order to guarantee quality products to tourists and consumers. It is a regional trademark registered by the regional authorities (ODARC) at the National Institute of Intellectual Property, helping to promote and develop farmers and craftsmen through direct sales.All stakeholders involved subscribe to a quality charter.

*** The regional label for restaurants ("Gusti di Corsica")**

The objective is to create a reliable reference for consumers and tourists looking for quality regional products and highlight the know-how of Corsican restaurants owner. The "Gusti di Corsica" label will be awarded to Island restaurants that will stand out for the quality of Corsican products used in the development of their services. This trademark guarantees that restaurants use products of Corsican origin and recognized quality. It will be launch in October 2013. "Gusti di Corsica" is also a regional trademark registered by ODARC.

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ii. Developing Additional Product Niches:

Small economies generally rely upon low-scale or scale neutral sectors of economic activity. As already noted, specialisation in a limited number of activities often gives rise to problems of output and export concentration in terms of increased susceptibility to external shocks and higher growth volatility. The standard solution to concentration is diversification into

alternative sectors but this is severely hampered in small economies by the adverse effects of diseconomies of scale.

In the context of labelling products of island farming, it is important to note that relatively homogenous commodities are usually more susceptible to trade or price shocks than niche income elastic goods and services (the latter being on the contrary sensitive to income shocks). Specialisation in scale neutral income elastic niche activities may therefore at least partly offset these adverse effects as well as improve local value added. This also suggests that scope may exist to redefine and extend existing product niches through vertical and horizontal differentiation. This could include specialisation in particular crops or crop varieties, livestock breeds and fisheries as well as distinct niches, such as certified organic products. For example, organic is perceived as an interesting niche for Jersey potato growers (Keefe 2006); there has been a rapid development of organic agriculture in Sicily and Sardinia, which represented one third of Italian organic agricultural output in 2005 (ESPON 2013a).

iii. Creating or Improving Local Linkages:

The diversification discussion can be extended to within sector diversification through the creation or improvement of upstream (backward) or downstream (forward) linkages from existing activities. Developing such linkages in small economies however, is highly constrained by both their narrow spheres of economic activity and shallow economic structures (Read and Drittfield, 2005). Nevertheless, such linkages can be developed from existing productive activities, including agriculture and fisheries; i.e. local downstream processing to raise local value added. A further dimension to this argument is the promotion of a distinct 'local' experience, reinforced by branding and labelling, to increase consumption of locally-sourced goods and services and reduce import dependence, particularly in the tourism sector. For example, the Jersey Rural Economy Strategy 2005 encouraged quality tourism relying on landscapes, culture and farm-based accommodation and catering after the drastic decline in tourism in the early 1990s because of increased price competition from Mediterranean islands (Keefe, 2006). The Isle of Man had a similar response to this issue. More recently, the Canary Islands authorities have emphasised tourism linked with their natural resources capital and agricultural sector in the face of the deteriorating image of their mass tourism sector.

iv. Extending or Diversifying Export Markets:

A final element of diversification relates to penetrating new markets for existing products and services. This can relieve the dependence of small economies upon 'traditional' export destinations as well as reduce their susceptibility to market-specific (but not sector-specific) shocks. There is some evidence that small economies have found this difficult because of a lack of market knowledge, marketing techniques, logistical skills as well as poor transport links, particularly in the case of remote or peripheral regions. Creating a distinct umbrella brand identity through Products of Island Farming labelling or any of the other practices described in the second section of this Report can potentially tackle some but not all of these issues. Local and traditional foods and beverages are seen as potential assets of EU islands (ESPON 2013b) along with clothing; e.g. Shetland knitting (Grydehøj 2008), Harris tweed (ESPON 2013a), etc. and other handicrafts. For example, the PGIs of the Outer Hebrides are deeply rooted in the traditional local way of life: the Stornoway Black Pudding has its roots in the traditional exchange of meat products between crofters on Lewis; and Harris Tweed, originally hand-woven in the fabrics of Shawbost from the wool of Lewis island farmers (ESPON 2013a).

In sum, a strong island identity reflected in rich local savoir-faire and traditions related to the production of agricultural, food and craft products, as well as very specific natural resources (biodiversity, natural capital) are common elements to all islands in the EU and they can be seen as key drivers to enhance the growth of EU islands. The question now is to discuss the best ways to convey this message to locals, tourists and EU consumers.

4 Labelling practices of food produced in islands

This chapter aims at describing and discussing issues related to the labelling practices for food produced in island territories. The assessment of these practices takes into account the following questions:

- What are the main terms and/or images used in the labelling of agricultural and food products?

- Are the labels found referring directly or indirectly to insularity (including practices referring to names of EU specific islands)?

- On the base of an illustrative sample of practices found on the market (from internet searches, trademarks databases searches and PDO/PGI registered within the EU), analysing the main justifications put forward by traders for the different terms or uses referring to insularity

The geographical scope includes islands of the following countries: France, Italy, Spain, Portugal, United Kingdom, Greece, Malta, Cyprus, Denmark, Sweden and Germany. However, for Greece and Malta little information has been found. Data and conclusions may be handled with care due to the difficulty to collect information in these countries.

Collecting information on branding strategies in Island territories has been a complex task in the short time available. Few contacted stakeholders answered and gave further information on their (insular) products. This difficulty limited the extent to which brands could be collected and assessed.

4.1 Overview of labelling practices for island farming products

Until Regulation (EU) No 1151/2012 on quality schemes for agricultural products and foodstuffs evoked the possibility to lay down an optional quality term (OQT) for "Product of Island farming", there were no Regulations at EU or national level covering and protecting products originating from island or island farming as such.

Accordingly, there is no common definition of insularity and no common content of specification, which make difficult the understanding of such labelling practices. Hence, the lack of common view on labelling practices with different levels of specifications, with lighter to more binding contents, with or without control or certification arrangements, makes it uneasy, for the scientists or for consumers, to draw common and clear understanding of island labelling schemes. Several other existing legal frameworks or basis have been utilised to cover island farming products and provide them with a minimum of protection against misuses, misleading or unfair practices, namely:

- the EU quality schemes production rules, in particular the Outermost Region Regulation[2] which cover mainly island territories (except French Guiana) and provides for an

[2] Regulation (EU) No 228/2013 of the European Parliament and of the Council of 13 March 2013 laying down specific measures for agriculture in the outermost regions of the Union and repealing Council Regulation (EC) No 247/2006

official EU quality scheme (hereafter designated under the acronym RUP), but also the geographical indications schemes (PDOs, PGIs)

- the common right rules (trademark systems, at EU and member States level, and, fair competition and consumer protection general rules, at EU and Member States level). All countries may indirectly 'protect' island farming products through the use of these legal instruments. Concerning trademarks, this type of protection is however limited to the scope of the trademark protection (nature of the trademark, figurative elements, type of product, protection of the trademark owner), the legal means available for any interested parties/person (legal actions, burden of proof for instance), and the willingness or the awareness of interested parties to act against the misleading practices via unfair competition rules.

In some countries or regions, the protection of island products is built upon a combination of instruments, e.g. regional collective or guarantee trademark system in collaboration with EU quality schemes (RUP, PDO/PGIs or organic farming).

Moreover, these regional frameworks cover the specific name of the islands concerned such as Sicilia, Sardegna, Malta, Canarias, Corse, etc…There is no regional framework using or protecting "island" or "island farming" denominations as such.

A number of examples of agricultural or food products labelled with a reference to insularity have been collected in a non-exhaustive inventory of cases compiling information on the products (when available[3]) and their label, the existence of trademarks and/or other quality schemes. For some products, it has been quite difficult to obtain information on the conditions of production of the product concerned or on the specifications or the control system.

The present inventory is based on practices identified through trademarks databases (from each country, when available, from the OHIM or from the WIPO), labels identified on the market, EU quality schemes (PDO, PGI, RUP), collective regional brands and initiatives, presented during the JCR seminar held in June 2013 in Seville, on the base of keywords including both the generic term 'island' and its translations / synonyms and names of specific EU island territories.

4.1.1 Individual commercial trade names and trademarks

i. Types of individual sales names and branding

<u>"Island" denomination and translations</u>

Within the cases identified in the inventory exercise, only a small share contains and refers to the generic word 'island' and its translations. On 8390 trademarks collected, around 1359 concern "Island" or translated denominations (île, isla, isola) or around 16 % of all the collected trademarks.

The use of the term "island" in relation to insular products will depend on the common name used to name the concerned territory. Some islands or archipelagos are identified commonly by "Island of X or Y" (see examples below). In other cases, it must be stressed that islands or archipelagos can also be identified without the "island" denomination, such as Crete, Sicily, Madeira, Corsica or Jersey, and for those, the specific geographical name is enough to identify

[3] In Greek or Cyprus alphabet, the research has been limited

the place of origin. This limits the use of the term “island” in the labelling of products from these islands.

Within these cases, some indeed concern island farming or food products. Most of them contain this word in conjunction with a more precise geographical term identifying a specific island territory, example Islas Baleares, Islas Canarias or Ile de la Réunion or other French Islands (Ile de Ré, Ile d’Yeu etc..) etc.

Figure 15 - Examples of sales names including the term island with a geographic localizer

For based-fish products

For beef meat

For few products, the “island” denomination can be used on the labels or trademarks translated in English because of the attractiveness of the insular origin and for some of them because they are exported.

Figure 16- Examples of sales names including the term island with a geographic localizer (in English, for exports)

For coffee of “Rhode Island”

For beers and other beverages

Another type of label found combine the island reference in English and the national name of the Island: Example of Ile de la Réunion:

There are also many cases (around 80%) where denomination containing the term ‘island’ does not cover products originating from EU Island areas such as spirits, beers, coffee or pastries. There are in general few information on the real place of production. Moreover some of these labels cover other islands but not EU ones (Pacific, Caribbean etc…) Hence, this denomination used alone or with another term refers more to a fanciful meaning than a real insularity origin (e. g. Summer Island, Blue Island, Coffee Island, Pearl Island, Isla bonita, Isla brava, Isla grande, Isla princesa, Isola bella, Isola Fresca, etc.).

Figure 17- Examples of sales names including the term island for fanciful products

Spanish TM for olive oil In Greece for beverage CTM from Sodexho NL

German and CTM TM for dairy products originated from Napoli.

Ile de Crémant
Vive la Vie....!

French TM for a sparkling wine produced in Alsace Region.[4]

L'île aux Fruits

Brand from a retailer in Rungis market, France for fruits.

[4] See http://www.ile-de-cremant.fr/france/cremant_fr/f_cremant.htm

Spanish brand for cheeses.

TM for halal meat.

Very few labels can refer "fancifully" to an insular origin meanwhile they are produced in islands: Example of a cheese "Bolaños-Isla bonita" processed in Canarias islands.

.

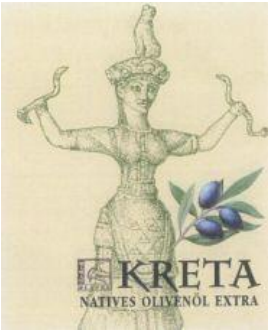
There seems to be no example of product sold under a label containing the expressions "island farming", "island product" or "island farming product" has been found during this research. Only one TM falling in this category has been spotted (see next section). In view of these elements, it seems that the use of the term 'island' in labels does not appear very relevant to give clear information on the insular origin of the products, except when further geographical information appears on the labels. "Island" seems to have a generic or fanciful significance rather than a real link with an insular origin. "Island" denomination needs to be combined with

other verbal or figurative elements on the labels or a quality scheme to provide clearer and true information for the consumers.

Specific insular denominations

Therefore the vast majority (around 85%) of labels inventoried refer only to a specific island territory, as well as to the origin of the product (from this specific island territory or archipelago, for example Sardinia, Azores or Martinique). Therefore it seems that Trademark holders are more interested in communicating on this narrowed and well-defined origin rather than indicating the generic reference of the products being of insular origin.

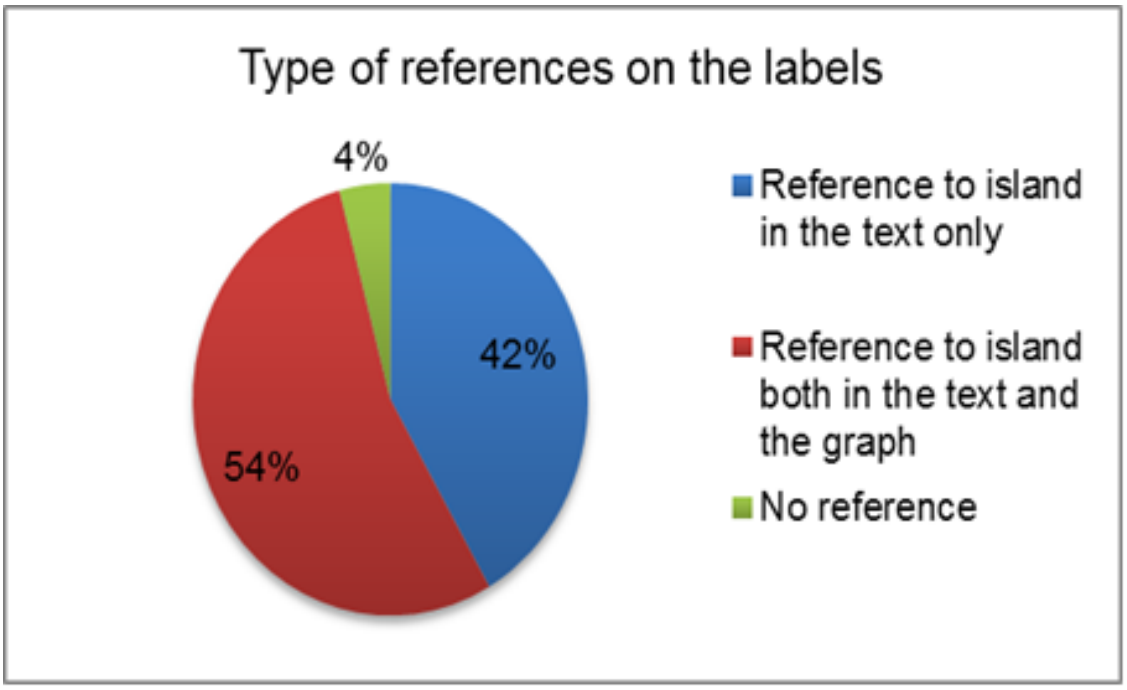
Figure 18 - Examples of Labels with names of an identified specific island:



The "insularity" reference is most of the time used as a verbal denomination on the labels but it can also be accompanied with the shape of the concerned Island, or other type of graphic reference. As shown on the figure below, this is the case in more than half of the cases.

Figure 19- Examples of labels with shape of an identified specific island:

Figure 20 - Typology of insularity references on the labels:



Source: Aubard Consulting, 2013

Some island names are also used as brand names, based initially on a product originated from the island but used on other types of derived products, not fully processed in the island, because of the attractiveness of the geographical name.

Figure 21- Examples of island brand names

Brand name "Sal de Ibiza"

Gourmet Sardinia Brand: which sells Sardinian products but also other Italian products not produced or processed in Sardinia such as chocolate or Fontina cheese

Globally, the reference to an island in the commercial name is not related to a specific quality of the product (except when the product is covered by a specific quality scheme), but more to its origin (in terms of production, or more probably only processing / preparation). There are of course some cases where the products are not produced or processed in island territories: a striking example is the Cerveza Isleña, the Ibiza's beer as they present themselves, brewed partly from Baleares barley, in Germany (Cerveza Isleña website).

Sometimes, some references to specific elements of the concerned Island are used on the labels such as: flag (Martinique, Baleares Islands), architecture (traditional water mills of Mallorca), designs related with the culture (ex: Greece, clothes design of Martinique or Guadeloupe).

As a conclusion, the use of the specific name of islands seems more attractive for the private sector for the branding of insular products. The direct reference to the specific place of the product(s) can be seen as a relevant element on the labelling to differentiate the products in the market. However, among products labelled with reference to a specific island, a wide range of situations can be found: PDO, PGI, RUP products or traditional products made 100% in the island, all highly linked to island farming and food industries; others less linked such as processed product partially manufactured in the island or from external raw materials and ingredients; or even products not produced or processed in the island at all. This still implies some difficulties for consumers to get appropriate information.

ii. Trends on Trademarks

Many trademarks are registered (around 8400 found in September 2013 except for Greece where the TM database is not available[5]) for every kind of agricultural an agro-food products[6]. These collected trademarks are verbal or semi-figurative ones.

Around 1360 trademarks concern the island denomination and its translations. The rest of the collected TM 7031 refers to specific insular places, so 22 denominations (Corse/Corsica, Guadeloupe, Martinique, Réunion, Canarias, Tenerife, Baleares, Mallorca, Ibiza/Eivissa, Menorca, Sicilia, Sardegna, Açores, Madeira, Shetland, Orkney, Isle of Men, Jersey, Ireland, Cyrpus, Malta, Crete/Creta).

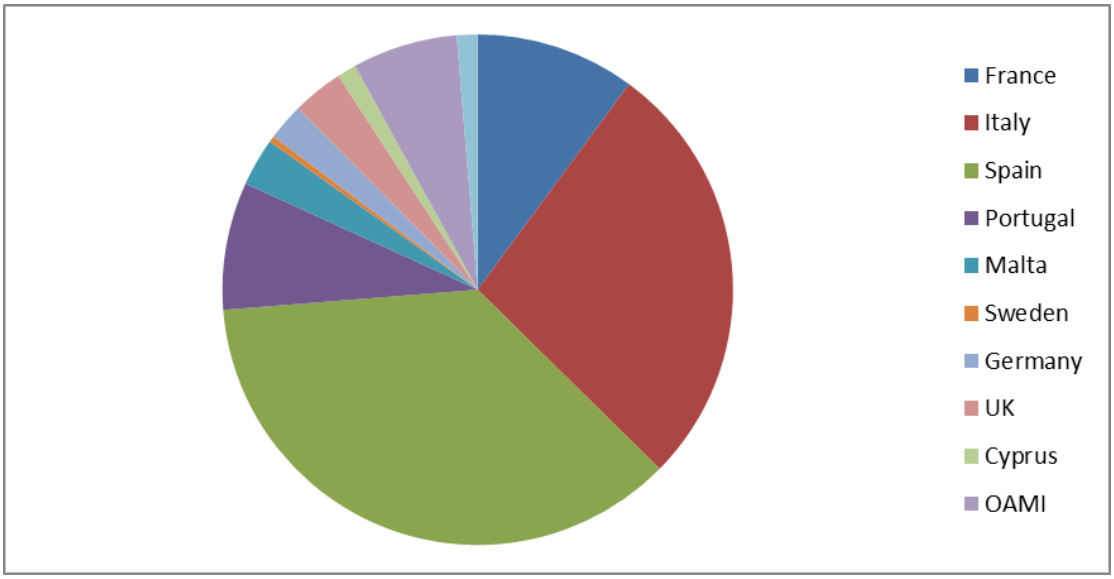
Around a half of the TM refer to a wine or other alcoholic beverage.

All the TM collected have not been subject to a research on their actual use. Some of them may have been registered but are not used.

Most of the identified TM are registered at national level and few at the EU level (OHIM, 6,6%) or international level (WIPO, 1,3%). Most of the TM registered within the OHIM or the WIPO system belong to traders. This little number of European or international trademarks can reflect a relatively small share of exports for insular products (see previous section). Hence, the situation of TM registration comforts the idea that island products are principally traded within the same MS / country of origin.

Spain (36%), Italy (27%), France (10%) and Portugal (8%) are the main countries where TM containing an island name are registered. They cover 85% of the TM collected during the research.

Figure 22 - Distribution of the TM registration per country:



Source: Aubard Consulting, 2013

[5] This figure includes the "island" denomination and its translations.

[6] Only agricultural, agro-food products and beverages (alcoholic and no) were subject of the research, i.e. in Nice classification: 29, 30, 31, 32 and 33

In general, each country principally registers TM containing the name of its own islands territories, as well as some fanciful TM containing the term 'island'. Among them, some countries tend to register more trademarks than the others. Few of them register foreign insular name, except when some of them benefit from a wide reputation as Ibiza, Sicilia or Crete. Moreover, these specific island names do not have the same attractiveness. The appropriation of them with a TM registration depends on the notoriety of the island.

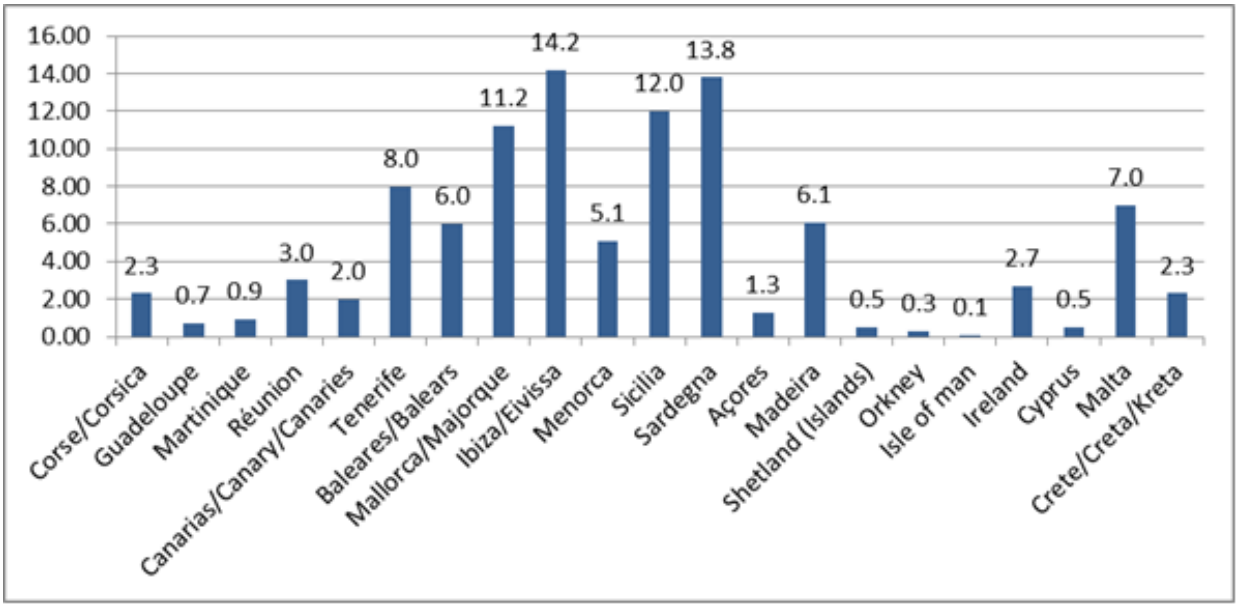
Some denominations must be studied carefully because they are combined with other references that give them a different meaning than the fact to come from an island. For instance, the term "Malta" in a TM is often a reference to the Malta cross; "Ile" appears many times in France due to a high number of TM referring to the Paris Region, "Ile de France", "Corse" in France may include TM with references of "strong flavour" of coffee (the search tool database makes no difference between Corse island and the adjective '*corsé*').

The figures of the registered TM include also the TM registered for PDOs and PGIs: collective trademarks as well as groups of producers' trademarks. This covers around 10% of the studied trademarks.

Examples of denominations registered per country[7], the percentage refer to the percentage of TM per country concerned:

- Spain : Canarias (3,9%), Mallorca (25%), Ibiza (25%) Tenerife (25%), Baleares (13%)
- France : Réunion (19%), Martinique (4,6%), Corse (16%), Ile de Ré
- Portugal : Açores (9,7%), Madeira (57%)
- Italy : Sardinia (41%), Sicilia(32%),
- UK: Jersey (6,6%) , Shetland (10%), Orkney (8%)

Figure 23- Main "island" TM names registered (in %)



[7] The percentage has been calculated based on the global amount of TM collected for each covered country.

Some specific denominations are more used than others. 9 of the 22 studied denominations cover 80% of the TM registered.

Table 4 – Main names of islands subject to TM registration

N°	*Denomination*	*%*
1	Ibiza/Eivissa	14%
2	Sardegna	13,6%
3	Sicilia	11,8%
4	Mallorca	11%
5	Tenerife	7,9%
6	Malta	6,7%
7	Madeira	5,9%
8	Baleares	5,8%
9	Menorca	5%

Source: Authors calculation

Among all the islands names concerned in the different countries covered, some of them benefit from a higher attractiveness and are subject of more TM registrations, including in other countries than the one they belong to. We can mention Ibiza, Sardinia, Sicilia, Mallorca.

TMs containing the term "island" or its translations represent only 16% of all the collected cases.

Only one TM referring to "Island farming" or "Island farming product" has been found in the EU. It refers to a company of Cyprus called "Blue Island fish farming ltd" marketing fish products.

Other references to "island farming" or "island products" have been found in Canada or USA. As a conclusion, there is not private appropriation of the "Island farming" and "Island farming product" denominations that could complicate the setting up of the optional quality term.

The assessment of TM registrations referring to islands leads to the conclusion that a lot of them tend to appropriate the name of specific EU islands because of their attractiveness. Some of them can designate products originated from the concerned island but others not, which is

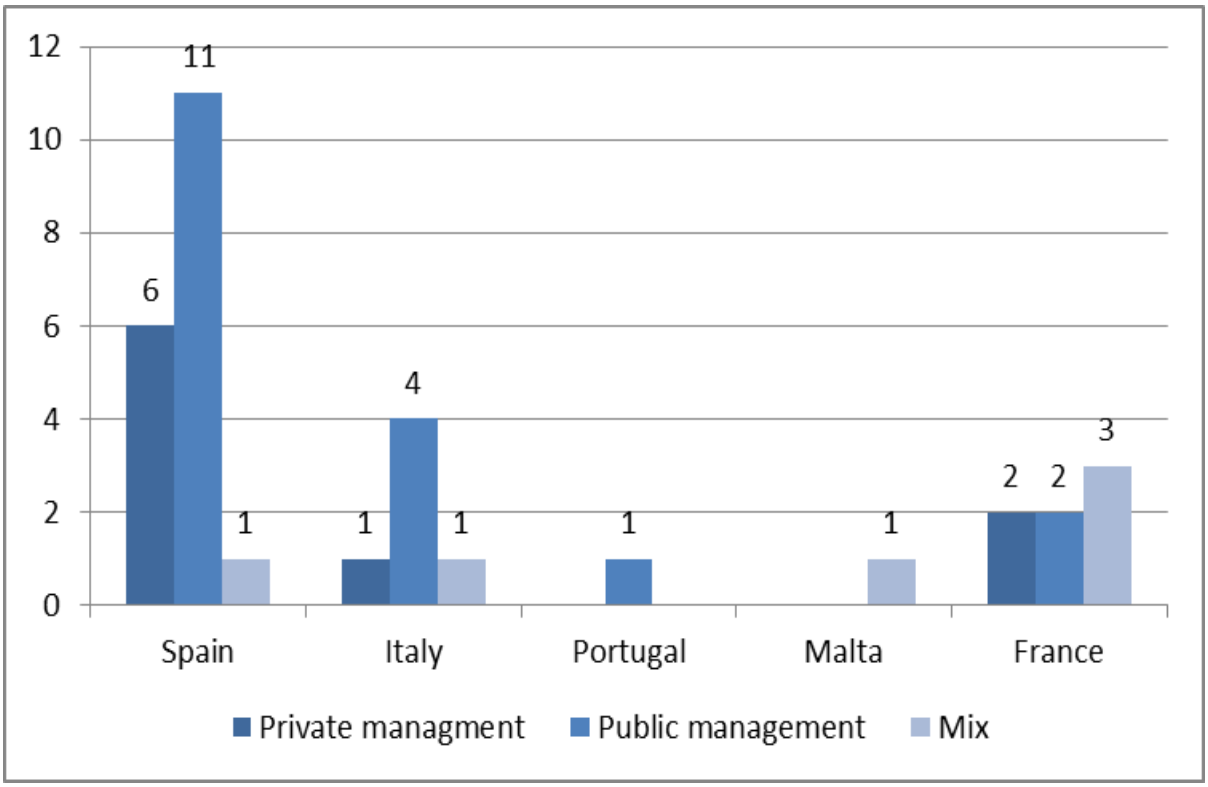
allowed by the TM protection system, except when the TM is used in conjunction with PDO and PGI products or with a specific collective and regional scheme.

4.1.2 Collective private and public schemes/initiatives

Different types of schemes are described under this section: their common point is that they regroup under a brand, collective or certification mark, referring to a specific island, several or a single product(s). These initiatives can be purely private or owned by regional authorities as certification marks. All kind of hybrid solution, with or more less involvement of the regional authorities co-exist. All these schemes or initiatives have in common the use of a logo, either on the products, or for promotion or business-to-business communication (in most cases both), which allow them to indirectly promote and communicate on the insular origin. However, most of these schemes benefit from a local reputation mostly, as a matter of fact hardly any of them is subject to TM registration in other country.

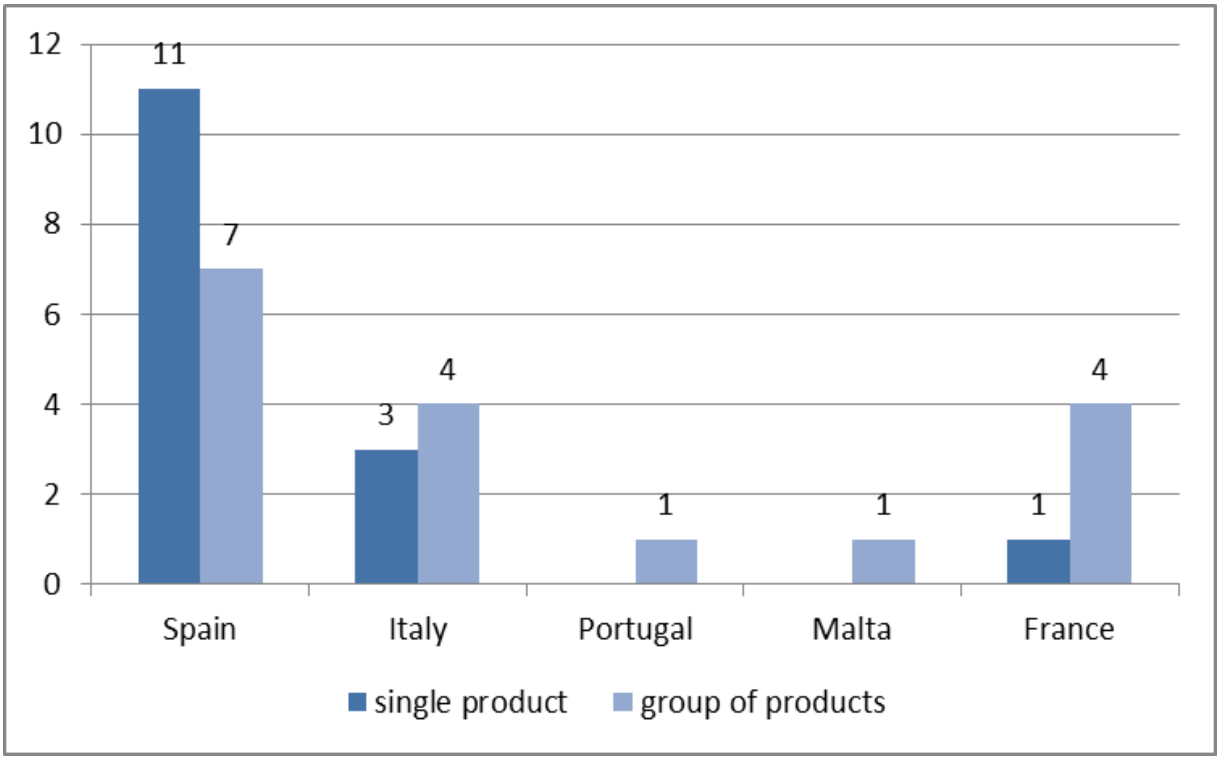
Around 30 regional collective schemes have been found during the research in Spain, Italy, Portugal, Malta and France. Among them, Spanish regions and Islands developed many schemes, private or public, for single or several products. An island can have several schemes.

Figure 24- Management on regional collective schemes



Source: Authors calculations

Figure 25- Regional schemes by products and countries



Source: Authors calculations

Private collective initiatives are carried out principally by groups of producers aiming at promoting specific products originating from Islands (agricultural, agro-food products). Some examples have been found in Spain as shown below.

Figure 26 – Examples of Spanish private collective TM

Salinas de Canarias

ELABORADO EN CANARIAS

These private collective brands share some common features. They use of collective trademark system or guarantee trademark, via semi-figurative trademarks or logos. The insular/geographical origin is systematically used on the logos. The applicant represents a group of producers or an association of development of products or territories. In some cases the use of the trademark is possible under condition(s) specified by the trademark owner (e.g. the TM "*Elaborado en Canarias*" covers products which have been totally produced or processed in the Canary Islands). Sometimes, however there is no information on the content of the TM specifications. In addition, when there are specification, their control does not seem compulsory for every brand. Sometimes it seems that no control is carried out on producers or processors. However, to use guarantee trademarks, products must be certified.

In the case of Jersey, Johnson (2012) describes the initiative arises from local businessmen ' Genuine Jersey'. They wanted to avoid that products manufactured locally from imported raw materials were not confused with truly local products. A key example is quoted by Johnson

(2012) with 'Jersey fudge' being sold at the airport with a representation of the island on the package, but produced in China. Another brand is recognised under the territorial brand. The 'Genuine Jersey' charter mentions the objectives of providing 'pride of residents' and 'desire to visitors' seeking to the brand as reminding the islandness of their stay. The rules are such that they cover products produced wholly in Jersey from local raw material, as well as products manufactured from imported raw materials where particular local skills, a specific local ingredient or another distinctive Jersey element are employed. Derogation is allowed for restaurants, which may include up to 20% of non-local ingredients in the dish they serve under the 'Genuine Jersey' brand. The paper concludes that this brand reinvented the notion of Jersey authenticity on the base of traditional products and bringing new goods under the scheme. Johnson also mentions the existence of a similar brand in Guernsey ('Guernsey Grown'). Other examples are mentioned: "Skärgårdssmark, A flavour of the Archipelagos" in Åland (Baldacchino and Pleijel 2010), both applicable to local foods and crafts.

Other cases, which can be mentioned focuses more on the generic cultural branding, as described by Grydehøj (2008) to what concerns Shetland Islands (the Shetland mark, "Shetland Pride of Place") or mentioned by ESPON (2013b) concerning Bornholm ("Bright Green Bornholm"). Such marks are more focusing on tourism marketing material and have an international focus. Such generic branding is less successful for products labelling.

It is quite difficult to appreciate globally these initiatives because they are quite numerous and the content depends on the strategy and willingness of the group of stakeholders. Some of them carry out collective brands which work as a private quality schemes and some other will use a collective brand as an easy and not binding tool to promote only the origin of the product or the territory.

Figure 27 – Examples of private logo not focusing on agri-food products

Box 6 - Island Specialties (Ø-specialiteter®) of Denmark – chauvinism, fair trade or terroir?

Introduction

Denmark is a nation of islands. Among them are 27 small islands with less than 1,000 permanent residents, each, less than 5.000 residents in total. These islands are organised in the Association of Danish Small Islands (Sammenslutningen af Danske Småøer). Their food specialty producers are members of the Small Islands Food Network (SIFN).

Traditionally, life on the Danish small islands was supported by farming and fishing, and the majority of land on the islands is still used for agriculture. However, structural development of these farms is lagging behind the rest of Denmark and the gap is rapidly increasing. Nowadays, few conventional island farms can adequately support a family, and most of them are managed

part-time with other off-farm occupations also being followed. The large number of small farms and farmhouses is an important asset for attracting new inhabitants to small island communities.

Farming and food production play a major role in Denmark's economy, and both food processing and primary production have developed into multinational industries. However, during the past decade a counter development has been growing which serves a local market but also contributes to culinary tourism and export markets. These items are generally differentiated in their markets as high value-added products with unique qualities and a desirable alternative to mass-produced items. They can make a significant contribution to the quality and diversification of Danish food production. The lead in this counter development has been taken by a number of manor estates and also by a number of innovative food producers, quite a few of which live on small islands. The potential impact on rural occupancy and development has been clearly demonstrated by the most successful of these entrepreneurs. However, while the owners of a manor estate can, by themselves, define and implement their vision, the challenge of communities on small islands, none of which is larger than one of the largest farms in Denmark, is creating and managing effective cooperation between individuals, companies and local government - the concerted action of complementary competencies in local communities. As reviewed elsewhere (Christensen 2011) the registered trademark, Island Specialties, was also developed to demonstrate the potential and stimulate such processes in island communities.

Criteria of the registered trademark of island specialties

The registered trademark of island specialties was established by SIFN in 2010. A label was designed (see below) and a set of criteria was established to characterise products of the brand as summarised in Table 1 below. These criteria are to be complied with by a producer who wants to make use of the brand.

Specific criteria to be complied for acquisition of the right to use the trademark island specialities (Ø-specialiteter®) for branding

- Essential ingredient commodities should be produced on the island and unique qualities in the product(s) should reflect the origin of the production (terroir) and/or

- Production should give opportunity of occupation on the island to individuals and community and/or

- The unique qualities of product and/or production process should be attributable to adaptive tradition in the community or innovation by individuals of the island community – the intellectual property of island community.

Compliance with two of the three criteria is required for acquisition of the right to use the trademark Ø-specialiteter® for branding.

The criteria of the registered trademark are similar but not identical to the EU Regulation for the protection of geographical indications. Compliance with criteria 1 and 2 of the trademark is compatible with the EU regulation on Protected Designation of Origin (PDO) and on Protected Geographical indication (PGI), while criterion 3 is in line with the regulations of Traditional Specialty Guaranteed (TSG) except that it has no restrictions related to time of invention. Thus, the trademark, like TSG, appreciates the intellectual property of the local community but is more innovation oriented than the TSG category.

The objectives of the establishment of the brand and definition of criteria were several:

* Producers and products of the brand should serve as ambassadors of the island of origin and island communities in general, and for this reason other parameters such as animal welfare, if relevant, should be considered when permission to use the brand is assessed,

* Support of sustainability in local communities, meaning that sustainability in production, i.e. whenever possible, the concerted involvement of suppliers and competencies in the community rather than export and import of supplies by ferry are parameters to be considered,

* Finally, the product(s) should reflect the unique conditions of the island nature and/or island community, i.e. the location-bound natural conditions and/or the adaptive traditions or innovative efforts of the island community.

It is essential that none of the three criteria of the registered trademark are exclusive. This flexibility enables a balance to be found between appreciation of the true quality impact inherent in the product – whether this is due to local production of an ingredient or it is a principle of production or processing invented by an ingenious member of the island community – and the need for collaboration with the outside world if rational production and expansion of a unique quality product is to take place. These reflections in relation to the need for expansion for a small island producer of conserve were reviewed elsewhere (Christensen, Hoorfar *et al.* 2012).

Impact of the brand on island community development

It is difficult to differentiate the impact of establishment of the brand from the works of SIFN and the Association of Danish Small Islands. However, the brand has been used for marketing, both nationally and internationally, by a variety of food specialty producers that have emerged on small islands of Denmark during the past decade and it has become the icon of SIFN. The companies include: a producer of ice cream based on birch syrup and seaweed (www.isfraskaroe.dk), apple juice and cider (www.kernegaarden.dk), free range meat production (www.horsekaer.dk) and even a producer of Scandinavian wine (www.aaro-vin.dk) – and many more. Common to these companies is the perceived high-quality of their products which is reflected in the premium prices which they are able to command. Yet, their production

capacity is significantly below market demand. Also common to a number of these companies is that they have become icons of the islands where they are located and they attract more tourists than any other single-actors on these islands.

The brand is also used in marketing for export in Europe and Asia, and export has been accomplished by several of these small island companies to a number of countries including Germany, Sweden, the Netherlands, the United Arab Emirates, and Singapore.

Discussion

Small islands have an inherent increased marketing value because of their cultural and historical role in the national identity of Denmark. Also, because of the apparent vulnerability of these communities, marketing of island products can take advantage of a 'fair trade' effect. However, the trademark Island Specialties of Denmark was not developed to justify and conserve non-competitive production in island communities but to stimulate the development of such communities based on an exploitation of the unique natural and cultural conditions of the geographical entities for the development of unique, quality food products and possibly more sustainable production methods. For this reason, references to the location and to its impact in terms of unique qualities of the food product are both required for the permission to use Island Specialties for branding of the product.

Author: Laurids Siig Christensens (ESIN)

A lot of other collective territorial brands have been registered throughout the EU Islands with more involvement of public authorities. Each island and/or archipelago is covered by several collective brands which can make difficult the understanding by consumers.

These collective brands are based on collective trademarks or guarantee trademarks regime in countries where this legal instrument exists. All of them are semi-figurative trademarks (denomination and design).

The ownership of these brands mostly belongs to Regional councils or institutions or the Agricultural services of the latter. It can be regarded in one hand as the implementation of the regional policy regarding the enhancement of the local products. On another hand, these brands may be the expression of the lack of a common EU regulation for Island farming products.

Products covered by these brands are not only agricultural but also include all kind of products and services (e.g. "Nou la Fé-Produit à la Réunion"), such as processed products . Some brands cover only one products and other several products.

The content of each specification is also different from a brand to another. Some of them can include some geographical consideration, for instance, all raw materials may be originated from the Island and other not, all steps of production must take place in the Island, or the product must be produced respecting traditional practices (e.g. Lamb from Ibiza).

Within their diversity, all these territorial brands from island share some common features:

- The ownership and management are held by the regional institution
- Specifications exist for the use of the brand, defining the rules of production and the use of the logo on communication
- Willingness to provide a guarantee on the origin of the product (source or origin?)

- For some of them, a guarantee is given on a certain quality and traceability of the product; controls and certification are very often reinforcing the credibility of these brands.

These brands are also often used together with other quality schemes as PDO, PGI, RUP or organic farming.

Figure 28 - Examples of territorial brands developed by local/regional authorities in EU islands

Box 7 –The example of Nou la fé

This collective initiative, linked with a sustainable development approach, was launched in 2009 in the Island of Reunion. It is a collective trademark, managed by the ADIR (Association for the industrial development of the Réunion) which certifies the origin of more than 1600 products from the Island. The label is given by a specific committee composed of consumers associations, retailers, TM owners, representatives of local institutions as the region. This

collective logo aimed at replacing another label “Produit Réunion” used by many local enterprises but which was not controlled on the origin of the process of production. It covers several kinds of products from the agricultural to the industrial products.

To use this label, the main criteria are the following ones:

- Criteria “enterprise”: the firm must produce its products locally and respect the general rules such as labour rights.

- Criteria “production”: the firm must have its activity of production, processing or elaborating the product within the island of Réunion territory and provide a quality scheme.

- Criteria “trademark and product”: more than 20% of the added value of the product must be generated locally

- Environmental criteria: water, wastes etc…

- Other indicators: economic, social.

Nowadays, this collective label is recognized by local consumers (82% of consumers of the Réunion), 62% of them declare that they prefer purchasing the “Nou la fé” product rather than an imported one with the same price. The ADIR wishes to attract more enterprises within this initiative.

These collective regional brands give an opportunity to promote collectively the products of the covered territory. The ones which are linked with specifications and control provide also a guarantee for the consumers. However, information on controls or monitoring system is not very transparent. Some studies on the perception of consumers of these brands and their impact would be interesting to weight the real interest of them.

4.1.3 EU quality sign on Outermost regions

Two archipelagos (the Azores and the Canary Islands), two groups of islands (Madeira and Guadeloupe), three separate islands (Réunion, Martinique and Saint Martin) and a mainland region (French Guiana) constitute the Outermost Regions. These territories are European regions far away from the continent, featuring very specific geo-economic particularities and remarkable natural conditions. The EU recognises both the assets and constraints of the Outermost Regions and helps them overcome obstacles to the development of their endogenous potential.

EU provides a quality product policy for these Regions. Outermost Regions are regions within the EU which are severely handicapped by their remoteness and insularity and by difficult geographical and meteorological conditions. With a view to ensuring greater awareness and consumption of quality agricultural products, whether natural or processed, which are specific to these Outermost Regions, a graphic symbol has been introduced in 2006. This graphic symbol is common to all Outermost regions, but the identity of the Outermost Region concerned appears on the logo (see example below for Canary Islands).

Figure 29 – RUP logo for Canary Islands

The logo enables the consumer to identify and recognise quality agricultural products originating in the Outermost Regions. The use of the logo is monitored by bodies appointed by the national authorities and the conditions for using it are to be proposed by the trade organisations concerned.

The agricultural products for which the logo may be used shall satisfy requirements defined by reference to Community rules or, in absence of such rules, to international standards or, where necessary, specific requirements shall be adopted in respect of products from the outermost regions on a proposal from the representative trade organisations. In general, only products of a certain quality are eligible to such scheme: In Canary Islands for example, when the products concerned are already covered by a certification schemes (regional trademark or geographical indication), only those certified can benefit from the RUP label (see Box 8).

So far, this possibility has been used by producers in the Spanish, Portuguese and French Outermost Regions (e.g. for pineapples, bananas, melons and other fruits from Guadeloupe, Martinique and la Reunion and for bananas, tomatoes, cucumbers and other fruits and vegetables as well as flowers and wine produced in the Canary Islands). Banana production and marketing is the sector which showed the highest interest, as reflected by the promotion campaigns co financed by the EU. In the Canary islands, 67 firms are authorised to date to use the logo, mostly in the fruit and vegetables sector (75% of the cases, for banana, tomatoes, cucumbers, peppers etc.); the remaining firms are mostly marketing dairy products (cheese and yoghurts) and wine, as well as individual cases for honey, eggs and flowers. In Madeira, 11 firms are authorised, also primarily for fruit and vegetables (bananas, tropical fruit), but also raw sugar cane ("mel de cana"), honey, dairy products.

Figure 30 – Collective promotion campaign for Martinique and Guadeloupe bananas

The strict conditions for granting the authorisation to use this logo might explain why despite the effort of the EU to promote specific products and to motivate producers from Outermost Regions, the logo is still not widely on the markets (products labels) and more on institutional communication documents.

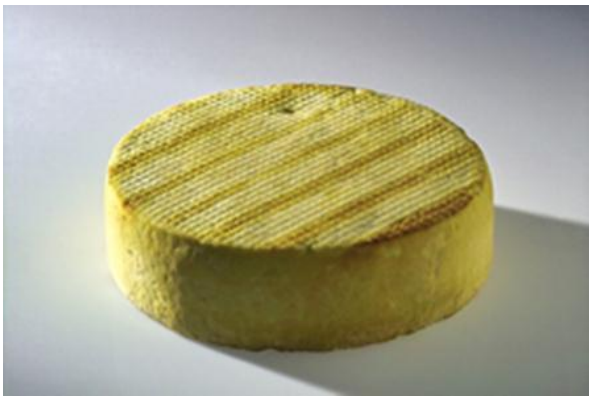
Box 8 – Different stages of quality certification, the example of Canary Islands

In the Canary Islands, there are several types of certification schemes for quality products:

1. Regional / Territorial certification and/or guarantee marks, under private law, but owned by local authorities, one in each islands: Tenerife Rural, Gran Canaria Calidad, Alimentos de la Gomera, Alimentos de El Hierro, Saborea Lanzarote, Alimentos de Fuerteventura and Alimentos de la biosfera- La Palma.

In the example of Tenerife Rural, the local authorities ("Cabildo") aim at encouraging and preserving the local traditional production quality in an increasingly globalized market and at answering the wish of consumers to receive appropriate information on characteristics, production methods and origin of the products. Technical specifications are issued for each product covered (so far, honey, goat cheese, fresh rabbit meat, traditional gofio) and are followed by producers (180 so far). Plans are to expand the scope of the mark to other products: jams, onions, tomatoes, potatoes, mojo sauces, etc.

2. Official signs of quality: PDO, PGI, TSG, organic production, outermost logo. 11 wines and 5 other foodstuffs (Queso palmero, Queso majorero, Queso de Flor de Guía/Queso de Media Flor de Guía/Queso de Guía, Papas Antiguas de Canarias, Miel de Tenerife) are registerd as PDO. 3 other products are registered as PGI; two foodstuffs (Plátano de Canarias and Gofio Canario) and one spirit (Ronmiel de Canarias). The outermost logo complements this: it may be requested for the use of labeling products under the territorial certification trademarks or the geographical indications, as an umbrella mark. For products not covered yet by a territorial mark or a geographical indication, specific quality requirements shall be established prior to the use of the outermost logo.



For honey, in addition to Tenerife Rural above, products are sold under the PDO scheme as Tenerife Honey PDO. The link of this product to its area of production is based on natural factors (in particular the high number of endemic species, such as for example Teide's broom or Tejinaste, see below) and human factors (600 years of tradition, based in particular on local bees breeds – Black Canarian Bee).

GARANTIA DE ORIGEN
MIEL DE TENERIFE
ISLAS CANARIAS


Honey from Tajinaste (endemic species of Echium in Tenerife)


Honey from Retama del Teide (endemic specie of broom in Tenerife and island of La Palma)

Authors: Aguasanta Navarrete Garcia, Antonio Bentabol Manzanares

4.1.4 Perception by retailers and consumers

There is hardly any literature or information on the perception of islands products by retailers and their consumers. However, there are signs that retailers on islands are trying to promote local island products. Promotional material released by Spanish retailer (Eroski) on Baleares islands is shown below. Another Spanish multiple Mercadona claims to favour local Canarian products in their supermarkets; also Tesco affirms being proud to locally source salmon from Shetland islands.

Figure 31 – Example of retailer campaign for local island products

Concerning consumer perception, there are again no specific studies on the perception of island products. There are however some studies which claim there is a preference from island consumer for the products of their islands, for example those conducted for the local government of the Baleares by the local university and the study conducted by "Nou la Fé-Produit de la Réunion" association in 2013 (see above).

In addition, an important segment of consumption needs to be mentioned : i.e. the tourists visiting the islands and who wish to first get knowledge of the local foods during their stay, second to bring back some memories from their stay and, third, some wish to be able to find back home the products they consumed in the islands during their vacations. The need to ensure authenticity and security to tourism consumers is one of the key concerns of the businessmen who launched the 'Genuine Jersey' initiative (Johnson 2012).

In sum, there are a lot of initiatives and practices of all kind, which ensure knowledge to consumers that products are of island origin is transmitted. However, the vast majority refers to specific and determined islands and hardly any initiative referring generically to island products has been spotted. The rules followed by producers are various and, if the objective is often to ensure a full island origin, in most cases the difficulties to source wholly from the islands are such that often only processing and/or only part of the raw material comes from the islands.

4.2 Specific Island farming products: focus on islands PDOs

4.2.1 Introductive elements

The protection of PDO and PGI is laid down at EU level by Council Regulation (EC) No 1151/2012 on quality schemes for agricultural products and foodstuffs. This regulation covers agricultural products and foodstuffs, closely linked to their geographical area and provides that names registered as PDO or PGI may only be used by any operator in the marketing of

agricultural product or foodstuffs if conforming to the corresponding specifications. Registered names shall be protected against any direct or indirect commercial use for not complying comparable products or in so far as using the name exploits the reputation of the protected name, any misuse, imitation or evocation, even if the true origin of the product is indicated, any other false or misleading indication as to the provenance, origin, nature or essential qualities of the product, and any other practice liable to mislead the consumer as to the true origin of the product. The relations between trademarks, designations of origin and geographical indications are based on the principle of coexistence between a GI and a trademark registered previously but no posterior registration of trademarks or of geographical indication likely to create confusion.

For these specific quality schemes specific common rules must be outlined:

- Specifications whose content is defined by the EU are drafted by the producers and the concerned actors in the chain
- Controls are carried out by independent bodies (most of the time certification organisms)
- PDO and PGI recognize specific and traditional know how.
- The origin of the raw materials for the PGI, PDO is guaranteed
- Common graphic signs must be used on the labelling of the products.

EU Islands registered some PDO and PGIs for their products which have a specific link with their geographical origin.

4.2.2 list of Island GIs

Insular GIs represent 10 % of European registered GIs (excluding wine): 118 GIs produced in islands on 1158 GIs registered; 50 wines are also protected under the GI regime, so a total of 168 GIs.

Table 5 - Total number of PDO-PGI on EU islands

	Registered	*Applied*	*Total*
PDO	106	8	114
PGI	62	11	73

Designation	Country	Type	Product Category	Comment
Koufeta Amygdalou Geroskipou	Cyprus	PGI	Bread, pastry	
Loukoumi Geroskipou	Cyprus	PGI	Bread, pastry	
Vadehavslam	Denmark	PGI	Fresh meat	Partly - Fixed link
Vadehavsstude	Denmark	PGI	Fresh meat	Partly – Fixed link
Brocciu Corse; Brocciu	France	PDO	Cheese	
Clémentine de Corse	France	PGI	Fruit	
Farine de châtaigne corse/Farina castagnina corsa	France	PDO	Fruit	
Huile d'olive de Corse ; Huile d'olive de Corse-Oliu di Corsica	France	PDO	Olive oil	
Huîtres Marennes Oléron	France	PGI	Fish	Partly – Fixed link
Melon de Guadeloupe	France	PGI	Fruit	
Miel de Corse ; Mele di Corsica	France	PDO	Honey	
Pomme de terre de l'Île de Ré	France	PDO	Vegetables and potatoes	Fixed link
Feldsalat von der Insel Reichenau	Germany	PGI	Vegetables and potatoes	Lake – Fixed link
Gurken von der Insel Reichenau	Germany	PGI	Vegetables and potatoes	Lake – Fixed link
Salate von der Insel Reichenau	Germany	PGI	Vegetables and potatoes	Lake – Fixed link
Tomaten von der Insel Reichenau	Germany	PGI	Vegetables and potatoes	Lake – Fixed link
Agios Mattheos Kerkyras	Greece	PGI	Olive oil	
Apokoronas Chanion Kritis	Greece	PDO	Olive oil	
Arxanes Irakliou Kritis	Greece	PDO	Olive oil	
Chania Kritis	Greece	PGI	Olive oil	
Exeretiko Partheno Eleolado Selino Kritis	Greece	PDO	Olive oil	
Exeretiko partheno eleolado Thrapsano	Greece	PDO	Olive oil	
Fava Santorinis	Greece	PDO	Vegetables and potatoes	
Feta	Greece	PDO	Cheese	Partly
Fystiki Aeginas	Greece	PDO	Fruit	
Graviera Kritis	Greece	PDO	Cheese	
Graviera Naxou	Greece	PDO	Cheese	
Kalathaki Limnou	Greece	PDO	Cheese	
Kasseri	Greece	PDO	Cheese	Partly
Kefalonia	Greece	PGI	Olive oil	
Kolymvari Chanion Kritis	Greece	PDO	Olive oil	

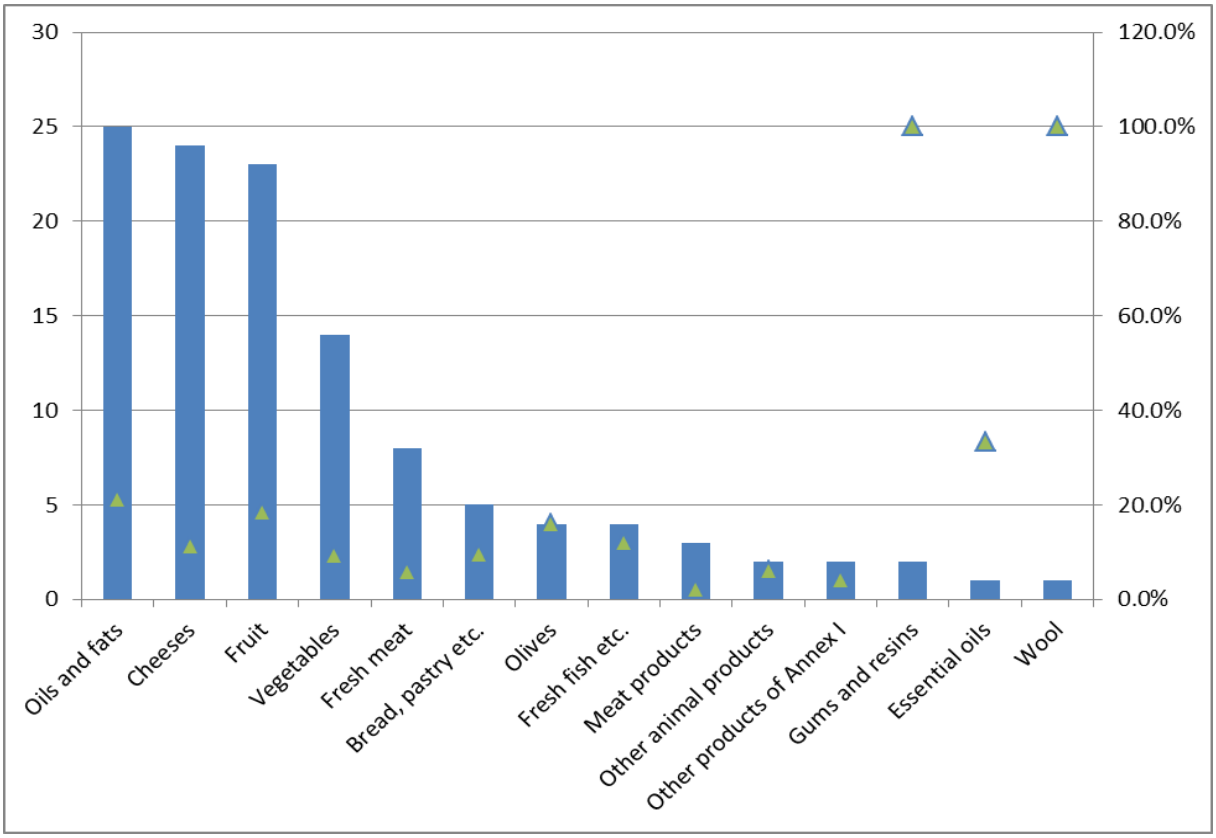
Kopanisti	Greece	PDO	Cheese
Koum kouat Kerkyras	Greece	PGI	Fruit
Kritiko paximadi	Greece	PGI	Bread, pastry
Ladotyri Mytilinis	Greece	PDO	Cheese
Lesvos ; Mytilini	Greece	PGI	Olive oil
Mandarini Chiou	Greece	PGI	Fruit
Masticha Chiou	Greece	PDO	Gums and resins
Mastichelaio Chiou	Greece	PDO	Essential Oil
Patata Naxou	Greece	PGI	Vegetables and potatoes
Peza Irakliou Kritis	Greece	PDO	Olive oil
Pichtogalo Chanion	Greece	PDO	Cheese
Portokalia Maleme Chanion Kritis	Greece	PDO	Fruit
Rodos	Greece	PGI	Olive oil
Samos	Greece	PGI	Olive oil
San Michali	Greece	PDO	Cheese
Sitia Lasithiou Kritis	Greece	PDO	Olive oil
Stafida Zakynthou	Greece	PDO	Fruit
Thassos	Greece	PGI	Olive oil
Throumpa Ampadias Rethymnis Kritis	Greece	PDO	Table olive
Throumpa Chiou	Greece	PDO	Table olive
Throumpa Thassou	Greece	PDO	Table olive
Tsikla Chiou	Greece	PDO	Gums and resins
Viannos Irakliou Kritis	Greece	PDO	Olive oil
Vorios Mylopotamos Rethymnis Kritis	Greece	PDO	Olive oil
Xygalo Siteias / Xigalo Siteias	Greece	PDO	Cheese
Xynomyzithra Kritis	Greece	PDO	Cheese
Zakynthos	Greece	PGI	Olive oil
Clare Island Salmon	Ireland	PGI	Fish
Agnello di Sardegna	Italy	PGI	Fresh meat
Arancia di Ribera	Italy	PDO	Fruit
Arancia Rossa di Sicilia	Italy	PGI	Fruit
Cappero di Pantelleria	Italy	PGI	Vegetables and potatoes
Carciofo Spinoso di Sardegna	Italy	PDO	Vegetables and potatoes
Carota Novella di Ispica	Italy	PGI	Vegetables and potatoes
Ciliegia dell'Etna	Italy	PDO	Fruit
Ficodindia dell'Etna	Italy	PDO	Fruit
Ficodindia di San Cono	Italy	PDO	Fruit
Fiore Sardo	Italy	PDO	Cheese

Limone di Siracusa	Italy	PGI	Fruit	
Limone di Sorrento	Italy	PGI	Fruit	Partly
Limone Interdonato Messina	Italy	PGI	Fruit	
Monte Etna	Italy	PDO	Olive oil	
Monti Iblei	Italy	PDO	Olive oil	
Nocellara del Belice	Italy	PDO	Table olive	
Pagnotta del Dittaino	Italy	PDO	Bread, pastry	
Pecorino Romano	Italy	PDO	Cheese	Partly
Pecorino Sardo	Italy	PDO	Cheese	
Pecorino Siciliano	Italy	PDO	Cheese	
Pesca di Leonforte	Italy	PGI	Fruit	
Piacentinu Ennese	Italy	PDO	Cheese	
Pistacchio verde di Bronte	Italy	PDO	Fruit	
Pomodoro di Pachino	Italy	PGI	fruit	
Ragusano	Italy	PDO	Cheese	
Salame S. Angelo	Italy	PGI	Meat products	
Sale Marino di Trapani	Italy	PGI	Other products of Annex I (Salt)	
Uva da tavola di Canicattì	Italy	PGI	Fruit	
Uva da tavola di Mazzarrone	Italy	PGI	Fruit	
Val di Mazara	Italy	PDO	Olive oil	
Valdemone	Italy	PDO	Olive oil	
Valle del Belice	Italy	PDO	Olive oil	
Valli Trapanesi	Italy	PDO	Olive oil	
Vastedda della valle del Belìce	Italy	PDO	Cheese	
Zafferano di Sardegna	Italy	PDO	Other products of Annex I (Saffron)	
Ananás dos Açores/São Miguel	Portugal	PDO	Fruit	
Anona da Madeira	Portugal	PDO	Fruit	
Carne dos Açores	Portugal	PGI	Fresh meat	
Maracujá dos Açores/S. Miguel	Portugal	PDO	Fruit	
Mel dos Açores	Portugal	PDO	Honey	
Queijo S. Jorge	Portugal	PDO	Cheese	
Bruna bönor från Öland	SE	PGI	Vegetables and potatoes	
Aceite de Mallorca ; Aceite mallorquín ; Oli de Mallorca ; Oli mallorquí	Spain	PDO	Olive oil	
Ensaimada de Mallorca ; Ensaimada mallorquina	Spain	PGI	Bread, pastry	
Mahón-Menorca	Spain	PDO	Cheese	
Papas Antiguas de Canarias	Spain	PDO	Vegetables and potatoes	

Queso de Flor de Guía / Queso de Media Flor de Guía / Queso de Guía	Spain	PDO	Cheese	
Queso Majorero	Spain	PDO	Cheese	
Queso Palmero ; Queso de la Palma	Spain	PDO	Cheese	
Sobrasada de Mallorca	Spain	PGI	Meat products	
Isle of Man Manx Loaghtan Lamb	UK	PDO	Fresh meat	
Isle of Man Queenies	UK	PDO	Fish	
Jersey Royal potatoes	UK	PDO	Vegetables and potatoes	
Native Shetland Wool	UK	PDO	Wool	
Orkney beef	UK	PDO	Fresh meat	
Orkney lamb	UK	PDO	Fresh meat	
Scottish Farmed Salmon	UK	PGI	Fresh meat	Partly
Shetland Lamb	UK	PDO	Fresh meat	
Stornoway Black Pudding	UK	PGI	Meat products	

The vast majority of non-wine island PDO and PGI are exclusively located on islands. Only few of them are covering mixed areas continent - islands (in particular Pecorino Romano, marginally produced on the continent, or, on the contrary, Feta cheese, which is marginally made of milk originating from the island of Lesbos). As quoted by Thizos and Vakoufaris (2011), 33 of the 84 Greek denominations are exclusively produced on islands. This seems consistent with the fact that islands are geographically clearly delimited areas.

Figure 32 - Type of products registered as GIs in EU Islands (nr of designations and percentage of GIs of the same group being on islands)



Source: own calculation from DOOR, Sep 2013

Some families of products are more represented within the GI schemes in Islands: Olive oil, cheese (many of them of ewe and goat milk) and fruit denominations are the categories for which there are more than 20 geographical indications registered in the EU. For olive oil, table olives, fruit and fish products, close to 20% of the EU geographical indications correspond to island products. Denominations for other very specific products are predominantly from islands: gums and resins from Chios, wool from the Shetlands.

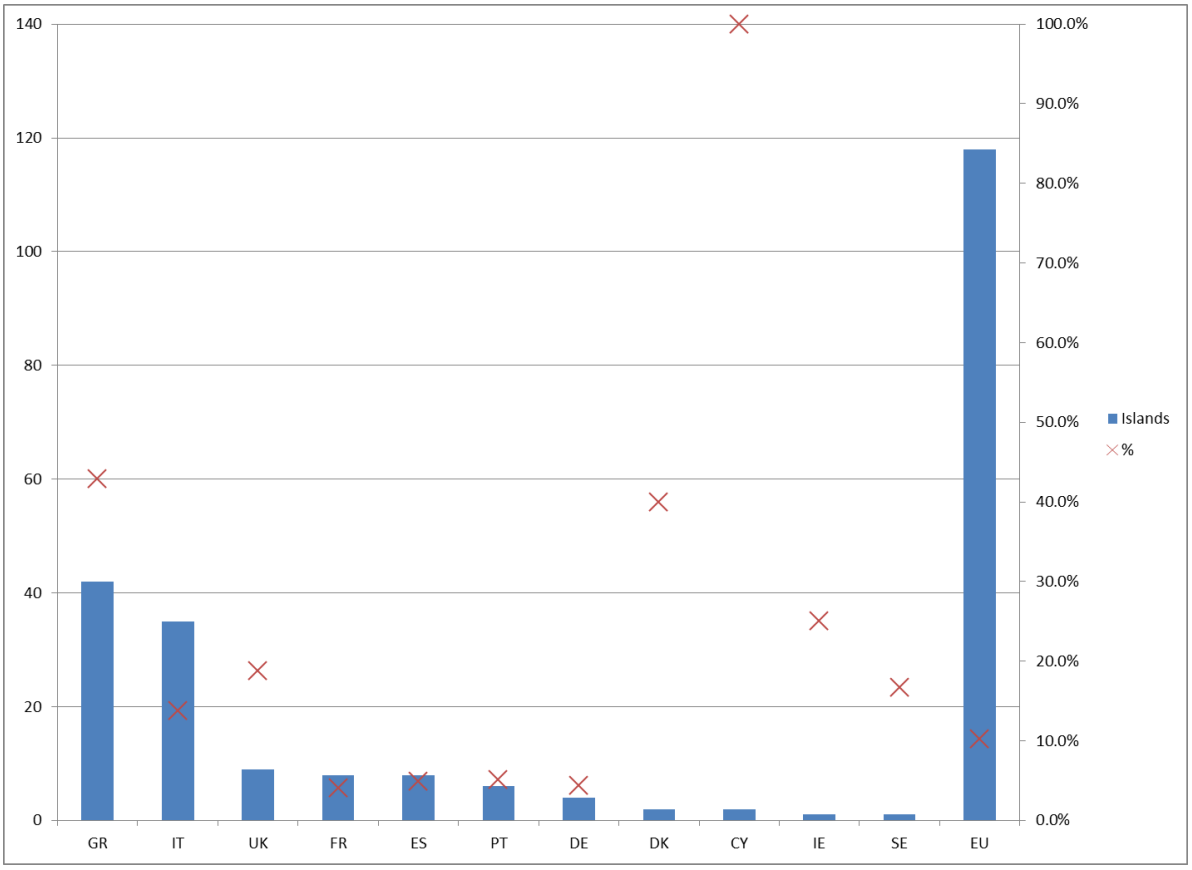
Figure 33 – Distribution of insular GIs per country

	%	*Number of GIs for Wine*
Greece	31	13
Italy	22	5
Spain	11	8
France	10	4
Cyprus	7	11/13 (85%)

Portugal	6	4
UK	5	0
Germany	2	0
Malta	2	4
Denmark	2	1
Ireland	1	0
Sweden	1	0

Source: Authors calculations

Figure 34 – Distribution of Island GIs per member States (nr of designation and %)



Among the concerned countries, Greece and Italy represent half of the geographical indications registered in the islands. There are also a significant numbers of designations registered in United Kingdom, France, Spain and Portugal. 60% of the Greek designations are island PDO or PGI, although,as reported by Kizos and Vakoufaris (2011), some of these products, being produced in very small quantities, are not anymore or not every year marketed as PDO or PGI. 15 to 20% of the designations from Italy (many from Sicily) and United Kingdom are also island products, demonstrating the very rich heritage of these islands.

4.2.3 Insular GIs, what reference is put forward?

As mentioned above, most of the time, island geographical indications are strictly located on islands (one or several) and only few of them are mixed islands - continent.

The geographical names contained in the designations are of different types, they primarily refer to the name of the island concerned (59% of the cases, most Greek designations, the ones from Sardinia, Corsica or Baleares), sometimes with additional names (particularly in the case of designations from Crete which systematically give further details on the part of Crete concerned). In other cases (30%), the designation refers to a locality within an island (this is the case for most of the Sicilian designations, but also for others, such Stornoway in the Outer Hebrides, etc.). In few cases (8%), the reference is to the name of the archipelago (Azores, Shetlands, Orkneys and in one case Canary Islands). The remaining cases concern traditional designations with no geographical reference (e.g. Feta or Kaseri cheese).

A survey of PDO and PGI logos has also been conducted in the framework of the present research. Only 61 logos out of the 118 geographical indications were collected and studied (by lack of accessibility of certain of them, poorly used). Producer groups do not communicate systematically in their collective logos on the Island origin as such. The name of the PDO or PGI registered is enough to promote the product. Then, logos are not really focused on islands, only few of them show the shape of the island which appears on the logo. In comparison with mountain PDOs, there is much less reference to the geographical feature of the areas concerned. Most of the time, fanciful logos are used, the picture or shape of the product is stylised.

Figure 35 -Examples of insular GIs logos without shape of island (first line) or with shape of island (second line)

There are several cases where PDOs coexist with several other schemes. For example, the PDO Jersey Royal Potatoes is marketed under the local generic mark 'Genuine Jersey' (and is one of

the emblematic products of this generic brand). At a certain moment, even, (prior to the compulsory labelling of the mention and logo), the product was sold as 'Genuine Jersey Royal New Potatoes' without the PDO logo and rather a depiction of the Jersey landscape. The status of PDO was then more valued for B-to-B communication enabling producers to maintain high price and value added versus distributors (Keefe, 2006). The PDO Jersey Royal Potatoes also co-exist with other global quality assurance schemes such AFS (Little Red Tractor) or LEAF etc. This is also the case in the Canary Islands, where PDOs and PGIs can cumulate the regional quality mark and the RUP logo.

Figure 36 – Example of label coexistence for island products

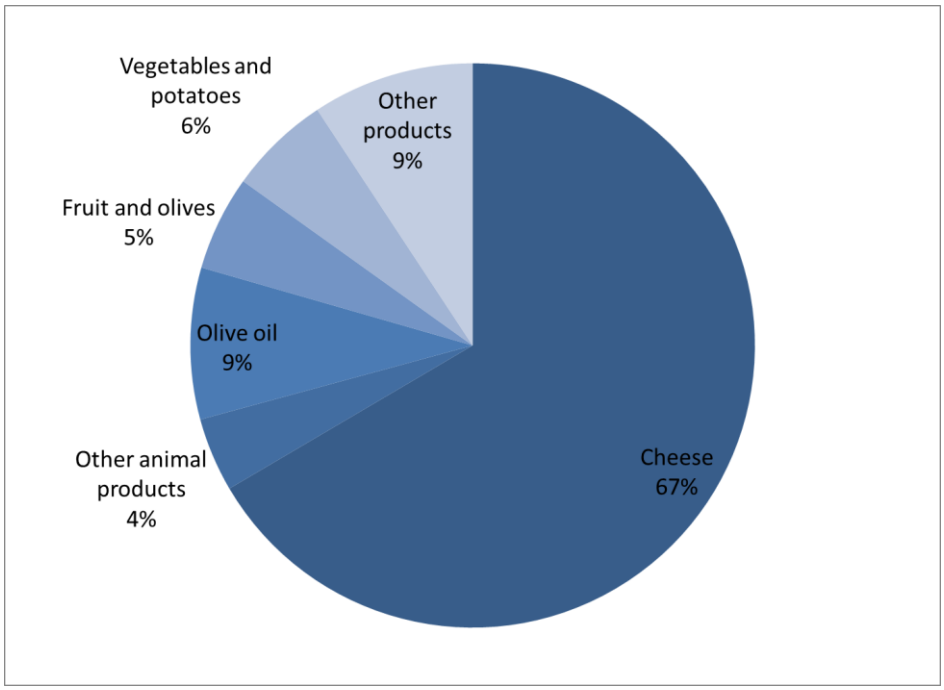
4.2.4 Commercial data on GIs is Islands

It is possible to provide an estimation of the weight of PDOs and PGIs in agrifood island production. The commercial value represents approximately 355 million € of turnover[8], representing around 5% of the value of agricultural production on islands. This share is only slightly higher than the share of geographical indications at the EU level, and much lower than other types of geographical areas such as mountain areas (Santini et al., 2013).

At the sectorial level, cheeses are composing the registered products of highest value. The Pecorino Romano, produced in majority in Sardinia, is the main products, representing one third of the total value of production of island PDO and PGI. Most of the value of production under PDO-PGI is therefore represented by cheese, which is the only sector where PDO and PGI in islands represent a high share of the production (approximately 25% of the islands dairy turnover). The share under PDO and PGI is also important for olive oil (around 7%), but minimal for the other important sectors (around 1% for fruit or vegetables and even less for meat products).

[8] For the purpose of this estimation, the data from the DG AGRI database on the value of PDO and PGI products has been adapted as follows: the mixed island-continent PDO PGI have been separated (from 10% to 85% islands according to the products, depending on the expert knowledge available) and the data on value of production of the PDO Jersey Royal Potatoes has been divided by ten in order to take into account normal wholesale price (0,5 to 0,6 €/kilo).

Figure 37 - Distribution of the value of island PDO-PGI production per type of product (% of total islands GIs production 2005-08)



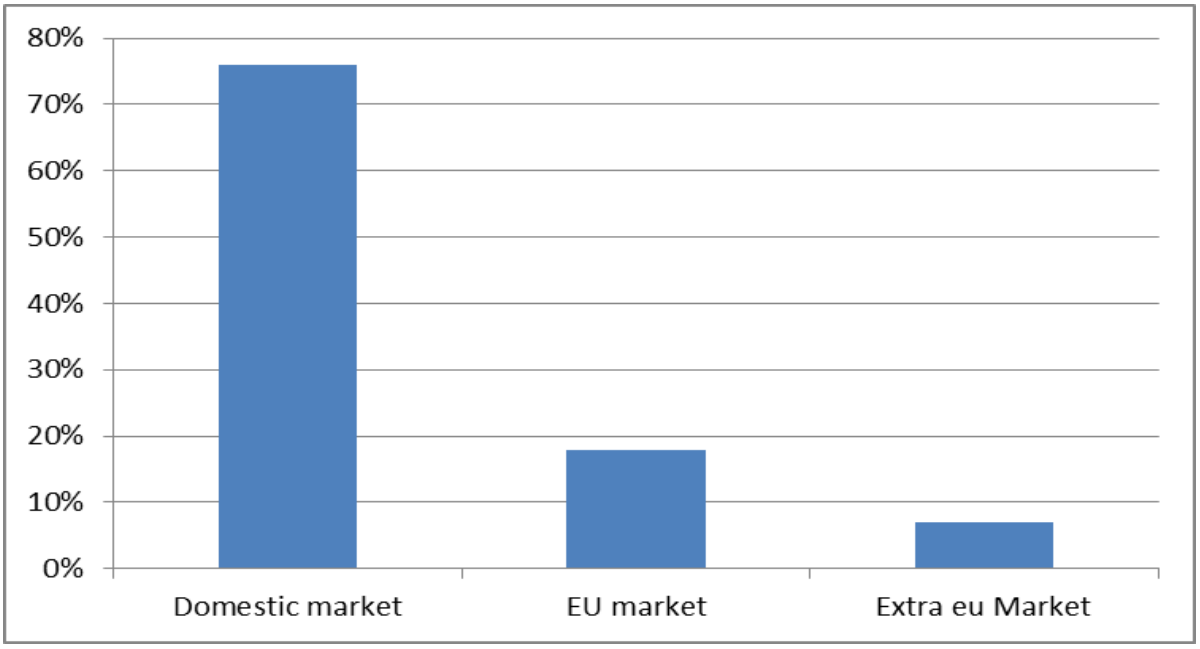
Source: Authors calculation from DG AGRI data on volume and value of GI

Few island PDO or PGI products exceed 10 million € of annual turnover : several cheeses such as Pecorino Romano and Sardo, Graviera Kritis, Mahon-Menorca, as well as fruit and vegetables (Clémentine de Corse, Jersey Royal Potatoes), Sobrasada de Mallorca, Clare Island Salmon or Sitia Lasithiou Kritis Olive Oil.

According the market destinations of these products, ¾ of insular GIs products are sold to national markets[9] . Among the relevant sectors of products previously identified, with the exception of olive and fat sector, the domestic market represents between 85% and 100% of the commercial destination of GIs products. Olive oil represents a notable exception because only 50% is sold in the domestic market, 38% in the EU market and 12% outside the EU market.

Figure 38 - Markets distribution for insular GIs

[9] Excluding wine and Feta



Source: Authors calculation from DG AGRI data on volume and value of GI; treatment Aubard Consulting

In sum, there are a lot of PDOs and PGIs in islands. Their vast majority refers to the name of a specific island, and there is no example of generic island reference. There are also cases, including important ones such as Pecorino Romano, where there is no reference at all to the insularity. Beside, despite the high number of geographical indications, only few of them only have a significant size in terms of volume and/or value of marketed products. Overall, geographical indications do not cover a significantly higher share of island products than on average in the EU, despite a common policy recommendation to develop niche quality products in islands. This leaves a lot of room for other type of labelling, including territorial and collective trademarks which seem to have developed a lot in EU islands.

5 Case studies of Products of Island Farming

5.1 Quality Certified Agricultural Production in the Greek Islands by D. Skuras, A. Goudi and D. Psaltopoulos. Department of Economics University of Patras

Greece has around 6,000 islands and islets inhabited by almost 15% of its population. The Greek islands are a vital part of the country's society, economy and culture and play a significant role in agricultural and food production. In recent decades, Greek agriculture has facilitated the production of high quality agro food products. This is regarded as a vital alternative strategy to the mass production of conventional products and is best suited to the climatic and structural characteristics of Greek agriculture. Thus, an examination of quality certified agricultural production in the islands is of the outmost importance for Greece. The objectives of this inquiry should be threefold: first, to place quality agricultural production in the islands in the wider frame of quality agricultural production in Greece and unravel its significance; second, to record the wide range of factors from soil and climate to culturally embedded cultivation and processing methods that differentiate agricultural production in the islands and attach to it specific "island" quality traits; third, to examine the likely economic impacts of quality production on businesses and the island local societies and highlight specificities in the marketing and the organization of existing quality schemes. In this work we adopt a qualitative "case study" approach and examine each "inquiry theme" by a detailed contextual analysis of a number of "paradigmatic" events. For the Greek case, this methodological approach is exclusive as we lack data and information on key quality agricultural production variables such as volume of production, prices and premiums, value of exports, etc. This chapter is organized as following: Parts 5.1.1 and 5.1.2 place the islands in the wider Greek administrative framework and provide the baseline demographic and economic situation and information on the agricultural and food sectors. Part 5.1.2 details the quality agricultural production in the islands with special reference to all factors that differentiate island from mainland agricultural quality production. Part 5.1.4 presents the economy of quality production in the islands, the organization of the markets and the operation of quality schemes. Finally, part 5.1.5 concludes the chapter.

5.1.1 The Greek Islands: Background Information

Administratively, the Greek islands are clustered under four major NUTS2 regions, namely the islands of the Ionian Sea (Ionia Nisia – EL22), the islands of the North Aegean Sea (Voreio Aigaio – EL41), the islands of the South Aegean Sea (Notio Aigaio – EL42) and the island of Crete (Kriti – EL43). These areas include more than 95% of the Greek islands in terms of surface and population. Only a few islands are attached to administrative units of mainland Greece. Indicatively, the island of Thasos is attached to the mainland area of Kavala, the island cluster of Sporades is attached to the mainland area of Magnisia and the island of Samothraki to the mainland area of Evros. Also, the islands of Aegina, Salamina, Hydra, Spetses, Poros and Kythira are attached to the metropolitan area of Athens.

The Ionian islands include the major islands of Corfu (Kerkyra), Zakynthos (Zante), Lefkada and Cephalonia, which, with their associated smaller islands, form four distinct NUTS3 areas. The same pattern holds for the North Aegean islands where the islands of Lesvos, Chios and Samos with their associated small islands form three distinct NUTS3 areas. The South Aegean

Islands include two NUTS3 areas, those of Cyclades and Dodekanese. Cyclades includes, amongst others, the well-known islands of Mykonos, Santorini, Naxos and Paros, while Dodekanese includes the well-known islands of Rhodes and Kos and other smaller islands. Finally, the island of Crete is made up of four NUTS3 areas. Map 3 shows the location of the Greek islands, their administrative boundaries and their classification according to the island categories provided by Dijkstra and Poelman (2011) and used by the 5th Cohesion Report (EC, 2010).

Map 3- Greek islands

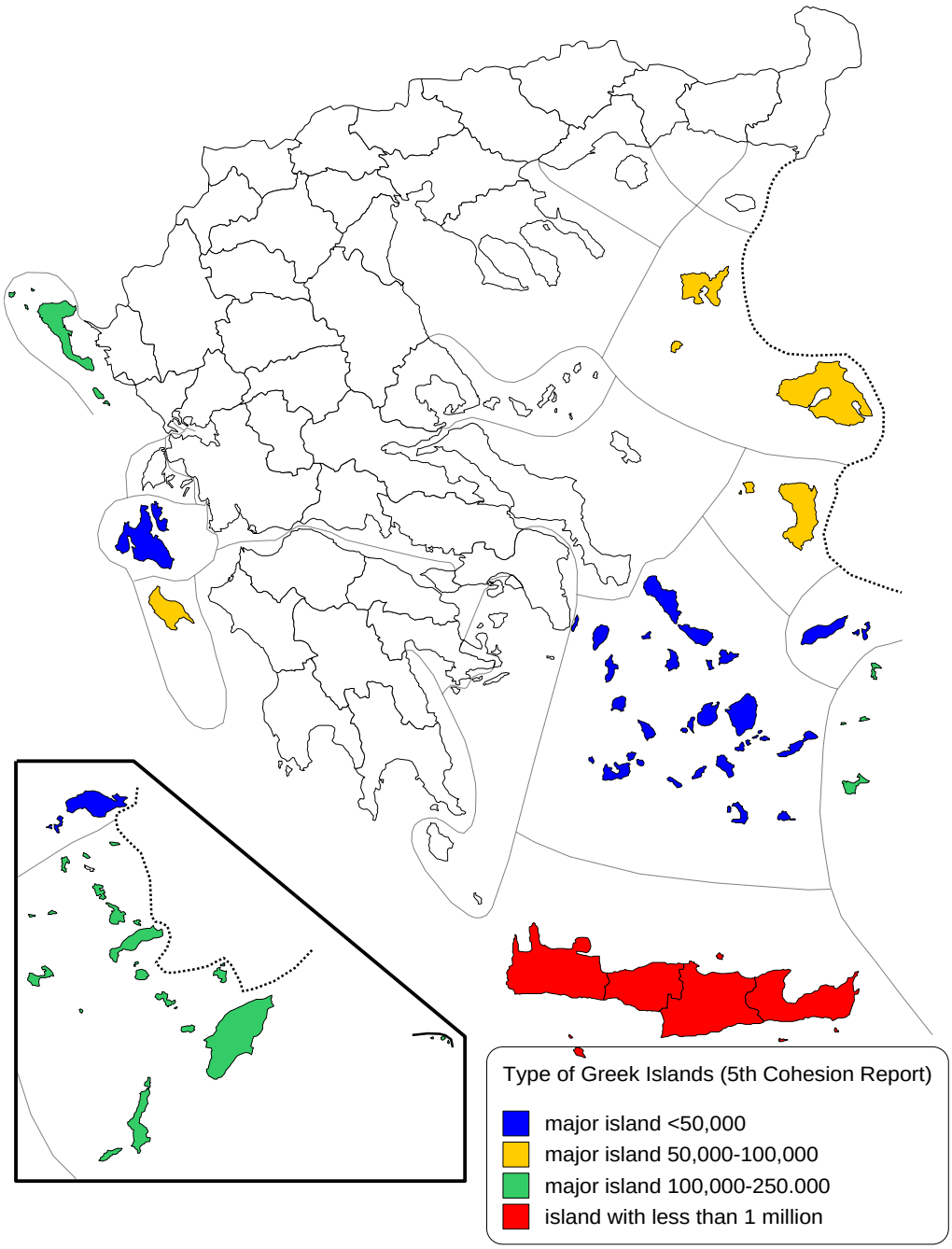


Table 6 provides an overview of the basic demographic and economic characteristics of the Greek islands. The islands comprise 15% of the Greek territory, are inhabited by 12% of the Greek population, contribute 16% of the country's GVA in the primary sector and account for 60% of the bed places provided by the country's tourism industry. Thus, the Greek islands are

an important and vital part of the Greek society and economy. Table 6 allows for a comparison of the basic demographic and economic characteristics between the islands and Greece as a whole and among the islands. As expected, the islands are thinly populated with 69 inhabitants per km^2 as compared to 86 for Greece. The average level of economic development captured by Purchasing Power Standards (PPS) per inhabitant is lower than the Greek average by almost 840 euros. The percentage of Gross Value Added (GVA) attributed to the primary sector is higher in the islands (4.4%) than in the country as a whole (3.2%) indicating the relative importance of the sector.

Table 6 also reveals the heterogeneity of the Greek islands as concerns basic demographic and economic indicators. This heterogeneity is marked not only among island regions but also at sub-regional level. For example, the Ionian islands region is more densely populated than Greece as a whole and more densely populated than all other Greek island regions. Moreover, in this region, the island of Kerkyra is almost three more densely populated than the rest of Greece while the island of Cephalonia has almost half the population density of Greece. In terms of economic development the differences among the islands are significant. The islands of Cyclades show a PPS per inhabitant, 1.6 times higher than the country's average, while the island of Kerkyra lags significantly behind the country's average. As concerns with the importance of the primary sector to the economy this ranges from 1.7% for the island of Kerkyra to 14.7% for the prefecture of Lasithi in Crete.

Table 6 - Basic Demographic and Economic Characteristics of the Greek islands

	Population - 2012	Area in Km^2 - 2012	Density – Inhabitants per Km^2	PPS – Euros per Inhabitant - 2010	GVA Primary Sector - million euros - 2010	% of GVA in the Primary Sector to Total GVA
Greece	11,290,067	131,957	86	21,400	6299.6	3.2
Ionia Nisia	234,002	2,307	102	18,700	92.4	2.6
Zakynthos	40,597	406	100	24,800	20.5	2.5
Kerkyra	133,556	641	210	15,500	28.4	1.7
Kefallinia	37,857	904	42	23,700	37.1	5.1
Lefkada	21,992	356	62	18,300	6.5	2.0
Voreio Aigaio	198,978	3,836	52	17,200	126.6	4.6
Lesvos	105,035	2,154	49	16,700	72.7	5.1
Samos	42,239	778	54	17,900	17.6	2.9
Chios	51,704	904	57	17,500	36.3	5.0
Notio Aigaio	312,267	5,286	59	26,300	146.1	2.2
Dodekanisos	198,499	2,714	73	22,100	75.6	2.1
Kyklades	113,768	2,572	44	33,600	70.5	2.3
Kriti	614,956	8,336	74	19,500	630.4	6.5
Irakleio	305,380	2,641	115	19,300	266.9	5.7
Lasithi	75,216	1,823	41	20,700	185.6	14.7
Rethymni	82,210	1,496	55	18,700	68.5	5.5
Chania	152,150	2,376	64	19,700	109.5	4.5
All Islands	1,360,203	19,765	69	20,564	995.5	4.4

Source: Eurostat, various databases

5.1.2 The Agriculture and Food Sectors in the Greek Islands

Table 7 provides an overview of the basic structural characteristics of agriculture in the Greek islands. Island agriculture is, in general, small-holder agriculture, by any size indicator, i.e. physical, economic or labour. Of course, there are islands where the average farm size indicators are higher than the respective country's averages, as in the cases of Cyclades in South Aegean, the prefecture of Rethymno in Crete and the island of Cephalonia in the Ionian Sea.

It is also important to note that, in terms of labour requirements, there is no average farm in any of the Greek islands requiring more than half an Annual Work Unit (AWU). This reflects the fact that island agriculture in Greece is highly diversified in terms of activities. At least the farmer or some of the members of the farmers' family maintain jobs in the food and tourism sectors in order to survive. This evidence should be viewed in parallel to the age structure of the farming population in the Greek islands. The proportion of ageing farmers in Greece, i.e. farmers over 55 years, was around 55% in 2010. In the Ionian islands this proportion rises to 64%, and in the North and South Aegean islands is around 57%, slightly higher than the country average. Even in Crete, where agriculture is more dynamic and competitive, this proportion is at 53%, slightly below the country's average and way above 45%, which is the respective proportion of the regions in the North mainland Greece.

Table 7 - Basic Agricultural and Land Use Characteristics of the Greek Islands

	Size of Holdings in:			% of UAA Irrigated	% of UAA under:			Proportion of Greece's animal stock		
	ha	ESU	AWU		Arable	Planta-tions	Vine-yards	Cattle	Sheep	Goat
Greece	4.9	7.7	0.6	29.9	46.8	24.3	2.5			
Ionia Nisia	2.7	3.5	0.5	3.6	8.1	44.6	4.7	0.9	1.3	2.9
Zakynthos	2.3	3.9	0.6	2.7	10.1	51.7	13.4	0.3	0.1	0.3
Kerkyra	1.4	2.7	0.5	6.7	3.9	86.6	2.2	0.1	0.1	0.1
Kefallinia	7.4	5.2	0.6	1.9	10.3	11.5	1.6	0.4	1.0	2.3
Lefkada	2.2	3.7	0.4	5.3	3.9	72.4	5.3	0.1	0.1	0.2
Voreio Aigaio	5.5	5.3	0.5	3.6	8.9	35.4	1.4	1.3	4.7	2.5
Lesvos	7.3	5.9	0.5	3.3	10.5	32.2	0.6	1.1	4.6	1.2
Samos	2.0	3.3	0.4	6.2	4.6	64.6	10.0	0.1	0.1	0.7
Chios	4.1	5.7	0.4	3.7	1.1	36.3	0.5	0.2	0.1	0.6
Notio Aigaio	4.6	5.5	0.5	6.4	22.5	17.6	3.2	2.5	2.0	5.2
Dodekanisos	3.3	4.3	0.4	7.7	19.6	31.9	2.0	0.8	0.6	2.2
Kyklades	6.9	7.6	0.8	5.4	24.8	6.0	4.2	1.7	1.4	3.0
Kriti	4.7	6.2	0.6	20.6	3.9	36.2	3.7	0.3	20.4	14.8
Irakleio	3.8	5.7	0.5	26.9	4.9	45.0	7.7	0.2	4.9	4.4
Lasithi	3.3	7.7	0.7	39.1	4.9	47.5	2.5	0.0	0.9	1.0
Rethymni	8.4	7.4	0.7	8.4	4.3	22.6	1.1	0.1	11.1	5.2
Chania	5.1	5.3	0.5	17.2	1.7	33.4	1.1	0.0	3.5	4.3

Source: Greek Census of Agriculture, 2009-2010

Island agriculture is, largely, a rain fed agriculture, as the proportion of irrigated land is significantly low, even on islands where the proportion of arable land is comparatively high. The land under plantations refers exclusively to non-irrigated olive groves which, in the Ionian

islands, cover almost half of the UAA. Animal breeding and grazing are exceptionally developed in the Greek islands. It is worth noting that one third of the country's total stock in sheep and goat is raised on the islands. On the other hand, cattle raising, which is very demanding in irrigated feedstuffs, is not developed. As explained below, the productivity of the milk and dairy sector on the islands is not high, because the production of milk per animal is lower and the milk requirements of the dairy products are high. Thus, there is an apparent productivity lag, which is rooted in the environmentally adapted methods of animal grazing and the high quality of the production.

The food manufacturing sector of the Greek islands is depicted in Table 8. On the Greek islands are located 16% of all establishments in the Greek food manufacturing sector, accounting for 6.6% of the national employment in the sector. This reflects their small average size, which, in fact, is half of the national average. The group of Cyclades islands is a notable exception with average size of agri-food firms two and a half times larger than the national average. The small size of the average firm in the island food sector is justified by the limited production of raw materials and the fact that raw materials should be immediately transported to the nearest establishment in order to preserve their quality characteristics. Taking into account the low density and quality of the island road network, a pattern of small, scattered establishments has emerged. This of course has serious implications on the cost of production, as most of the establishments operate far away from the cost efficient scale.

The cost for salaries and wages is lower in the Greek islands reflecting first the lower salaries paid in rural areas and second, the lower qualitative composition of the staff in terms of scientific and engineering personnel. The food manufacturing sector in the islands territories is an important sector of manufacturing industry as a whole and accounts for one quarter of the industry's employment in this part of Greece, again with the exception of the South Aegean islands. This reflects the fact that the other sectors of the manufacturing industry are not well developed, which is fully justified taking into account the locational and labour restrictions of the islands. Finally, it is important to highlight the very serious reduction of employment in the food manufacturing sector as a result of the country's economic recession. The sector lost half of its employment in the Ionian and North Aegean Islands, three quarters in the South Aegean Islands and only one quarter in Crete. This should be compared with a mere 12% for the country as a whole. The food products of the islands are more expensive than the conventional Greek agricultural products and were among the first to be affected by the reduced domestic demand. This is also an indication that the island food products targeted the national market and not foreign markets that were not affected that much by the recession.

Table 8 - The Food Sector in Greece and the Islands

Indicator	Greece	Ionia Nisia	Voreio Aigaio	Notio Aigaio	Kriti	All Islands
Number of local units	15,933	332	316	32	1,381	2,061
Wages and Salaries in million euro	1,295.6	7.0	8.2	6.1	52.0	73.3
Number of persons employed	81,139	564	675	412	3,700	5,351
Average salary/wage per employee	15,967	12,411	12,148	14,806	14,054	13,698
Average employees per establishment	5.1	1.7	2.1	12.9	2.7	2.6
Growth (%) of employment 2008-09	-11.6	-54.6	-44.4	-75.1	-25.0	---
Share of employment in manufacturing	19.2	26.9	24.4	13.7	23.2	---

Source: Eurostat, Structural Business Survey, 2009

To summarize, agriculture on the Greek islands is important for the country and for these small, local economies. The term "island agriculture" in Greece masks out a great

heterogeneity due to the extreme environmental variability among the islands and the unevenness in economic development, mainly of the tourism sector . Agriculture on the Greek islands should be viewed under an ecological perspective of adaptation to the climatic and vegetative-soil conditions that has evolved following certain historical socio-cultural paths. In general, island agriculture is a smallholder agriculture hardly sustaining one household, oriented towards dry olive groves, rain fed cultivations and vineyards and sheep and goat breeding. The island food sector is important in terms of employment and incomes, but its small average size imposes cost inefficiencies. The sector has been severely affected by the country's economic recession due to the fact that it produces high priced products and mainly targets the national market.

5.1.3 Quality Production

i. Quality Agricultural Production in Greece and its Islands

The EU introduced certification schemes for quality agricultural and food production in 1992, as part of its Rural Development Policy. Greece has been one of the earliest and strongest adopters of such schemes among Member States. Greek islands also responded by certifying agricultural and food products under both the PDO and PGI schemes. Despite the apparent importance placed by Greece to quality products, the information that can be officially retrieved is minimal. Thus, there is no information concerning quality production (farmers, areas, animal stock, volumes, etc.), its economic importance (value of production, GVA, etc.), trade values and volumes (national versus exports) and processing. The major trustful sources of information remain the EU's registry of quality products (DOOR), the Greek agricultural certification organization (AGROCERT) database of registered products and processors and the EU study on the "Value of production of agricultural products and foodstuffs, wines, aromatised wines and spirits protected by a geographical indication (GI)", (Chever, Renault *et al.* 2012). Due to this lack of information our sources were extended to personal communications with the managers of many agricultural cooperatives or processing firms, to various Greek business internet sources, scientific literature and the Greek Ministry of Rural Development and Food. Thus, our approach cannot be based on "quantitative", hard scientific evidence but on "qualitative" examples from the experience gained from processing the collected material.

Greece has registered or has submitted for registration about 145 PDOs, and PGIs including wines (from now on called GIs). GIs in Greece account for almost 10% of the total value of agricultural production (Chever, Renault *et al*. 2012). The country is ranked 7th among EU Member States in terms of the value of GI production, which mainly consists of cheese (around 70%), wine (less than 20%), spirits (less than 10%) and olive oil (less than 5%). Feta cheese is the flagship of Greek GIs in terms of total sales value. Greece is the Member State with the most important share in the total sales value under GI for agricultural products and foodstuffs (71% of national sales value is under GI). Over the last 15 years, the sales and volume of the main GIs grew. However, as the AND report claims, those GIs with smaller volume of production addressing niche markets had various fates: some maintained themselves; others declined; only a few grew.

On Greek islands we find a variety of PDO or PGI products, which account for: 21 out of the 33 national registries of wines, 18 out of the 32 olive oils and 3 out of 11 olives, 9 out of 21 dairy products, 7 out of 45 fresh or dried fruits and vegetables, the only registered gum and resin, the only essential oil and the only PDO bakery product. The major products are wines, olive oils and cheeses with some notable and rare vegetables. Greek islands produce some of

the very best wines of the country due to the preservation of local varieties, the specific micro-climate of each island and the traditional methods employed in vineyard cultivation and the fermentation of wine. Such wines include those of Limnos and Samos from North Aegean, Santorini, Malvasia of Paros, Moshato of Rhodes and Kos from the South Aegean, Malvasia of Sitia in Crete, the famous Robola of Cephalonia, etc.

All island dairy products, with the exception of two, come from processed sheep and goat milk and are white cheeses or milk products. Of the 18 registered olive oils, 11 are produced on the island of Crete. The fresh and dried fruits and vegetables include tomatoes from the island of Santorini and potatoes from the island of Naxos (both part of Cyclades), mandarins from the island of Chios at North Aegean, sultanas (fresh and dried) from Crete, black currants from Zakynthos and koum-kouat from Kerkyra at the Ionian Sea and pistachios from the island of Aegina which administratively belongs to the greater Athens area. Finally, Greek island quality products include mastic, which is the raisin of the tree Pistacia lentiscus that produces a gum and an essential oil.

ii. Specific Characteristics of Island Products

The specific characteristics of the island products are induced by climate and soil, vegetation, specific animal breeds and cultivation and processing methods that have historically developed to overcome environmental and locational constraints and are now embedded to the culture and tradition of the islands.

Climate and soil

The climate in the Aegean Sea area is characterized by a warm and windy summer, and a warm and relatively dry winter with spring and autumn relatively short and transitional. The winds during summer are northern, cold and dry that may reach gale force in July and August. The topography of the islands and the continuous change between land and sea, result into a highly variable and, sometimes unpredictable climate. The water deficiency, sometimes from April onwards, especially on islands that do not have the ability to withhold water due to their volcanic or karst geology, has oriented to the cultivation of varieties that can survive under these climatic conditions. In many of the Aegean islands (e.g. Santorini, Limnos) the soils are volcanic pyrosclastic with ash and lava and thus, very fertile. Sandy soils, which cannot keep high moisture levels are also frequent. Soils, especially in the Aegean and Crete are under a high erosion risk due to northern winds and heavy grazing over a long human history.

The tomato variety of the island of Santorini at the Cyclades is one such example. The climate in Santorini is extremely dry with an annual precipitation of around 37 cm, an average of 200 sunny days per year, mean annual humidity of 70% and mean annual temperature of 17.5 Co, absence of morning frost and northern winds. The specific tomato variety is adapted to dry weather but produces only 5 tonnes per hectare as opposed to 100 tonnes per hectare for conventional tomatoes. Through ages of farming (the first written record of tomato use in Santorini dates back to the 19th century), cultivators selected early grown plants, which avoid the strong winds of the summer and utilize the rare precipitation. Thus, this variety of tomato matures between March and May, where conventional varieties start to mature in May. Furthermore, cultivators discovered, through years of experience, that planting seeds directly to the land supports the plant to grow a stronger root system and better utilize soil moisture. Thus, the climate has guided the selection of a variety, which is absolutely adapted to the climatic and soil conditions of the island. These special variety and cultivation produces tomatoes that have identifiable taste, shape and colour.

Vegetation

The natural fauna of Greece includes more than 6000 species, of which 20% are endemic. This high percentage of endemic species is due to the insularity of the islands that allowed plants to adapt to the environmental conditions and become endemic. This great diversity includes well-known grazing plants such as leguminous plants (Pisum, Vicia, Lathyrus, Medicago, Trifolium, Lotus, Ornithopus, Onobrychis, Astragalus, Ononis, Anthyllis) and grasses (Poa, Festuca, Phleum, Dactylis, Sorghum, Bromus, Agrostis, Cynodon, Hordeum, Avena, Aegilops and Loeleria). The graze also includes many aromatic and medicinal shrubs such as sage (Salvia officinalis), briar (Erica manipuliflora), broom (Calycotome villosa), oak (Quercus coccifera). From November to December the feed is complemented with olive tree branches and leafs from the olive tree pruning that takes place during olive picking. This type of feed is very palatable and appealing to the sheep and goat, and assigns the produced milk with certain characteristics, such as high content in fats and proteins which make it a first class raw material for cheese making.

Animal breeds

The major sheep breed is the “Aegean sheep”, which under certain variants also occurs frequently in the Ionian Islands and Crete. Other rare and some almost extinct sheep breeds include the sheep of the island of Chios in North Aegean, the Cephalonia and Zakynthos breeds at the Ionian Islands, the Skopelos breed (Glossa) at the Sporades cluster of islands and the Anogeia or Psiloritiki breed which is a mountainous Cretan breed. Besides the recognised sheep breeds, certain animal breeds that are considered endemic to the Greek islands have a long tradition and are adapted to the local environment. The Syros island cow in Cyclades is one such breed. The milk production of the Aegean sheep breed (100 kg/year) is considerably lower than that of the conventional sheep breeds of mainland Greece (150-170 kg/year). This is due to the adaptation of the breed to the special dry climate and vegetation of the islands. If we add to this the milk requirements of the island cheese products, which sometimes are up to 4 Kg of milk for one Kg of cheese, the overall productivity per sheep is extremely low, but the qualitative characteristics of the product are much different to that of conventional milk, especially as concerns fat and protein content.

Cultivation methods

Farmers in the Greek islands have historically developed certain cultivation methods, which are the outcome of a long process of adaptation to the island environment. One notable example is the way in which vines are pruned and shaped in the islands that are exposed to northern winds, such as Santorini and Limnos. On the island of Santorini fresh water supplies are rare and, a good supply of water for the vineyards is the early morning dew as the pre-dawn sea mists roll across and the moisture is being absorbed by the volcanic lava rock. The farmers try to capture the humidity before sun's heat comes, do not allow the vines to grow in height and let them crawl on earth. In addition, to protect them from wind, they roll vine branches into wreaths with the grapes in the inside of the wreath. This type of cultivation method creates an excellent landscape, utilizes natural water sources and protects grapes from the wind. On top of all these, the vine harvest always takes place during late afternoon hours so that the heat is lower and does not affect the grapes. Sometimes the harvest continues all day and wine pressing starts immediately in late afternoon and continues all night. One variety of this wine is called “Nykteri” which in the Greek language means a “thing of the night”. In this example, it is evident that the need to overcome environmental restriction has created novel cultivation methods, which changed the landscape, and created a new culture and farming tradition that is embedded in the social and cultural life of the island.

One of the most vivid examples of special cultivation methods that have developed a whole culture and tradition refers to the resiner of the Pistachia tree in the Chios island for the production of mastic. The cultivation and treatment of Pistachia has been developed over centuries on this island, and forms a tacit knowledge, which is transferred through family work and tradition. It is important to note that the language used by resiners for transferring their knowledge of cultivating and treating the mastic tree is a specific local dialect spoken only in the villages of the island that are called "Mastichoxoria", i.e., the villages of the mastic. During the selection of the gum drops, older men and women can participate because the work is not physically demanding. During this stage of the cultivation older people transfer traditions, fairs, songs and dialect to the younger generation. It is important also, from an anthropology point of view, to note that the words used in cultivation treat the trees as human beings. For example the vascular tissue that produces the mastic is called vein, the tapping process is called "hurting" and the mastic drops are called "tears". Furthermore, the cultivation method requires specific tools that are all produced locally by local ironworkers and some of them are real art objects.

Processing methods

Historically, insularity has affected agricultural production on the Greek islands in two ways. First, most of the agricultural products had to be processed locally because either the travel time to mainland Greece was long and the transportation cost very high, or the product's physical qualities e.g. milk, olives, grapes, etc. could deteriorate. Thus, instead of transporting raw milk it could be safer and cheaper to transport cheese with the raw material's volume reduction to be at least 2 to 1, or instead of transporting grapes it is safer (and easier) to transport wine. Secondly, inhabitants of the islands place a great importance to food self-sufficiency not only because of the insularity caused by distance and weather conditions, but also due to the fact that, historically, many islands could remain blockaded for months. Thus, inhabitants not only cultivated all the products needed, even those that required some irrigation, but also developed processing methods to preserve food and use it the year over.

Thus, fresh black currants on the island of Zakynthos (Ionian Sea) were sun-cured (dried) to produce a fruit that could be stored and used either as a dry food or as an additive to cooked foods and sweets. Tomatoes on Santorini are also sun-cured to produce dried tomatoes kept in oil and seasons, and used in salads and cooking, or are boiled to produce concentrated juice. Finally, some processing methods are culturally embedded and related to the life of the shepherds when they grazed the flocks away from their permanent installation in the lowlands and wanted to produce cheese without using heavy and complicated installations. Indicatively, the "Xygala" cheese of Crete is produced by simple acidulation of the milk and some further process. Even the word "Xygala" in the new Greek language comes directly from the ancient Greek word "Oxygala" that meant acidulated milk. For these reasons, the overwhelming majority of the Greek island GIs fall under the PDOs quality schemes that command processing to take place on the island and within the pre-defined geographical zones.

5.1.4 Economic considerations of quality production

As already stated above, there is not any official source for data concerning the economic impacts of quality products in Greece, not to mention Greek islands. Thus, in this section we will try to address economic/financial issues related to the production, sales, trade and marketing of island quality products through case studies. The case studies have been chosen to reflect the variability of the island products and the heterogeneity of the approaches related to their production and trade.

i. Production

The Mastic production in the island of Chios at North Aegean is carried out by the Union of 20 agricultural cooperatives officially established in 1939. The production and trade of mastic has a long history, as the first monopoly for the trade of mastic was established by the Italian inhabitants of Genoa in 1347 that was abolished by a "deregulation" brought by the Ottoman Empire. The Union of cooperatives employs around 60 people for its main administrative and production operations and treats the raw material supplied by 4,850 producers which are members of the 20 cooperatives. The cooperative owns a separate company called Mediterra S.A., which nowadays holds all the trade of mastic products produced in Chios. The production of mastic used in Chios to be at around 300 tonnes just after World War II and gradually decreased to 150 tonnes due to the rural exodus. Wilderness fires, with most damaging the one in 2012 have reduced the number of productive mastic trees and consequently the production to less than 100 tonnes. Almost half to two thirds of the raw production is exported and the rest is treated on the island to produce gum and a variety of other products including the essential oil, cosmetics, spirits, etc. The production of gum and essential oil take place on the island on a newly established factory. The Union of cooperatives has a turnover of around 15 million euros and is a financially healthy and economically thriving cooperative. As we will explain in the next section, Mediterra, the Union's trading company is also a growing and diversified business with considerable exports and presence in various European and North American markets.

A similar ownership structure with exactly opposite results was followed in the case of Saint Michalis cheese that is produced on the island of Syros. This cheese, is one of the two PDO island cheeses, the other being the Naxos graviera cheese, which is produced from cow milk. Today, Saint Michalis cheese is produced by a factory and company that was established by the Union of agricultural cooperatives of Syros which used to produce the cheese up to 2010. The Union still withholds 20% of the ownership of the new factory. Saint Michalis cheese is the most expensive Greek cheese with prices ranging around 23 euros per Kg, i.e. almost double the price paid for good quality Greek graviera cheese and close to the prices paid for medium to high quality imported parmesan cheese. The high cost of production is due to the fact that the rate of milk to cheese is 10 to 1, the cheese matures for at least 4 months and the production is very low at around 45 tonnes per year. As a result, the premium paid to the 20 milk producers of the island was high with the producer's price ranging from 50 to 55 cents per Kg, when the price of the respective conventional product in mainland Greece fluctuates around 22 cents. The premium was also justified by the low production of the Syros breed of cow. Thus, milk producers could retain up to 20-25% of the product's retail price, which is high in relation to similar producers of conventional products. Early in the recession it was evident that the specific cheese will face severe problems because demand fell sharply due to its high income elasticity. This would not happen if the whole production was not directed to the national market. The company, because of the small production, had not developed any alternative markets and especially, its exporting channels. Thus, the failure of the company can be attributed to its introversion guided by the small production size.

The Chrysafi family business on the island of Limnos at North Aegean is a private company that started in 1984 as a family-owned traditional bakery business that would utilize local varieties of wheat produced by the owners' parents. In 1991 the business entered into the dairy sector by making traditional yogurt and soon expended its products to the production of local cheeses including the PDO sheep milk cheese "Kalathaki Limnou". The Greek name "kalathaki" means small basket, because the traditional production required the cheese to dry at baskets made of straw that left their pattern on the dry cheese. Now the company produces three types of traditional local cheese, "Kalathaki", "Melixloro" and "Kaskavali" as well as feta

cheese. The company maintains contracts with local milk producers and employs 60 persons at its bakery installations, its cheese making establishment and the retailing points. These include 9 shops on the island and an active presence outside the island to Athens and Thessaloniki, the major urban centres of Greece. The company has a 5 million turnover from all its products and is a financially healthy and growing company.

The Union of cooperatives at the Naxos island is another example, as Naxos is the largest island of Cyclades in terms of surface and maintains a strong agricultural base. It is also unique that its cheese making methods are almost solely based on cow milk. The Union is made up of 26 cooperatives representing almost 3,300 farm households, almost all from the island. It employees 81 permanent and 35 seasonal persons for its milk and dairy activities, the potato collection and packaging activities and its trade and retail activities which include the representation to the island of major brands of dairy products, of refreshment drinks and alcoholic beverages. The "Graviera" cheese (a type of gruyere cheese) is a PDO and is produced by cow milk received by 500 dairy farmers. The annual milk volume amounts to 11.000 tonnes of cow milk, 225 tonnes of sheep milk and 960 tonnes of goat milk and is used for fresh milk production, cheese production mainly "graviera" and "kefalotyri" and cream and butter production. The price of the graviera cheese fluctuates around 12 euros per Kg, which is not really higher than other similar cheeses produced in the mainland. The Union has a developed a strong marketing channel and also makes serious exporting efforts. For example, the Union has participated in the International Sial exposition that is organised in Shanghai New International Expo Centre with a view to make new trade agreements and promote its products in one of the largest expositions outside Europe.

To summarize the discussion on this section, one could argue that the price premiums demanded by island quality products reflect the uniqueness of the product and its production (mastic), demand for raw materials and capital (Saint Michalis cheese) and the low milk productivity but the high quality of the Aegean sheep breed (Kalathaki cheese). Ownership structure is not really an issue as Unions of cooperatives can be and are as active as private companies. Small size of production is a risk to introversion (Saint Michalis cheese) while larger sizes allow and, somehow enforce, the penetration of foreign markets (mastic, Naxos graviera). Quality products sustain agriculture in the islands as they can pay price premiums to producers, which secure their income through contracts, provide guidance and consultation and employment to the food manufacturing sector.

ii. Markets

One important marketing strategy for quality agricultural products refers to diversification . Diversification may address the range of the variants of the sole product offered by the firm, the packaging of the product and the range of different products (Dimara and Skuras 2005). As concerns diversification in the case of Greek islands, Mediterra, the trading company of the mastic Union of cooperatives in the Chios island, is a champion. Mastic itself is packaged in boxes from 50 gr to half a kilogram of small or large tears or powder of natural mastic. Chewing gums also have different packages. Essential oil, oil extracts and mastic water complete the series of products based solely on mastic. With mastic as a base, the company has developed traditional confectionary products (candies, sweets, pastel, honey pies, semolina pies, and many others), bakery products (mastic cookies, almond nougats with mastic, sweet mastic rusk with chocolate chips, and many others), gourmet products (sahlab junal with mastic and vanilla, rice and custard creams, etc.), cosmetics including face and body care products with mastic, pharmaceutical and parapharmaceutical products including toothpastes with mastic, nutritional mastic powder and others, beverages including liquers and ouzo, and gifts

based on the Chios island traditions and culture. In order to achieve this wide diversification, the company has made strategic alliances with large companies and research institutions including the Greek Korres cosmetics company, the Junal Natural Lebanais, Haci Bekir of Instabul, etc.

Furthermore, Mediterra promotes Chios mandarin, which is a PGI, by introducing various mandarin flavours in the mastic confectionaries, gums and sweets. Finally, the company has undertaken to promote as well other island quality products such as certain brands of olive oil from Crete. This full range of diversification has allowed Mediterra to be able to maintain its own 6 shops with the brand name "Mastihashop" now operating in Nicosia-Cyprus, Paris and New York. It seems that this aggressive marketing and diversification strategy has paid off. In 2011, one of the worst recession years for the Greek economy, the company had a turnover of 6.6 million euros and gross profits before tax of 1.9 million euros raising the profit margin to almost 30%.

Santo wines is the name of the Union of cooperatives of Santorini island which, besides the famous wines, is producing and trading the PDO Santorini tomato that was presented above, and the PDO Santorini fava, which is produced from the unique Santorini Lathyrus Clymenum, a type of bean grown only on the volcanic island of Santorini. The company has also diversified the range of products offered having as a base the tomato and the packaging of the products. The basic product is offered through eight different goods including tomato juice, concentrated tomato, tomato puree, whole tomatoes with their skin in tomato juice, dried tomato, tomato sauce with Santorini vinsanto sweet wine, and tomato sauce with olive oil. This Union of producers has diversified its services and products and also offers the organization of weddings on the island of Santorini, based on Santorini's culinary heritage and quality food and wine and utilizing the fact that Santorini island is consistently among the top 10 tourism destinations worldwide.

Santo wines is also a Union of cooperatives with strongly stated position in favour of PDOs versus PGIs. They argue that, PDOs better protect both island products and consumers from fraud. The basic argument is that, most islands can maintain only a small production of the quality product and quality products almost always gain (sometimes considerable) a price premium, so attempts to fraud are inevitable. If processing and packaging takes place on the island, monitoring and inspection is easier. The case of Santorini fava produced, among other producers, by Santo wines, is illuminating. Production is less than 20 tonnes per year at an area of around 200 hectares. Fava is sold now between 5 and 6 euros per kg from 9 euros per kg before the recession, still maintaining a value premium of around 1.5 euros to 1.8 euros to conventional fava and similar conventional beans. In 2011, a laboratory examination based on DNA fragments revealed that out of a sample of 9 packaged Santorini fava widely circulated and sold in the Greek market, only one contained original Santorini fava. Fraud is a serious issue threatening the survival of quality production due to the absence of appropriate monitoring and inspection mechanisms specifically designed for quality denominated products.

Almost all island quality producers have developed short supply chains to reach the distant consumer. Mastihashops presented above is one strategy that is popular among producers cooperatives from Crete which maintain their own retail shops in Athens and other large urban centres in Greece. E-shops have emerged as another popular short supply chain for island producers, but no market data are available yet. The various diversification strategies either of the sole product (mastic) or of the whole company (Santos wines) are good survival strategies in times of economic difficulties and allow for local synergies and/or the development of shorter supply chains.

iii. Quality schemes

Quality labelling schemes such as PDOs and PGIs have added value to the products and assisted local rural economies. Labelling schemes have played a paradigmatic role sometimes giving rise to trademarks. The mastihashop trademark is such an example. The emergence of local products through the GI schemes gave rise to other local products as well. As noted earlier, the PDO “Kalathaki” cheese of Limnos is produced alongside the local cheeses of “Melichloro” and “Kaskavali” which have not any quality label. It was also stated earlier that 11 out of the 18 quality olive oils produced on the Greek islands are produced in Crete highlighting the island as the hot spot of olive oil production. Thus, Cretan olive oil has gained much attention worldwide due to the many quality labelled products. One could argue that, GIs assisted many other local products to re-emerge and supported collective marks and regional branding (Skuras and Dimara 2004).

Of course, most of the initiatives to promote regional and/or local branding refer to all local products and not only to quality products. The "Cretan Quality Agreement" is such an initiative undertaken as a non-for-profit organisation by the Regional Administration of Crete and aiming to promote the Cretan Diet and certify local restaurants with the Region's "Quality Label of Cretan Cuisine”. Through this goal the Agreement promotes sustainable development of the island through partnering with the public sector, business sector and civil society. One of the axes of the Agreement’s strategy is to help enhance the quality of local products by supporting the modernization of production processes and promote culinary tourism on the island, based on the quality local products and the Cretan Cuisine.

Another initiative including regional branding is the North Aegean’s “Agro-Food Collaboration” that includes local quality pacts for each island, the “basket of local products”, and connects island diet with gastronomic tourism and culinary heritage. This collaboration is the first direct generic notion of “island diet” without assigning a specific geographic indication to it. Other initiatives promoting local products include the “Greek Breakfast” initiated by the Ministry of Tourism and the Chamber of Hotels and supported by the Ministry of Rural Development and Food. The initiative has already produced, for each tourism destination, the indicative list of what food may be included in the breakfast. GIs are, of course, on the top of the list.

Despite of all these rather fragmented initiatives, it is difficult to judge whether a generic “island” label will be appealing to consumers and will have any impacts acting as a marketing cue. However, the response of Greek consumers to similar generic labels is very high (Dimara and Skuras 2003). A special Eurobarometer survey conducted in 2011 showed that Greek consumers by an astonishing 95% would support a policy for labelling local products (Eurobarometer, 2011). In the same survey, Greek consumers agree by 89% (third place among all EU member states) that “for consumers there are benefits in buying agricultural products and foodstuffs produced in mountain areas”. For Greece, the most crucial issue is not to have yet another labelling scheme but to create the mechanisms which can control, monitor and inspect that the requirements of the labelling schemes are indeed across the food chain. An uncontrolled labelling scheme may be more damaging for local quality products in the long term than the absence of a scheme.

5.1.5 Summary and Conclusions

Agriculture on the Greek islands is important for the country and associated local economies. The term “island agriculture” in Greece masks out a great heterogeneity of conditions, due to the extreme environmental variability among the islands and the unevenness in economic

development, mainly of the tourism sector. Agriculture on the Greek islands should be viewed under an ecological perspective of adaptation to the climatic and vegetative-soil conditions that has evolved following certain historical socio-cultural paths. In general, island agriculture is a smallholder agriculture hardly sustaining one household, oriented towards dry olive groves, rain fed cultivations and vineyards and sheep and goat raising. The food sector on the islands is important in terms of employment and incomes but its small average size imposes cost inefficiencies. The food sector of the islands was severely affected by the country's economic recession due to the fact that it mostly produces high priced products and targets mainly the national market.

On the Greek islands we find a variety of PDO or PGI products, which account for: 21 out of the 33 national registries of wines, 18 out of the 32 olive oils and 3 out of 11 olives, 9 out of 21 dairy products, 7 out of 45 fresh or dried fruits and vegetables, the only registered gum and resin, the only essential oil and the only PDO bakery product. Thus, the major products are wines, olive oils and cheeses with some notable and rare vegetables. The specific characteristics of the island products are induced by climate and soil, vegetation, specific animal breeds and cultivation and processing methods that have historically developed to overcome environmental and locational constraints and are now embedded to the culture and tradition of the islands.

Insularity has affected agricultural production on the Greek islands in two ways. First, most of the agricultural products had to be locally processed, because either travel time to mainland Greece was long and the transportation cost very high, or the product's physical qualities e.g. milk, olives, grapes, etc. could deteriorate. Secondly, inhabitants of the islands place a great importance to food self-sufficiency not only because of the insularity caused by distance and weather conditions but also due to the fact that, historically, many islands could remain blockaded by war for months. Thus, the inhabitants not only cultivated all the products they needed, even those that required some irrigation, but also developed processing methods to preserve the food and use it the year over.

It is argued that the price premiums commanded by island quality products reflect the uniqueness of the product and its production, the demand in raw materials and capital and the low productivity of the local breeds or local varieties. Ownership structure is not an issue as Unions of cooperatives can have equally good results as private companies. Small size of production is a risk to introversion while larger production sizes allow and, somehow enforce, the penetration of foreign markets. Quality products sustain agriculture in the islands as they can pay price premiums to producers, secure farm income through contract agriculture, provide guidance and consultation and support job creation to the food manufacturing sector.

The various market diversification strategies either of the sole product or of the whole company are good survival strategies in times of recession and allow for local synergies and/or the development of shorter supply chains. Labelling has worked in favour of local quality products in general, and in the islands in particular as it has highlighted the quality of the products and assigned them with a strong marketing cue. Many current initiatives attempt to provide regional branding and connect the agro-food sector to tourism. The Greek consumers are positive to local products, consider mountainous products to be beneficial, so it may be deduced that their perception for island products will be similarly positive.

5.2 Sardinian Food Products, by Luciano Gutierrez and Maria Grazia Olmeo (Department of Agricultural Science, University of Sassari)

This section investigate the consequences of creating an “Island” label to protect typical products of an Sardinia island. To this end, we focus on three traditional products: the Carasau bread, the Pecorino Romano cheese and finally the Myrtle liqueur. However, in order to understand their crucial role in the regional economy, some words on Sardinia economy may be relevant.

Sardinia is the second largest island in the Mediterranean with 24.090 Km2 of land. Most of the Island is hilly or mountainous and covered with forests and Mediterranean maquis, with wide plains only in the south of region. Politically, Sardinia is an autonomous region of the Italian Republic, and shares many of the characteristics of other geographically isolated and marginal areas of Europe. According to the last Eurostat data, in 2010 (last data available) Sardinia per-capita income was equal to 19.500 euro, well below the average EU27 per-capita income equal to 24.500 euro. The unemployment rate has grown in recent years, reaching the value of 18,7% (Istat, 2013).

According to the last Bank of Italy report, in 2011 and 2012 the region's economy encountered mounting difficulties in overcoming the crisis that has troubled it for more than three years. In 2011, Sardinia's GDP was substantially flat while in 2012 the region experienced a GNP reduction of 2.8%. Factors in this were the slowdown in the national and international economy and the worsening of expectations together with the intensification of the sovereign debt crisis. Business activity is still well below the level recorded in 2007 before the financial crisis. During the last years there was an upsurge of corporate crises, traceable in part to persistent structural problems, and firms' already weak financial situation worsened. The only exception on the whole Sardinian economic situation is the agro-food sector, that doesn't seem to follow the economy cycle. For example, in 2012 the pace of regional export growth in the food and beverage sector was particularly strong, +23%.

In the light of the importance of agro-food sector in the regional GNP, it is important to analyze which consequence should have an “Island” label using as case study three of the main traditional products of Sardinia region, that is the Carasau bread, the Pecorino Romano cheese and finally the Myrtle liqueur.

5.2.1 The Sardinian AgriFood sectornational context

The agrifood sector is a fundamental part of Sardinia's economy. Using a narrow definition of the sector as the sum of agricultural, fish and forestry products and those of the food processing industry, and excluding commerce and distribution, the value of Sardinia's agrifood sector amounted to € 1.5 billion in 2011, or 5.2% of the total regional economy GDP. This is higher than the national average for agrifood, which is 3.2%. More than 65,000 people are employed in the agrifood sector in Sardinia, or 10% of the total work force. Once again this is higher than the national average. However, Sardinia labour productivity in the agrifood sector, measured as the ratio of value added at constant prices per labor unit employed in the sector, is around 23,000 euro, which is well below the national average. Agrifood comprises 19% of total consumer spending on the island, which is higher than the national average of 17%.

The agrifood sector in Sardinia is characterized by small and medium sized firms. The last Agricultural Census in 2010 identified more than 60,000 farms on the island. These cultivate 1,324,000 hectares of land. Compared with the figures of the previous Census (2000), the average size of Sardinian farms has increased, with 50% of farms cultivating more than 50 hectares of land. The main cereal crops are durum-wheat and maize, which are cultivated on a marginal surface (4.3% of the land). In 2010, there were 1,896 registered food industries, approximately 1.3% of all the industries in the region. They are mainly located in the South and the North-West of the region. More than 30% of those employed in the food industry are self-employed, i.e. they are the owners of small family firms that mainly transform agricultural raw material such as durum-wheat, grapes, milk, etc. into bread, wine and cheese, etc.

More than 50% of Sardinia farms are involved in the livestock sector, mainly connected to sheep breeding. In 2008 (last available data), 3 million litres of ewe's milk, 2 million litres of cow's milk and 127,000 litres of goat's milk were produced. A large part of the milk is transformed into cheese, with 513,000 quintals being produced for a total turnover of some €350 million, or about 22% of total regional agribusiness turnover. Cheese exports amounted to 92.6 million euro in the same period. Hence, it is clear that cheese-making is the most important processing activity in the island, both in terms of value and volume.

The livestock sector benefits of the availability of raw products and of their high quality, the high level of entrepreneurship of its operators and the high level of openness towards external markets. The presence of consortia for the improving product quality and good marketing services helps to maintain a high and constant level of product quality. Taking also into account the particular characteristics of the products, we can safely speak of a highly competitive sector.

The region has a trade surplus in food industry products. This is main;ly due to the exports of Pecorino Romano cheese, especially to Canada and the USA. By contrast, there is a huge net trade deficit in the primary sector, mainly due to large imports of maize, durum wheat and animal feedstuffs.

Italy has more PDO and PGI registered products than any other EU Member State, with more than 239 PDO registered. Sardinia accounts for only 3% of the total number of national protected products (PDO and PGI). There are seven Sardinian PDO and PGI: Sardinian sheep meat (PGI), Fiore Sardo cheese (PDO), Pecorino Romano cheese (PDO), Sardinian olive oil (PDO) and Sardinian saffron (PDO). The last product to receive the PDO was the Sardinian artichoke. Interestingly enough, the region is ranked first in the list of PDO and PGI producers, with a share of more than 20% of the national total value added under PDO or PGI. All the products registered so far can be produced in the whole region, with the exception of Sardinian saffron, which can be only produced in the South-West of Sardinia (the Medio-Campidano Province) and Pecorino Romano, which can be produced not only in Sardinia but also in other Italian regions such as Lazio and Tuscany.

Besides the PDO and PGI regulated products, the National List of Traditional Food products, annually updated by the Italian Ministry of Agriculture and Forestry under Ministerial Directive 350/99, includes 178 Sardinian products. The aim of this list is to promote and disseminate the particular typical characteristics and quality of Italian agricultural and food products. Table 9 groups the Sardinian products in categories in order to highlight the main typical regional products.

Table 9 - Composition of Traditional Food Products - Sardinia

Product categories	*No.*	*Percentage*
Alcoholic and non-Alcoholic Beverages	7	3.9
Meat based products	35	19.1
Cheeses	17	9.6
Fruits and Vegetables, fresh and processed	37	20.8
Bread, Pasta and pasta substitutes	68	38.2
Fish, seafood and their products	13	7.3
Others	2	1.1
Total	178	100.0

Bread, pasta and pasta substitutes group of products accounts for about 40% of the Sardinian traditional products, fruit and vegetables for 20% and meat products for 20%. Many of these products are organic.

In the following section, we will focus on three important Sardinian products, (1) Carasau bread, (2) Pecorino Romano cheese and (3) Myrtle liqueur, in an attempt to highlight their specific production processes and how these processes are linked to the region, their importance in the regional economy and finally the efforts made to promote and protect them by means of trademarks and/or labels.

5.2.2 Carasau Bread traditional product

i. Description of the production and processing steps

Carasau bread is a product included in the list of 178 Sardinia traditional products (Table 9). Carasau bread is one of the most popular Sardinian products traditionally produced in the centre of the island, and has a very long history. Traces of this type of bread have been found in archeological excavations of Nuraghi (traditional Sardinian stone buildings), which means that it was already consumed in the island prior to 1000 BC (Lodde, 2005). Historically, because of its physical characteristics and taste, it was perfect for being consumed when away from home, typically by shepherds who rarely returned home. This is because it can last for up to one year if kept dry. The bread can be eaten either dry or wet. Carasau bread is similar to a cracker, it is thin and golden in color. The size and the thickness of the bread generally varies. The sheet of bread is between 15 and 40 cm in diameter, and from 1.5 to 3 mm thick. One of its two

surfaces is smooth and the other slightly rough. It is popularly known by the name of "Music Paper". This is because it produces a lot of noise when it is eaten.

Carasau bread is made from durum wheat flour, salt, yeast and water. The traditional production process is complex and requires special care. The core of the whole process is the sourdough starter. The yeast may have been used in previous production, or it can be started from scratch. The yeast is a mixture of flour and water and contains a variety of microorganisms. It is then mixed mainly with durum wheat flour, warm water and salt. The dough is fermented by the microorganisms and must be vigorously stirred with circular motions until it becomes a disc. The disc is then inserted in the bread oven for a first baking. The heat from the oven puffs up the dough, turning it into a ball. The ball is then removed from the oven and cut into two parts. Both parts are then put back into the oven for a last baking. There are two very sensitive elements in the process we have just described and these give Carasau bread its specific qualities: the durum wheat used and the yeast. Each grain type has specific features that can be adapted to particular types of bread. Carasau bread needs a type of grain that, after being worked, inflates in the oven but does not break. The production process is now fully industrialized, with medium-large bakeries producing most of the bread, although there are still a large number of traditional bakeries in Sardinia, especially in the Centre of the Island, which use the traditional handcrafted production process.

ii. The Carasau bread chain

As noted above, the main ingredient of Carasau bread is durum wheat flour. Traditionally the wheat used was produced in the island, but currently more than 50% of the durum wheat used is imported from Canada, France, Spain or Russia.

According to the latest Italian Agricultural Census of 2010 and regional statistics, both published by ISTAT (Italian National Statistical Institute), 6190 farms are involved in durum wheat cultivation in Sardinia. They use 32,000 hectares of land and produce 61,800 tons of durum wheat with a total value of some €10 million in 2010. These figures are approximately half of those reported in the previous Census in 2000 (12,395 farms used 82,000 hectares of land to produce 125,000 tons of durum wheat). This great fall in production and land use is due to the limited competitiveness of Sardinian durum and also to reductions in the relevant CAP subsidies coupled to durum wheat.

The importance of durum wheat production in the island is testified to by the intense work on this subject by agronomists and agricultural institutions. In the first half of the 20th century, two new grain varieties were introduced, namely Capelli and Trigu Senadori. Because of the climate and the soil conditions of Sardinia, durum is the only type of wheat cultivated in the region. Indeed, thanks to a temperature which ranges from a minimum of 0° C, during tilling (January), to a maximum of 30 ° during ripening (June) the island is well suited for this type of crop production. Durum wheat adapts well to different types of soil, preferring clay soils with a good deal of organic content, but also soil with low fertility levels. This is the reason why, although clay soils are the most common on the island, the average yield obtained, around 1.0-1.8 tonnes per hectare, is comparable with those of other competitor countries. However, because the farms are generally small, with 65% of them being less than 20 hectares in size, the average cost of durum wheat produced in the island is around €200 per hectare, and thus higher than those of the main competitors.

The second key factor in producing Carasau bread is the yeast. This is a mixture of water and flour or semolina, which is left to ferment over time. During the fermentation period the

microorganisms in the flour and semolina and those in the environment determine the nutritional and sensory characteristics of the finished product. The yeast is the absolute core of the entire process. Today only 10% of producers use traditional yeast. This is because traditional yeast is formed by bacteria, which must be continuously fed. Thus time must be invested if the yeast is to be kept alive. The main advantage of using traditional yeast is that it is highly digestible. This is probably due to the fact that its glycemic index is lower, due to the previously mentioned specific process, and metabolic diseases are avoided.

In the island the milling industry is dominated by one company, SIMEC Ltd. This is based near Oristano and it has a production capacity of 250,000 tons of wheat per year. It mainly uses imported grain. There are also a group of smaller milling companies, and these operate in a highly competitive environment. There is no recent official data on the number of firms that produce Carasau bread, but they are estimated as 300, with around half of them regularly certified by the local Chambers of Commerce. The turnover of this smaller sample can be estimated as €100 million, and employment at around 1000 people. Approximately 95% of the firms that produce Carasau bread are located in the centre of Sardinia, specifically in the province of Nuoro. According to our survey, which was conducted by interviewing the main stakeholders, there is great internal competition in the bakery industry. Small and medium businesses with a view to the future prefer to produce a less standard, high quality product. However, many bakeries, especially the larger ones, prefer to produce large quantities of Carasau bread at low prices, with few constraints on the industrial process in terms of raw materials (local or imported). They also prefer to use industrial rather than traditional yeast. The product is mainly distributed by large-retail groceries, which hold the main share of the market, with a minor share going to specialized traditional grocery stores. A relevant percentage of Carasau bread is destined for the domestic market but it is also exported, mainly to the U.K., France, Germany, the USA and Japan. Interestingly enough, a recent survey found that Carasau bread is the second most common product purchased by tourists, after myrtle liqueur (Boi and Zanderighi, 2008).

iii. Trademark Protection

There have been three main efforts to protect the local Carasau bread with a trademark. In 2005 the Region of Sardinia decided to finance the Semenadura project, led by the Extension Service Regional Agency Laore, with the aim of increasing the use of locally produced durum wheat in the bread and pasta chain. As said above, regional bakeries have practically stopped using local wheat varieties and prefer to import grain. This has resulted in a relevant reduction in the quantity of land used for cultivating durum wheat. The idea of the project was first to improve the Sardinian short-bread and pasta chain through a collective trademark, the Semenadura trademark (see Figure 1), and secondly to show that local wheat was as competitive as imported wheat.

Thus the, the idea was to use the Semenadura trademark to spread more information on the bread and enhance the perception of the quality of the product. The trademark may also help to reduce advertising costs, and give the bakeries greater market power with respect to distribution channels. However, the millers have opposed the Semenadura trademark, because they are worried about what effect using higher priced local durum wheat might have on their flour prices.

The Region Government has recently blocked the use of the Semenadura mark, developing a new brand: the Q (quality) Sardinia trademark (Figure 39). The Region intends to use this brand for all food-chains (and not just that of the bread chain), in order to ensure the quality of

traditional products from to 22 different agrifood sectors, ranging from pasta and bread to cheese and previously (Table 9). The Q (quality) Sardinia trademark is currently being in preparation. However, the criteria by which a product will be identified as a Q product are not known at the moment. It is expected to be an expensive project because of the high number of Sardinian traditional products, each of them with their own specific characteristics.

Figure 39 - Regional Sardinian Trademarks

Finally, a number of entrepreneurs tried to protect Carasau bread by obtaining a PDO certificate for it. However, even after 20 years, no agreement has yet been reached on the rules of production. Carasau bread, if it is to obtain a PDO certificate, must be a product that stands out clearly from other similar products.

5.2.3 Pecorino Romano cheese – A traditional product

i. Description of the production and processing steps

Pecorino Romano cheese has a very ancient history. It has been produced in Sardinia since the end of the XIX century. The production process was transferred to Sardinia by some entrepreneurs from Lazio, who were mainly attracted by the lower production costs. The production is seasonal and runs from October until June.

Pecorino Romano cheese is a hard cheese, its structure is compact and is cylindrical in shape, with two surfaces. It is between 25 cm and 35 cm in diameter and each cheese round weighs between 20 kg to 35 kg, depending on its shape and dimensions. Pecorino Romano has a thin ivory or yellowish colour rind depending on the technological process used.

The milk used comes from sheep which mainly graze (obtaining 60% of their nourishment from grazing). This is usually supplemented with barley, oats and broad bean extract. The fresh milk is conveyed from farms to the dairies, where it is tested and then put in a tank. The first step of the production is called “cagliatura” or “curdling”. During this process, the milk is warmed up to 68°C for only 20 seconds and then a fermenter is added. The fermenter, called “scotta innesto”, consists of milk bacteria, which create the typical cheese taste. The milk is curdled at a temperature of between 38°C and 40°C. When it is curdled, a thin cheese sheet develops. This substance is then cooked at 45°- 48° and the whey is removed. The cheese is then placed in the appropriate resin moulds.

The second step of the process consists of sprinkling the rounds with brine or leaving them dry. The sprinkling phase goes on for 70 days. Due to European dietary advice, there is nowadays a specific kind of Pecorino Romano that has less salt than before. The production process is the same, but the taste is sweeter than the traditional one. After these two stages the cheese matures

in appropriate cellars. Five months later part of the production is sold while the other is kept for ripening.

The production process for Pecorino Romano cheese is the same in Sardinia, Lazio or Tuscany, but the total amount of milk produced in Sardinia is greater than in other regions thanks to the lower per unit costs in the region. Table 10 shows the total sheep milk production for Sardinia, Lazio and Tuscany, from 2005 to 2010.

Table 10 - Sheep milk worked by industries (tonnes)

	2005	2006	2007	2008	2009	2010
Sardinia	298.15	303.062	332.031	324.176	293.103	283.235
Lazio	38.62	44.1	42.902	41.909	40.284	41.65
Tuscany	73.637	77.136	74.837	70.77	67.743	68.786

As can be seen, more than 70% of the sheep milk used in producing Pecorino Romano comes from Sardinia. However sheep milk production has significantly fallen in the last three years, due to a series of factors analysed below.

ii. The Pecorino Romano cheese distribution chain

In the 1950s several technological and structural innovations were introduced and these caused important changes in the Pecorino dairy sector. Many farmers sold their land to shepherds, increasing the amount of land used for grazing. Most shepherds also bought milking machines, and thus improved the productivity. In the following decades Pecorino Romano cheese was more highly priced in the US market than in the domestic market and for this reason additional land was given over to pasture. The Region also provided financial support for sheep milk production.

Pecorino Romano is now recognized as one of the most typical Sardinian products. According to the last report published by Agenzia Laore (2011), a regional extension service agency, in 2013, there are about 3,190,810 sheep in Sardinia and around 17,000 sheep farmers. In 2011 the milk from these sheep was used to produce 24,000 tonnes of Pecorino Romano, for a total turnover of €120 million. According to the "Consorzio Tutela del Pecorino Romano", the most important and direct source of data for this cheese, in 2012 the turnover rose to €140 million, and for 2013 the predictions are of a further increase to €160 million. The rising trend is mainly due to export demand from new markets such as Brazil, Russia and some Asian countries, as well as some signs of recovery of demand in the important US market. The European demand remains stable. Thanks to the increased demand for exports the price of Pecorino Romano has risen, recently reaching 7 Euros per kilo. Milk prices are also benefiting with the price now being more than 70 cents per litre, compared with 60 cents in 2012.

The market for Pecorino Romano has been influenced by many factors in recent years but the most important ones have been the reduced demand for Pecorino in the US market, the impact of this reduction on the price of sheep milk and Blue Tongue Disease.

The Pecorino Romano cheese trade is greatly dependent on demand of its most important market, the USA, which accounts for around 40% of production. In the middle of the XIX century, Italian emigrants imported cheese from home and introduced it into the US market. As a result, with the passage of time, Pecorino Romano became a common food in the USA. Nowadays, because of its strong taste, it is mainly used as a grated cheese, and in the North American market is usually mixed with less strong tasting cheeses. The introduction of Euro and its appreciation against the dollar, in combination with the abolition of CAP export subsidies, has greatly influenced the demand for Pecorino Romano in the US market. Consequently, lower demand has had important effects on the Pecorino Romano's distribution chain. It has reduced the price of Pecorino Romano, but has also, and more importantly, reduced the price that the cheese industries pay to sheep milk producers. Before the recent increase, the price of sheep milk was less than 30 to 50 cents per litre for many years. This did not cover production costs, which ranged between 70 cents and €1.20, and had a negative effect on many sheep farmers.

Another important factor that has recently influenced the sector is Blue Tongue Disease which hits sheep flocks. The first outbreak was in 2004. In that year the regional authorities adopted a policy of slaughtering all the sheep in infected flocks. As a result the total number of sheep fell, as did milk production. In 2004 15% of sheep died or were slaughtered, and milk production fell by 30%. The economic crisis aggravated the situation and as a result many farmers, who had only a few sheep, gave up the business. Blue Tongue Disease is still having a great impact on the dairy sector, as producers strive to find enough sheep milk, and livestock farmers pay the costs of health inspections, which translate into higher production costs.

The total number of firms involved in Pecorino Romano production in Sardinia is not clear. However 39 dairies have joined the Consorzio di Tutela Pecorino Romano PDO, the most important dairy processing organization in the sector. Of these 39 firms, 15 produced more than 75% of the total production of Pecorino Romano in 2005, and this percentage grew in 2010. Most of these firms are cooperatives. According to Agenzia Laore (2011), 65% of Pecorino Romano cheese is produced by cooperatives. Almost all firms are located in North-West Sardinia, near a town called Thiesi. Apart from the "Consorzio of Tutela" group, there are also many other firms, which operate in the market. However these are small units and are account for a minor share of total production. A second particular aspect of the sector is that only a few companies are completely specialized in producing Pecorino Romano, while many others produce different kinds of cheese.

There is not much information available concerning the distributors. As previously said, the US market is the main market for Sardinian cheeses and Pecorino is sold as a grated cheese to be mixed with others, despite its PDO label. Other markets are Canada (sales of €4 million), France, Germany, Greece and Spain. In Italy, trade is less profitable. Pecorino is sold in Southern regions such as Calabria and Campania, and it is widely used in some important cities such as Rome and Milan.

iii. Trademark Protection

Pecorino Romano is one of the first products that obtained the PDO trademark. As seen see in Figure 2, the trademark of Pecorino Romano consists of a rhombus in a dotted or continuous outline. Its corners are rounded, and contain the stylized head of a sheep, and under the logo there is the name “Pecorino Romano”. The geographical location, such as “Lazio”, “Grosseto” or “Sardegna”, may be added but only if the whole production cycle takes place in that specific place. Generally when this logo is combined with a private label, the Pecorino Romano has a

higher price. For example "Locatelli" and "Fratelli Pinna" brands in combination the Pecorino logo are sold at a premium price.

Figure 40- Pecorino Romano logo

The Pecorino Romano cheese production chain is the biggest among the most common types of protected products. It has always been more active in protecting its own interests than any other chain, such as those for bread, meat or oil. As mentioned above, while the procedure to establish a PDO for Carasau bread has been going on for 20 years, the procedure for Pecorino Romano was very fast. There are various reasons for this. First, Pecorino Romano is one of main agri-food product in the island, amounting to more or less 50% of all agri-food value. As a result, every player in the chain had her/his own economic interest in reaching an agreement. It useful to know that in the past breeders were also producers of Pecorino Romano and today producers are also distributors. This made it easier to come to an agreement on Pecorino Romano cheese protection.

5.2.4 The "Myrtle berry liqueur" a traditional product

i. Description of the production and processing steps

The myrtle plant grows in the form of maquis all over the island, especially in hilly territories. It grows up to 2 ½ meters in height. The plant is characterized by its purplish berries, which are used to produce the liqueur. No machinery has yet been invented for picking the berries without damaging the bush. For this reason, the task is done by hand by expert pickers, who then take the berries for processing. Seven different varieties of myrtle's plants have been identified by researchers from the University of Sassari with a productivity per plant of 1-1.5 kilo of berries. The berries are picked by passing a large comb over the branches. In this way, the berries are detached and fall onto canvas sheets or other containers placed at the base of the plant. Great care is taken to preserve the shrub. Another system used for picking is that of hitting the branches with a stick so that the berries fall off the branches and fall on the canvas sheet. The knowledge and experience of pickers guarantees that the whole operation is delicately performed. The myrtle plant is an important source of income for pickers and it is to their advantage to keep the plant healthy so that it will bear fruit the following year. After picking, cleaning operations begin. To produce the traditional myrtle liqueur, berries must be rinsed and any possible remaining residues of harvesting removed. Pickers use the wind as natural element to do this. The berries are lifted up and then allowed to fall on the canvas sheet again. In this way, the wind separates out extraneous elements such as dry leaves or twigs, as these are lighter than the berries themselves. This operation may also be carried out indoors in buildings equipped with powerful fans. Once they have been cleaned, the berries are put into jute sacks, ready for immediate shipment to the processors. Jute facilities ventilation, letting the berries breathe and keeping them dry.

The production of the traditional myrtle liqueur follows a very precise traditional process. The myrtle berries are harvested all over the island, usually starting at the beginning of December and continuing until the end of January. The berries must be placed in an infusion of 95° pure alcohol for a period of between 15 and 30 days. After this period the berries are pressed to release the absorbed alcohol, and are then removed from the infusion. The infusion is then filtered to remove any remaining berry residues. Finally, a syrup of water and sugar is added and the liqueur is bottled. The product has no added aroma or colouring, but keeps the natural taste of the myrtle berries.

ii. The Myrtle berry liqueur production chain

More than 1000 pickers are involved in the harvest, and total production is about 1,300 tons of myrtle berries. This activity creates a total payroll of around one million euros. About 35,000 hectolitres, or in other words 5 million bottles, of myrtle liqueur are produced in Sardinia. More than half of these bottles are produced by the "Associazione Produttori Mirto di Sardegna (Producers' Association Myrtle of Sardinia)". The main labels are "Zedda e Piras", "Rau" and "Sa Bresca Dorada". The most important production costs are the manufacturing network components, i.e. labour costs, raw materials, and overheads. The cost of the Myrtle berries is 7% to 9% of total costs, alcohol 28% and labour 17-18%. The myrtle liqueur is now marketed in large-scale retail outlets, and the turnover has been estimated as between 30 to 35 million Euros. In recent decades the consumption of myrtle liqueur has grown, thanks to aggressive advertising campaigns that linked the tradition and cultural heritage of myrtle liqueur with the typical characteristics and authenticity of the product.

iii. Trademark Protection

A trademark for Traditional Myrtle liqueur was established by the "Traditional Myrtle Liqueur from Sardinia - Producers' Association" in 1997 (see Figure 41).

Figure 41- Trademark Myrtle Liqueur

The trademark can only be used for bottles certified by the Producer Association and this safeguards the image of the original liqueur produced on the island. In the following years the Association implemented the HACCP Self-Control System to remove potential health hazards and in 2000 it obtained the Quality Certification for meeting the ISO 9000 standards. These actions were taken so that myrtle liqueur from Sardinia could be included in the list of alcoholic drinks recognized by the EU (this list includes and defines alcoholic substances from juniper fruit, but it does not include myrtle based alcoholic drinks). While awaiting recognition by the EU, the Association continued its activities, and in 2000, myrtle liqueur from Sardinia

was added to the list of traditional products recognized by Italian national regulations. In 2004 the Association promoted the voluntary certification of the product, obtaining the product certification that established the Technical Product Specifications (TPS) for conformity certification of the product "Traditional Myrtle Liqueur from Sardinia", with the following requirements: a) provenance of the berries from the Sardinian Region; and b) lack of artificial flavouring or colouring.

This certifying institution ensures that the Technical Product Specifications, which contain the management modalities of the requirements required for certification, are respected, and periodically carries out checks of both the physical and chemical parameters and also the production process. These actions were aimed at preserving and promoting the product and are in line with current consumer trends, and the general market, which tend to increasingly prefer quality products, thus favouring a consistent demand for agricultural and food products that are the result of specific production traditions.

5.2.5 Conclusion

The case studies presented above are different in many ways. Carasau bread has not obtained any protection yet. Pecorino Romano received a PDO in 1951, and is now one of the best-known cheeses in the market. There is a Producer Association for Myrtle berry liqueur and it has introduced a voluntary certification system. In marketing terms, PecorinoRomano cheese is an international product, and is especially successful in the USA, while Myrtle is mainly sold in Italy and Carasau bread's market is principally Sardinia. Because the markets for these products are very different, both the consumers and the competitive environment are also quite different. In addition, the raw materials for the products are also treated differently. For example, any type of flour can be used for Carasau bread, but Pecorino Romano cheese can only be made with milk from sheep from Tuscany, Sardinia and Lazio, and Myrtle producers have adopted a strict, albeit voluntary, policy on the berries, insisting that they must come from Sardinia. Given these differences, it is difficult and quite complicated to see how a specific "island" label could be created, and what the consequences would be if this were done. Nonetheless, the introduction of a specific Island label could be a useful marketing tool for the products.

The introduction of an island label might deliver economic benefits to the local producers, processors and traders. Recent research suggests that the consumers' willingness to pay more does not depend on the label per se but rather on the fact that a particular label is connected with specific levels of quality (Hobbs, Bailey *et al.* 2005). It is difficult to define the concept of quality assurance and this is not the right place to do this. The introduction of a traceability system is not only linked to this concept, but also adds value to it. Indeed the traceability system could reinforce the credibility of quality assurance in many ways. It reduces the risk of labels being used to mislead, and provides the consumers with information on the quality of the product. The traceability system also encourages firms to produce safe products that also respect animal welfare. Consumers appreciate these efforts to improve the products and feel themselves more respected than before, and thus are ready to pay higher prices for labels which assure the quality of the product. In this hypothetical scenario, the added value obtained from labeling products could be shared out among the different participants at different levels of the food chain better than they are at present.

A strategy based on "island" label and reinforced by a traceability policy has to consider not only its benefits but also its costs. This strategy involves two types of costs. The first of these are the costs involved in the traceability system. Every participant in the supply chain has to spend money on the system which guarantees the quality of the product. The second type of

costs are those connected to food safety. Here improved traceability could help to reduce the indirect medical costs of poor food safety.

Two points must be emphasized when discussing the economic effects of introducing an island label. First, the effects are different for different products and markets and consumers care more about the quality of certain products than they do for that of others. For example, quality assurance for meat could be more important to consumers than that for fruit. Second, a cost/benefit analysis is necessary, as, even when labeling might have many benefits, the additional costs involved may make it uneconomic for actors at the various levels of the food chain.

5.3 Food production on the Scottish Islands – A Synthesis Report by Dr Rob Mc Morran, Centre for Mountain Studies, University of Highlands and Islands

5.3.1 Introduction

This case study reviews the importance of food production, in economic, socio-cultural and environmental terms in the Scottish Islands. Due to their relative size and importance, and the availability of relevant information, the primary focus of the report is on the Orkney Islands, Shetland Islands and Outer Hebrides, with some additional information included for the Isle of Arran. Through documentary review, discussion with key informants and a survey of island food producers, a number of key areas are reviewed and presented, which include:

- The economic structure of the islands concerned and the relative positioning and importance of agriculture and food production, including key economic criteria/indicators, where available;

- General characteristics of food products produced on Scottish Islands, including any relevant definitions, production processes (agriculture and food processing), sourcing of raw materials (including feed) and the location of processing (including slaughtering and further processing);

- Identification of any qualities and specificities which distinguish island food products from other products and which are directly related to the island nature of these products and the remoteness and insular character of their place of production;

- Linkages between product characteristics and local natural and social capital, including contributions to providing environmental and socio-cultural public goods on the islands;

- The specific character and qualities of farming and processing attributes occurring within the islands, in terms of natural features and/or existing production / processing facilities and the impact of these specificities on island food products (including cost and employment implications);

- The economic impacts of food production, including product turnover, key markets, linkages between food production and other sectors of the local economy (e.g. tourism) and the value added share in the food chain which remains within island economies;

- The use of food labelling and branding, including local/regional cooperative brands and marketing and the use of national and international schemes (e.g. organic, PDO/PGI) and the importance of the island identity of products within these schemes;

- The identification of key challenges and opportunities for island food producers and key conclusions on the nature and importance of food production on Scottish Islands.

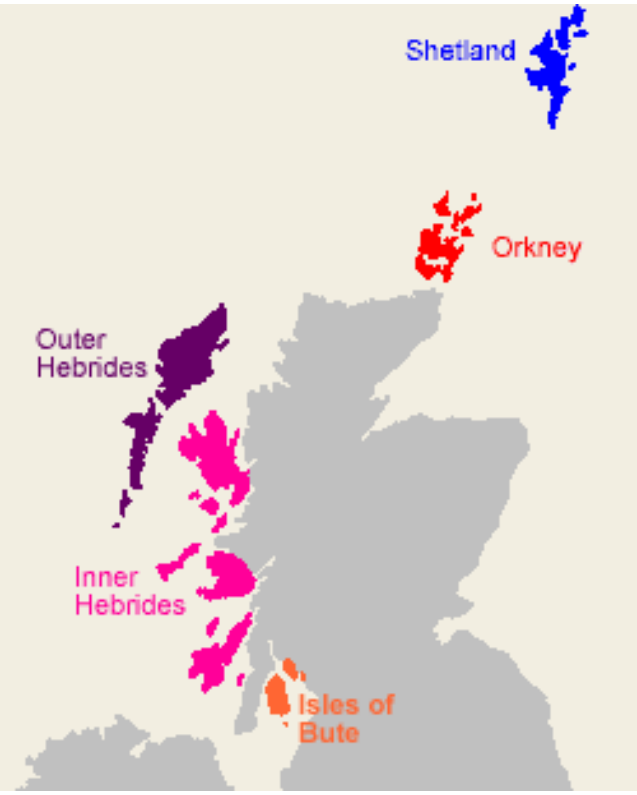
To inform much of this report a survey of food producers (including aquaculture, fish production businesses and drinks producers) identified in the three main island groups and the Isle of Arran was conducted online, using Survey Monkey, with producers contacted by email. The survey received 35 responses, with approximately 100 producers being emailed the survey link.

5.3.2 Key Scottish Islands Groups – Key Characteristics

The three main Scottish island groups (Map 4) reviewed here all have relatively distinct geographic and socio-economic characteristics. The Shetlands are the most Northerly island group, lying some 200 miles north of Aberdeen on the north-western frontier of Europe. There are over 100 islands in the Shetland group, 16 of which are inhabited by a population of over 22,000, with over a third living in the capital of Lerwick. Shetland has a strong identity, which has been influenced by its proximity to Northern Europe, with a strong local dialect and Norse place names commonplace. The proximity to the sea has also been influential on the regions distinctive character, with no point further than 3 miles from the coast. The Shetlands are a vibrant region, with scenic seascapes of high quality and abundant wildlife[10].

[10] Shetland Overview (Highlands and islands Enterprise): http://www.hie.co.uk/regional-information/area-information/shetland/

Map 4 - Location of Scotland's main island groups



The Orkney Islands are located considerably closer to the mainland, lying six miles north of the northern tip of Scotland, where the North Sea and Atlantic Ocean meet (the Pentland Firth). The island group consists of some 70 islands, 18 of which are inhabited by a population of nearly 20,000, with two main population centres (Kirkwall and Stromness). The population of the outer Orkney Islands is very widely dispersed, with a pattern of small villages evident on the main island of Orkney. The islands are the most fertile of the main Scottish Island groups, with rolling green fields and gentle hills, together with high sea cliffs in certain areas. Kirkwall is a busy port, particularly in the summer season, when it plays host to visiting liners and cruise ships[11].

The Outer Hebrides (also known as the Western Isles) is the most westerly island group, lying some 40 miles (on average) west of the Scottish mainland and stretching in an island chain (consisting of over 100 islands) of over 130 miles from north to south. Some 15 of these islands are inhabited, including Lewis and Harris (the largest and most populous islands) and the Uists to the southern end of the chain[12]. The islands and island groups of the chain often have their own very distinct character, with Gaelic culture to the fore, with the Outer Hebrides representing the remaining major stronghold of the Gaelic language in Scotland. Crofting (a distinctive system of small-scale agricultural holdings) is also common, although in decline, with small-scale sheep farming remaining prevalent throughout the islands. Crofting holdings are more prevalent in the islands, particularly Shetland and the Outer Hebrides, where they represent up to 65% of households (compared to 30% for the mainland Highlands)[13]. The Outer

[11] Orkney Overview (Highlands and Islands Enterprise): http://www.hie.co.uk/regional-information/area-information/orkney/overview.html

[12] Outer Hebrides Overview (Highlands and Islands Enterprise): http://www.hie.co.uk/regional-information/area-information/outer-hebrides/

[13] Scottish Crofting Federation Charter for Crofting: http://www.crofting.org/index.php/charter

Hebrides are the largest of the three island groups reviewed here and unlike the Orkneys and Shetlands contain considerable areas of higher ground, including Beinn Mhor on South Uist (620 metres) and Clisham (799 metres) on North Harris. The islands are highly scenic, contain abundant wildlife and long stretches of sandy beaches.

5.3.3 Scottish Island economies[14]

The economic base of all the island groups has traditionally been agriculture and fisheries, however this has changed in most cases, as other sectors have evolved over time. Fisheries remain highly important in the Shetlands, although agriculture has declined and aquaculture and the oil industry have now replaced both fisheries and agriculture as the dominant economic activities. In the Orkneys, despite growth in other sectors, farming (particularly beef and dairy) remains of key importance. Marine renewables also represent a strong potential growth sector for the future. Orkney also has a strong reputation for high quality food production and crafts, including jewellery.

The Outer Hebrides has a less diversified economy that Shetland and Orkney and is more reliant on public sector employment and defined as economically fragile. The island group also arguably has a weaker identity than the Shetlands and Orkneys and suffers to a greater extent from insularity and out-migration (Aitken, 2007). The need for sustainable development opportunities are therefore of considerable importance in the Outer Hebrides. The population of all three island groups is relatively similar (Table 11); however, since 2001 the Orkneys has witnessed a much higher level (3.9%) level of population growth relative to the Shetlands (1.1%), with the Outer Hebrides experiencing a population decline of 1.1% in the same period.

Table 11 - Population, key demographics and employment figures for the reviewed island groups, the Highlands and Islands and Scotland

Island Group	Total Population (2009)	Increase/ Decrease 2001-2009 period-/+	% Of population over 65 (2008)	Unemployment rate (2009)	In-migration rate as a % of National rate *(Based on national Insurance number registrations) (2002-2009)*
Orkney	19,960	3.9%+	19%	1.4%	38%
Shetland	22,210	1.1%+	16.5%	1.4%	70%
Outer Hebrides	26,180	**-1%**	21.1%	3.8%	42%
Highlands and Islands	448,671	3.5%+ (2011)	20%	2.9%	-
Scotland	5,295,000	2.5%+	17%	4.1%	-

Source: Highlands and Islands Enterprise, 2011

This can be compared to population growth of 3.5% in the Highlands and Islands and 2.5% in Scotland during the same period. Demographic realities are also less favourable in the Outer Hebrides, with 21.1% of the population over 65, compared to 19% for the Orkneys (lower than for the Highlands and Islands as a whole) and 16.5% (lower than for Scotland as a whole) on

[14] This section draws heavily on economic area profiles for Orkney, Shetland and the Outer Hebrides developed by Highlands and Islands Enterprise (HIE, 2011).

the Shetlands. Unemployment levels are also highest in the Outer Hebrides (3.8%), although they are lower than for Scotland as a whole, but considerably higher than for the other island groups (1.4% in both cases). In-migration is highest in the Shetlands, where it is equivalent to 70% of the national level.

In total, some 10,490 people were employed on the Shetland Islands in 2010/2011, with 11,150 employed on the Outer Hebrides and 9,300 on Orkney for the same period. Levels of self-employment on the islands are generally higher than mainland levels (e.g. 11.9% on Orkney compared to 7.5% for Scotland as a whole). Levels of part-time work are also generally higher on the islands, with 40.5% of the workforce on Orkney, for example, employed part-time, compared to 32.2% nationally. Exact figures for average household income were unavailable. However, area profiles suggest that household income in the Shetland Islands is likely to be slightly higher than the national average (£25,690 in 2012), with average income in the Orkneys and Outer Hebrides likely to be lower than the national average.

Gross Domestic Product (GDP) is lowest on the Outer Hebrides (despite having the largest population overall) at £380M (2010) compared to a GDP of £485M on Shetland (2011) and £450m on Orkney (2010). Table 12 presents a number of key economic indicators for the reviewed island groups, the Highlands and Islands and Scotland as a whole. Gross Value Added (GVA) per employee represents a measure of the average income generated across three sectors (manufacturing, construction and services) from the production of goods and services after the deduction of costs incurred in the production process (excluding wages and capital investment). None of the three island groups reach national GVA levels; however, Orkney has a higher GVA than the Highlands and Islands, with Shetland and the Outer Hebrides both lower and the Outer Hebrides considerably lower. The rate of economic activity (the % of all people of working age) is relatively high however, being higher than the national rate in all cases, with the highest rate (89.2%) on Shetland.

Table 12 - Key economic figures for the reviewed island groups, the Highlands and islands and Scotland

Island Group	GVA per FTE (2007)	Economic activity rate (2008)	No. Of business start ups per 1000 population (2008)	% Employed by businesses with <50 employees (2009)	Key sectors
Orkney	£44,276	85.9%	3	69.5%	Public sector; Agriculture; Creative industries; Oil and renewables); Construction; food and drink.
Shetland	£39,394	89.2%	3.8	66.2%	Aquaculture; Oil industry; public sector; tourism; food and drink.
Outer Hebrides	£33,141	83.6%	3.1	63.2%	Public sector; agriculture
Highlands and Islands	£42,619	84.3%	4	41.7%	-
Scotland	£48,458	79.6%	3.9	-	-

Source: Highlands and Islands Enterprise, 2011

The number of new business start-ups in the islands is lower in all cases than Scotland as a whole. It is also evident from Table 2 that the islands have a considerable reliance for employment on businesses employing less than 50 employees.

All of the reviewed island economies rely to some extent on the public sector for employment, although this reliance is particularly high in the Outer Hebrides (46%), compared to 36% and 26% in Orkney and the Shetlands respectively. In general, Tables 1 and 2 highlight the comparatively fragile nature of the economy of the Outer Hebrides. Less favourable demographics and the lack of a well-established oil industry and comparatively weaker agricultural and fisheries sectors have, in particular, resulted in a less resilient economy in the Outer Hebrides.

5.3.4 The status and importance of agriculture, fishing (including fish farming) and food production to Scottish Island economies chain

The availability of accurate and up to date sector-specific economic information varies considerably between island groups. It is clear however, that in all of these islands, agriculture has an economic role, which is of key importance in certain cases, as well as representing a land use of distinct social importance. Fishing and aquaculture also play roles of varying importance across the island groups, contributing very significantly to the economy in certain cases. Subsidies represent a core element of income for farmers on all of the island groups, with £19.8M in subsidies paid to Orkney farmers in 2009 for example and subsidies accounting for 60% of the total agricultural income on the Shetlands (AB Associates, 2010) in the same period.

i. Shetlands[15]

On the Shetlands, agricultural holdings consist of a mixture of some 1876 crofts and farms, with 60% of these less than 20ha in size. The numbers of people involved have fallen in recent years (by 18% in the 2001-2009 period). Agriculture on Shetland is primarily grass based and predominantly involves sheep and cattle. Sheep numbers have fallen over the last 10 years by 28% to just over 280,000 in 2010, with cattle numbers (beef and dairy) relatively stable at approximately 5,500. Most cattle and sheep are exported as store animals, with 6 dairy herds active in 2011, with milk production impacted by the availability of cheaper milk elsewhere. In terms of agricultural outputs sheep account for 53% of sales, cattle 16% and milk 21%. The value of production decreased in recent decades, with the drop in real values between 1986 and 2008 approximately 46% (AB associates, 2010). Declining livestock numbers represent a threat in terms of the viability of abattoirs and marts, although numbers have stabilised in recent years.

As apparent from Table 13, agricultural outputs represent a relatively small component of total economic outputs (equivalent to approximately £1 billion in 2011) on Shetland. Agriculture contributes £6.9M (2.2%) of the total value added (total revenue less production costs) in the Shetland economy however, a comparatively high level relative to other sectors. Aquaculture, a major industry in Shetland, represents the largest sectoral economic contribution, with fish catching contributing a further £71M and linked processing industries a further £83M. 'Other

[15] This section draws heavily on a comprehensive review of the Shetland Economy: Dyer, G.A. et al. (2012)

food and drink' production contributes much less in economic terms; however, this sector accounts for similar FTE numbers to fish processing. Fish catching, while contributing less economically that aquaculture, has a much higher value added figure of £17.2M.

Agriculture and other food and drink production are therefore both relatively important in employment and value added terms. However, when combined with the other food-related sectors in Shetland (aquaculture, fishing and fish processing) this sector becomes of major economic importance, contributing approximately a third of Shetland's total economic output and employing some 12.4% of the workforce. Furthermore, the agricultural employment figures may not fully account for partial self-employment on crofts. Food production and related industries therefore represent the cornerstone of the Shetland economy, with the highest economic output contribution (compared to £78M for construction and £67.6M for public administration) and second only to the public sector (26%) in terms of employment contribution.

Table 13 - Total economic value, value added and employment levels related to key food related sectors on Shetland

Sector	Total output (%) (£ Million)	Value Added (%) (£ Million)	Employment (%) (FTEs)
Agriculture	£18.5M (1.7%)	£6.9M (2.2%)	185 (1.8%)
Aquaculture	£156M (14.3%)	£7.6M (2.4%)	350 (3.3%)
Fish Processing	£83M (7.6%)	£6.4M (2%)	260 (2.5%)
Fish Catching	£71 (6.5%)	£17.2M (5.4%)	269 (2.6%)
Other food and drink production	£8.7M (0.8%)	£2.4M (0.8%)	234 (2.2%)
Total	**£337.2M (30.9%)**	**£40.5M (12.8%)**	**1298 (12.4%)**

Source: Dyer et al. (2012)

ii. Orkneys

Agriculture represents the main land use on the Orkneys, accounting for over 80,000ha of land, with cattle (beef and dairy) and sheep farming dominant. Both sheep and cattle numbers declined somewhat pre-2009 (reflecting a wider trend); however, they have since stabilised. In 2009, there were 83,665 cows, with the majority consisting of beef cattle (53,850) and beef cows (25,827), with beef production the mainstay of Orkney agriculture (with approximately 20,000 beef cattle exported annually). Orkney's dairy cows (2,660) produced approximately 16M litres of milk in 2009, equating to milk sales of £4.2M (@ 26.8p per litre). Retention of this milk locally is very high, with over 85% used in Orkney Cheese (with milk prices heavily dependent on cheese markets). Sheep farming is also widespread, with some 46,818 breeding ewes on the Orkneys in 2009, 1,713 rams and 59,890 lambs.

Agriculture is therefore a critical industry on the Orkneys and second only to the public sector in terms of employment impacts. Nearly 2000 people (equivalent to 21% of the workforce) have a direct economic interest in farming (including farmers, farmers spouses, part-time and seasonal staff) - with 10% of this figure part-time or seasonal employment. Agriculture on the Orkneys also provides a higher percentage of GDP than for any other Scottish county. There were 1998 listed agricultural holdings in the Orkneys in 2009, with owner occupied farms the predominant form of landholding.

Fishing and fish farming also occur on the Orkneys. With 160 boats operating in 2009, fishing employs some 330 full time and part time personnel (3.5% of the workforce). Some 7,420 tonnes of whitefish were caught in 2009, with a sales value of £11M, with a further 3096 tonnes of shellfish landed for the same period with a value of £5.5M. Crab fishing in particular is an important feature of the fishing industry, with one of the largest brown crab fisheries in the UK, landing 2,000 tonnes a year (over 20% of the total Scottish catch). The Orkney Fishermen's Society operates one of Europe's largest and most sophisticated crab processing factories in Stromness, as a cooperative, which employs 70. This is of particular importance on some of the outlying islands such as Westray, Sanday, Stronsay, Hoy and Papa Westray, where crab fishing represents a major component of local economies. Salmon farming accounts for a further 62 FTEs in the Orkneys, with 6607 tons of farmed salmon produced in 2009 and 120,000 smolts.

iii. Outer Hebrides

In the Outer Hebrides agriculture is dominated by small-scale crofting holdings, which account for 77% of the land use and represent a key element of the cultural fabric of the islands. In 2007 there were 6,022 registered crofters across 280 crofting 'townships' (villages), with an average croft size of 3 hectares and 94% of crofts providing less than 2 days of work for their occupiers. Cattle and sheep represent the main livestock in the Outer Hebrides, with similar numbers as on Shetland in both cases, with 6,564 cattle in 2007 and 217,000 sheep. Employment in the agricultural sector is officially 175 FTEs (1.5% of the workforce)[16] although it is difficult to account for the full extent of those involved to some extent with crofts.

Fishing is an established industry in the Outer Hebrides, with some 680 directly employed in fish catching (5.8% of the workforce compared to 0.3% for Scotland). A further 300 are employed in ancillary activities (processing, marketing, gear repairs etc.). Fish farming employs a similar number (550 FTEs), 300 of which are employed directly in salmon farming and 250 in related activities (processing, marketing, distribution etc.). Due to the decline of smaller fish farms in recent years three large fish farming companies now provide 80% of the total production.

iv. Producer turnover and confidence

Of the 19 island producers who provided production volumes in their survey responses, their annual turnover (across all product types) varied from a low of £1,000 to a high of £7.5M, with a total turnover across the 19 producers of £14.1M. Producers (n=23) were very optimistic about the future with 82% (19) noting that they expected demand for their products to increase over the next five years, 9% (2) expecting demand to stay the same and 9% (2) expecting demand to decrease (one of which was retiring). A similar level of producers (71%, 17) had plans to expand their businesses over the next five years, with 21% (5) having no expansion plans and 8% (2) uncertain about whether they would be expanding.

5.3.5 Characterising Scotland's Island food products

[16] Data from Western isles Crofters Commission office available on the Western isles Council website: http://www.cne-siar.gov.uk/eds/agriculture.asp

i. Key product types produced on Scottish Islands

A very wide range of food products are produced in the reviewed island groups. Fisheries and associated processing businesses are strongly evident on all three of the island groups (and Arran) with white fish and shellfish products providing the basis for a large number of businesses (particularly on the Shetland Islands and in the Outer Hebrides). Salmon farms also occur on the three main island groups and fish smoking businesses also occur on all three and on Arran. Meat products occur on all of the island groups (and Arran), with beef and lamb production critical on Orkney and lamb production important on Shetland and in the Outer Hebrides. As well as fresh meat products, there are also some processed meat products such as Stornoway Black Pudding (Box 7).

Box 9 - Stornoway Black Pudding (PGI)[17]

Stornoway Black Pudding, which achieved PGI status in 2011, is a blood pudding made in Stornoway town and the surrounding Stornoway Community Trust area. The community trust owns the town and some 28,000 ha of the Isle of Lewis – gifted by the then owner Lord Leverhulme to the people of Lewis and managed by 10 elected trustees. Local butchers have been making blood pudding under the Stornoway name since 1931 and have sought to maintain high standards by working cooperatively through the Stornoway Black Pudding Producers' Association. This has resulted in Stornoway Black achieving an international reputation as one of the top gourmet black puddings.

The puddings are made with beef suet (fat), oatmeal, blood, salt, pepper and (if using dried blood) water. Cow, pig or sheep blood can be used and traceability is ensured by producers recording details of the supplier when raw materials are delivered and each batch being given a batch number. The mixture is cooked in sausage skins and hung to dry, with a shelf life of one month.

Originally the 'Marag Dubh' (Scots Gaelic) would have been made in the intestines of the animal by crofters, as part of ensuring that all parts of slaughtered animals were used and shared between crofting families, with no waste. The puddings would have been placed in chests of oatmeal to keep them dry and cool and provided a rich source of iron. The ingredients in the modern day Stornoway Black Pudding have remained the same; however, the methods of production have been scaled up and are now more hygienic, with plastic skins used. Blood is provided by Stornoway abattoir. The beef suet in Stornoway black pudding, suited to the islands cold climate due to its' calorific value, makes it relatively unique, and the Scottish oatmeal provides it with a distinctive rough texture. Stornoway Black Pudding has an established reputation and is often bought by tourists as a souvenir of the islands.

Dairy products are also an important feature of production, particularly on Orkney, where high quality cheese is produced (See Box 8), with smaller scale production of high quality artisan cheeses on Arran (Isle of Arran Cheese and Bellevue dairy) and in the Shetlands (Shetland Island Cheese and Artisan Island Cheeses). Ice cream is also produced on Orkney and on Arran. There is also a brewery on each of the island groups (and on Arran) producing a variety of high quality beers and ales and whiskey distilleries on Arran (Isle of Arran), Orkney (Highland Park) and Lewis (Abhainn Dearg). Baked goods businesses (e.g. oatcakes and biscuits) are also relatively common, with confectionary businesses also on in certain areas,

[17] Specific PGI criteria for Stornoway Black Pudding: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:169:0025:0029:EN:PDF

including the Henridean Toffee Company and Hebridean Chocolates. Orkney Island Preserves and Arran Fine Foods also produce a range of preserves, jams and chutneys. There are also a number of established niche producers, including Hebridean Sea Salt, Stark Rapeseed Oil on Arran (established in 2012) and a number of smaller scale croft based enterprises.

Box 10 - Orkney Scottish Island Cheddar

Orkney Scottish Island Cheddar is a PGI (Protected Geographical Indication) certified cheese produced with milk from the Orkney Islands. The Orkneys have a long history of cheese making, with cheese having been made historically at small scales on crofts to supplement income from livestock production. To quality for PGI status, the cheese must be matured for between 6 and 18 months in large (20KG) blocks, with three different resulting profiles – medium, mature and extra mature. The milk used is sourced from local dairy cattle fed on fresh grass and silage, supplemented by locally grown barley, turnips and brewers grains. All stages of the production and processing, including maturation, must occur on the Orkney Islands. The milk is subjected to a distinct 'dry-stir' method, which differentiates it from other cheddars and creates a firm dense bodied cheese. The production of Orkney Cheddar (PGI) is overseen by a cooperative of some 20 Orkney farmers.

ii. Island food supply chains

Survey respondents were asked to indicate where each stage of the supply chain for their product(s) primarily occurs. Table 14 demonstrates that for all supply chain stages (for respondents products) the majority of activity occurred within the islands concerned, with production (93%) and processing (91%) particularly highly concentrated in island areas. For the eight respondents slaughtering animals most (6) did so on an island area. A small majority (57%) also sourced their raw materials in island areas, with 27% sourcing materials from within the islands and from outside of the islands and 17% sourcing their raw materials exclusively from outside the islands. Marketing occurred both within and outside of island areas, with 48% marketing their products within the islands, 37% marketing their products within and outside of island areas and 26% marketing their products outside of their island area. Product marketing and, to a lesser extent, supply of raw materials are therefore the supply chain stages most dependent on areas outside of island areas, with production, slaughter and processing heavily concentrated within island areas.

Table 14 - Respondent indications as to where each stage of the supply chain occurs for the products they produce in relation to island areas (N=30)

Stages of the Supply Chain	In an island area	Partly in an island area and partly on the mainland	Outside of an island area
Sourcing of raw materials (n=30)	17 (57%)	8 (27%)	5 (17%)
Production (N=27)	25 (93%)	1 (4%)	1 (4%)
Slaughter of livestock (N=8)	6 (75%)	2 (25%)	0
Processing (N=23)	21 (91%)	2 (9%)	0
Marketing (N=27)	13 (48%)	10 (37%)	7 (26%)

Source: own survey

In total, seven survey respondents were involved in livestock production. Of the six livestock producers that indicated how far they travelled to slaughter their livestock the average distance

travelled was 27km, with the furthest distance travelled 60km and two producers travelling less than 10km.

iii. Island 'specificities' and environmental and cultural linkages of island food products

The majority of island food producers (19 from the 24 that answered this question) viewed their products as exhibiting characteristics, which are 'specifically related to their island origins'. Based on analysis of open-ended comments, three main themes emerged as representing the core characteristics of island food products: i) the quality of the surrounding environment and sustainability of the modes of production; ii) local provenance and product quality; iii) cultural linkages and traditional modes of production. Specifically, 67% (16) (N=24) agreed that either local cultural connections or the local environment affects the specific qualities of the products they produce (33%, 8, did not).

Island food products and the environment

A number of linkages were evident between island food products and the environments within which they were produced. Products were viewed as being particularly fresh and 'pure' as a direct result of the quality of the surrounding environment. In particular, on Shetland the high quality of surrounding waters was viewed as resulting in high quality seaweed, fish and shellfish products (including from fish and shellfish farming). The high fertility and quality of the soil on Orkney was also noted as influencing the pasture quality and the quality of the beef produced. In relation to oilseed rape production, soil quality also impacted directly on the final flavour of the oil and the island location mitigated against certain flying pest species which affect oilseed rape on the mainland. This distance from the mainland and resultant protection from pests was also viewed as increasing milk quality on Orkney. The meeting of the tides around the island groups and the resulting disparity of water temperatures was also referred to as enriching the quality of sea life. Rapid tidal currents were also noted as resulting in firmer flesh and higher levels of meat content in shellfish. The availability of high quality seaweed also provided the raw materials for seaweed based products, as well as influencing meat products, due to the inclusion of seaweed in the diet of sheep herds, resulting in distinctively flavoured meat (See Box 9). Weather was also viewed as defining with respect to seasonal success, with consistent settled weather resulting in higher stock and output levels, both in fish farming and agriculture.

As well as the impacts of the local environment on food products, 63% (15) (N=24) of survey respondents felt their modes of production had positive benefits for the environment (13, 38% did not) and farmers were referred to as 'stewards of the local environment'. Producers emphasized the importance of sustainability in their production methods, including following organic practices and limiting the use of pesticides. This included certain respondents using local, natural fertiliser including seaweed, compost and animal manure, limiting wastage and rotating crops frequently. Despite their relatively isolated locations, a number of producers also argued that due to their use of local raw materials, their production involved low food miles overall, with local marketing and/or rapid movement of product from production point to market representing an important component of the supply chain in most cases. In relation to aquaculture, mussel farming was also noted as being carbon positive, with (reasonably sized) mussel farms also acting as natural filtration systems with the capacity to complement salmon farming through maintaining water quality. Due to fish processing (gutting of fish) occurring within island areas, less waste product was also transported. On Shetland, local cheese producers were also utilising surplus milk, and waste they produced from the cheese making process was being used for pig food, minimising overall wastage. The growing of oilseed rape

on Orkney had also been welcomed by local beekeepers as it produces a high pollen volume and requires insect pollination. The lack of flying pest species (which affect oilseed rape on the mainland) also allows for a less intensive and organic (pesticide free) mode of production. Seaweed harvesting practices on Shetland (Box 9) also included sustainable harvesting and cultivation of seaweed – which directly enhances marine environments.

Box 11 - Böd Ayre Seaweed Products

Located on Shetland, Böd Ayre (www.seaweedproducts.co.uk) is a company producing natural seaweed plant based products. The company was established in 2001 and has since expanded, harvesting wild seaweeds from the Shetland coast as well as cultivating seaweed. All raw materials are sourced or cultivated locally on Shetland.

Böd Ayre currently produces plant feed, animal feed supplements and 'sea vegetables' (dried seaweed for human consumption). Production levels and the product range have gradually expanded, with the company currently producing over 60 tonnes of seaweed products annually, with an annual turnover of over £90,000. The company distributes seaweed products UK-wide and has plans to continue growing production levels and product lines in the future.

Böd Ayre's core strategy is to promote the importance of the health and well-being of the environment and follow sustainable practices. This includes sustainable harvesting methods, with harvesting carried out by hand, leaving the root and part of the plant to allow regrowth, and leave sufficient cover and feed for marine flora and fauna. Seaweed cultivation is also carried out to enhance marine ecosystems and ensure adequate seaweed growth and survival.

All Böd Ayre products are organically certified by the Scottish Organic Producers Association (SOPA), with seaweed feeds also certified by the Quality Meat Scotland Assurance Scheme (Feed Standards). The company name represents an effort to link product identity with local culture and high quality environments, with the name consisting of the term 'Böd' (the Shetland word for the fishing stations used to dry fish) and 'Ayre' (a stoney beach extending out into the sea). Böd Ayre refers to a specific location (which has a Böd located on an Ayre) on Shetland where seaweed is collected for the company's products.

Local provenance and quality

The importance of local provenance and high quality in food production was emphasized by producers from across all island groups. The importance of locally sourced ingredients was referred to by a number of producers, with meat producers also noting their use of local breeds and locally developed beef herds. Both cattle and sheep herds (particularly on Orkney and sheep on Shetland) were noted as having been developed and bred over long periods within the islands and as having very high health and quality status. Local cheese makers also used milk produced within their islands. This emphasis on local provenance was particularly critical on Orkney (See Boxes 7 and 10), where producers stressed local origin of raw materials as critical to their market success. Shetland and Orkney sheep and dairy herds were viewed as producing meat and milk with unique characteristics as a result of both the island environments (see above) and the quality of animal husbandry.

Box 12 - Orkney Beef (PDO)[18]

'Orkney Beef' is a recognised term, protected by EU (Protected Designation of Origin - PDO) legislation. To be allowed to use the term 'Orkney Beef' cattle must be born, reared and slaughtered on the Orkney Islands and products must be marketed fresh and chilled only. The PDO certification recognises the distinct texture and flavour of Orkney beef as being related to the high quality environment (topography, geology and climate) of the Orkney Islands, which imparts specific characteristics to the grass and herbage. Cattle have a forage-based diet, incorporating lush grass during the season and the production of silage and hay for use in winter-feeding (i.e. local sourcing of raw materials). Artificial feed supplements and growth promoters are not used. Orkney was one of the first areas in the UK to introduce fully traceable beef.

The Orkney Islands have a long history of high quality beef production, with the exclusive use of a cross breed of Aberdeen Angus and Shorthorn/Blue Grey cows known as 'Orkney Cows' and long history of high quality animal husbandry contributing to the beefs characteristic flavour. Cattle are wintered in traditional 'byres' and calves are free to suckle their mothers. Orkney beef production represents the cornerstone of agriculture on Orkney and is distributed across the UK and widely recognised as being of the highest quality. Orkney raised animals fetch premium prices at marts and have received numerous prizes.

There are approximately 850 farmers on Orkney producing Orkney Beef, with producers collectively represented by Orkney Meat Ltd. Orkney has its own mart and abattoir and exhibits the highest overall density of cattle in Europe. To highlight the exclusive nature of Orkney beef the product is not available through any of the major multiple retailers, being distributed through butchers or supplied directly to restaurants. Orkney beef is marked as part of the cooperative 'Orkney Gold' brand, which emphasizes high quality..

Native breeds were viewed as being the hardiest and most suited to specific island environments and the emphasis on provenance (and awareness of this among buyers) ensured that local meat products remained distinct and linked with the local area and economy:

'It is only the native breeds that can make the best use of Shetland's natural environment. The PDO regulations require that the lambs are slaughtered in Shetland. Not only does this provide processing jobs but it assures the provenance of the lamb. This enables satisfied customers to return and buy more'

The quality of island products was also related to the small scales of production, with businesses generally referred to by survey respondents as 'small and family run' resulting in a 'very high instance of quality control and perfectionism for the quality of the products'.

Traditional and cultural aspects of island food products

In total, 12 survey respondents stated that their products have 'specific local cultural connections' with 12 also stating that their products did not have these connections (13 did not answer this question). Farming and fishing were referred to as historic and embedded components of island life, with agricultural practices noted as incorporating 'local island knowledge and agricultural knowledge' developed over long periods. Crofting, which usually

[18] Specific criteria for Orkney Beef (PDO): http://ec.europa.eu/agriculture/quality/door/registeredName.html?denominationId=501

involved livestock production, and in certain cases was supported by small-scale food production, was noted as being a historical form of land use, with a deep cultural significance.

Box 13 – Shetland Lamb (PDO)

Sheep farming has a long history on the Shetlands, with archaeological remains suggesting sheep may have been kept by settlers as long as 4500 years ago. Shetland lamb is a designated PDO (Protected Designation of Origin) product. Shetland Lamb (PDO) must be derived from either the native Shetland sheep breed or the Shetland/Cheviot cross, which also occurs in the islands. Lambs should be slaughtered within 12 months of birth and generally weigh 7-12kg (up to 20kg for Shetland/Cheviot crosses), compared to 17-22kg for lambs sold on the mainland. The distinctive flavour and texture of Shetland Lamb is attributed to the topography, geology and climate of the Shetlands and the breed having evolved to thrive on the diverse flora of region. All farmers and crofters in Shetland are eligible as Shetland Lamb producers if they comply with the PDO regulatory requirements. Raw materials (forage) are sourced locally and lambs are born, reared, finished and slaughtered on the islands.

Shetland lamb has been marketed in the UK for over 60 years and further afield (e.g. the Faroe Islands) in recent decades. Local cooperatives process the lamb and assist producers in packaging and/or marketing their products. As well as conventional Shetland lamb, producers such as Richard Briggs (www.briggs-shetlandlamb.co.uk) also produce Shetland Seaweed lamb. Seaweed lamb is derived from specific sheep herds, which have access to the seashore and are hefted to graze amongst the ebb tide area, giving the meat a distinctive salty flavour. As with Orkney Beef, Shetland lamb is not marketed in the mainstream multiple retailers, instead being marketed through butchers and online. Briggs' Shetland Lamb, for example, markets lamb directly to consumers online, with next day delivery.

Sheep and cattle farming generally involved indigenous breeds, with a long history (over 5000 years in some cases) of development in the areas concerned. These local breeds were, as a result, viewed as having a cultural significance in their own right:

'The Shetland breed of Sheep has evolved over the centuries and was an integral part of the subsistence agriculture and then the crofting agriculture of The Shetland Islands. The flavour of the meat is as much a part of the Islands as the dialect.'

Certain vegetable and crop varieties still in use (e.g. Bere barley on Orkney) are also of local origin, with a strong historical connection to the islands (Box 12). Seaweed based products were also noted as having distinct cultural origins, with seaweed harvesting having been an important cultural activity on the islands following periods of high winds when seaweed was blown on to the beaches. This was traditionally used to fertilise the soil and feed animals and, during periods of hardship, provide a food source for the local population. Local cultural terms, including place names, were often used in relation to product and business names. This connection was often sought out in an effort to link local culture with product branding and marketing (e.g. Box 8, Seaweed products). The use of local dialect, in this case, represents the cultural significance of the seaweed products and the naturalness of their originating

environment. As one survey respondent noted, there was no strong history of cheese making in Shetland; however, through establishing an artisan cheese company on the islands they viewed their activities as establishing a cheese making tradition which would provide a cultural basis for such activities in the future.

Box 14 - New markets for ancient barley from Orkney

'Bere' barley is probably Britains oldest cereal crop, possibly brought to these islands by the vikings in the 9th Century or earlier. It was mainly cultivated on 5-15 hectare plots on Orkney and on a small scale by crofters on the Shetlands, the Western Isles and in Caithness. Bere barley has adapted to soils of low PH and the short growing season of northern latitudes. It is sown in spring and grows rapidly for harvest in the summer. Bere was an important crop in the 19th and 20th Century, providing grain for milling and malting and straw for thatching and animal bedding in the Highlands and Islands. However, the proliferation of higher yielding varieties led to the gradual decline of bere.

Bere barley continues to be cultivated on Orkney, due to a local 19th Century watermill (Barony Mills – www.birsay.org.uk/baronymill.htm) continuing to purchase and mill the grain to produce beremeal. This product is used locally in bread, biscuits and bannocks (a type of scone) and sold in shops, to bakers and to malters. The grain is milled in the winter, with the mill open to the public during the summer months.

The agronomy Institute at Orkney College (part of the University of Highlands and Islands) has led a research program since 2002 to develop best practices for growing the crop and explore new markets for Orkney bere. This has resulted in a number of new markets for bere, with the Valhalla Brewery (www.valhallabrewer.co.uk) on Shetland (Britain's most northerly brewery) producing 'Island Bere' since 2005 (a beer made from the barley) and two whiskey distillery's (the Bruichladdich distillery on Islay (2007) and the Isle of Arran distillery (2007)) having begun distilling bere whiskey. The institute is also working with a bakery company to explore markets for specialist biscuits made from bere.

iv. Marketing, certification and distribution

The island origins of products and specifically the high quality environments of island areas, strong links with cultural heritage and emphasis on provenance and product quality were the core attributes utilised in marketing of island foods. When asked what consumers valued about their products, the highest number of survey respondents chose the 'association with high quality', with 74% also choosing the 'island origins' of products (Table 15). Other factors which producers listed as important to consumers included consumer confidence and product consistency and traceability, the local origins of raw materials, the accredited health status of livestock and the exclusivity of products due to the relatively small scales of production.

Table 15 - Respondent opinion on the most important attributes of their products to consumers (n=23 for all three options)

Answer Options	Most Important	Important	Less Important
The island origins of the product	74%	17%	9%
The specific regional identity of the product	57%	30%	13%
The association with high quality	87%	13%	0

Source: own survey

Of the 22 producers that provided information on the distribution of their products in the producer survey, the average proportion of their products distributed locally (within their island group) was 58% (although 8 of the 22 were above 90%), with the average proportion distributed at the Scotland and UK level at 42%, with wider distribution (Europe and the world) at less than 2%. This may be due to the comparatively short life of many key products (e.g. fresh meat, cheese). Tourism markets (within the island groups) represent an important market for products (Table 16), with an established tourism industry on the islands, particularly Orkney. Locally produced food products were recognised as providing ideal souvenirs with a direct link to island culture and environments.

Table 16 - The relative importance of local tourism markets to producers for marketing their products (N=23)

Answer Options	% Of Respondents
Essential	26.1%
Very important	17.4%
Important	17.4%
Moderately important	17.4%
Not important/relevant	21.7%

Source: own survey

v. Certification and branding

Table 17 shows the numbers of survey respondents registered with specific types of certification and marketing/labelling schemes. From the 23 producers which answered this question, 10 were registered with specific local/regional marketing schemes, which specifically included the Taste of Arran (3), Taste Shetland (3) and Orkney (1) brands, Quality Meat Scotland (2), Scottish Crofting Produce (1) and Taste of Barra.

Table 17 - Number of producers using certification or marketing schemes (N=23)

Types of Certification/Marketing Scheme	No. Of Producers
EU PDO or PGI schemes (Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI))	3
Organic Certification Scheme	4
Local or regional brand/label or marketing scheme	10
Products are not certified or registered under any marketing or certification schemes.	6

Source: own survey

In eight cases the brand through which producers promoted their products was therefore specific to their island or island group (and in the case of PDO/PGI certifications also inherently linked to their island group) (Box 1 provides further information on these key 'island brands'.

Box 15 - Examples of Scottish Island branding initiatives

The **Taste Shetland** initiative is the trading arm of the Shetland Livestock Marketing Group (SLMG), a local farmer cooperative with some 300 members. SLMG formed in 2003,

following a restructuring of Shetland's agricultural industry and is run by a board of 8 directors. Taste Shetland operates an abattoir in Tingwall (accredited for organic products) and promotes a range of meat products (Shetland Island Lamb, Shetland Hill lamb, Shetland Seaweed Lamb, Shetland Island Mutton, Shetland Beef and Shetland Native Beef), with the core aim of allowing producers access to wider markets. The website (www.tasteshetland.co.uk) acts as a promotional vehicle as well as a point of sale, marketing connoisseur, deluxe and traditional boxes of mixed cuts of lamb. The initiative is focused on ensuring provenance (with a producer database) and communicating the high quality of Shetland environments and the resulting distinctive character of the meat.

Taste of Arran is a cooperative initiative involving 11 food and drink producers from the Arran. The initiatives website (www.taste-of-arran.co.uk) acts as an online shop, as well as promoting the products of registered producers. The 11 producers organise product distribution collectively, maximising transport space and reducing costs through shared logistics. The collaborating producers develop a wide range of products, including ice cream (Arran Dairies), smoked fish (Creelers Smokehouse), high quality cheeses (Island Cheese Company and Bellevue Creamery), Whiskey (Isle of Arran Distillery), Oatcakes (Wooleys Bakery), relishes and preserves (Arran Fine Foods), herbs (Robins Herbs), beers (Arran Brew) and Rapeseed oil (Stark Rapeseed Oil). Products are all made on Arran using locally produced raw materials whenever possible. The initiative places quality and provenance at the centre of the brand and organises events to promote Arran's food products.

Food Hebrides is a branding initiative centred on a website (www.foodhebrides.com), to promote food in the Hebrides. The website represents a central hub of information for anyone interested in food in the Hebrides and includes names and contact points of food producers, places to eat and food outlets throughout the Hebrides.

Buth Bharraidh (Taste of Barra – www.tasteofbarra.com) is a small-scale initiative centred in the island of Barra in the Outer Hebrides. The scheme is a locally run cooperative venture which serves the local and tourism market by providing a tailored home baking service and providing baked goods to the local airport café and local produce shop.

Table 18 illustrates producer opinion on the key reasons why they used certification and labelling schemes, with the desire to obtain a marketing advantage the reason most frequently selected. Seven producers also agreed that such schemes offered an opportunity to increase product quality and facilitate collaboration with other consumers, with only 2 agreeing that they impacted on price.

Table 18 - Producer opinion on why they used certification or marketing schemes

Answer Options	Yes	No	Partly/At times	Response Count
To obtain a marketing advantage	12	2	1	15
To access larger markets and increase production	6	4	2	12
To increase price	2	8	3	13
To increase product quality	7	6	0	13
To facilitate collaboration with other producers	7	5	2	14

Source: own survey

Producers were also asked what the main constraints were with respect to the certification or marketing scheme with which they were registered. The most commonly listed constraint (5) was that schemes were not well suited to small producers and processors, with 3 respondents also listing the cost of registration and the bureaucracy and paperwork involved, with 2 each listing the costs of modifying production methods to comply with scheme requirements and a lack of any noticeable impact of the scheme. One respondent also noted the lack of a well-known brand or logo associated with the scheme with which they were registered.

5.3.6 Key challenges for island food producers and key conclusions

Survey respondents and key informants were also questioned on the key challenges island food producers face and the most important opportunities for the future. A number of key issues and possible responses were raised and a The most frequently raised issue was the cost of transporting products to mainland markets from what were relatively isolated island locations, with haulage and freight costs viewed as high relative to those experienced by mainland producers.

'Haulage costs and fuel costs are high relative to the market price of my product. Fuel prices have gone up by a factor of 6 or 7 in the past twenty years where our product price has only increased by a factor of 2 in the same period'.

A further linked issue, which related to transporting fresh (meat, fish etc.) products out of the islands, was the reliability of transport connections and cold storage courier services from the islands to the urban centres of Scotland and the UK. Ferry services, for example, were subject to change due to weather conditions, with obvious knock-on delays for food delivery times and the quality of the delivered product. Many products were recognised as being very high quality, resulting in high consumer expectations. Balancing the reliability of delivery services with cost effectiveness was therefore a key issue for island producers. The Royal Mail was viewed as an asset in this regard, particularly for smaller scale (e.g. online marketing) deliveries, with concerns raised about the current proposed privatisation of the Royal Mail and the resulting increased postage rates and reliability of private couriers. As one producer and online marketer stated:

'*we pride ourselves on getting small orders out…to our customers quickly…and the Post Office plays a large part [in that]. Privatisation of the Royal Mail means our online shop…will become unviable. Couriers will charge over the top for posting small orders, and the time in getting the orders to our customers will be poor'.*

These factors effectively placed island producers at a disadvantage relative to mainland producers, with producers viewing this as unaccounted for in support and policy mechanisms. In practice, producers were addressing these challenges through local marketing of their products where possible and through developing cooperative distribution networks (e.g. the Taste of Arran cooperative brand offers shared transport logistics). Nevertheless, local markets were limited for larger scale productions (e.g. fish farms, beef on Orkney) and local authorities were criticised for failing to prioritise the use of local products in their own organisations. Producer cooperatives were also engaging with government in an effort to moderate postage costs over the longer term in line with recognising the origins of food and what is required to deliver it to the consumer. Continually increasing consumer knowledge and awareness of food (through local and national initiatives) sourcing was viewed as critical in this regard.
re outlined below.

i. Distance to market and transport logistics

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ii. Production scales, collaboration and competition

The small scales of production in island food industries limited potential for economies of scale and (due to low availability of working capital) often necessitated slow business growth. Producer collaboration, in terms of shared processing infrastructure and marketing was viewed as more developed in some island groups (particularly Orkney) than others. This was viewed as impacting on the availability of sufficient local processing infrastructure (e.g. slaughter house capacity on Shetland) and the long-term security of critical processing infrastructure.

‘There seems to be a lack of 'pulling together' in Shetland…Bureaucracy, and people who could get this moving seems to have a total lack of understanding - it should be initiated and governed from the bottom up, and not from the top down, but with financial assistance from the top’.

Collaboration was viewed as the key to competing in a market dominated by large multinational retailers. The negotiating and buying power of large supermarkets and their development of low cost products to compete directly with small-scale local products, was viewed as detrimental to the long term survival of island food industries, particularly in the current economic climate.

iii. Inadequate government support

In general, producers argued that the constraints they faced relative to mainland producers (distance to market etc.) were not well recognised in existing support mechanisms. National support schemes were viewed by some as counterproductive to supporting local food production except for large established companies. The on-going revisions to the EU Common Agricultural Policy were viewed with uncertainty and potentially as discouraging for new start up food production businesses. Producers argued for greater recognition of 'distance to market' factors within the Less Favoured Areas (LFA) payment system:

'although transport links to the islands are subsidised, the less favoured area agricultural payments in Scotland are calculated…based on soil type and height above sea level but distance to market is not factored in. This is a big disadvantage to Island food producers and for most of crofting agriculture'.

In particular, producers viewed local government as failing to recognise the critical importance of high quality accessible local processing infrastructure (e.g. slaughter houses) and committing to supporting the provision of such infrastructure over the longer term. Shetland producers were also critical of a lack of government support for marketing Shetland products collectively through the development of a marketing plan and stronger 'Shetland Foods' brand (a point which was supported by the Shetland Agricultural Strategy).

iv. Limited labour pools and natural resources (raw materials)

Island food producers also raised the issue of limited availability of labour (particularly for larger businesses, e.g. fish farms, food processing and also hospitality) within the islands, the costs of labour and the lack of a diverse range of skill sets within the local workforce. The agricultural sector was also recognised as having an ageing demographic, resulting in gradually declining productivity, with a lack of younger people entering farming and fishing (with any decline in fishing and/or farming representing a threat to the linked food processing sector). Encouraging future in-migration through positive marketing of farming and fishing careers was viewed as critical to ensuring sufficient availability of both labour and young entrepreneurs in the future.

Some producers also noted their dependence on a limited and sometimes inconsistent pool of natural resources when operating within the islands. Oilseed rape producers on Orkney for example, only had access to a limited acreage of sufficiently high quality soil. Due to the emphasis on local provenance and high costs of importing raw materials from the mainland, the weather also had the capacity to reduce the availability of raw materials (e.g. Bere barley harvests). Businesses dependent on local wild fishery catches also faced a variable supply of raw materials based on weather and catch numbers.

5.3.7 Key Conclusions

This review demonstrates that island food products do have a relatively distinct set of characteristics, which relate strongly to their surrounding 'environment of production'. The environmental characteristics of island areas (climate, soil, proximity to the sea etc.) and high quality of raw materials have a clear impact on the taste, flavour and texture of meat and dairy products, resulting in distinctive island specific products such as Orkney Beef and Shetland lamb. An emphasis on local provenance and 'enforced' self-sufficiency has also resulted in the development, over very long periods, of specific 'island breeds' of sheep and cattle, which have evolved within their island localities, and island specific techniques in food production (e.g. dry stirring in cheese production). The proximity of the sea ensures fish catching and farming and the resulting products (fresh and processed fish) feature prominently within local culture and economies. The requirement to be self-sufficient throughout history has also resulted in a variety of embedded traditions and practices (e.g. cheese making on Orkney, fish smoking and seaweed harvesting) providing a cultural backdrop for current food producers to link with. The high quality and cultural significance of island food products is evidenced by the degree to which these products have achieved PDO and PGI status, with six of the 10 PDO and PGI certified products in Scotland[19] produced in the Orkneys, Shetlands and Outer Hebrides.

Given their degree of isolation, the demographics and economies of the Shetlands and Orkneys are comparatively strong and resilient. The Outer Hebrides is perhaps an exception in this regard, with a less diversified and less resilient economic base and a declining population. In all cases, agriculture, fishing and food production contribute significantly to the economy, through both economic outputs and employment. This is highly significant in certain cases, with beef production a major component of the economy of the Orkneys and fishing, fish farming and processing of equally major importance in the Shetlands. Furthermore, fishing, food and agriculture (particularly crofting) represent powerful elements of the social fabric of island areas, with a cultural weight, which arguably goes far beyond their economic importance. Food and food production, in this regard, contribute to the communities, heritage and landscapes of island areas, providing the setting for (and linking with) an expanding tourism industry. In less economically resilient areas, food production represents one potential avenue for shifting away from the current reliance on public sector employment, with public sector employment having declined significantly in recent years due to public sector cuts.

Island identities are strong, although perhaps not always effectively marketed as such. Addressing wider issues such as out-migration and ensuring an adequately skilled workforce to facilitate diversification requires a positive selling of the 'island way of life' now and in the future. Furthermore, capitalising and linking with emerging technologies and industries represent key future opportunities – including an expansion of internet marketing and the strategic integration of agriculture, fishing and fish farming and food production with renewable energy opportunities. Tourism markets are a critical mechanism for expanding the local market base, thereby reducing transport costs for producers and strengthening the 'local identity' of products. This requires effective collaboration, with the public sector potentially playing a stronger supporting role in establishing collaborations and funding regional marketing strategies.

Island agriculture remains heavily dependent on subsidies. The current reform of the EU CAP and EU Common Fisheries Policy (CFP) is therefore likely to impact significantly on these

[19] Stornoway Black Pudding, Orkney Islands Cheddar, Shetland Wool, Shetland Lamb, Orkney Beef and Orkney Lamb

sectors and change should be anticipated. Technological advances and wider market consolidation may also result in declines in agricultural employment in the future. Island producers face a distinct set of constraints, largely linked to their isolation from mainland markets and limited availability of processing infrastructure and raw materials. Nevertheless, island producers appear distinctly confident about the future, in terms of maintaining outputs and expansion prospects. Critically, changes to the CAP and CFP will also impact farmers and fisheries across the UK (and Europe) more generally, requiring greater diversification and entrepreneurism within the agricultural sector. Combined with increasing nervousness about food security (and increasing demand for food) and growing consumer awareness about provenance, these factors present opportunities for island food producers. With their emphasis on native breeds, local provenance and identity, high quality, best practice in animal husbandry and adding value locally, island food producers are well positioned to take advantage of a dynamic market and constantly evolving policy framework.

6 Conclusions

The first point to raise in concluding this Report is that, should there be a decision to implement a new optional quality term, the issue of defining precisely those islands eligible for this purpose needs to be solved. In spite of a very simple concept of what is an island, a piece of land surrounded by water, there have been many different definitions of islands, differing between the function of the main purpose of the definer. For the purpose of agricultural products, several criteria are not relevant, such as the minimum size in terms of population; whatever the size of an island, if there is a farmer producing on this island, even if not permanently resident, their products are evidently island farming products. Two questions remain to be discussed: first, the degree of peripherality and the size; these are important aspect as those large islands with a capital city should be discarded (Ireland, Britain, Danish Islands), like in the regional policy definition, as they are not peripheral and their size allow them to benefit from agglomeration effects. Second the issue of accessibility; islands with a fixed link are discarded under the DG REGIO definition and this is a first possible solution. Many small peripheral islands with fixed links however, are not particularly more accessible than islands with no fixed links. Possibly, islands with only a single fixed link to the continent could be included (such as: Ré, Oléron, Noirmoutier, Skye, several Swedish, Finnish, German and Danish small islands).

Whatever the precise definition of islands chosen, there are evident common features of EU islands in terms of geographical aspects (isolation, remoteness, peripherality, poor accessibility, geomorphological constraints linked to a high share of mountainous areas and tough climatic features, at least occasionally, impact of double insularity in the case of archipelagos), natural capital (poorer in terms of number of species present but very specific (high degree of endemism) and fragile), human capital (constrained with less educational attainment and marked by a certain brain drain), social capital (very strong cultural identities) and a high economic and political dependency from the mainland (economic overspecialisation in certain tertiary sectors such as tourism, financial services and public services). Of course, there are different types of islands: small and large islands are not equal with respect to diseconomies of scale; Northern and Mediterranean islands are not equal in terms of agricultural and tourism assets; outermost islands face additional types of peripherality issues relative to islands closer to Europe.

Within this diverse geographical scope, there exists significant diversified agricultural and food production, with important specialised crops: fruit, vegetables, potatoes, olive oil and wine, but also some animal production, in particular sheep and goat meat, as well as to a lesser extent dairy products and cattle. The agri-food sector has a significantly larger share in EU island economies than the EU average and it often remains losely related to the main economic activity of EU islands, tourism. Many islands are developing strategies where tourism and the local agri-food sectors are seeking synergies in a smart specialisation of the territories.

The agri-food sector in EU islands is severely constrained by isolation and small size of their economies to varying degrees. For farmers, input costs are evidently higher while they face difficulties in exporting. Resource limitations, such as land and/or water, and competition for these resources with other activities such as tourism, represent a threat for EU island farming. There are drivers of growth for EU islands however, and local savoir faire, traditions, the wealth of the natural capital are all elements affecting the agri-food sector, particularly in terms of developing high value added niche products.

Most of the difficulties faced by EU islands and their farming sectors are structural and primarily require structural solutions and policy instruments. These are already partly in place through regional and rural development policies on the one hand and with specific handicap compensation subsidies on the other. There have also been many diversified efforts and initiatives (public and private) to improve the quality of island agricultural products and foods and derive greater value added from their marketing. At present however, only a small share of the agri-food products of EU islands benefits from these efforts. For example, less than 5% of these products benefit from geographical indications and the RUP official sign is notably under-used. There is therefore room for improvement for island farmers in capitalising the value of their products through an appropriate labelling.

There are clear indications beyond the development strategies mentioned above however, that there is a need to protect the authenticity of EU island farming products, both locally (in particular with regards to the sales to tourists: several examples of 'fake' local products or cheap imitations offered to tourists can be mentioned) and in export markets (for example, for migrants originating from the islands or simply former visitors to islands who want to remember their tourism experience).

The question then is whether the creation of an optional quality term for products of island farming is a suitable solution, at least as a complement to other tools. As mentioned above, there are common generic characteristics of all EU islands (high degree of biodiversity and natural capital, strong specific know-how and cultural identity to protect in the face of globalisation trends, high quality products deriving from these two last features, support to endangered local agriculture with high positive externalities but facing farming/land abandonment, low prices (at farm gate) and high production costs, etc.) which could potentially be conveyed by such a generic labelling practice. There is an intuition/evidence that social/cultural and environmental public goods associated with island farming – like in other fragile areas – are important and that the farming/rural areas (landscape) of islands play a more important role in this respect than in the mainland – a reason to support island farming.

There seems however, to be mixed feelings about generic 'island' labelling. Stakeholders communicate the concept of insularity when selling their food products, generally by referring to the identity of the specific islands (or archipelagos) concerned: Corsica, Sardinia, Canary Islands. No example has been found of a brand or a quality scheme covering all island products, irrespective of their precise localisation. Only in the case of groups of small islands (e.g., several small Danish islands) are there some examples but this is still far from generic island farming labelling. Moreover, there are cases where there is competition between different islands and the specific reference to a single one is key to stakeholders differentiating themselves in the market.

There are, of course, pros and cons to this solution, summarised in the following table.

Table 19 - PROs and CONs for an Island Farming Products Optional Quality Term

PROs	CONs
There are common features of EU islands that could be the message conveyed by a generic island label (protect a unique and fragile cultural and natural capital).	There are no examples of generic labels for island products: most stakeholders promote specific islands not generically in practice. The only close 'generic' example (the

	RUP logo) is not yet widely used, in particular because of high quality requirements.
This would be a unique tool for some small-scale producers, in particular in small islands not benefiting from a sufficient scale to engage in other marketing tools (collective, certification, territorial brands, geographical indications). In particular, the costs of implementation are reduced for an optional quality term (self-declarative scheme without certification, control under the general rules of labelling controls).	There is a risk of dilution of other initiatives (territorial marks, geographical indications) which have stronger control mechanisms and/or certification (and therefore costs).
There are misleading practices, particularly in the markets for tourists in islands, for which such a rule could provide a stronger protection for all island products (additional legal basis for enforcement, of general character, not limited to TM or GI owners).	Appropriate co-ordination needs to be ensured with all these schemes or else the risk of consumer 'label fatigue' might render an extra scheme counter-productive.
The overspecialisation of island economies is a further argument for developing 'bundles' of island products from different origins, completing the array of products offered under the same brand.	The overspecialisation of EU islands makes it very difficult to source ingredients and raw materials within islands, strongly reducing the full scope for products fully originating from islands.

In conclusion, the absence of interest by economic stakeholders so far in developing their own generic labelled island products as such (contrary to mountain products, for which there were significant initiatives prior to the establishment of national and then European rules) is a strong negative message for the potential usefulness of a new optional quality term for island farming products. There are also clear advantages to this solution however, which does not encompass a lot of costs. One compromise idea raised during the Seville workshop was that the generic island farming products term could be alternatively supplemented by a reference to the specific island or archipelago concerned, on a voluntary basis, for example under this format 'products of <Canary Islands> farming'. Such a solution would alleviate the drawbacks of a new optional quality term, preserving most of its potential advantages.

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8 ANNEXES

Workshop on "Labelling Products of Island Farming"

Date: 13th – 14th June 2013
Venue: Isla de la Cartuja, Edificio Expo, 1st floor, **Room A30**, c/ Inca Garcilaso 3, Seville, Spain
Organisers: JRC-IPTS

DRAFT AGENDA

13TH JUNE 2013		
14:30-15:00	Welcome, research and policy perspectives	**Jacques Delincé (JRC-IPTS)** **Michael Erhart (DG AGRI)**
15:00-16:15	**Farming and Food industries in Islands (Chair: Silvia Delgado Carballar, INSULEUR)**	
	Diversity of Islands Drivers of growth in Islands agriculture and food industries The economic impact of insularity on Farming Economic importance and other aspects of agriculture and food industries in Islands Discussion	**Fabien Santini, JRC-IPTS** **Robert Read, U Lancaster** **Jean-Didier Hache, CPRM** **Fatmir Guri, JRC-IPTS** **All participants**
16:15-16:45	Coffee break	
16:45-18:00	**Regional case studies (1- Supply Chain approach) (Chair: Sergio Gomez y Paloma, JRC-IPTS)**	
	Quality Certified Agricultural and Food Production in Greek Islands Island Specialties® - chauvinism, fair trade or terroir? The case of Tenerife honey Key products of Sardinia island Discussion	**Demetris Psaltopoulos, U Patras** **Anna Karin Utbult Almkvist, ESIN** **Antonio Bentabol Manzanares, Casa de la Miel - Tenerife** **Maria Grazia Olmeo, U Sassari** **All participants**
20:30	Dinner *Rio Grande*	

14TH JUNE 2013		
9:30-11:00	**Labelling of Islands farm and food products (Chair: Javier Valle, COPA-COGECA)**	
	Labelling practices for Island farming products An example of local quality marks: Canary islands marks and the case of Ultra-peripheric label Labelling of Azores products Geographical Indications in Islands: an EU wide overview Discussion	**Audrey Aubard, Consultant** **Aguasanta Navarrete Garcia, ICCA – Instituto Canario de Calidad agroalimentaria** **Joao Lança, IAMA - Instituto de Alimentação e Mercados Agrícolas** **Laurent Gomez, AREPO** **All participants**
11:00-11:30	Coffee break	
11:30-13:00	**Regional Case Studies (2- Economic structural approach) (Chair: Antonia Gamez Moreno, DG AGRI)**	
	Farmers cooperation and adaptation of EU regulations on small islands Encouraging local, high quality food production on small islands Corsica Challenges for the agriculture of Baleares Concluding remarks on Case Studies Discussion	**Anna Karin Utbult Almkvist, ESIN** **John Walsh, Bere Island Projects group** **Marie-Pierre Bianchini, ODARC** **Jose Carlos Caballero Rubiato, Presidente de la Comisión de Medio Ambiente de las Illes Balears** **Javier Valle and Fabien Santini COPA-COGECA & JRC-IPTS** **All participants**
13:00-13:30	**Conclusions**	
	Wrap up	**Jacques Delincé JRC-IPTS** **Michael Erhart DG AGRI**

Workshop on "Labelling Products of Island Farming"

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Organisers: JRC-IPTS

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Labelling Products of Island Farming
Workshop 13-14 June 2013

INTRODUCTION

Jacques Delincé
European Commission, Joint Research Centre,
The European Commission's in-house science service
Institute for Prospective Technological Studies - Seville

Workshop Seville, 13-14 June 2013

JRC - IPTS - AGRILIFE

Who are we?

JRC - The European Commission's in-house science service

IPTS
provides customer-driven support to the EU policy-making process to socio-economic challenges

AGRILIFE

IPTS - AGRILIFE

What do we do?
Agriculture and Food security current issues

1. Analysing the CAP and New challenges in agriculture
2. Food Security and Support to EU Development Policy
3. Socio economics of GMOs and Support to Health and Consumers policy

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IPTS and Quality Policy

Food Quality Schemes project (2005-2007)

* Study of food supply chain dynamics and quality certification;
* Analysis of potential policy options for a European-wide framework for the development of quality assurance and certification schemes.
- > Workshops, Review reports, Case studies, Inventory of Schemes

Policy Impact

Conference: "Food Quality Certification – Adding Value to Farm Produce" February 2007
Communication on agricultural product quality policy – May 2009
Communication -EU best practice guidelines for voluntary certification schemes for agricultural products and foodstuffs (OJ C 341, 16.12.2010)

IPTS and Quality Policy

Optional Quality Terms

Products of Mountain Farming

* Description of mountain food supply chains in the EU
* Review of their impact on farm, local and European economies
* Review of labelling practices and schemes in place

-> Recommendations on implementation of an EU optional quality term

http://ec.europa.eu/agriculture/external-studies/2013/mountain-farming/fulltext_en.pdf

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IPTS and Quality Policy

Optional Quality Terms

Short Food Supply Chains and Local Food Systems

* Litterature review on SFSC definitions and impacts
* Analysis of a database of illustrative cases in the EU and three regional case studies
* Recommendations on possible policy measures for direct sales and local products

-> Input for future Commission report on labelling of direct sales and local products (January 2014)

http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=6279

IPTS and Quality Policy

Optional Quality Terms

Products of Island Farming

Workshop (now)
* Island Farming in the EU
* Labelling Practices
* Case studies

JRC Scientific and Policy Report (Autumn 2013)

-> Input for future Commission report on Products of Island Farming(January 2014)

Thank you for your attention

Labelling Products of Island Farming

Diversity of Islands

Fabien Santini
European Commission, Joint Research Centre,
The European Commission's in-house science service
Institute for Prospective Technological Studies - Seville

Workshop Seville, 13-14 June 2013

How to Define Islands?

Common sense

'piece of land surrounded by water' (Pocket Oxford Dictionnary quoted by Royle, 2001)

A geographers' concern

An island offers an intermediate size, between an islet and a continent' (Brunet, 1997, quoted by Taglioni, 2011)

The lower bound

Art 121 UN convention on Law of the Sea

'An island is a naturally formed area of land, surrounded by water, which is above water at high tide'

'Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf'

Inhabited: Rockall / Clipperton

Low tyde: Mont St Michel / Lindisfarne

How to Define Islands?

The upper bound

Small Islands – constraints on islands, bounded spaces limited in size, land area, economic and human resources by their size

Limits evoked :

10,000 km2 – 500,000 hab. (Beller, 1986)
13,000 km2 – 1,000,000 hab. (Dolman, 1985)
17,000 km2 (UN islands directory)

Small Islands Developing Countries (SIDS) 'remain a special case for sustainable development' (Rio +20 - > Apia 2014), 39 countries, the largest one Papua New Guinea 462,840 km2

EC definitions of Islands

EU Treaty

Art 174 – Economic Social and Territorial cohesion

"particular attention shall be paid to rural areas, (...) and regions which suffer from severe and permanent natural or demographic handicaps such as (...) **island**, cross-border and mountain regions"

Eurostat: Definition for statistical purpose

1. Minimum surface of 1 km²
2. Minimum distance between island and mainland of 1 km
3. Resident population over 50 persons
4. No fixed link (bridge, tunnel, dyke, etc.)
5. No Member State capital on the island

Cohesion and Regional Policy

"island member states eligible under the Cohesion Fund, and other islands except those on which the capital of a member state is situated or which have a fixed link to the mainland"

-> CY, MT

EC definitions of Islands

Critical approach of Eurostat criteria

* Coastal islands can face the same problems as others
* Fixed links not always sufficient
* Very small islands in archipelagos below threshold despite double insularity

EC definitions of Islands

EC definitions of Islands

Many Islands

Planistat -> 284 islands, 96 isolated

ESPON - > 362 islands > 50 hab
- > 228 islands < 50 hab

+ RUP - > 36 islands

Moncada et al. 5,116 islands EU 25+3

76,000 islands with an area of 0.5 ha or more in Finland (FI Islands Committee)

221 800 islands in Sweden (SCB)

Focus on 56 NUTS-3 areas

EC definitions of Islands

56 NUTS 3 areas

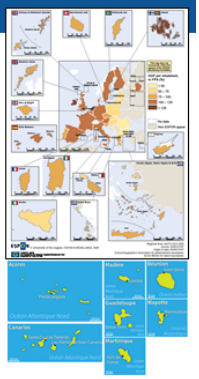
Bornholm, Ionia Nisia, Nisia Aigaiou, Kriti, Illes Balears, Canarias, Corse, Guadeloupe, Martinique, Réunion, Sicilia, Sardegna, Cyprus, Malta, Açores, Madeira, Åland, Gotland, Isle of Wight, Eilean Siar (Western Isles), Orkney Islands, Shetland Islands

Included in other NUTS3 areas

DK islands (Samsø, Laesø, Aerø, etc.), DE islands (Sylt, Helgoland, etc.), few Greek islands (Salamina, Aeginas, Thassos, etc.), French coastal islands (Ouessant, Belle Ile, Yeu, etc.), Irish islands (Aran, Innishmore, Clare, etc.), IT islands (Elba, Giglio, Ischia, Capri, etc.), NL islands (Texel, etc.), UK islands (Scottish coastal islands, Scilly etc.), many SE and FI islands, EE islands (Saarema, Hiiuma) ~ 440.000 Hab. (3% of the 56 NUTS 3 areas)

and

Croatian islands, Mayotte, Jersey & Guernesey, Isle of Man, etc.



EU Islands according to Cohesion definition

COMMON FEATURES

- Area – 120,000 km² (2.8% of EU territory)
- Population – 15,310,000 hab. (3,05 % of EU population)
  Growth 2000-06 +0.85% vs. +0.37% EU
- GDP : 290 billion EUR (2.4% of total EU GDP)
  GDP/head : 79% of EU average
- Primary 7% - Secondary 20% - Tertiary 74%
- Unemployment – 11,6% vs. 7.5% (2007)
- Accessibility : 36.8% over 90 min from university (20% in mountain)

EU Islands according to Cohesion definition

DIVERSITY

- Area – from 1 to 25,000 km2
- Population – from 50 to 5,000,000 hab.
- Distance to mainland – 1 km to 400 km (1700 km in RUP)
- GDP/head – from 54% to 147%
- Unemployment – from 3.9% to 25.2%
- Variability: higher for unemployment, lower for GDP/head
- Autonomy of status to no specific status

EU Islands according to Cohesion definition

- 71% Border
- 34% Mountainous
- 2% Sparsely populated
- 21% Outermost
- Islands regions represent 11% of the total EU mountain regions and 92% of EU outermost regions

EU Islands according to Cohesion definition

PLANISTAT 2006 (not covering outermost regions)

- Main differentiating characteristics are related to size (demography, size) and geomorphology (mountainous character)
  - More populated and mountainous in Mediterranean areas / smaller and less populated in Northern Europe
- Double / Triple handicap: Island + Mountain + archipelago
- Distance to coast less determinant
- A threshold in size – 5,000 hab – Dynamism vs depopulation and ageing

EU Islands for Quality Policy?

Questions for the scope of a labelling scheme

- Bridges and fixed links ?
  - Few islands in most MS
  - Many in Scandinavia
  - Big islands in DK, DE, UK
  > 1.000.000 hab.

EU Islands for Quality Policy?

Questions for the scope of a labelling scheme

- Minimum size ?
- Maximum size ?
- Minimum distance ?
- How to apply for third countries ?
- Lake islands

Thank you for your attention

Drivers of Growth in Islands: Implications for the Agriculture & Food Sectors

Dr Robert Read
Lancaster University Management School, UK

IPTS JRC Workshop: Labelling Products of Island Farming & Food Industries, Sevilla, 13 & 14 June 2013.

Key Elements of the Size-Growth Relationship

Key economic characteristics of small size:

- *Small populations* – lack 'critical mass', leading to scale diseconomies and high costs. Limits large-scale industries, agglomeration and firm clusters; limited competition.
- *Limited Resources* – limited natural resources and labour supply – reliance on human capital-intensive (niche) activities not large-scale labour-intensive industries. Human capital inputs.
- *Constrained diversification* – a high degree of specialisation and therefore dependence in output, exports and export markets.
- *Openness to trade* – 'structural' trade openness, trade asymmetry and vulnerability to exogenous shocks.

The Principal Drivers of Growth in Small (Island) Economies

In spite of these growth challenges, many small (island) economies out-performed larger economies, 1990-2008:

- *Sectors* – key contributions to growth of natural resources and services, notably finance and tourism. Agriculture inversely related to growth, manufacturing of little significance.
- *Location* – growth enhanced by proximity to dynamic global regions while remoteness/peripherality has an additional negative effect. Long-standing trade/institutional links has aided market access.
- *Insularity* – there is little evidence of any systematic adverse growth effects of insularity although archipelagos perform less well than mono-islands.

Additional Drivers of Growth in Small (Island) Economies

- *Emigration & Remittances* – limited domestic employment has given rise to disproportionate out-migration and loss of human capital and rising inflows of remittances. Prosperity in European small economies has led to a reversal of flows.
- *Regional Integration* – counter to prevailing orthodoxy, location within a larger economy/bloc may have adverse growth effects: trade barriers, trade taxes and spatial agglomeration favouring larger more centrally-located regions.
- *Optimal Policy Design Flexibility* – evidence indicates that small economies have made very effective use of limited policy autonomy (strategic flexibility) to purse growth niches.

The Growth Challenge for EU Island Regions

Most EU island regions are non-sovereign and, further, lack effective local-level decision-making and policy autonomy. The weakness of their growth convergence ('catch-up' effects) is ascribed to their 'low attractiveness' (ESPON, 2012), *viz.*:

- *Size* – adverse effects on the provision and quality of public and private services as well as agglomeration.
- *Remoteness/Isolation* – peripherality gives rise poor accessibility (high trade and communication costs).

The Growth Performance of EU Island Regions

The overall performance of EU island regions diverges across Europe, with significant differences between those in the north and south. Nevertheless, key findings:

- EU island regions are not generally lagging regions.
- The majority of EU island regions have average GDP per capita of 79.2 per cent of the EU average.
- The majority of EU island regions have average GDP per capita below that of their national average.

Enhancing Growth in EU Island Regions

Growth, competitiveness and 'resilience' can be enhanced by improving domestic economic performance:

- Increasing local value added.
- Developing additional high value product/export niches.
- Improving local supply linkages/reduce import dependence.
- Diversifying export markets.

Increasing Local Value Added in EU Islands

This includes upgrading technology and human capital inputs to improve productive efficiency and therefore competitiveness. Local R&D and innovative capacity however, can be expected to be low. Sustained growth therefore depends on the periodic renewal of technology and retaining human capital. In addition, EU islands may be able to capitalise special and/or distinct local process and production techniques, identified through labelling.

Labelling would also enhance the marketing effort through signalling product identity, quality, differentiation and positioning. All of these would improve local value a part of a generic island identity.

Developing New Niche Production & Exports

Diversification is severely hampered in small economies but specialisation in income elastic niche products can reduce the impact of external trade shocks. There may also be scope to extend the ranges of product within these niches through vertical and horizontal differentiation, including organics etc.

The proposed *Products of Island Farming* labelling would provide one means of support for this strategy.

Creating or Improving Local Linkages

The narrow spheres of activity and shallow economic structures in small economies limit the creation of upstream (backward) and downstream (forward) linkages. Nevertheless, there may be potential for such linkages in existing activities; e.g., local processing in agriculture and fisheries

A further dimension is the promotion of distinct local 'experiences', reinforced by branding and labelling. This may increase the consumption of locally-sourced products and services and reduce import dependence, particularly by targeting the tourism sector. It may also increase the demand for exports as former visitors seek to recreate this experience.

Diversifying Export Markets

The penetration of new or neglected export markets provides another means of diversification for small economies. It also reduces their susceptibility to market-specific shocks. Many small economies find such diversification challenging because they lack market knowledge, marketing techniques and logistical skills as well as suffering from poor and/or costly transport links.

The creation of a distinct 'umbrella' brand identity through *Products of Island Farming* labelling can address some (but not all) of these issues.

Some Brief Thoughts On Island Labelling

The labelling proposal appears to offer useful potential benefits with few, if any drawbacks. It cannot be a substitute for PDOs and PGIs. Nevertheless, it has the potential to promote island identity for a wide range of products at relatively low cost.

Labelling has the potential to enhance the local value added of distinctive products, improving their positioning and consumer perceptions of their distinctiveness as well as reducing their own price elasticities. If backed by a co-ordinated marketing spend, this could have major benefits, particularly for the many smaller producers, including generating new demand – all of which could raise the quantity, quality and value of local linkages.

CRPM CPMR

Commission des Iles CRPM
CPMR Islands Commission

C/O CPMR
6 Rue St Martin - F – 35700 Rennes
Tel : +33 2 99 35 40 50 - Email : jdh@crpm.org
SITE WEB : http://www.islandscommission.org

Labelling products of Island Farming & Food Industries.

Seville, 13 – 14th of June 2013

What is an island?

- Basic geographical definition: a piece of land surrounded by the sea on all sides
- UN Law of he Sea: ...and where there is permanent inhabitation & economic activity
- EU: an island region is a piece of land surrounded by the sea with no fixed link with the mainland… And where there is no capital of a Member State (not London, Copenhagen)
- EU Small Island States (Malta, Cyprus) only recognized if "eligible to Cohesion Fund" (!?)

Assessing the islands

- Various criteria to define a "small" island (population size, superficy…) used at one time or another according to nature of legislation. E.g: landfill sites, lorry driving, agriculture…
- Statisticians exclude very small islands (<50h, <1Km², less than 1 km from mainland) for conveniency's sake when collecting data
- Otherwise EU Commission uses traditional tools of GDP/h or Unemployment, which tend to be unsatisfactory or misleading.

ISLAND REGIONS NUTSII are in **bold**	Average GDP/h 07/08/09	Eligibility to CSF funds
Bornholm	87,3	More Dev.
Lääne-Eesti (incl Saaremaa & Hiiumaa)	46,0	Less Dev.
Ionia Nisia	86,3	Transition
Voreio Aigaio	76,3	Transition
Notio Aigaio	113,7	More Dev.
Kriti	84,0	Transition
Illes Balears	111,3	More Dev.
Corse	87,0	Transition
Sicilia	68,0	Less Dev.
Sardegna	79,0	Transition
Kypros	97,7	More Dev.
Malta	81,0	Transition
Gozo et Comino	56,3	Transition
Åland	140,0	More Dev.
Gotlands län	95,3	Transition
Eilean Siar (Western Isles)	83,7	Transition
Orkney Islands	88,0	Transition
Shetland Islands	111,7	Transition
Isle of Wight	[illegible]	More Dev.

Outermost Islands Regions

Região Autónoma dos Açores (PT)	73,3	Less Dev.
Região Autónoma da Madeira (PT)	103,0	More Dev.
Guadeloupe (FR)	61,7	Less Dev.
Martinique (FR)	72,3	Less Dev.
Réunion (FR)	66,7	Less Dev.
Mayotte	50<	Less Dev.
Canarias (ES)	89,7	Transition

"More developed" Islands (i.e.: which have a high GDP/h) tend to be either:
-Those with mass tourism
-The smaller ones where GDP figures are distorted for a variety of reasons

Why are Islands different?

Island difference
=
Isolation
(to be measured in terms of remoteness from effective trading centres, as well as in quality, frequency & cost of connections)
x
physical & human limitations
(available space & natural resources, population size & market size)

Each island has its own combination of Isolation x limitations

- **Consequence**: not necessarily poorer, but more fragile & vulnerable economies and ecosystems
- Island diversity is undeniable in geography and demography, but all share, with varying intensity , a background of common problems .
- Acute difficulties of small islands (micro insularity) and archipelagos (multiple insularity).
- Many islands cumulate insularity with a mountainous terrain, or with issues of population density (sparsely populated or over populated).
- Case apart of Outermost Regions (Article 349 of TEFU)

Consequences in the field of Agriculture

A) Isolation: severe transport overcosts

- Low value/ high volume agricultural inputs (hay, fertilizer, building material…) can cost two or three time their mainland price
- Double whammy when production is to be exported.
- Access to specialized services made more difficult and costly.
- Transport disturbances (weather, strikes, mechanical failures) can cause havoc at key moments in the commercialisation process.

B) **Multiple size limitations**

- Pressures on agricultural land (tourism, urbanisation) aggravated by island restricted space
- Conflicting needs over water when in limited supply
- Lack of economies of scale to purchase equipment or services, therefore higher costs and lower returns.
- Output sold to a limited local market. Often strong seasonal market fluctuations in more touristic islands
- Problems of continuity of supply to shop because of limited production.
- Lack of manpower with ageing or dwindling farming population, with youngsters attracted by higher returns of tourism or by emigration.

Consequence: Increased fragility.

- Difficulty for local producers to compete with agricultural goods industrially produced on the mainland, which take over the local market.
- Islands, once self-sustaining, resilient communities, have become highly dependent on imports by store chains & supermarkets.
- High level of exposure to disruption of the supply chain. High cost of storage. High Carbon "footprint".
- Decline of island farming has a substantial environmental impact: forest fires, soil erosion, etc.

An example: the issue of inadequate local processing facilities

NOT ENOUGH USAGE TO PAY FOR THE RUNNING OF A EU-STANDARD SLAUGHTERHOUSE (WORKING AID PROHIBITED BY EU).

SHEEP HAVE TO BE EXPORTED LIVE.

LAMBS EXPORTED LIVE ARE RE-IMPORTED BUTCHERED FOR LOCAL MARKET

POTENTIAL ANIMAL WELFARE ISSUE IF LONG TRANSPORT JOURNEY

Island quality labelling: the way forward?

- Higher prices, therefore less vulnerable to overcosts. Higher returns expected.
- Niche market. Link with island identity & tourism economy

But...

- Is an overall "Island label" meaningful considering the diversity of EU island productions?
- What added value over Guarantee of Origin (AOC) or Protected Designation of Origin (AOP)?
- Will it be enough to stem the decline of island farming, or just symbolic?

Food for thoughts

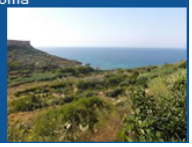
"Island" labelling could be of value if:

- Step for easier process in acquiring Protected Designation of Origin status for Island Producers
- Greater facility to override export ban between EU Member States in case of epizooty or epidemic disease of plants in a Country, with islands being recognized as "safe areas".
- Greater facility to prohibit the import of certain animal of vegetal species in an island when this threatens its endogenous production (but "Laeso bees" ECJ Ruling).
- Labelling combined with more flexible working aid rules for local processing facilities in Islands.

Economic importance of agriculture and food industries in Islands

Fatmir Guri, Fabien Santini, Sergio Gomez Y Paloma

European Commission, Joint Research Centre,
The European Commission's in-house science service
Institute for Prospective Technological Studies - Seville

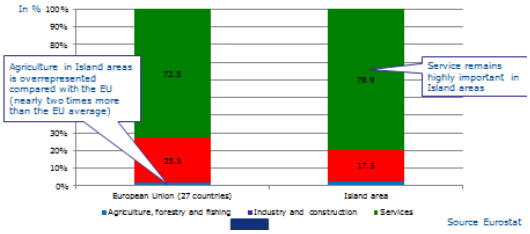


Information Source

- **The main information used is from Eurostat databases: Agricultural regional accounts, GVA at basic prices, Structural business statistics (SBS) etc.**
- **We have considered the NUTS2 and NUTS3 (where possible)**
- **All the results are calculated for the period 2007-2010**
- **The figures include Malta and Cyprus**

Economic structure in Island areas

2.4% of the EU GVA is produced in Island areas (or 260,984.6 million EUR)



Source Eurostat

Economic structure in Island areas

Island areas' GVA relies heavily on services (nearly 80% of GVA)

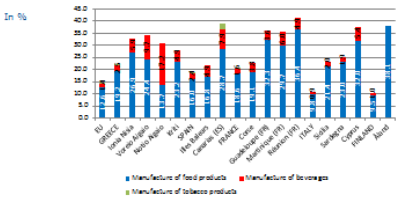
Agriculture produces more than 2.7% of Island area GVA (7,125.7 million EUR)

Agriculture and food sector produce 4.4% of GVA (11,601.1 million EUR)

The food sector is more important in islands compared with the EU average (nearly 19% of industrial employment vs. 13% in EU)

Food industry on Islands

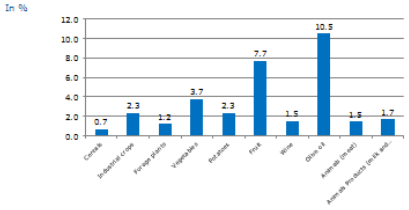
Food industry employs more in island areas than the EU and national average



Source Eurostat

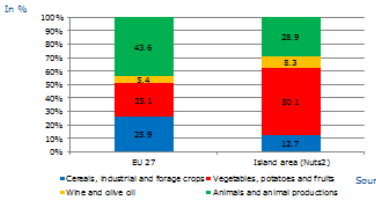
Agricultural output in Island areas compared with EU

Island areas produce 2.35% of EU agricultural output



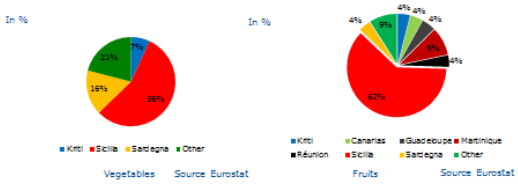
Source Eurostat

Agricultural output in basic prices in Island areas



Source Eurostat

Main Islands' production sectors

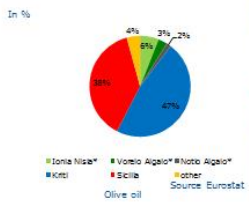


Source Eurostat

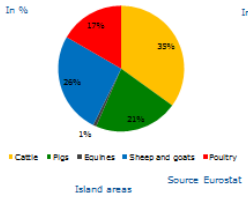
Two Euros out of three of output vegetable sector are related to Italian Islands
More than 50% of output comes from Sicily

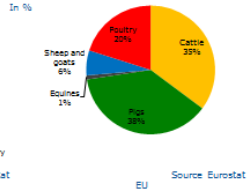
Fruit production is important in a larger number of NUTS2 island areas
Sicily remains the main producer with nearly 65% of total island area output

Main Islands' production sectors



Main Islands' Livestock output





Conclusions

Agriculture and food sector of Island areas is characterized by:

a higher importance compared with the EU average,

a lower importance of cereals (other crops) and livestock sector,

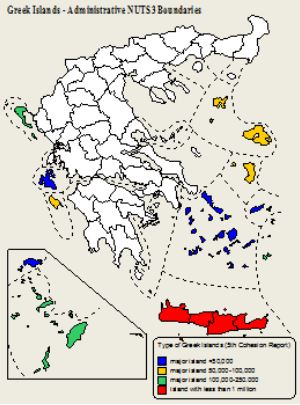
typical productions mix

- **Fruits**
- **Vegetables**
- **Sheep and goat production**

Thank you for your attention

Quality Certified Agricultural and Food Production in Greek Islands

Dimitris Skuras, Alexandra Goudi and Demetris Psaltopoulos
Department of Economics,
University of Patras, Greece



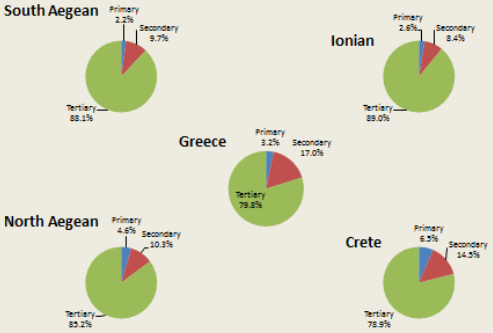
The Greek islands are clustered under four major NUTS2 regions:

- Crete
  - ✓ Iraklio, Chania, Rethymni, Lasithi
- North Aegean
  - ✓ Mytilini, Chios, Samos
- South Aegean
  - ✓ Kyklades (e.g. Mykonos, Santorini), Dodekanesos (e.g., Rhodes, Kos)
- Ionian Islands
  - ✓ Corfu, Zante, Kefalonia

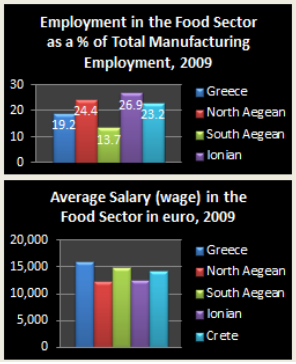
Some important islands belong administratively to mainland regions (e.g. Thasos, Sporades)

Some islands are not recognised as such because of permanent infrastructure with mainland areas (e.g. Lefkas)

The Greek Islands – Structure of the Economy, 2012



The Greek Islands – Food Industry



The Food Industry is an important part of the island manufacturing sector, closely linked with the agricultural sector.

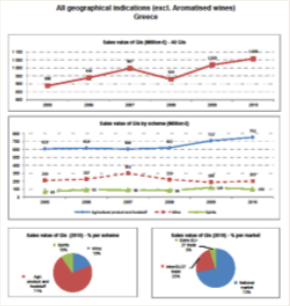
Many activities (olive oil extraction, wine production) are out of the peak sea- and sun-tourism season and offer complementary employment to farmers and their families as well as to those otherwise employed in tourism.

The Food Industry offers a viable income and social security benefits.

The high degree of embeddedness of the food industry into the local economy at least as concerns inputs and employment supports high multiplier effects.

Source: Eurostat, Structural Business Survey

PDOs and PGIs in Greece



Source: AND-International survey for DG AGRI, 2012.

GIs in Greece account for almost 10% of the total value of agricultural production.
Ranked 7th among EU member states in terms of value of GI production, Greek GI production mainly consists of cheese (around 70%), wine (less than 20%), spirits (less than 10%) and olive oil (less than 5%).
Feta cheese is the leading GI in total sales value.
Greece is the Member State with the most important share in the total sales value under GI for agricultural products and foodstuffs (71% of national sales value under GI).
The sales value and volume of the main GIs grew over the last 15 years. The **small** ones have had various fates: some maintained themselves; others declined; only a few grew.

Source: AND-International survey for DG AGRI, 2012.

GIs in the Greek Islands

- Absence of statistical information concerning aggregate volumes of production, value of production, price premiums
- Conclusions drawn by the careful examination of case studies and nationwide research (e.g. AND-International, 2012)
- On the Greek islands we find a variety of PDO or PGI products, which account for:
  - 21 out of 33 PDO wines
  - 15 out of 27 olive oils
  - 3 out of 11 olives
  - 9 out of 21 cheese
  - 7 out of 30 fruits (fresh or dried) and vegetables
  - The only registered bakery product
  - The only registered gum and resin
  - The only essential oil.

Uniqueness of GIs in the Greek Islands

- Unique characteristics induced by:
  - **Climate** (sun, precipitation patterns and wind causing dryness), **soil** and the extreme **variability** in micro-climatic conditions. The great variability met in the taste, colour, density, acidity and texture of olive oil, even on the same island and of the same olive tree species is the most vivid example.
  - The unique **flora**, a result of the insular evolution of plant societies on islands.
    - The unique flora produces specific taste for feedstuff that indirectly passes into the final products (e.g. meat, milk, cheese)
    - Unique flora species are also direct products now (e.g. gums and essential oils) and maybe in the future (herbs and medicinal plants)
  - The cultivation and animal raising **methods** and the food processing methods have a long history, are rooted in complex **social** and **economic** relations developed on islands (e.g. the methods of sharing grazing land) and incorporate influences and ingredients from the eastern (by Turks and Arabs) and western (mostly Italian) conquerors of the islands.

The major problems of island based GIs in Greece

- When the volume and value of the GI product are significant, usually there are not acute viability and survival issues. Of course all issues related to agricultural production on islands (higher production and transportation costs, etc.) are true for GIs as well.
- The major observation for the Greek GIs of the AND-International survey carried out for DG AGRI, in 2012 states that:

"The small ones have had various fates:
some maintained themselves;
others declined;
only a few grew".

Why smallness?

- **Physical constraints**: some islands with GI products are **really small** in terms of land and population while the production can be accomplished in smaller certain areas
- **Competition** from other economic activities, mainly tourism and construction industries for the same (land and labour) resources
- **Lack** of **entrepreneurial** and **managerial** skills for "managing smallness", lack of support in production

The Risks of Small Production

- Orientation towards the internal market (marketing introversion)
- Absence of differentiation in terms of product, packages, supply channels and marketing
- Very high price premiums (and excess demand) invites fraud
- Vulnerability to changing economic conditions including recession and decreasing consumer incomes

Market Introversion – The Case of San Michali Cheese from the Syros Island

Production of around 45 tones per year corresponding to more than 450 tones of cow milk.

One of the most expensive Greek cheese. Price between 22 and 24 euros per Kg with a value premium of around 2 in comparison to good quality gruyere. Milk paid to producers at around 50 to 55 cents per litre (value premium to milk at around 1.8).

National demand was always in excess of production and there was no interest for developing exports.

Recession has led to a sharp fall in demand, indicating a high income elasticity.

Due to the absence of exports, recession and high production costs, a significant part of the production remains unsold.

Small production, price premiums and fraud – The Case of Fava beans from Santorini Island

Fava is produced by the unique Santorini Lathyrus Clymenum a type of bean grown only on the volcanic island of Santorini.

Production of less than 20 tones at an area of around 200 hectares.

Sold now between 5 and 6 euros per Kg down from 9 euros per Kg before the recession, still maintaining a value premium of around 1.5 to 1.8.

In 2011, a laboratory examination revealed that out of a sample of 9 packaged Santorini fava widely circulated and sold in the Greek market, only one contained original Santorini fava.

Managing Smallness – The Case Study of Mastiha from the island of Chios

- Mastiha is a unique natural gum produced by a tree that is very close to the common pistachio (Pistacia lentiscus var. Chia) and produces gum when is wounded.
- Mastiha has an extremely long history and is one of the island's major cultivations. The agricultural cooperative has 4,850 members producing around 120 tones with more than half of the production been exported, and half been processed.

Mastiha – Product Differentiation

- Basically processed from 10gr to 500gr
- Chewing Gums
- Mastiha essential oil
- Parapharmaceuticals
- Cosmetics
- Grocery
- Traditional products
- Organic products
- Snacks
- Spirits
- Beverages

Mastiha – Marketing, Going Public and Developing Synergies

- In 2002, the cooperative of Mastiha producers established MEDITERRA S.A., a company for distributing the products in own and other stores and developing food-store products.
- The company went public in 2009 at the Athens stock exchange. Shops in New York and Paris.
- The company developed synergies with other GI producers of Chios island (mandarin growers) and certified as a trader of other GI products such as olive oil from Crete, in order to be able to grow.

mastihashop

GIs in Greek Islands - Conclusions

- Unique products due to climate, soil, flora and production-processing techniques
- Contribution to production, employment and income
- Competition with other activities for land, labour and human capital
- The small volume of production is a risk
- Success and failure stories underline the importance of managing "smallness"
- An "island product" can constitute a viable strategy but more research (and data) is needed

Presentation

Sevilla, June 2013

ESIN, Juni 2013

ESIN Objectives

- To promote greater co-operation between small islands within the EU
- To share the benefits of experience of sustainable development
- To influence National and EU Regional Development Policies

ESIN, Juni 2013

1200 small islands

More than 400 000 inhabitants

ESIN, Juni 2013

Sammenslutningen af Danske småöer
Association of Danish Small Islands

27 small islands with 5100 inhabitants ranging from 10 to 890

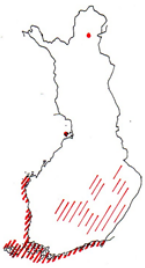
ESIN, Juni 2013

ESIN, Juni 2013

Finnish Islands, FÖSS

Totally in Finland 8.700 islanders on 431 islands, ranging from 1 to 972.

In Finland also the region Åland with 26.000 inhabitants on 25 islands, 24 of them with less than 600 inhabitants



ESIN, Juni 2013

Association des Iles du Ponant

15.000 inhabitants on 15 islands

ranging from 186 to 4834

ESIN, Juni 2013

ESIN, Juni 2013

Comhdháil Oileáin na hÉireann
Federation of Irish Islands

33 islands with about 3000 inhabitants ranging from 1 to 824

ESIN, Juni 2013

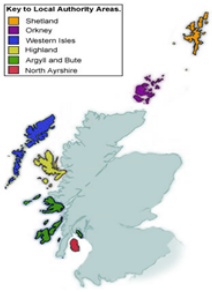
ESIN, Juni 2013

Scottish Islands Federation

89 inhabited islands with totally 90 000 inhabitants

From 1 to 20 000

Among them Shetland, Orkney and Western Isles with 55 islands have regional status



ESIN, Juni 2013

ESIN, Juni 2013

Skärgårdarnas Riksförbund
The National Association for the Swedish Archipelagos

14 member organisations from regions with archipelago habitat

32.000 inhabitants on 576 islands, ranging from 1 - 5000

ESIN, Juni 2013

ESIN, Juni 2013

Association of Estonian Islands

Totally in Estonia 47.000 islanders on 16 islands

Two of them are regions, with 44.000 islanders

14 are small islands with 1 – 500 inhabitants

ESIN, Juni 2013

Hellenic Small Island Network

Small islands are islands with less than 5000 inhabitants

48 member islands with totally 65 000 islanders.

ESIN, Juni 2013

ESIN, Juni 2013

ANCIM
Associazione Nationale Comuni Isole Minori

29 inhabited small islands

About 180 000 islanders ranging from 17 to 57 000

ESIN, Juni 2013

A Federation of Associations

One member from each country

Each member have national responsibility

One board member from each association

ESIN, Juni 2013

ESIN´s two missions

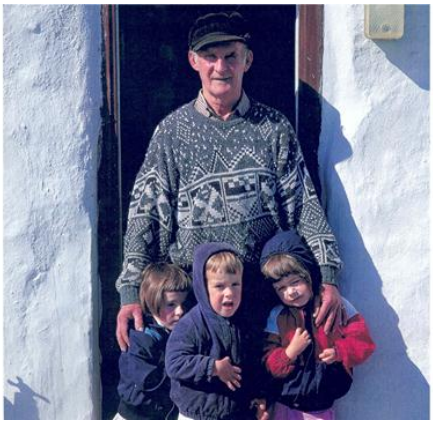
Exchange experience between islands

Influence EU island policy

ESIN, Juni 2013

www.europeansmallislands.com

ESIN, Juni 2013



Øspecialiteter
DANSKE SMAGER

Inselspezialitäten
AUS DÄNEMARK

Island Specialties
OF DENMARK

Some characteristics of small islands of Denmark

- Denmark is a nation of islands but the 27 "small islands" are defined as islands not linked by bridge or dam and with a population <1000 inhabitants, each
- The size of the islands is <22 km², each
- The land on islands is mainly used for agriculture by small or medium sized farms
- For environmental reasons (excessive wash-out of fertilizer etc.) intensive agriculture in general will be less feasible in the future on small islands. Yet, a large proportion of the island farm land is still used for that purpose.

History of Ø-speciliteter® (Island Specialites)

- A quality standard and a registered trade mark established in 2010 by the Small Island Food Network (SIFN) of Denmark
- Acquisition of right to use the trade mark relies on compliance with a set of formulated criteria and is granted by SIFN upon unbiased assessment

The purpose of establishment of Ø-specialiter® (Island Specialies)

- To stimulate innovaton, taking advantage of location bound conditions for development of a more sustainable food production and quality diversification of food products
- Development of occupational opportunities and maintenance of sustainable communities on small islands
- To stimulate concerted efforts to solve logistic challenges of small island production
- To stimulate concerted efforts to exploite the production opportunities of small islands and small island communities
- Concerted marketing and distribution of small island food specialties
- Exploitation of high quality food specialties for branding small island communities et vice versa

Superior criteria for acquisition of right to use Ø-specialiteter® for branding

- The producer and the products should serve as ambassadors for the island of origin and island communities in general
- The product(s) should reflect the unique conditions of the island and/or island community , i.e. the location-bound natural conditions and/or the adaptive traditions or innovative efforts of the island community

Specific criteria to be complied with for acquisition of right to use Ø-specialiteter® for branding

- Essential ingredient commodities should be produced on the island and unique qualities in the product(s) should reflect the origin of production (terroir) and/or
- Production should give opportunity of occupation on the island to individuals of the island community and/or
- The unique qualities of the product and/or production process should be attributable to adaptive tradition in the community or innovation by individuals of the island community – the intellectual property of the island community.

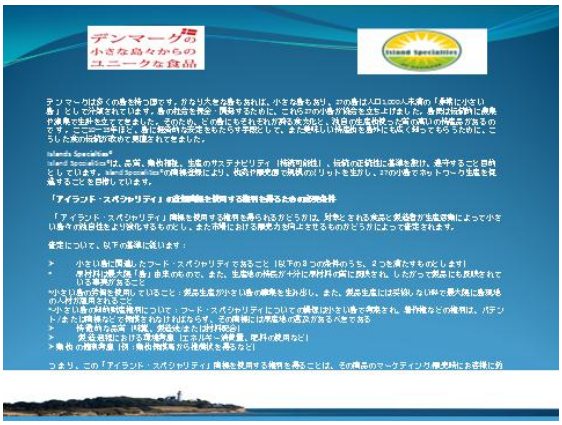
Compliance with two of the three criteria is required for acquisition of right to use Ø-specialiteter® for branding

Compliance with criteria 1 and 2 fulfills the regulation by the European Union for the protection of regional food products of the category of Protected Designation of Origin (PDO). Compliance with criteria 1 or 2 fulfills the regulations of the category of Protected Geographical indication (PGI), while criterium 3 is in line with the regulations of Traditional Specialty Guaranteed (TSG) with the exception that criterium 3 has no restrictions related to time of invention.

Additional criteria to be considered in acquisition of right to use Ø-specialiteter® for branding

- The presence and nature of unique qualities of the product
- Sustainability in production
- Animal wellfare

- Acquisition of right to use Ø-specialiteter® for branding requires authenticity in relation to origin, history, quality and process appraised by the producer

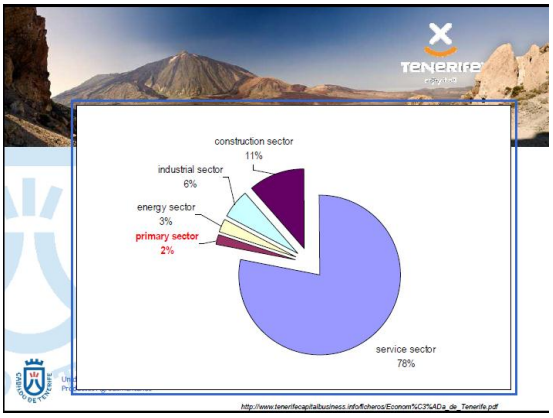

デンマークの
小さな島々からの
ユニークな食品
Island Specialities


Thank you for your patience

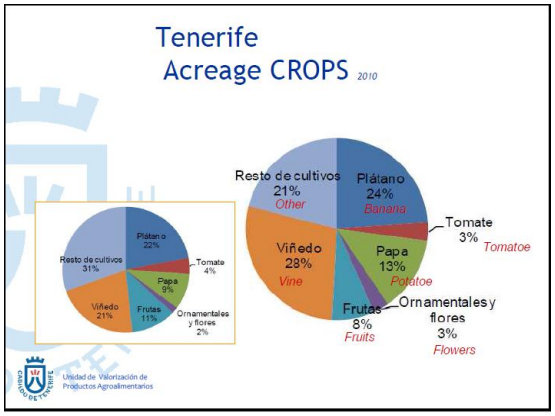
Tenerife

- **Tenerife** is the largest and most populous island of the seven Canary Islands
- 2,034.38 km² (785.47 mi²)
- 898,680 inhabitants
- 43% of the total population of the Canary Islands.
- Highest Point **Teide** (3,718 m)

Unidad de Valorización de Productos Agroalimentarios



Tenerife
Acreage CROPS 2010

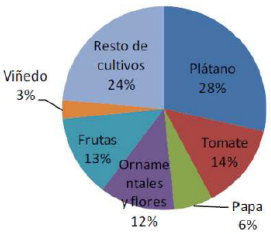


Producción agrícola. Cantidad y valoración. Canarias 2010.

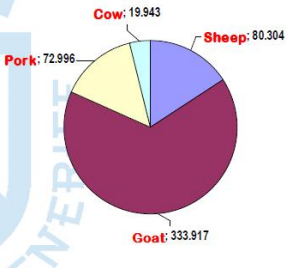
CULTIVOS	Producción (t)	Valor (miles de €)	Valor (Porcentaje)
Cereales	2.339	2.538	0,56
Leguminosas Grano	345	458	0,10
Papas	61.994	27.981	6,14
Otros Tubérculos	5.354	3.651	0,80
Cultivos Industriales	6.023	5.178	1,14
Flor Cortada	5.758	20.109	4,41
Ornamentales y Esquejes	6.911	34.700	7,61
Cultivos Forrajeros y Pastos	30.953	1.665	0,37
Tomate Exportación	100.440	50.993	11,19
Tomate Local	20.020	11.061	2,43
Pepino	28.035	14.546	3,19
Pimiento	10.146	7.707	1,69
Judía Verde	5.824	7.771	1,71
Cebolla	9.249	4.613	1,01
Fresa y Fresón	1.461	3.801	0,83
Berros	1.540	2.387	0,52
Col	12.324	2.870	0,63
Lechuga	14.774	5.509	1,21
Melón	4.419	4.891	1,07
Calabacín	17.536	8.268	1,81
Zanahoria	8.959	4.672	1,02
Otras Hortalizas	49.603	26.412	5,79
Naranjo	14.783	10.113	2,22
Otros Cítricos	3.880	2.317	0,51
Plátano	396.507	130.292	28,58
Aguacate	6.566	11.010	2,42
Papayaj	13.969	4.780	1,05
Mango	8.115	17.290	3,79
Piña Tropical	1.904	2.779	0,61
Otros Frutales	13.196	11.274	2,47
Viñedo	12.013	13.428	2,95
Otros	287	761	0,17
Totales	875.126	455.825	100,00

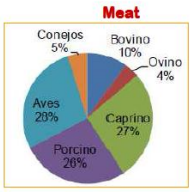
Fuente: Servicio de Estadística. Consejería de Agricultura, Ganadería, Pesca y Aguas

875.126 Tm Value (Th.€) **455.825**



Animal Breeding
Canary Islands





Unidad de Valorización de Productos Agroalimentarios

Value of livestock production (thousands of euros).

Valor de las producciones ganaderas (miles de euros). Canarias 2010.

	Las Palmas		Santa Cruz de Tenerife		Canarias	
	Valor	Porcentaje	Valor	Porcentaje	Valor	Porcentaje
Carne	29.308,49	28,95	33.705,47	37,63	63.013,96	33,02
de bovino	2.165,81	2,14	4.038,91	4,51	6.204,71	3,25
de ovino	1.320,27	1,30	1.029,32	1,15	2.349,58	1,23
de caprino	13.755,59	13,59	3.437,73	3,84	17.193,32	9,01
de porcino	6.694,25	6,61	10.040,19	11,21	16.734,44	8,77
de ave	4.780,67	4,72	12.716,67	14,20	17.497,34	9,17
de conejo	591,91	0,58	2.442,67	2,73	3.034,58	1,59
Leche	40.584,23	40,09	23.275,08	25,98	63.859,30	33,47
de bovino	11.409,30	11,27	3.448,37	3,85	14.857,67	7,79
de ovino	1.957,80	1,93	644,49	0,72	2.602,29	1,36
de caprino	27.217,13	26,88	19.182,22	21,42	46.399,34	24,32
Huevos	20.371,99	20,12	24.777,95	27,66	45.149,94	23,66
Otras producciones	10.974,29	10,84	7.813,39	8,72	18.787,68	9,85
Miel **HONEY**	560,32	0,55	1.908,08	2,13	2.468,40	1,29
Otros	10.413,97	10,29	5.905,31	6,59	16.319,28	8,55
Total	101.239	100,00	89.572	100,00	190.811	100,00

Fuente: Servicio de Estadística. Consejería de Agricultura, Ganadería, Pesca y Aguas

Unidad de Valorización de Productos Agroalimentarios

Value of honey production
(thousands of euros).

Otros productos ganaderos. Canarias 2010.

	Las Palmas		Santa Cruz de Tenerife		Canarias	
	Producción	Valor (miles de €)	Producción	Valor (miles de €)	Producción	Valor (miles de €)
Miel (kg) **HONEY**	83.630	560,3	320.685	1.908,1	404.315	2.468,4
Otros (t)	390.695	10.414,0	274.449	5.905,3	665.144	16.319,3
Total		10.974,3		7.813,4		18.787,7

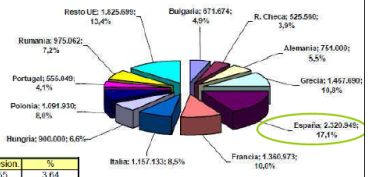
Fuente: Servicio de Estadísticas. Consejería de Agricultura, Ganadería, Pesca y Aguas

Unidad de Valorización de Productos Agroalimentarios

Beekeeping sector

Unidad de Valorización de Productos Agroalimentarios

European Union Beehives



Países	C. Totales	C. Profesion.	%
R. Checa	525.560	19.155	3,64
Alemania	751.000	50.000	6,66
Grecia	1.467.690	920.000	62,68
España	2.320.949	1.868.294	80,50
Francia	1.360.973	528.000	38,80
Italia	1.157.133	300.000	25,93
Hungria	900.000	200.000	22,22
Polonia	1.091.930	44.500	4,08
Portugal	555.049	224.239	40,40
Rumania	975.062	40.952	4,20
Resto	2.497.373	266.466	10,67
Total UE	13.602.719	4.461.606	32,80

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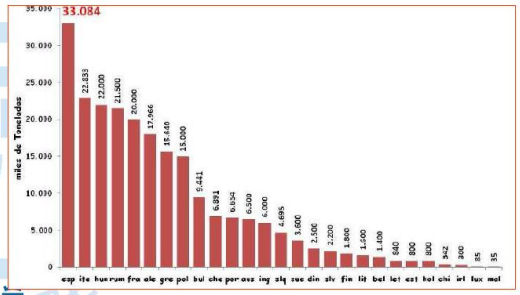
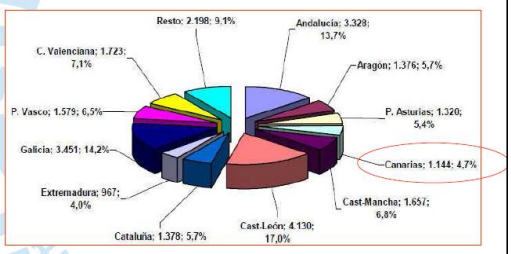
Honey (EU)
- AÑO 2010 -



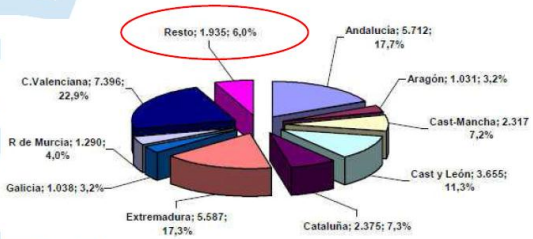
Unidad de Valorización de Productos Agroalimentarios

SPAIN
Beekeeping farms by regions
(01.05.2011)

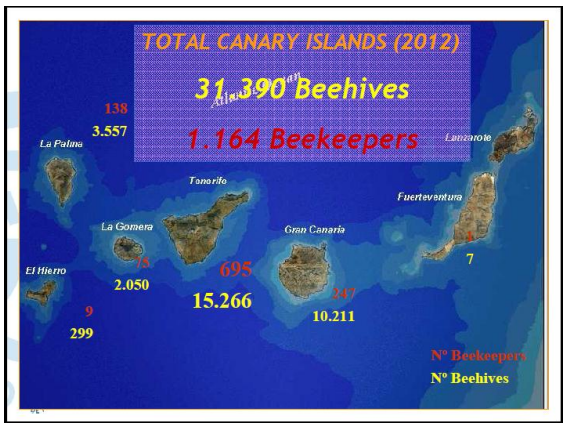


Unidad de Valorización de Productos Agroalimentarios

Spain
Honey Production By Regions



Unidad de Valorización de Productos Agroalimentarios



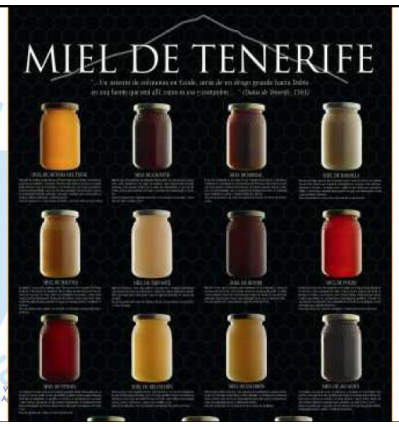
How are Tenerife Honeys?

Unidad de Valorización de Productos Agroalimentarios

...great tradition

- Since the first historical references....
- ....they have survived uninterruptedly until today

...and the human factor



MIELES

- Polyfloral
  - COSTA Coast H.
  - MONTE Mountain H.
  - CUMBRE Peak H. (High mountain),
- Unifloral

Miel de Tajinaste

Miel de Retama del Teide

Unidad de Valorización de Productos Agroalimentarios

Quality labelling

Casa de la Miel / *House of the honey*

Casa de la Miel

Unidad de Valorización de Productos Agroalimentarios

Background

- *Since 1995*
- *Cabildo de Tenerife offered an answer to the beekeeping assoc. who demanded some action to ASSURE the ORIGIN of honeys sold as local honey (Tenerife honey)*

Steps

- 1 -1997-2001 all the process in CASA de la MIEL
- 2 -2002-2007 Bottling and control in Casa de la Miel
- 3 -only Quality control in Casa de la Miel
- 4 -National Warranty brand

Unidad de Valorización de Productos Agroalimentarios

Trade balance of honey Spain Tm-

	IMPORTACIONES												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
De la UE	1.537	1.414	1.560	2.568	5.268	3.288	3.440	3.155	3.649	3.313	8.772	6.263	4.627
De P. Terceros	9.174	12.428	11.531	12.668	6.701	9.113	10.231	11.912	13.917	8.321	9.782	9.006	13.091
TOTAL	10.711	13.842	13.091	15.236	11.969	11.401	13.671	15.067	17.566	11.634	18.554	15.269	17.718

	EXPORTACIONES												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Hacia la UE	8.061	7.001	6.475	7.012	13.897	10.407	9.119	8.828	9.614	12.296	13.425	13.896	16.799
Hacia P. Terceros	1.359	1.020	1.240	1.609	2.213	1.644	1.048	1.116	1.543	2.609	2.761	2.429	2.756
TOTAL	9.420	8.021	7.715	8.621	15.910	12.051	10.167	9.944	11.157	14.907	16.186	16.025	21.555

Spain Honey Production

33.084 Tm/year

Unidad de Valorización de Productos Agroalimentarios

Fuente: Informe Cooperativas agroalimentarias 2012

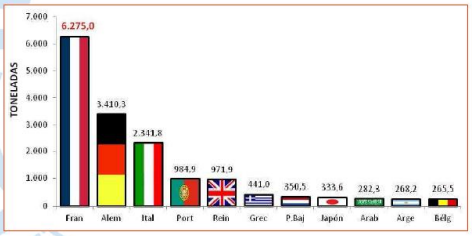
EXPORTACIONES ESPAÑA

PAIS	Tm	m €UROS	PRECIO	PAIS	Tm	m €UROS	PRECIO
FRANCIA	5.638,00	18.343,10	3,25	IRLANDA	153,30	317,30	2,07
ALEMANIA	2.867,60	9.149,70	3,19	SUECIA	150,00	453,90	3,03
ITALIA	2.183,40	5.693,30	2,61	TUNEZ	127,70	426,00	3,34
PORTUGAL	932,80	2.671,70	2,86	IRAQ	113,00	519,10	4,59
REINO UNIDO	869,40	2.028,40	2,33	EE.UU.	88,70	442,10	4,98
GRECIA	388,20	1.057,40	2,72	JORDANIA	88,30	357,70	4,05
JAPON	306,60	1.172,30	3,82	CHIPRE	80,10	195,40	2,44
AUSTRIA	281,20	930,90	3,31	CHEQUIA	75,90	244,00	3,21
ARGELIA	268,20	1.012,80	3,78	SUIZA	43,90	149,00	3,39
DINAMARCA	242,20	761,00	3,14	ANDORRA	41,80	198,70	4,75
PAISES BAJOS	227,50	1.014,00	4,46	HONG KONG	33,10	177,90	5,37
BELGICA	218,90	735,80	3,36	RUMANIA	25,20	82,10	3,26
MARRUECOS	209,90	242,00	1,15	LIBIA	20,40	74,30	3,64
ISRAEL	203,50	644,10	3,17	CHINA	19,70	89,80	4,56
ARABIA SAUDI	199,40	589,20	2,95	MALTA	16,10	33,90	2,11
POLONIA	160,50	529,60	3,30				
TOTAL	16.405,30 Tm				50.957,90 m€		3,11 €/Kg

Unidad de Valorización de Productos Agroalimentarios

Fuente: Informe Cooperativas agroalimentarias 2012

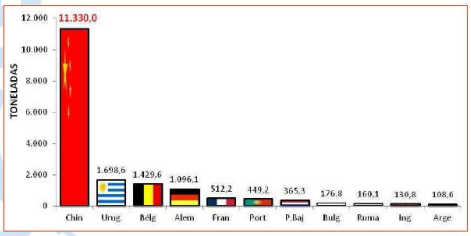
EXPORT Spain -2011-



Unidad de Valorización de Productos Agroalimentarios

Fuente: Informe Cooperativas agroalimentarias 2012

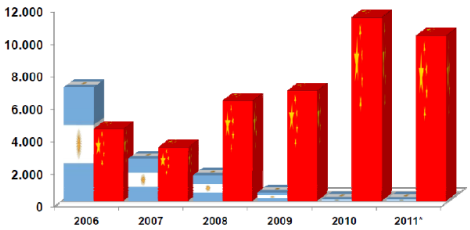
IMPORT Spain



Unidad de Valorización de Productos Agroalimentarios

Fuente: Informe Cooperativas agroalimentarias 2012

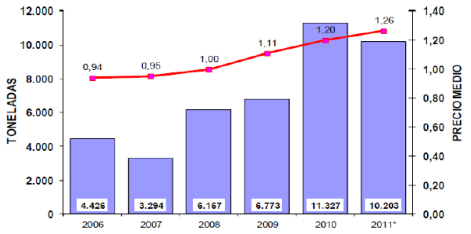
IMPORTACIONES MIEL ESPAÑA
-ARGENTINA Y CHINA-



Unidad de Valorización de Productos Agroalimentarios

Fuente: Informe Cooperativas agroalimentarias 2012

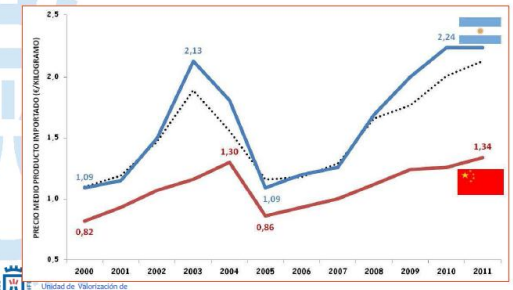
IMPORTACIONES CHINA



Unidad de Valorización de Productos Agroalimentarios

Fuente: Informe Cooperativas agroalimentarias 2012

European Honey Market
IMPORT Average Price



Unidad de Valorización de Productos Agroalimentarios

Fuente: Informe Cooperativas agroalimentarias 2012

Tenerife Honey Prices

- Direct sales
  15.00 €- 6.00€/kg
- intermediary price
  4.30- 6.20 €/kg

Unidad de Valorización de Productos Agroalimentarios

Beekeepers and Consumers ask for ORIGIN certification of honeys

Unidad de Valorización de Productos Agroalimentarios

TENERIFE RURAL

Unidad de Valorización de Productos Agroalimentarios

13/07/2008 Authorization

Why?

- For beekeepers
  - market differentiation
  - Fight against fraud
  - Guarantee QUALITY
  - collective promotion
- For Consumers
  - Quality Assurance
  - Guarantee of Origin
  - More information about the product

Tenerife Rural

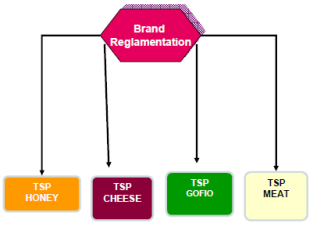
The Cabildo of Tenerife aims:

- Encourage local traditional production quality, to ensure continuity and maintain them in an increasingly globalized market.
- And on the other hand is a response to the consumer that every day further supports their buying decisions on quality and information on the specific characteristics of food products and their production methods.

How works Tenerife Rural?

Esquema de Gestión

Aprobación Reglamento Uso General



Technical Specification of products

Products

- Honey
- Goat Cheese
- Fresh Rabbit meat
- Traditional Gofio .....

Tenerife Rural

Este queso de granja es tradicional, se obtiene de leche cruda de cabra y está avalado por los controles de la marca de garantía Tenerife Rural del Cabildo Insular de Tenerife.

CON LA GARANTÍA

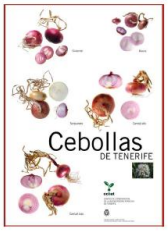
Honey of Tenerife	Total
Beekeepers	133
Extractors	24
[illegible]	5
Goat Cheese of [illegible]	Total
Milk producers	7
Cheese producers	7
Fre[illegible]	
[illegible]	
Slaughterhouses	1
Gofio of Tenerife	Total
Produc. Cereals	3
Gofio mills	1

180 Users

Unidad de Valorización de Productos Agroalimentarios

And more…..

- Jams
- Onions
- Tomatoes
- Potatoes
- *Mojo* sauces
- Etc…..

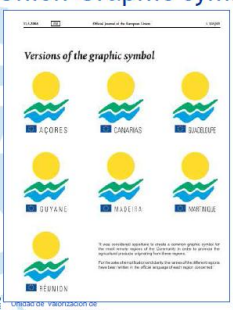


PROTECTED DENOMINATION OF ORIGIN

DOP | DENOMINACIÓN DE ORIGEN PROTEGIDA

MIEL DE TENERIFE

Outermost regions of the Union Graphic symbol



CANARIAS

CANARIAS ≠ PRODUCTO DE CANARIAS

Unidad de Valorización de Productos Agroalimentarios

Thank you

Gracias

Unidad de Valorización de Productos Agroalimentarios

Main typical products of Sardinia

Luciano Gutierrez and Maria Grazia Olmeo
Department of Agricultural Sciences
University of Sassari
Italy

Outline

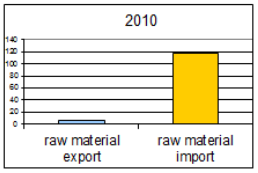
- Agrifood in Sardinia
- Typical Products and Italian Regulations
- A key case study:

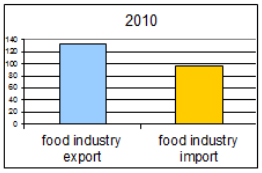
"*Pane Carasau*" (Music paper bread)

The Agrifood Sector: A fundamental segment of Sardinian Economic System

	Italy	Sardinia
Agriculture and Food Industry	•3.6% of the total Italian value added in 2009 •55 billion euros.	•5.2% of the total Sardinian value added in 2009 •1.5 billion euros.
Food Consumption	•17% of the total	•19% of the total
(Agrifood Value added)/(Labor units)	•30.000 €	•23.000 €

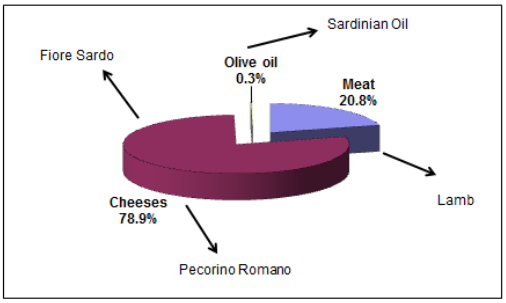
Food Industry and hand made food products, characteristics of the sector





Export (%)	Import(%)
Cheese (59,6%)	Maize (10,6%)
Wines (15,1%)	Durum wheat (9,6%)
Pasta and pasta substitutes (4,1%)	Non process shellfish(8,3%)
Sheep meat (3,25)	Flours and animal feed(6,1%)

Sardinia PDO-PGI products



Traditional Sardinia Food Products

Product categories	N°	Percentage
Alcoholic and non- Alcoholic Beverages	7	3.9
Meat based products	35	19.1
Cheeses	17	9.6
Fruits and Vegetables fresh and processed	37	20.8
Bread, Pasta and pasta substitutes	68	38.2
Fish, seafood and their products	13	7.3
Others	2	1.1
Total	178	100.0

The product: Carasau Bread

- It is a crispy bread
- Cracker - like and golden in color
- One side is smooth, the other is rough
- The diameter of the bread is between 15 and 40 cm
- The thickness is between1.5 to 3 mm

The production process:

- To prepare the yeast and let it rise
- To prepare the dough
- The disc is inserted in the oven for the first time
- The heat puffs up the dough, turning it into a ball
- The ball is cut into two halves
- The two halves are inserted back into the oven for the last time

Traditional vs commercial Carasau bread: key differences

- Locally grown wheat
- No commercial yeast
- Imported wheat
- Brewer's Yeast

	Traditional Carasau	Commercial Carasau
Advantages	•It is highly digestible •Suitable for people who suffer from gluten intolerance	•Consistent uniform end product •it costs less
Disadvantages	•It is difficult to keep the yeast alive •It requires an investment over time	•lower nutrition value •Taste, smell and texture are less appeling

"Carasau Bread" Market

Players	
Mills	•10 across the island • Mainly import of durum wheat
Bakeries	• 600 Bakeries • 1000: Total employees • 100 mil. € Turnover
Distributors	•Supermarkets •Speciality food stores
Consumers	•Sensitive to price increases

Regional Brand Proposals:

Not specific brand for *Carasau* but…

semenadura
filiera corta del grano in Sardegna

Qualità
SARDEGNA

Workshop on "Labelling Products on Island Farming"

Labelling practices for Island Farming products

Audrey AUBARD, Consultant

IPTS– Sevilla 13-14 June 2013

OBJECTIVE

- Provide the JCR-IPTS and the DG AGRI with a picture of the current commercial labelling practices with "island" and related terms references
- Some limits:
  - Lack of contact with relevant stakeholders
  - Lack of information in relation to the trademarks (databases access limited in certain national offices – ex: Greece)

PART 1. SHORT OVERVIEW ON LEGAL FRAMEWORKS

LEGAL INSTRUMENTS AVAILABLE

1. EU Quality schemes (PDO, PGI and Outermost Regions/RUP)
2. Trademarks
3. Consumers' protection
4. Unfair competition
5. Regional initiatives or labels (linked with trademarks regime)

GLOBAL OVERVIEW

- A common specific regulation to protect "Products of Island farming" to be defined in the R 1151/2012 – Article 32
- Indirect protection provided by all countries
- Some limited countries/region provided specific regulation on "island " products but through a regional approach and/or in collaboration with other EU quality scheme(s) (OM,GIs,OF)

2. STATE OF PLAY COMMERCIAL LABELLING PRACTICES OF AGRICULTURAL AND FOOD PRODUCTS REFERRING TO ISLAND

INVENTORY OF THE LABELLING PRACTICES

- Research of the current labelling practices (official labels/logos, trademarks, market etc....) – Not exhaustive
- Detailed analysis of each label

= Drawing a typology of the current practices

- Special attention to the use of "island" references:
  - Quality
  - Source
  - Tradition
  - Pictures
  - Etc....

PRODUCTS IDENTIFIED

- Type of products:
  - Olive oil
  - Honey
  - Meat
  - Fruits and vegetables
  - Cheeses
  - Pastry
  - Spirits
  - Fish

Message conveyed

- 1st message : "island" origin (denomination)
- Type of product
- Picture of the Island
- Quality linked with the specific "island" origin

Trends on trademarks

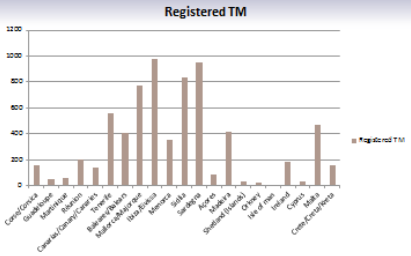
- Around 7500 TM identified
- Verbal and semi-figurative TM registered
- National TM registered (mostly SP, IT, FR) few at the OHIM and WIPO
- "Island" denomination : The situation depends on the language and the country
- Identified "Island" denominations mostly registered at the national level
- Denominations registered are not the same according to the countries:
  - Spain : Canarias, Mallorca
  - France : Réunion, Corse
  - Portugal : Açores
  - Etc...

« Island » denomination on TM

Island Origin

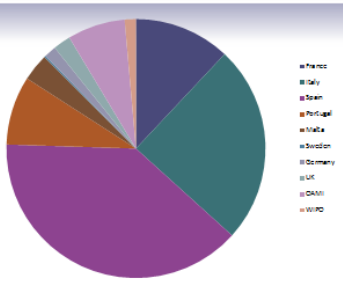
Fanciful use

Denominations used on TM



Source : Data base of National IPIs and Tmview.europa.eu

Trends on TM containing « Island » denominations per country



Source : Data base of National IPIs and Tmview.europa.eu

Some examples

GIs (including wines)

- Denominations used:
  - Island name (60%)
  - Region/Province (12%)
  - Locality (10%)
  - Archipelago (8%)
- Main trends on the GIs logos:
  - Fanciful Logos
  - Pictures of the product itself
  - Shape of the island (mostly for Sicily)

GIs Logos

ULTRA PERIPHERIC REGIONS

- Island covered: Açores, Canarias, Guadeloupe, Guyana, Madeira, Martinique, Réunion
- Focus : Banana
- Link with TM

COLLECTIVE OR TERRITORIAL BRANDS

Mallorca

- Lots of initiatives
- Different contents
- Various managements

CONCLUSION

- Importance of "island" origin in the labellings of the products
- Not only reference of "island" denomination as such
- Variety of uses of "island" denomination or related terms in the labellings : what is the real content?
- Real difficulty to identify real or misleading labels.
- What about the consumer? How can we provide fair information for consumers regarding "island farming" products?

Thank you for your attention

audrey.aubard@gmail.com

Gobierno de Canarias
Instituto Canario de Calidad Agroalimentaria

LAS MARCAS DE CALIDAD EN CANARIAS

SEVILLA 14 DE JUNIO 2013

NATURALEZA JURÍDICA DE LAS MARCAS

MARCAS DE NATURALEZA OFICIAL

- Denominación de Origen Protegida
- Indicación Geográfica Protegida
- Especialidad Tradicional Garantizada
- Producción ecológica
- Símbolo grafico de las Regiones ultra periféricas

MARCAS DE NATURALEZA PRIVADA

- Marcas de Garantía

DENOMINACIONES DE ORIGEN PROTEGIDAS

- 11 Vinos
- 5 Productos agroalimentarios no vínicos
  - Queso palmero
  - Queso majorero
  - Queso de Flor de Guía/Queso de Media Flor de Guía/Queso de Guía
  - Papas Antiguas de Canarias
  - Miel de Tenerife

INDICACIONES GEOGRÁFICAS PROTEGIDAS

- Plátano de Canarias
- Gofio Canario
- Ronmiel de Canarias (Indicación geográfica)

ESPECIALIDADES TRADICIONALES GARANTIZADAS

- No están unidas directamente al medio geográfico.
- Jamón serrano.

MARCAS DE GARANTÍA

- Tenerife Rural
- Gran Canaria Calidad
- Alimentos de la Gomera
- Alimentos de El Hierro
- Saborea Lanzarote
- Alimentos de Fuerteventura
- Alimentos de la biosfera- La palma

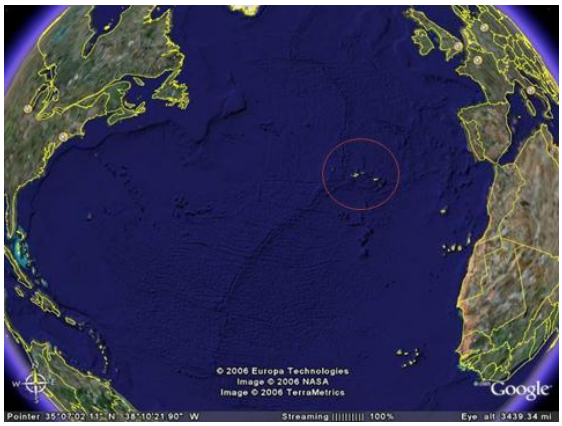
SÍMBOLO GRÁFICO DE LAS RUP´S

- Ámbito regional
- Marca paraguas de todas las demás indicaciones de calidad.
- Para aquellos productos no acogidos a figuras de calidad diferenciada, se establecen los requisitos de calidad superior.

CANARIAS

OBSERVACIONES

1. Gran interés por la diferenciación de productos agroalimentarios.
2. Gran prestigio de las DOP´s e IGP´s.
3. Marcas de garantía insulares juegan un papel fundamental para la concienciación de los productores y de las Administraciones públicas



Distances between Azores and the World – External markets

- Funchal, Madeira – 700 km
- Lisboa – 1 500 km
- Canary Islands – 1 500 km
- Madrid – 1 916 km
- Seville – 1 732 km
- Bruxelles – 2 770 km
- Amsterdam – 2 867 km
- USA – 3 400 km

Brief Presentation of the Insular Region of Azores

- The Azores is a small archipelago with 9 islands and predominantly rural (OCDE methodology) region, whose population (247 000 hab.) is concentrated (78%) in two main islands.

Brief Presentation of the Insular Region of Azores

- The Regional economic activity is concentrated in the tertiary sector (83% of total GVA in 2010), where the weight of public services is significant (55%). The agriculture and food sector (animal production and dairy sector) have a considerable importance in the regional economic activity (8,5% in 2010).

Brief Presentation of the Insular Region of Azores

- The Azores suffers all the constrains linked to its ultraperipheric condition (as defined by the EU). Its social and economic development relies on the valorization of its environmental/geographic conditions and human capital, and on the correct adaptation of national and EU policies to his specificities and needs.

The Azorean Agricultural Sector (1)

- Agriculture represents 8,5% of total regional GVA and the industry related to food sector represents about 80% of the total business of the regional industrial sector.
- In 2011, 12,5% of the active population worked in the primary sector.
- Farmers in the ages categories <35 years and >55 years represent, respectively, about 8,1% and 48% of the total.
- The UAA represents 56% of the total area of the region. About 94% of the UAA is occupied by forage crops and permanent grasslands, reflecting the main importance of animal production (UAA Total 120 412 hectares).

The Azorean Agricultural Sector (2)

- 32% of Portugal´s total milk production (552 000 000 lts) in 2,5% of the Portuguese territory with 2,4% of the Portuguese population – milk year 2012/2013.
- Milk sector represents 70% of agricultural economic activity
- Bovines slaughtered in Azores (2012) – 55 012 heads / 12 623 ton
  - Local market/External market – 40% / 60%

PDO and PGI products

Protected Designation of Origin	*Protected Geographical Indication*
Ananás de São Miguel/Açores	Carne dos Açores
Maracujá dos Açores/São Miguel	
Mel dos Açores	
Queijo do Pico	
Queijo de São Jorge	

Queijo de São Jorge

São Jorge Cheese is a product internationally known, whose qualities distinguish it from all other Portuguese cheeses. It preserves the traditional manufacturing and presents characteristics attributable to milk and therefore to the traditional form of management of the cows.
The cheese is obtained through the milk's serum draining and pressing, after the coagulation of the raw cow´s milk, producedin São Jorge's island.

Characteristics of the product:
Cured cheese of firm consistency, yellowish hard/semi-hard paste with little and irregular "eyes" disseminated through the cheese mass, which presents a brittle structure. It as a minimum of 3 months period of cure. The flavor is flavor clean, slightly spicy and strong aroma (properties that are accentuated with aging).

In 2012 – 700 ton PDO from 2 600 ton Total Cheese

PDO Applicant group: UNIQUEIJO

Queijo do Pico

The origin of Cheese Pico lost in the memory of time. It was already manufactured in the late eighteenth century and since then, its know-how have been transmitted from generation to generation until the present day.
It is a cured cheese that results from the slow draining of curd, after coagulation of raw cow's milk with yeast of animal origin.

Characteristics of the product:
Cylindrical format (dish), regular with bulging extremities, with a diameter of 16-17 cm, 2-3 cm tall and weighing 650-800 g.
Yellow crust, irregular texture, soft, pasty consistency with yellowish white color. Intense and characteristic aroma and active and salty flavor.
Minimum cure time: 20 days

PDO Applicant group: Associação de Produtores de Queijo do Pico

Carne dos Açores

The beef *"Carne dos Açores"* originates from cattle born, raised and slaughtered in the Azores, accordingly with traditional ways. Their characteristics results, in one hand, from the mild climate conditions which favor the natural existence of high quality pastures, cattle's main food source. On the other hand, this quality also derives from the traditional handling techniques applied to cattle.
The result is a meat which holds, according to age, a particular flavor and fragrance wich are distinctive and inherent to its pasturing techniques and eating habits.

Characteristics of the product:
It is a tender meat, pinkish in color, with slight infiltration of intramuscular fat level, great juiciness, tender texture, with a characteristic aroma and flavor.
Farms certified: 704

PGI Applicant group: Federação Agrícola dos Açores

Ananás de São Miguel/Açores

The Pineapple Azores / S. Miguel (*Ananas comosus* L. Merrill, variety Cayene) is produced in glass greenhouses using traditional cultivation techniques: application of fumes" and use of "hot beds" based on vegetable matter. After a period of two years from planting until harvesting, we are able to obtain an excellent fruit with outstanding flavour and fragrance qualities.
The culture was introduced into S. Miguel around 1840-50, and has been comercialized in Europe for over a century.

Characteristics of the product:
Fruit cylindrical, with strong orange peel and yellow skin. The pulp of the pineapple has a translucent yellow color, a bittersweet taste, and a very pleasant aroma.

PDO Appplicant group: Profrutos - Coop

In 2012 - 238 producers 53 hectares

Maracujá dos Açores/São Miguel

Passion fruit, produced on the island of São Miguel since the eighteenth century, is distinguished by its intense perfume and is *sui generis* organoleptic characteristics.

Characteristics of the product:
The passion of São Miguel has a smooth and bright skin, with a purple uniform color. The flesh is golden yellow, with small seeds surrounded by a sticky and juicy film. Intense fragrance, strong and characteristic with a pleasant flavor.

PDO Applicant group: FRUTAÇOR

Mel dos Açores

The Azores climate and the absence of diseases in bees provide the ideal conditions for the development of apiculture in the region. The Azores flora´s richness and diversity also contribute for the obtainment of high quality honey. When referring to Mel dos Açores (Azores Honey) we are talking about the centrifuged nectar honey, obtained mainly from the incense and multi-flora nectars.

Characteristics of the product:
Honey of incense: variable color, between a colorless almost yellowish tint; Delicate and fragrant odor; Very sweet and typical taste, based on essential oils of incense; Fluid consistency.
Multiflora Honey: dark brown color; nice flavor and smooth consistency

PDO Applicant group FRUTER - Coop

PDO and PGI products

Ano	Slaughterhouse											
	S. Miguel		Santa Maria		Terceira		Faial		Pico		Total Azores	
	Nº	Kg	Nº	Kg	Nº	Kg	Nº	Kg	Nº	Kg	Nº	Kg
2007	5	1.729	0	0	120	31.523	0	0	131	32.974	256	66.226
2008	17	3.397	0	0	43	10.352	0	0	344	88.879	404	102.628
2009	13	2.777	1	159	37	8.912	0	0	526	145.575	577	157.423
2010	6	1.296	0	0	215	52.744	0	0	1.035	257.665	1.256	311.706
2011	1	216	0	0	433	111.223	0	0	1.549	397.000	1.983	508.541
2012	0	0	0	0	646	159.605	163	47.603	1.949	470.693	2.758	678.301

In 2012 only 5% of the beef is PGI

PDO and PGI products – in preparation

PGI Meloa de Santa Maria/Açores

Cucumis melo L., (Cantalupensis Group)

In 2012:

10 producers 30 ton

PDO and PGI products – in preparation

PDO "Chá dos Açores" - 2 producers 40 hectares

Camellia sinensis var. sinensis (China Tea)

Camellia sinensis var. assamica (Assam Tea)

Some Remarks about Dairy and Beef market:

- 15 to 20% of the azorean dairy products are for internal market
- About 40% of beef is for local consumption
- Our external market is Portugal Mailand
- Portugueese consumer recognize Azores as "nature", "green" and animals in the grassland
- "Products of Islands Farming" is to generic
- A good "umbrella" with added value should be "Products of Azorean Islands Farming"

Thanks for your attention!!!!!

Worshop on « Labelling Products of Island Farming and Food Industries»

Geographical Indications in Islands: an EU wide overview

Laurent GOMEZ
AREPO General secretary
Mail : secgen@arepoquality.eu
Website: www.arepoquality.eu

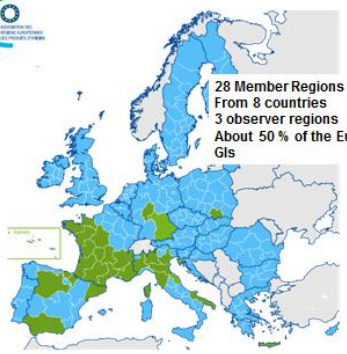
AREPO, Association of European Regions for Products of Origin:
A tool to valorize European territories

AREPO is the network of European regions and of producers associations for the defence and promotion of quality and origin products .

The association is currently chaired by Mr. Tiberio Rabboni, Minister for Agriculture of the Region of Emilia-Romagna.

It was created in 2003 with 16 member regions.

Today, it brings together 28 regions from 8 European countries and around 50% of European GIs.



European quality Schemes

-*PDO* : production, transformation and elaboration in a determined geographical area. The product is specific to the territory where it was produced.

-*PGI* : agricultural and food products linked to a geographical area (quality, reputation). At least one step of the production process in the chosen geographical area.

-*TSG: traditional assembling of a product or traditional production methods.*

- Organic farming : production method that respects the environment

- UPR Label: quality products from the ultra-peripheral regions of the European Union.

European quality Schemes : points in common

- *Specifications drafted by the producers and the concerned actors (except for organic farming, where a specific regulation covers those aspects)*

- *Controls carried out by independent bodies*

- Specific and traditional know how.

- the origin of the raw materials for the PGI, PDO and the UPR Label is guaranteed

- Common graphic signs

European quality schemes : optional quality terms

-*This is an innovation of the new Regulation (1151/2012) on European quality schemes*

- « Mountain product » : strong initial lobbying from the relevant actors; the delegated act is being prepared by the European Commission and Member States.

- « Product from my farm » : strong interest by the consumers and producers. A working group to define the concept has been set up to define the concepts (proximity, short circuits, choice of the name…)

- « island products » : the object od this seminar; a preliminary study is being carried out.

- General remarks : a « term », not an official quality scheme = no certification (no extra-costs), no graphic sign (to avoid confusion with quality schemes)

European quality schemes : optional quality term "island product"

- Questions already faced in the discussions on the other quality terms:

- Economic : what is its impact on the agricultural economy of the EU? And in the agricultural economy of the areas involved?

- Environmental : what is the environmental impact on the EU level? And in the areas involved?

- Social : what is the impact on employment in the concerned areas? And on the keeping on rural services?

- Commercial : how to strike a balance? How to decide who is going to be eligible or not in the area? Who uses this term under different criteria today? What is the expected impact? What do consumers expect? What is the risk of confusion? What is the room for and the potential impact of fraud? How much added value could slip out of the legitimate areas/companies?

Island GIs: State of the art

-I am not a researcher, nor an analyst, therefore this is more of a state of the art, rather than a statistical analysis

-Sources are incomplete, besides usual difficulties of statistical economics:
- -The territorial entities studied are specific: island = country or region or part of a region;
- -GIs do not correspond to an administrative territory (e.g. Feta)

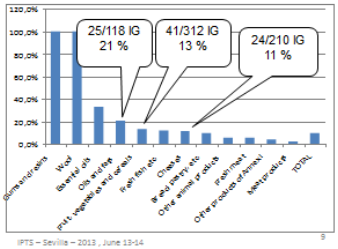
-Availability of the work by the JRC and by Aubard Consulting (with Anne Clairmontelle)

Insular GIs: 10 % of European GIs

- 10 % of European registered GIs (excluding wine): 118 GIs produced in islands out of the 1158 GIs registered; 50 wine GIs.

- 510 Million € turnover (excluding Feta and wine), corresponding to less than 5 % of the islands agri-food turnover, which exceeds 12 Million €)

NB: 21 % of olive oil GIs are from islands, = 25 out of the 118 registered in Brussels



Insular GIs: distribution by countries, distribution by quality scheme.

-Data includes: published, registered and wine GIs

-Cyprus and Malta: (almost) only wine

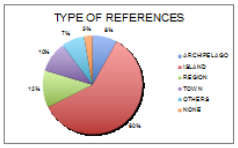
- Greece : 14 olive oils

- 114 PDO (107 registered)
- 73 PGI (62 registered)
- 9 UPR (found)

	TOTAL %	Wine (Number of GI)
GREECE	31	13
ITALY	22	5
SPAIN	11	8
France	11	4
CYPRUS	7	11/13 (85 %)
PORTUGAL	6	4
UK	5	0
GERMANY	2	0
MALTA	2	4/4 (100 %)
DENMARK	2	1
IRELAND	1	0
SWEDEN	1	0
TOTAL	100 %	50 Wine GI

Insular GIs: which geographical term is brought forward?

- the island (60 %) but there is not always an archipelago
- the archipelago (8 %)
-The region 12 % but it often coincides with the name of the island or the archipelago
- the name of a geographical place (city, area…) (17 %)
- But it mostly depends on the geographical configuration of the territory
  - Corse in France → 75 % island
  - Azores in Portugal → 64 % archipelago
  - Big islands in Italy (Sicily, Sardinia): more complex distribution



%	ISLAND	REGION	TOWN	OTHERS	TOTAL
ITALY	24	22	24	30	100

Insular GIs: Commercial data

NB : This is the most sensitive data-set and should be handled with care. Some of it doesn't appear to be coherent.

- Approximately, more than 500 Million € turnover
-Some very important GIs are produced both on the islands and in the continent: Feta, Pecorino Romano… therefore the turnover should be redistributed.

Some « stars » would have more than 10M€ annual turnover

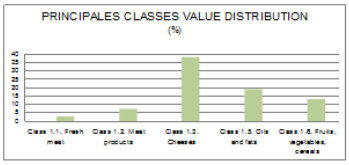
Mastiche Chiou	Class 2.5. Natural gums and resins
Pecorino Sardo	Class 1.3. Cheeses
Sobrassada de Mallorca	Class 1.2. Meat products
Clémentine de Corse	Class 1.6. Fruits
Sitia Lasithiou Kritis	Class 1.5. Oils and fats
Clare Island Salmon	Class 1.7. Fresh fish
Graviera Kritis	Class 1.3. Cheeses
Mahón-Menorca	Class 1.3. Cheeses
Kasseri	Class 1.3. Cheeses
Pecorino Romano	Class 1.3. Cheeses
Jersey Royal potatoes	Class 1.6. Vegetables
Feta	Class 1.3. Cheeses

Insular GIs: Commercial data

NB : This is the most sensitive data-set and should be handled with care. Some of it doesn't appear to be coherent.

-Cheese would constitute 40 % of the value (relevance of the Feta)
- Olive oils 19 %, Fruits and vegetables 13 %, meat products and fresh meat 10 %

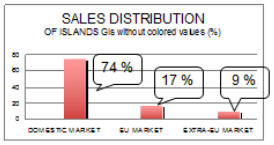
Excluding wine

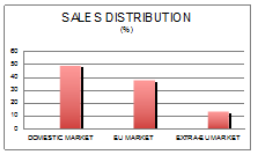


Insular GIs: markets

¾ of the produce is sold on the national market

Excluding wine and Feta





Notable exception of the olive oils, which export:
- 38 % of the value on the single market
- et 13 % of the value on external markets

Worshop on « Labelling Products of Island Farming and Food Industries»

Thank you for your attention

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Labelling products of Island Farming

Sevilla, June 2013

Anna-Karin Utbult Almkvist
National Asociation for the Swedish Archipelago

European Small Islands Federation

ESIN, Juni 2013

Skärgårdarnas Riksförbund

The National Association for the Swedish Archipelagos

14 member organisations from regions with archipelago habitat

32.000 inhabitants on 576 islands, ranging from 1 - 5000

ESIN, Juni 2013

Archipelago farmers an inventory and a network

ESIN, Juni 2013

Importance of good transportation

ESIN, Juni 2013

Moving cattle between grazing areas

ESIN, Juni 2013

Environmental services

ESIN, Juni 2013

Sheep at sea

ESIN, Juni 2013

Mosaic landscape

ESIN, Juni 2013

Improving old buildings

ESIN, Juni 2013

Local archipelago products

ESIN, Juni 2013

Sheep product

ESIN, Juni 2013

Craft

ESIN, Juni 2013

Open landscape and tourism

ESIN, Juni 2013

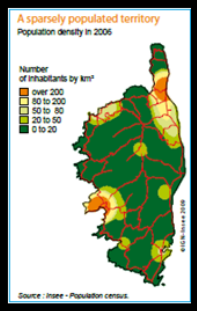
Restoration of abandoned grazing area. Old polled ashes.

ESIN, Juni 2013

CORSICA in brief

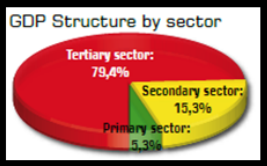
- Corsica is located at the centre of the Gulf of Genoa
- Area: 8722 km²
- 1000 km of coasts
- Peaks reaching 2710 m
- Diverse landscapes
- 7 ports and 4 airports.

CORSICA Population



- 302 966 inhabitants
  - **in urban areas: 180 435**
  - **in rural areas: 113 683**
- Percentage of population living cities:50%
- 34 inhabitants per km²
  - ➢ the lowest population density in metropolitan France

GDP Structure

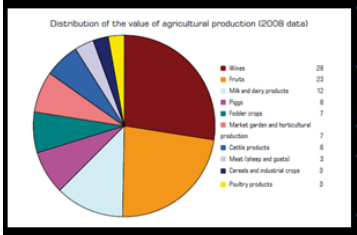


- GDP per inhabitant 24232 euros in 2008
  - 21% below the national average
- a weak production base and an over-represented tertiary sector.
- very small businesses structures.
- Tertiary sector dominated by the public sector.

CORSICA Difficulties/Forces

- Insularity
- The small size of the Corsican market
- The seasonal nature of tourism-related employment
- A relatively well-preserved environment, on the land and coast and at sea.
- The island has an international marine park, nature reserves, and the Regional Nature Park of Corsica.

Importance of Agriculture in the regional economy



- 100 million euros of valued overall output
  - ✓68 M€ from the vegetal production
  - ✓32 M€ from the animal production.

- Agriculture only represents around 2.3% of Corsica's GDP
- Only 36% of the island's surface area is used for agriculture
- 1800 professional farms
- The active farming population is estimated at around 6 000 people .
- 700 multi-active farmers are involved in agriculture.

Land Use

- Agricultural land makes up 18% of the region's surface area.
- Dichotomy between:
  - ➢ the extensive production areas of the inland mountain areas:
    - vineyards, grasslands, market gardens, orchards of citrus trees (Clementine), summer fruits, hazelnut trees...
  - ➢ the arable production areas of the coastal plains
    - pastoral activities, i.e. cattle, pork, sheep and goat livestock breeding; traditional chestnut and olive groves.
- a variety of fauna (local breeds) and flora unique in the Mediterranean.
  - Flavor and distinctive characteristics of products

Institutional Organization

- The Territorial Collectivity of Corsica
  - ➢ Unique status in metropolitan France
  - ➢ qualified for the determination of the main trends of the agricultural and rural development
  - ➢ Management Authority for the EARDF.
- The Office for Agricultural and Rural Development (ODARC)
  - ➢ development of the multiannual programmes of agricultural and rural areas,
  - ➢ creation and management of a network of agents,
  - ➢ management of a research and test center in livestock,
  - ➢ orientation of the agricultural land policy
  - ➢ Payment Organism of the national and European funds of the second pillar of the CAP (EARDF).

Regional policy for agriculture

- Agricultural development based on Quality and Identity
- Obtaining Official Quality Signs (DPO and GPI)
  - differentiating from standard products and improving producers' income
  - protecting skills and ensuring the long-term survival of related products and production activities
  - As a lever for orientation, development and land management, especially through the link to the place of origin and the resource as a basis for the product's typical characteristics and identity (in particular genetic resources such as local breeds)
  - As a strong factor in building a region's gastronomic image.

Regional policy for agriculture

- Structured production chains and product certification have several impacts:
  - **In terms of quality:** bringing people together improves product knowledge and skills are preserved and even developed. Moreover, this relational space offers other prospects for dialogue, in the area of marketing for example.
  - **In terms of quantity:** certification, accompanied by product promotion through an official quality sign, generally leads to an increase in demand which has a significant economic effect. We then see production growing.
  - **In terms of spatial planning and maintaining biodiversity:** certification is a tool that helps establish and strengthen activity in the designation areas. Certification is also an effective instrument for land management and biodiversity (preserve traditional landscapes and local breeds)
  - **In cultural terms:** Certification helps to regenerate places and encourages people to recognize them as places of value rather than disadvantaged areas. It also has value for the people who live in these places, their history and their culture.

The labels obtained

12 Protected Designation of Origine

- 4 PDO Wine et 1 PDO Muscat du Cap Corse
- PDO Honey of Corsica
- PDO brocciu ,
- PDO Olive Oil of Corsica
- DPO Chesnuts flour of Corsica
- DPO Prisuttu-Cured Ham of Corse
- DPO Coppa di Corsica-Coppa of Corsica
- DPO Lonzu-Lonzo of Corsica

2 Protected Geographical indication

- PGI Clementines de Corse
- IGP Vins de l'île de beauté

4 Local breeds recognized

- Corsican Ovine Breed
- Corsican Goat Breed
- Corsican Pork breed « Nustrale »
- Corsican Bee Ecotype *Apis Melifera Melifera*

Organic Agriculture

- 9 430 ha in 2012 (6% SAU) against 4 000 ha in 2007
- 270 farms certified or in conversion

The Labels in progress

- PGI Halzenuts of Cervioni (2014)
- PGI Pomelo of Corsica (2014)
- PGI Lamb of Corsica
- PGI Kid Goat of Corsica
- PGI Essential Oil of Corsican Immortelle

- Red Label Clémentine (2013)
- Red Label Almond

- PDO Cheeses:
  - Niolu
  - Bastelicaccia
  - Venachese
  - Sartinese
  - Calinzana
- PDO Onion of Cap Corse
- Corsican Bovine breed

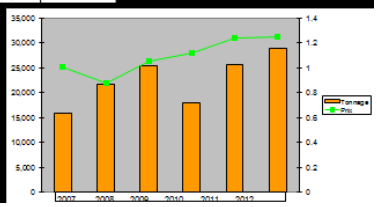
Example PGI Clémentine de Corse

- Recognition PGI in 2007
- Number of producers involved in the PGI increased (almost all in 2012)
- The quantities produced increased
  - 15 985 T in 2007/ 29 000 T in 2012 (average on 5 years : 22 700T)
- Quality improvement
  - 79% of good quality fruits in 2011 against 47% in 2007
  - Medium sizeincreased
- Sell price increased
  - 0.67€ by Kilo (producer price) in 1997 (lower price than the spanish and moroccan clementines)
  - 1.25€ by kilo in 2012, higher price than the other competitors (0.81-0.71€)
- The reputation of th PGI « Clémentines de Corse » increased

Example PGI Clémentine de Corse

	Tonnage commerialized	Medium size	Producer price €/kg	Harvest Value
2007	15 985	3.42	1,01	16 144 860 €
2008	21 755	3.19	0,88	19 144 400 €
2009	25 379	3.39	1,05	28 847 960 €
2010	17 989*	3.41	1,12	20 147 880 €
2011	25 736	3.22	1,24	31 912 840 €
2012	29 000	2.44	1,25	38 260 000€

* 2010 : agricultural disaster



The principal markets for the sales of the products concerned

- The most productions are consumed at the local level, especially thanks to the summer influx of tourists.
- Export :
  - The Citrus productions, specially the "clementines" and the "pomelos" which are exported from the island to the French continent at 95%.
  - The wine: 40% at the local level, 30% exported to the French continent, 30% exported in Europe and in other countries (Japan, China, USA…)
  - Industrial cheese and cured pork meat: 20%/30% for export.

Challenges facing the evolution of agriculture

- The challenge in all Corsica's agricultural sectors is to increase the quantities produced to stop under-production
  - Supply is lower than demand or only just sufficient to satisfy the markets, local and especially the export markets.
  - Problems with land management and speculation, and the low level of renewal of farms
- Priority : Increasing the quantity and quality of production
  - Making the farming trade more attractive
  - Improving and securing farmers' income and modernizing their practices
    - Innovation of process (mechanization, new technical itineraries..)
    - Organizational innovation
    - Marketing innovation (segmentation…)

The regional label for short-supply chains

- To promote and valorize the rural areas and the productions associated
- To guarantee quality products to tourists and consumers,
  - **La route des Sens Authentiques- Strada di i Sensi**
- It's a regional trademark registered by ODARC at the National Institute of Intellectual Property.
- Promote and develop farmers and craftsmen through direct sales
- Participate in a collective project of development of products, businesses and territories and more broadly of Corsica.
- All stakeholders involved subscribe to a quality charter.
- For example, only PDO, PGI and farmers products are available on this road.
- External controls will be realized in order to check the veracity of the commitments.

The regional label for restaurants

- To create a reliable reference for consumers and tourists looking for quality regional products
- To highlight the know-how of Corsican restaurants owners,
  - **Trademark "Gusti di Corsica".**
- The "Gusti di Corsica" label will be awarded to Island restaurants that will stand out for the quality of Corsican products used in the development of their services.
- This trademak guarantees such as restaurants use products of Corsican origin and recognized quality.
- This label will be a showcase for Corsican gastronomy that values the resources of the territories.
- It will be launch in October 2013.
- "Gusti di Corsica" is a regional trademark registered by ODARC at the National Institute of Intellectual Property.

Would the future Mountain products labelling be applicable and useful in Corsica?

- For all the mountain productions, excepted for the cattle one, there are already quality labels (DOP for cured meat, DOP for Olive oil, DOP for Chestnuts flour, DOP for Brocciu and, we hope very soon, DOP for cheeses).

- Interesting for the veal meat
  - No label
  - Really difference between the cattle breeding in mountain and the cattle breeding in coastal plains.
  - Mountain Calf : Corsican breed, not a standard product (smaller, with a red flesh due to the fact he feeds scrub-bush…). But it's an animal that valorize the mountains resources.

What about the creation of the a new optional quality term " product of Island farming " ?

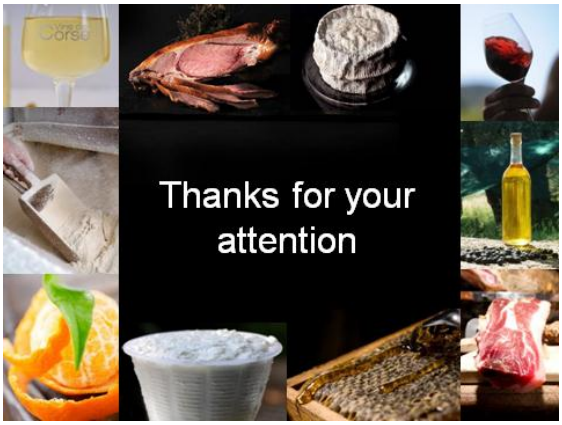
Not a priority:

- Very strong image carried by the name "Corsica"
- Low level of export

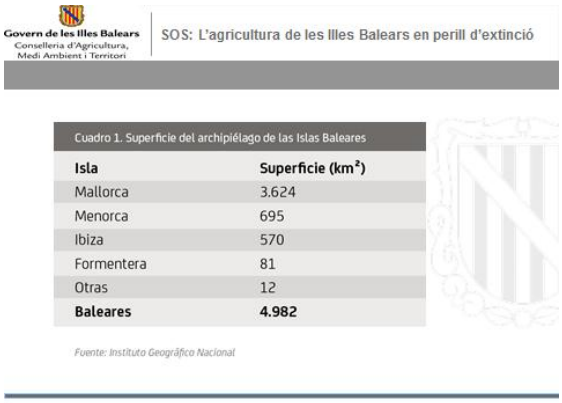
But :

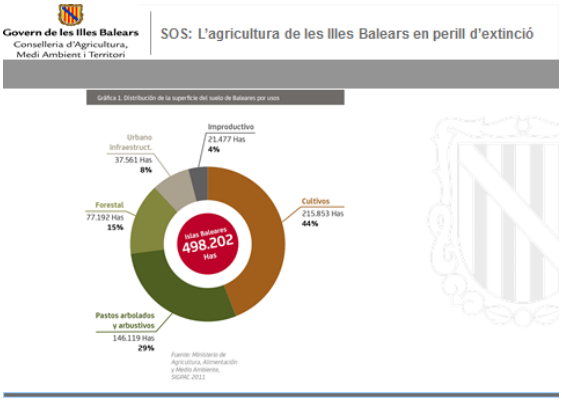
- Agriculture requiring higher production costs related to the disability of insularity
- Products forced into a small market
  - this label could allow products to stand out imported productions
  - For productions that can't obtain DPO or GPI or « Niche Products »
  - For DPO and GPI products but only for certified productions

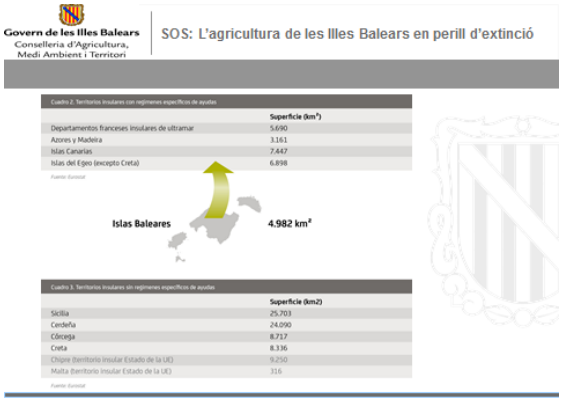
- The preconditions
  - raw material is produced on the island,
  - not only transformation
  - controls are effected.
  - Possibility to add « Corsican » in the denomination.
- Develop a synergy between island products and create a business segment of the market, particularly through inter-island bundled offers.




Govern de les Illes Balears
Conselleria d'Agricultura, Medi Ambient i Territori
SOS: L'agricultura de les Illes Balears en perill d'extinció
Gabriel Company Bauzà
Conseller d'Agricultura, Medi Ambient i Territori


Govern de les Illes Balears
Conselleria d'Agricultura, Medi Ambient i Territori
SOS: L'agricultura de les Illes Balears en perill d'extinció
Cuadro 1. Superficie del archipiélago de las Islas Baleares
Isla | Superficie (km²)
Mallorca | 3.624
Menorca | 695
Ibiza | 570
Formentera | 81
Otras | 12
Baleares | 4.982
Fuente: Instituto Geográfico Nacional


Govern de les Illes Balears
Conselleria d'Agricultura, Medi Ambient i Territori
SOS: L'agricultura de les Illes Balears en perill d'extinció
Gráfica 1. Distribución de la superficie del suelo de Baleares por usos
Improductivo 21.477 Has 4%
Urbano Infraestruct. 37.561 Has 8%
Forestal 77.192 Has 15%
Cultivos 215.853 Has 44%
Islas Baleares 498.202 Has
Pastos arbolados y arbustivos 146.119 Has 29%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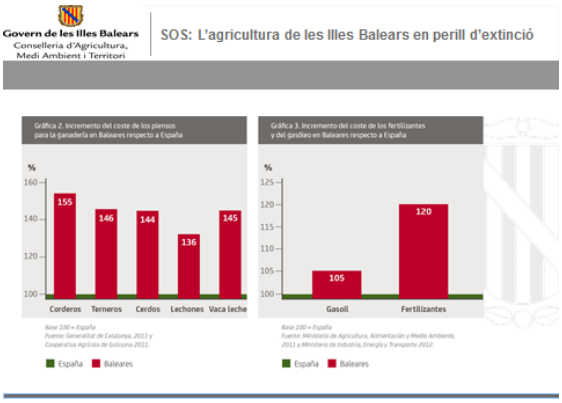
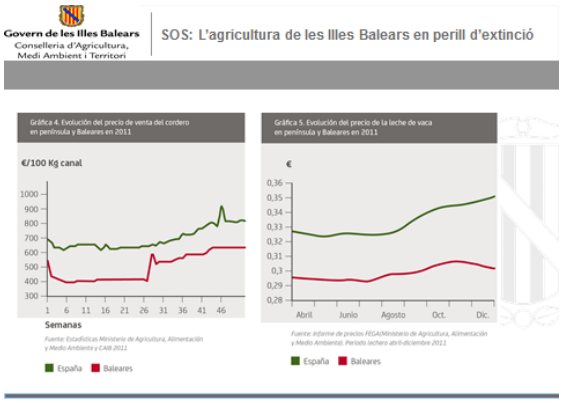
Conselleria d'Agricultura, Medi Ambient i Territori
SOS: L'agricultura de les Illes Balears en perill d'extinció
Cuadro 2. Territorios insulares con regímenes específicos de ayudas
Superficie (km²)
Departamentos franceses insulares de ultramar 5.690
Azores y Madeira 3.161
Islas Canarias 7.447
Islas del Egeo (excepto Creta) 6.898
Islas Baleares
4.982 km²
Cuadro 3. Territorios insulares sin regímenes específicos de ayudas
Superficie (km2)
Sicilia 25.703
Cerdeña 24.090
Córcega 8.717
Creta 8.336
Chipre (territorio insular Estado de la UE) 9.250
Malta (territorio insular Estado de la UE) 316


Govern de les Illes Balears
Conselleria d'Agricultura, Medi Ambient i Territori
SOS: L'agricultura de les Illes Balears en perill d'extinció
Gráfica 2. Incremento del coste de los piensos para la ganadería en Baleares respecto a España
%
155
146
144
136
145
Corderos
Terneros
Cerdos
Lechones
Vaca leche
Gráfica 3. Incremento del coste de los fertilizantes y del gasóleo en Baleares respecto a España
%
105
120
Gasoil
Fertilizantes
España
Baleares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Gráfica 4. Evolución del precio de venta del cordero en península y Baleares en 2011
€/100 Kg canal
Semanas
Gráfica 5. Evolución del precio de la leche de vaca en península y Baleares en 2011
€
Abril
Junio
Agosto
Oct.
Dic.
España
Baleares


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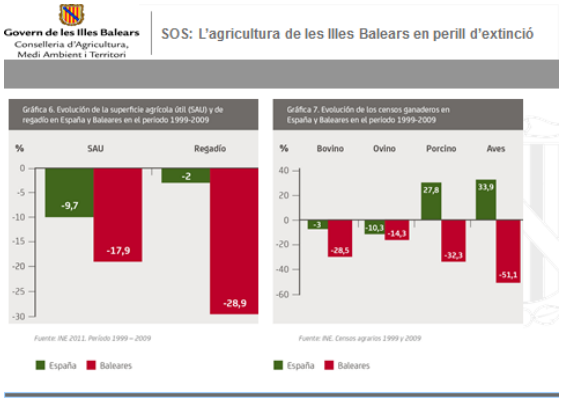
INFRAPRECIOS
INSULARIDAD
PRECIOS
Agricultura de las Islas Baleares
COSTES
SOBRECOSTES
INSULARIDAD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SOS: L'agricultura de les Illes Balears en perill d'extinció
Gráfica 6. Evolución de la superficie agrícola útil (SAU) y de regadío en España y Baleares en el periodo 1999-2009
%
SAU
Regadío
-9,7
-17,9
-2
-28,9
Gráfica 7. Evolución de los censos ganaderos en España y Baleares en el periodo 1999-2009
Bovino
Ovino
Porcino
Aves
-3
-28,5
-10,3
-14,3
27,8
-32,3
33,9
-51,1
España
Baleares

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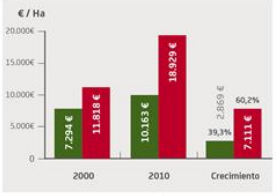
Gràfica 8. Evolución del precio del suelo agrario en España y en Baleares en periodo 2000-2010



Fuente: Ministerio de Agricultura, Alimentación y Medio Ambiente

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Gráfica 9. Eficiencia y rentabilidad en la industria agroalimentaria (datos 2009)

CCAA	Productividad (miles €)	Margen bruto explotación (%)
Canarias	51,9	14,1
La Rioja	70,3	15,5
Castilla - León	56,9	13,8
Castilla - La Mancha	66,0	12,9
Madrid	53,9	11,8
Comun. Valenciana	52,7	11,5
Murcia	51,6	11,3
Navarra	55,0	10,9
Extremadura	41,2	10,7
España	**53,0**	**10,6**
Asturias	51,7	10,1
Cataluña	57,1	9,8
Andalucía	50,2	9,4
País Vasco	51,3	8,9
Cantabria	42,5	8,0
Aragón	47,7	7,9
Galicia	40,4	7,6
Baleares	**29,5**	**1,2**

Fuente: Ejercicio 2009. Anuario estadístico. 2010. Ministerio de Agricultura, Alimentación y Medio Ambiente

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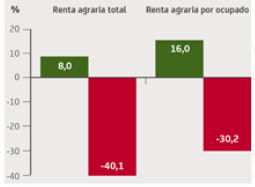
Gráfica 10. Evolución del Producto Interior Bruto (PIB), y el correspondiente al sector agrario en España y en Baleares en el periodo 2000-2010

Fuente: Contabilidad Regional de España. INE.

Gráfica 11. Evolución de la renta agraria en España y en Baleares en el periodo 2000-2010



Fuente: Consellería de Agricultura, Medio Ambiente y Territorio (CAIB) e INE

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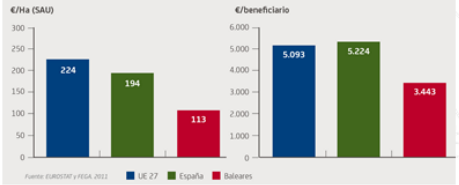
Gráfica 13. Ayudas PAC por hectárea y beneficiario en la UE, España y Baleares en 2010



Fuente: EUROSTAT y FEGA. 2011

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European Commission
EUR 26265 – Joint Research Centre – Institute for Prospective Technological Studies

Title: EU Island Farming and the Labelling of its Products

Authors: Fabien Santini, Fatmir Guri, Audrey Aubard, Demetris Psaltopoulos, Robert Read, Sergio Gomez y Paloma

Luxembourg: Publications Office of the European Union

2013- 206 pp. – 21.0 x 29.7 cm

EUR – Scientific and Technical Research series – ISSN 1831-9424 (online)

ISBN 978-92-79-34485-5 (pdf)

doi:10.2791/ 36013

Abstract

Farming in the islands of the European Union faces specific challenges due to isolation and small size, which justify specific policy tools in terms of structural and regional polices. The question whether the output of island farming (island agricultural and food products) is of such a specific quality that labelling it as such by ways of an optional quality term in the sense of Regulation (EC) No 1151/2012 is justified or not. Capturing the socio-economic reality of island farming in the EU as well as the labelling strategies pursued by stakeholders on the market demonstrates that a specific labelling rule for island products has benefits in particular for small producers and/or small islands, but that it would better be accompanied by the labelling of the specific name of the island(s) concerned.

LF-NA-26265-EN-N

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