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The ESPON 2013 Programme

The Development of the Islands – European Islands and Cohesion Policy* (EUROISLANDS)

Targeted Analysis 2013/2/2

Final Report

*The Outermost Regions of the EU (as defined in the Treaty of Amsterdam) are not addressed by this ESPON Project

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This report presents the interim results of a Targeted Analysis conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

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This basic report exists only in an electronic version.

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Revised Final Report, EUROISLANDS

Foreword from the ESPON Coordination Unit

This report is a revised version of the Final Report of the EUROISLANDS Project - “The development of the Islands-European Islands and Cohesion Policy” (EUROISLANDS) Targeted Analysis from 1 August 2011.

The report was accepted by the ESPON Monitoring Committee as it demonstrates interesting outputs and observations on the situation and development of the European islands. The report raises awareness of the specificities and diversity of this specific type of territories and takes into consideration the current policy debate related to European Cohesion Policy.

The revised version of the Final Report has been considered meeting the minimum demands in contractual terms. However, some case studies raised comments from individual stakeholders involved. Some improvements requested were not implemented to their entire satisfaction as part of the revision of the Final Report. It was felt that the case studies could have been better used and integrated in the analysis, making the report richer, more precise and evidence based, enhancing its narrative.

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Abbrevations

CAP = Common Agriculture Policy
ESDP = European Spatial Development Perspective
FUA = Functional Urban Area
GDP = Gross Domestic Product
RD = Rural Development Policy
R&D = Research and Development
SGI = Services of General Interest
SFP = Single Farm Payments
LFA = Less Favoured Areas

A Executive summary

The scope
According to the specifications of the project: *"The aim of the EUROISLANDS target analysis is to deliver an appropriate reference work and a set of policy recommendations and strategic guidance to foster the sustainable development of the European islands within the framework of the Single Market, ensuring equal terms and opportunities with other non-handicapped regions"*. The envisaged results are:
- In depth knowledge of the state of islands and evaluation of their divergence from the European average;
- Analysis of the future of islands from a European perspective;
- General evaluation of existing policy measures for islands and analysis of policy options to achieve territorial cohesion.

The basic assumption underlying the overall approach followed in this study is that, **on areas which are no longer attractive for establishing competitive economic activities and attracting population, the socioeconomic base will shrink and diverge from EU and national goals for sustainable development, economic, social and territorial cohesion**. Islands are considered, among other areas, as non attractive places for permanent living and/or for business today.

Insularity is the connecting link, the common characteristic of all islands regardless of their size, population and development level. Insularity expresses 'objective' and measurable characteristics, including small areal size, small population (small market), isolation and remoteness, as well as unique natural and cultural environments. However, it also involves a distinctive 'experiential identity', which is a non-measurable quality expressing the various symbols that islands are connected to.

In order to achieve the envisaged results of the study, three questions will be addressed:
(a) What is the situation of Europe's islands within the context of sustainable development?
(b) What has caused this situation? And how does insularity affect attractiveness;

(c) What policies would be appropriate for increasing the attractiveness of islands and ensure that their development meets the tenets of sustainable development?

Within this framework, the concepts of attractiveness and sustainability are integrated within a common context with policy implementation in the following way: the analysis of the situation reveals the problems that islands face, with their causes being their low attractiveness. Out of this analysis the need for policy measures (inputs) is brought forward in order to face low attractiveness. Policy outputs have to address attractiveness problems (results) in order to achieve sustainable development goals (impacts). Policy action has to create, preserve and/or improve the different forms of capital of an area (human, social, man-made (physical) and natural capital) as a precondition to achieve sustainability goals.

There are 362 European islands each with a permanent population of more than 50 inhabitants, plus another 228 with even smaller populations that are considered in, and concerned with, this study[1]. The analysis is based mainly on information coming from two different entities of islands: (a) the 31 Island Regions that are European statistical units (Member states, NUTS II or NUTS III) for which some common basic data are available; and (b) the 9 case study islands, for which data is acquired with the use of local research and the assistance of local stakeholders. Information from other European islands has also been used.

A number of parameters are used for the estimation of sustainability, along the three pillars of sustainable development: economic efficiency, social justice /equity, and environmental conservation.

A first outcome concerning island sustainability is the divergent **economic efficiency** of islands: from islands of high performance such as Åland and Illes Balears, to those of low performance, such as Gozo, Ionia Nisia, Voreio Aigaio, Sicilia and Saaremaa. Overall, islands are no longer amongst the most lagging regions of EU-27: in many regions of the new Member-States, GDP/per capita is lower than 75% or even below 50% of the European average. For Island Regions, only the performance of Saaremaa is below 50%. However, **the majority of islands have lower performances than their overall national counterparts, with an average GDP per capita at just 79,2% of the European one.**

[1] Islands of the outermost regions are not considered in this study.

The islands with the best economic performance can be classified in two categories: in the first, islands with a very clear specialisation in a low added value activity such as the tourism sector (Illes Balears, Cyprus, Kyklades, Dodecanisos, Zakynthos) are included; and in the second, islands such as Åland, Shetland and Orkney which are specialised in some other internationally oriented activity (e.g. transport or energy). A very important public sector is also boosting employment and GDP in most of the Nordic islands; in some cases as Gotland it is the most important one. Few islands have a significant production in agriculture, fisheries or manufacture. Long term development perspectives seem rather fragile –even in the performing islands-, because of the predominance of low value added activities in an increasingly competitive international environment based on an excessive dependency on scarce natural resources (tourism, agriculture, oil and gas).

The same diversity is evident for **population evolution** as well, with some islands having healthy demographics (young population, positive natural movement), while others keep on losing their active and young population. These positive results are not a consequence of positive natural change (births minus deaths) but from positive in-migration flows that have positive impacts on the evolution of the total population but also change the age pyramid as immigrants are younger and are more likely to have children, but also lower education level. Only Malta and Cyprus have a birth rate and a share of young population above the European average. Net migration –very often by people coming either from Eastern Europe or from Asia and Africa- is recorded in almost all islands; clandestine immigration is the case for all islands at the external European frontiers.

Data relating to the **economically active population** reveal that there are differences between Nordic and Mediterranean islands that reflect differences in general between north and south Europe. Women in the south are less economically active and they are more likely than men to be unemployed or underemployed; the high seasonality of tourism activity is amplifying this phenomenon. In general, activity rates on the Mediterranean islands are particularly low compared to those on the European continental mainland. Unemployment, especially of the young and female, is rather high, but there is no correlation with the level of GDP.

Natural assets are very important for islands, especially for those in the Mediterranean where biodiversity and landscape

quality are particularly high. Environmental pressures are very different among European islands as population density varies from less than 1 inhabitant per km^2 up to more than 1000 (Malta, Italian coastal islands), but is growing with direct impacts on natural landscape fragmentation. Environmental problems are also quite discernible between the north and the south: urban sprawl due to tourism and second house construction mostly on coasts, coastal erosion, water shortage, fires, and high soil erosion risk are the principal problems to be addressed in the south; sea eutrophication (as with algae blooms) is a serious problem in the north, as well as coastal erosion. A common problem seems to be fish stock collapse – more severe in the north- with direct repercussions on islands' economies and societies**. Finally, climate change is a global concern and islands are generally more vulnerable than the continental mainland**.

The findings of this analysis are summarised in a **State index** that demonstrates clearly that **the average of the island regions is lower than that of the EU-27, but also lower than the average of the States with island regions.** The results of the change index underline a **recent dynamism** as islands have better scores than the EU-27 average. But, this performance seems unable to reduce the development gap between European islands and the continental mainland.

For estimating attractiveness, a number of parameters (factors of attractiveness (related to Lisbon and Gothenburg strategies) are defined and information is collected. In parallel a classification of the importance of different attractiveness factors by insular decision makers (local authorities and Chamber of Commerce), permanent population and entrepreneurs established on the islands was undertaken. Finally, three attractiveness indexes are calculated: the direct, the indirect and the assets attractiveness index.

The Direct Attractiveness Index comprises parameters directly affected by insularity, such as accessibility and agglomeration economies. Insularity affects accessibility negatively regardless of the point of view of the islander or the visitor of an island. **All islands have an accessibility index lower than the European average,** even if sea transport is not taken into account**. Cost in time and money, as well as reduced choice**, are clearly much higher on islands than on the continental mainland.

The islands with at least one Functional Urban Area (FUA) of local importance are only 25; **only two islands cities –Palma (Mallorca) and Valletta (Malta)- have higher functions than the average of European cities.** Generally, as insularity implies isolated and small markets, monopolies and oligopolies are more often the reality than free competition; therefore, prices for transport and goods are higher compared with prices on the continental mainland. For the same reasons (small scale, territorial discontinuity) the provision of services of public interest and of private services is very unequal; in some cases (mainly in the Nordic and Scottish Islands), the national state covers the extra cost by providing a minimum service.

Human capital is a major problem on islands, and especially on the Mediterranean ones: **the education level is particularly low even for islands with high GDP per capita and presence of a University**; low trends of lifelong learning worsen this. On Nordic islands, human capital is better prepared to face new challenges, but even there the conversion from 'traditional' occupations is challenging.

Information Society penetration and R&D activities follow the same pattern: the indicators for Mediterranean islands are even worse than the national ones that are already lagging behind the European average; Kriti and Corse are the only ones with high values.

Social capital components (Level of satisfaction with public issues, interest and participation in politics, levels of social trust and participation in social networks) **reveal a statistically significant difference between north and south in all parameters but one**: institutional trust. Feelings of safety are higher in smaller islands. It has to be underlined that this feeling of safety and security is one of the few parameters receiving a positive score.

Islands are important depositories of natural and cultural assets (such as specific habitats and endemic species, monuments, historic sites, landscapes and seascapes); these however are under pressure as long as the predominant development model is based on mass tourism and the construction industry does not assign much priority to their management and conservation.

The Direct and the Indirect Attractiveness Index confirm that **islands score particularly low for all the variables analysed;** this appears to be the **cause of the low performance** of islands compared to the European mainland. Attractiveness and performance is even lower for small islands and archipelagos. The Attractiveness Potential Index

confirms that natural and cultural assets constitute a key potential resource for a significant number of islands.

Finally, the findings of the research to locals on the attractiveness factors reveal that islanders consider the quality of the health care system, trip frequency, job opportunities, regularity of water supply, quality of life and quality of education as the most important factors of attractiveness for living. The most important factors for businesses are: trip frequency, economic incentives, regularity of water supply, development vision of local authorities, regularity of energy supply and travel cost.

Therefore, **insularity** has to be considered **a permanent feature affecting negatively**, directly and indirectly, **the attractiveness of islands** and subsequently lowering their performance in terms of sustainable development. These characteristics of islands are **not compatible** with attractiveness principles of the dominant development model, which is characterised by *mass production* of standardised goods and the knowledge intensive and highly multi-specialized urban economies. Activities on islands:
a) Can not enjoy the privilege of economies of scale as islands are characterised by limited variety and quantity of resources;
b) Can not have good accessibility and low transport cost, as islands are isolated and remote areas;
c) Can not profit from agglomeration externalities as islands have limited markets and activities.

Options for policy development
The fact that islands have specific geographical characteristics and permanent handicaps should not lead to the conclusion that islands are handicapped territories. On the contrary, this study supports the view that islands need an adequate strategy in order to **valorize these characteristics** within the European context and the global environment. This strategy has to make use of the characteristics of insularity as advantages and opportunities, rather than structural disadvantages and vulnerabilities.

Concerning the **Strengths** of the islands, the main comparative advantages are: the quality of life and the quality of their natural and cultural assets; high density of natural and cultural capital; and a strong cultural identity, combined with the fact that islands have low nature fragmentation by artificial surfaces. This advantage is threatened by tourism and residential house sprawl and it is not

particularly valorized to create new wealth and employment (cultural professions, environmental management and quality food).

Concerning **Weaknesses**, insularity affects directly and permanently some of the most important attractiveness parameters of islands: accessibility, public interest services, private services and networks, economies of scale, market organisation.

Opportunities and Threats parameters such as climate change, energy prices raise, water scarcity etc are quite common for all islands regardless of their size, location and development level. Opportunities have to be seized as now the need *"involves upgrading the business environment through 'soft infrastructure'.* New technologies in communication, in information, in renewable energy, in recycling resources etc., the importance of leisure activities, the human aspiration towards quality and environment have to be used in a new islands' strategy.

This strategy needs to adapt to islands' specificities and needs the guidelines of the 2020 European strategy. Priorities of such a strategy for Islands could be:

- Quality islands: In spite of the consequences of size and insularity (small market, low accessibility), there are various examples where islands' products based on local resources and know-how are competitive. This success can be extended to services' production such as tourism, instead of consuming the islands' limited resources for a mass activity. New knowledge, innovation and skilled human resources are prerequisite for the success of such a strategy that has to be niche "oriented".
- Green islands: is a priority linked with the limited natural resources of islands; the strategy lies on reduced use of resources such as water, land, energy and a recycling of waste produced both by enterprises and the local population.
- Equal opportunities islands: is a priority linked with the goal for equal access of all European citizens to Services of General (Economic) Interest (SGI) -which are a *sine qua non* condition for quality of life and competitive entrepreneurship- as expressed initially in the European Spatial Development Perspective. The relevance of SGI for economic, social and territorial cohesion is underlined in the Lisbon Treaty (article 14 and protocol 26).

The implementation of such a different strategy for islands requires nevertheless the appropriate policy adaptations at all levels: European, national and regional/ local. In this context, based on the **subsidiarity**

principle of the EU, a set of relevant European policy options may form a European policy framework to support European islands to tackle their specific situation by responding to the problems arising from their permanent natural or demographic handicaps (i.e. insularity), as well as to utilize the opportunities emanating from their rich natural and anthropogenic environment and cultural heritage. The aim of this European policy framework should be to **improve the attractiveness** of the islands, giving them the opportunity to compete on an equal footing within the European single market, and finally ensure the sustainability of their development.

Other principles have to be followed in order to achieve territorial cohesion. These include: (a) the respect of the provisions of the Lisbon Treaty towards the regions with permanent natural or demographic handicaps (articles 174, 175 and 170); (b) the provision for equivalent opportunities to all European citizens to achieve their goals; (c) the respect of the principles of proportionality and subsidiarity; and (d) the promotion of endogenous development.

In addition to the above principles, a policy framework for the European islands should respect differences among islands arising from the different intensity with which the insularity characteristics act on attractiveness and the overall performance (as expressed by the State Index) of the European islands. The intensity of policy options, as well as the funds, should be adjusted accordingly.

Currently, the EU reconsiders its Cohesion Policy to incorporate territorial dimensions and it would be useful to **examine how specific territories (such as islands) could benefit from a different treatment** by addressing their attractiveness concerns (priorities) within the "new" European policies in order to be able to fulfil their sustainability goals (including the islanders' well-being). Policies and Financial Instruments should be adapted to take such territorial needs into account.

Within this context and on the basis of the previously quoted principles, a European policy framework for the islands could be governed by the following three general strands:

A. Possibilities for adaptation and better coordination of European policies, especially among the ones that have a strong territorial impact, in order to take into account islands' specific characteristics and potentialities.

- **Design and implementation of integrated multi-sectoral and multi-fund programs** and interventions at the island level, with the goal to achieve the highest value impact for the territory, increasing its attractiveness for both residence and entrepreneurship.
- **The Impact Assessment** (IA) that should be launched for every EU policy and program has to include "islands" as a specific category of territory.
- The creation by the Commission of the **Inter-Service Group** on Territorial Cohesion, comprising of representatives of various Directorates General, has to be considered as a substantial step forward towards the coordination of European policies
- A more **complete system of criteria**, using as a base the State and the Attractiveness Indexes, could complement the use of GDP per capita as indicators for determining regions eligibility and policy intensity for financing by the EU Cohesion Policy. Furthermore the **eligibility rules** included in the regulations should apply in the case of island territories in such a way that provides full range eligibility of actions.

B. Possible adaptation of some European Sectoral Policies with an explicit spatial dimension in order to take into account the specific characteristics of islands. Such policies could include:

- Transport Policy: accessibility is a vital concern to ameliorate the attractiveness of an area, and the TEN-T has to encompass **a real multi-modal** policy that has to be applied on islands as well. The creation of maritime and air corridors between the European mainland and the islands by financing the fix and the mobile infrastructures can contribute to this direction. Diminishing the transportation cost of goods and persons by applying of the territorial continuity principle and amelioration of the EU Regulation No 3577/92 have also to be undertaken.

- Energy Policy: A combination of the "Energy-efficient Europe" and the "Green High Tech" scenarios has to be adopted based on: (a) more "energy-efficient islands" leading to a decrease of the per capita consumption and the development of technology on renewable energy; (b) the new industries around green energy sources such as wind power, tidal power, solar power and biomass have to incorporate the scale of the islands and the fact that natural and cultural landscapes and biodiversity are nowadays the most important assets that islands possess; and (c) the connection of islands to the European mainland's network.

- Environmental Policy: Considering that on islands: (a) environmental resources such as water, land, wetlands are limited

and valuable and (b) they are their main comparative advantage of islands for high added value, competitive "qualitative and green islands", an integrated approach should be adopted to achieve sustainable use of the fragile natural assets for the fulfilment of local population needs. **The adaptation of Environmental priorities** is necessary to take into account the specific needs of small and isolated populations within a rich but fragile environment; reduce the use and increase the reuse of scarce resources such as water, land, energy through an integrated approach is also a goal. Mitigation of the climate change impacts have also to be addressed.

- Rural Development Policy: the reinforcement of the Rural Development Policy and especially LFA-type measures to produce high quality and high added value food products within a high quality environment and landscape could be the main goal. Additionally, the support of pluri-activity, innovation, lifelong learning, networking (intra- or inter- island) and local governance (on the island level). The LFAs concept needs to focus on Specific Territories with permanent natural handicaps **to ensure more efficient financing**.

- State aid: The Treaty on the functioning of the EU (article 107, 3,c) allows aid to be used to facilitate the development of certain areas where competition is not affected ("category c" regions). In this category areas with a GDP per capita below the EU-25 average, those with unemployment more than 15% higher than the national average or with major structural changes as well as regions with permanent obstacles (islands with a population of 5000 or less, regions with low population density etc.) are included. As it is applied, this principle means that an island of 6000 inhabitants affects competition more than a central continental area with some million inhabitants and high unemployment rate. The criteria of this "category c" regions have to be reconsidered to take into account the population level and the attractiveness parameters of different EU regions. **Such a modification would include all EU island regions and islands in this category**. The amount of aid to the enterprises of these areas has also to be increased and modulated according to their level of attractiveness.

C. Ideas on compensation of the "cost of insularity" that island-based entrepreneurs and inhabitants bear in order to acquire the same level of services and goods as European mainlanders whether referring to the construction of basic infrastructures or the provision of basic public services:

- **General Interest Services (infrastructures and their operation)** such as Transport (including fixed and mobile infrastructures), Communication, Health, Education, Energy, Water Management, Waste Treatment using the "territorial continuity" and proportionality principles as a basis for the calculation of the cost of insularity.
- **For starting up and operating insular enterprises (especially the very small ones)** with a State Regional Aids System that "positively discriminates" small insular enterprises and self-employment especially when these focus on "qualitative and green islands", incorporating innovations and qualitative employment. The reduction of the VAT for productive activities undertaken on the islands (external transport included) in order to compensate part of the extra operational cost is another measure that could support small island based enterprises.
- **Consulting** (via the creation of permanent structures and networks) to entrepreneurs for R&D and innovation, management, design of new products and services, access to new capital and new markets, etc.
- **Local acquisition of services** that cannot be produced locally such as the access to hospital or university services, to cultural activities, to information, etc.
- **Training and life long learning** of employers, self-employed, employed and unemployed people adapted for small and isolated populations.
- **Support for the traditional sectors and activities** such as fishing, farming, herding, crafting, artisanal production, etc. that are tightly associated to the identity and the quality of islands' lifestyle but which cannot compete with the large mainland areas.

The above policy measures produce outputs that influence different parameters of attractiveness. The proposed policy options focus more on the necessary structural changes (i.e. entrepreneurship, human capital, R&D-innovation, SGI, protection of natural assets etc.) that can have medium to long term positive impacts on the sustainability of islands. They do **NOT propose direct income increase** that may produce immediate positive impacts for the local population but when the transfer of money stops, these end.

Need for further analysis/research

The analysis has highlighted three different areas for further work:

A) Concerning the **implementation and monitoring of a policy adapted to the specific characteristics and needs of the islands**, the following obstacles have to be addressed:

- The non-availability of data at the island level;
- The estimation of "the cost of insularity";
- The use of composite Attractiveness and State Indicators instead of the per capita GDP indicator;
- The creation of a new Multimodal Accessibility Index.

B) Concerning the **concepts and tools used for the analysis**, the following improvements are recommended:
- The concept of "Territorial Cohesion";
- The concepts of *"Attractiveness"* and *"Equity of opportunities for all the citizens of EU"*;
- The impact assessment of EU policies tool, the TIA**;**

C) Improve the data collection system with a particular emphasis on environmental variables in order to establish a monitoring system**.**

B The Report

0 Introduction - The scope and the context of the study

The scope

According to the specifications of the project: *"The aim of the EUROISLANDS target analysis is to deliver an appropriate reference work and a set of policy recommendations and strategic guidance to foster the sustainable development of the European islands within the framework of the Single Market, ensuring equal terms and opportunities with other non-handicapped regions"*. The envisaged results are:

- An in depth knowledge of islands' situation and an evaluation of their divergence from the European average;
- An analysis of the islands' future from a European perspective;
- A general evaluation of existing policy measures for the islands and an analysis on policy options than can be adopted.

The context

During 2008 the Commission of the European Communities issued its *Green Paper on Territorial Cohesion: "Turning territorial diversity into strength"* following the recommendation for such a move by the EU Ministers responsible for Regional Development and Spatial Planning in Leipzig (2007). This Green Paper constitutes the latest in a series of developments following the inclusion within the Treaty of Lisbon of the Territorial Cohesion principle as a fundamental aim within the European Union, alongside the long-term goals of economic and social cohesion. Briefly stated, through the pursuit of territorial cohesion the European Union acknowledges the spatial dimension of all policy instruments and the need of a spatial coordination in order to improve their effectiveness. In simple terms this means that **there is now a good understanding that geography matters and 'one-size-fits-all' policies do not necessarily meet the realities of all places in an equitable fashion**. Thus, Territorial Cohesion constitutes a strong step reflecting the European policymakers' explicit recognition that the development of different regions throughout the Union is highly contingent both on spatial characteristics and historical events. The underlying principle behind Territorial Cohesion is that all regions throughout the EU should improve their competitiveness and through this, enhance the quality of life of their citizens whilst ensuring that environmental (natural and human built) resources are not compromised.

For the Commission: *"Territorial Cohesion is about* ***ensuring the harmonious development of all the European places and about making sure that their citizens are able to make the most of inherent features of theses territories****. As such, it is a means of* ***transforming diversity into an asset*** *that contributes to the sustainable development of the entire EU"* (EU, Turning territorial diversity into strength, 2008, p.3, our emphasis). The European Commission also underlines that: "*many of the problems faced by territories cut across sectors and effective solutions require an* ***integrated approach and cooperation*** *between the various authorities and stakeholders involved. In this respect,* ***the concept of territorial cohesion builds bridges between economic effectiveness, social cohesion and ecological balance, putting sustainable development at the heart of the policy design***" (p.3, our emphasis).

Why Islands?

An important subset of regions that deserve targeted attention within this concept of territorial cohesion are Europe's numerous islands; they share a number of traits but also challenges that in the past have rendered blanket European-level and national policies and programs relating to various sectors (e.g., the environment, research and development, transportation, energy, communication) largely ineffective. Islands, of course, more often than not, face, albeit to varying degrees, a number of handicaps compared to their mainland counterparts[2], including limited accessibility, isolation, high dependence on a narrow range of economic activities, and tiny internal markets. Furthermore, the islands' small size means that they have few resources on offer and, thus, the need to use these resources in a sensible and sustainable manner assumes an even higher degree of urgency than in larger mainland regions.

The Treaty on European Union in its *Article 174* (ex Article 158 TEC) states: "*Among the regions concerned, particular attention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and island, cross-border and mountain regions*". The Green paper on Territorial Cohesion underlines that "*Island regions, which in many cases are mountainous and more than half of the population also live in a border region include 6 of the 7 outermost regions. (…) Some 3% of the EU population, 14 million, lives in island regions. Their*

[2] Island states should be excluded from this comparison.

diversity makes generalisation difficult. These regions vary markedly in population size and GDP per head. Their GDP growth has also varied, reflecting differences in their economic structure with some being wholly dependent on tourism and others with strong diversified service sectors. The population increased in most of these regions between 1995 and 2004. Yet, many islands remain confronted with problems of accessibility, of small markets, and of high cost of basic public service provision and energy supply".

In this study, all European islands are considered, except of outermost island regions. Overall, 362 European islands with population more than 50 inhabitants plus 228 more with population less than 50 inhabitants (Table 1 and Map 1).

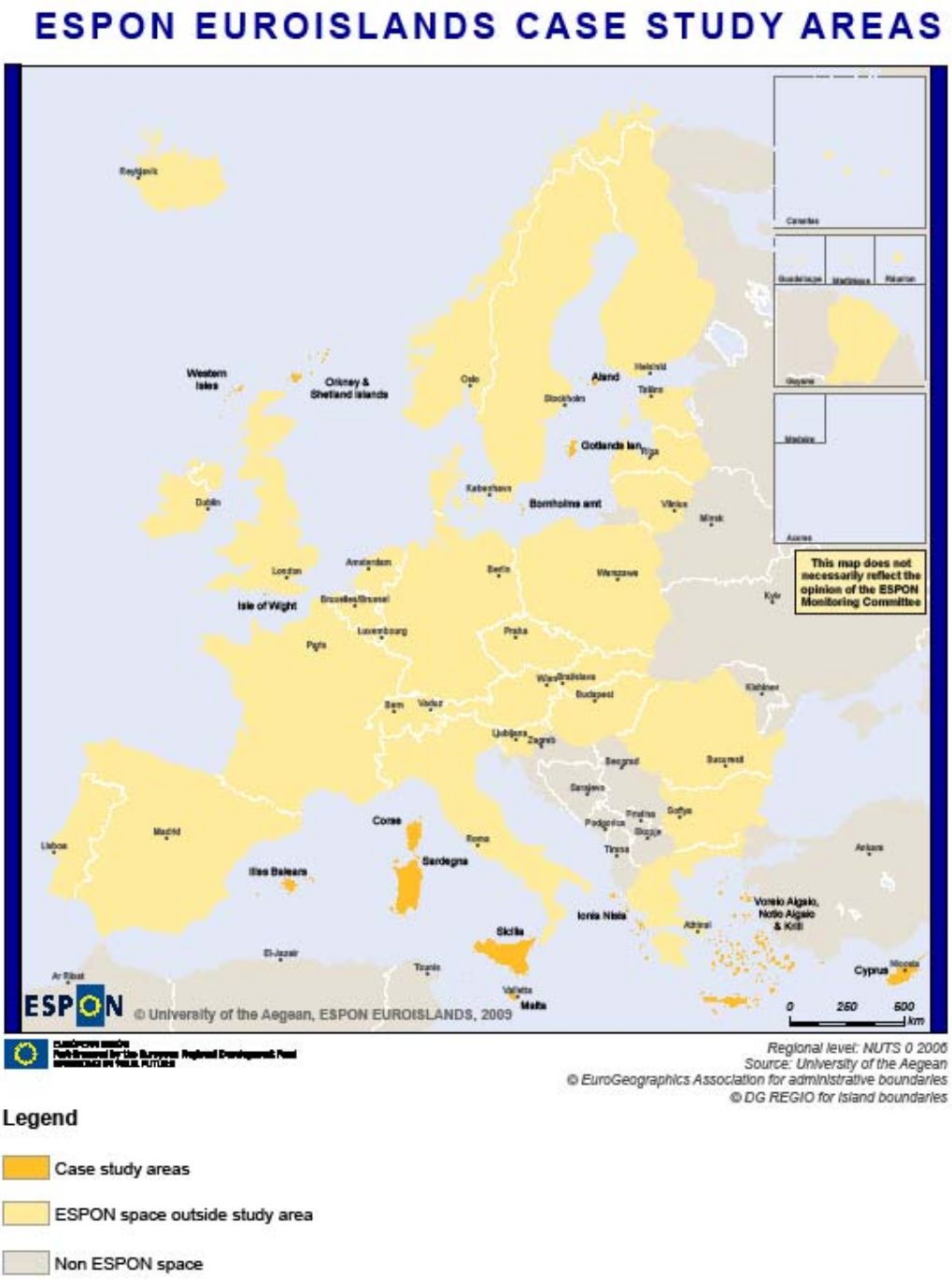
Table 1: Classification of islands according to their population

Category	Population size	Number of islands
Large islands	more than 50.000 permanent inhabitants	15 islands of which 5 have more than 500.000 inhabitants (Sicilia, Sardegna, Mallorca, Cyprus, Kriti)[3]
Medium-sized islands	between 5.000-50.000 permanent inhabitants	44 islands
Small islands	between 50 and 5.000 permanent inhabitants	303 islands
Very Small Islands	less than 50 permanent inhabitants	228 islands

The report is structured as follows:
- Section 1 presents the diagnosis on islands' state and the principal findings on islands' attractiveness as it affected by insularity;
- Section 2 analyses the islands' future potential from a European perspective
- Section 3 focuses on the impact assessment of European policies in islands and on policy options;
- Section 4 focuses on the need for future research as well as proposals for overcoming data gaps.

[3] Recently DG REGIO has examined an alternative typology of islands based on the population of the most populated island in the region (Annex I, p.18); this classification distinguishes the islands with more than 50.000 inhabitants in 5 categories.

Map 1: The Study Area



The basic assumption underlying the overall approach followed in this study is that **in areas no longer attractive for establishing competitive economic activities and attracting population, the socioeconomic base will shrink.** This will lead to divergence from EU and national goals for sustainable development, economic, social and territorial cohesion. Islands are considered, among other areas, as non attractive places for permanent living and/or for businesses today. Can permanent factors related to insularity, external or internal socio-economic and environmental parameters, be blamed?

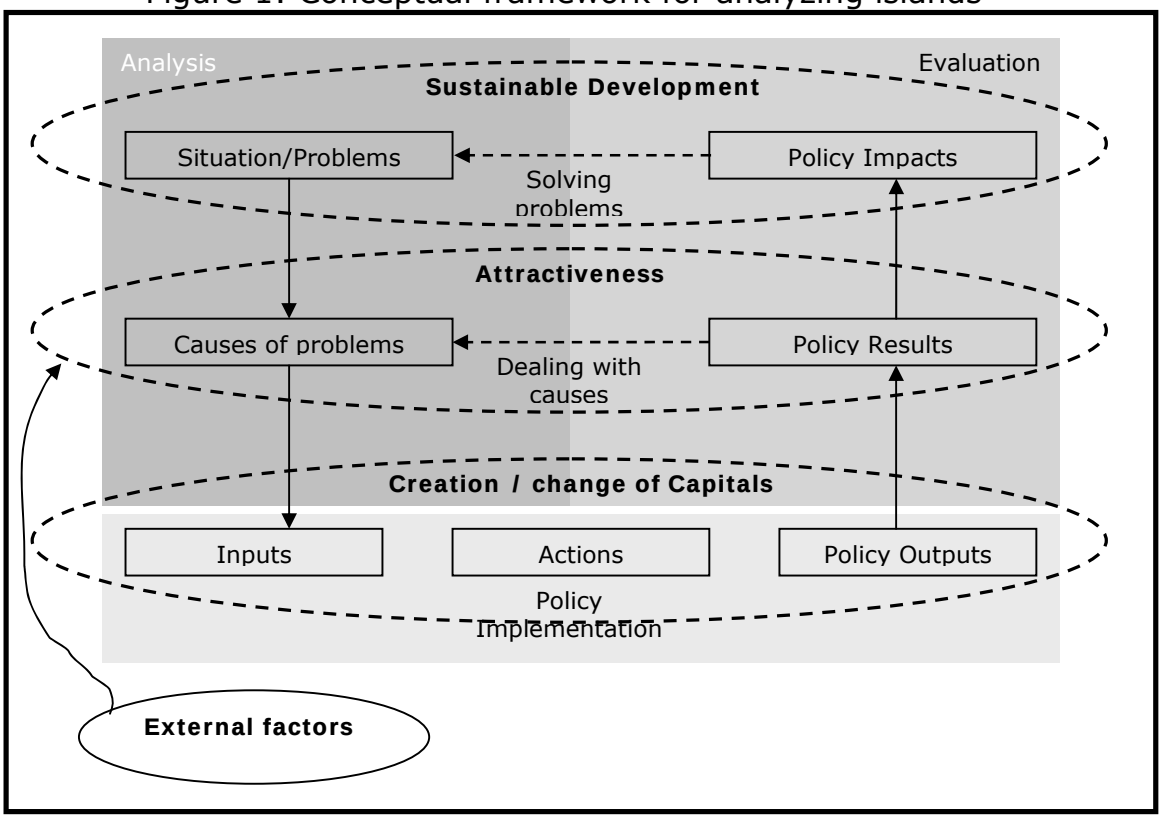
In order to achieve the envisaged results, three questions will be addressed: (a) What is the situation of Europe's islands within the context of sustainable development? (b) What has caused this situation? And how insularity affects attractiveness; (c) What policies would be appropriate for increasing the attractiveness of islands and ensure that their development meets the tenets of sustainable development?

Within this framework the concepts of attractiveness and sustainability are integrated within a common context with policy implementation in the following way (Figure 1): the analysis of the situation reveals the problems that islands face, with their causes being their low attractiveness[4]. Out of this analysis the need of policy measures (inputs) is brought forward in order to face low attractiveness. Policy outputs have to address attractiveness problems (results) in order to achieve sustainable development goals (impacts). Policy action has to create more and/or to ameliorate and/or to preserve and/or to improve the different forms of capital of an area (human, social, man-made -physical- and natural capital) as a precondition to achieve sustainability goals.

The analysis is based on information from: (a) 31 Island regions that are European statistical units (Member States, NUTS II or NUTS III), (b) 9 case study islands, for which data is acquired with the use of local research and the assistance of local stakeholders. Additional information has been used from other European islands (not belonging in (a) and (b) groups above) in order to have a more complete image. So, all the different types of European islands are covered within this analysis.

[4] A review of bibliography on Insularity and Attractiveness is in Annex IV

Figure 1: Conceptual framework for analyzing islands



1 Diagnosis, trends, impacts: An in depth knowledge of islands' situation and an evaluation of their divergence from the European average

The following analysis is based on the key variables used for the construction of the State and the Accessibility indexes. Detailed presentation of the findings and the statistical information of the study is included in the scientific report.

1.1 The State of the European Islands

The answer to the first question is very important for the whole project: **What is the state of European Islands within the context of sustainable development?** Five indicators are used to describe economic effectiveness, social cohesion and environmental conservation within the state index.

GDP per capita

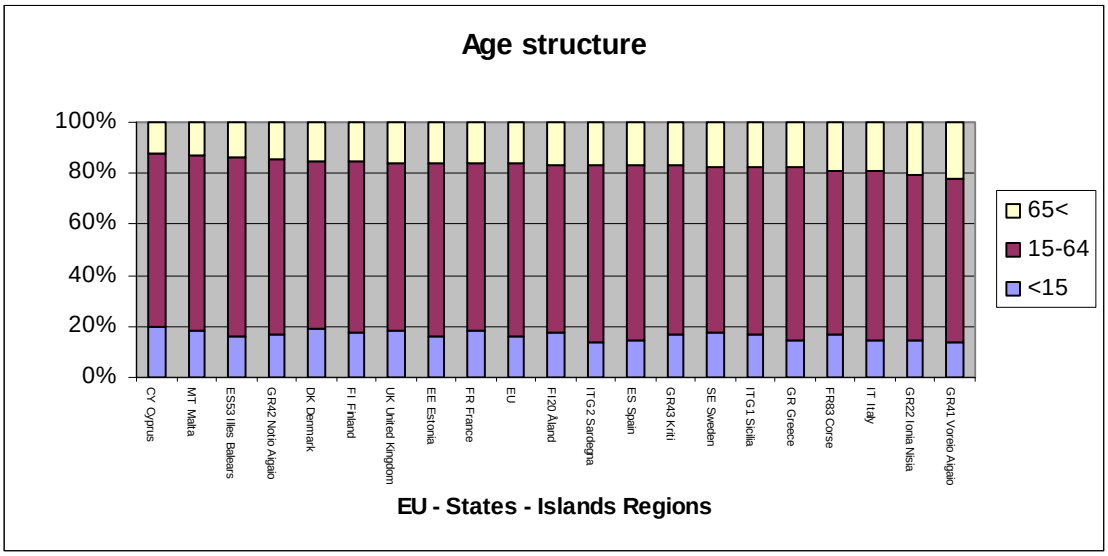
The majority of NUTS 2 and 3 islands (24 out of 31, island states included) have GDP per capita (in PPS) below the EU27 average (79,2

in 2006 with EU27=100), while its distribution was only at 20,3 when for the EU-27 was at 50,0[5]. **Only Aland, Illes Balears (NUTS 2), Shetland and Kyklades (NUTS 3) perform better than the European average** (146,7, 114,1, 110,9 and 104,0 in 2006 respectively) and Aland, Illes Balears and Kyklades better than the national average (Map 2). **In general the process of economic convergence is slower than for the rest of the EU regions**.

Age structure

Low fertility rates combined with an extended longevity result in the demographic ageing of EU population and the share of the population aged over 65 is increasing (17% in 2007, EUROSTAT, Regional Yearbook, 2009). The percentage is higher than 20% in countries such as Germany, Italy, Greece, France and Spain. For islands, in regions such as Voreio Aigaio and Ionia Nissia the percentages are 21,8% and 20,8% respectively, while in other island regions the percentages are closer to the average (Corse at 19%, Sicilia at 17,4%, Kriti at 17%, Sardegna at 16,7%, Aland at 16,6%), or lower (Notio Aigaio at 14,6%, Illes Balears at 14%, Malta at 13% and Cyprus at 11,9%, Graph 1).

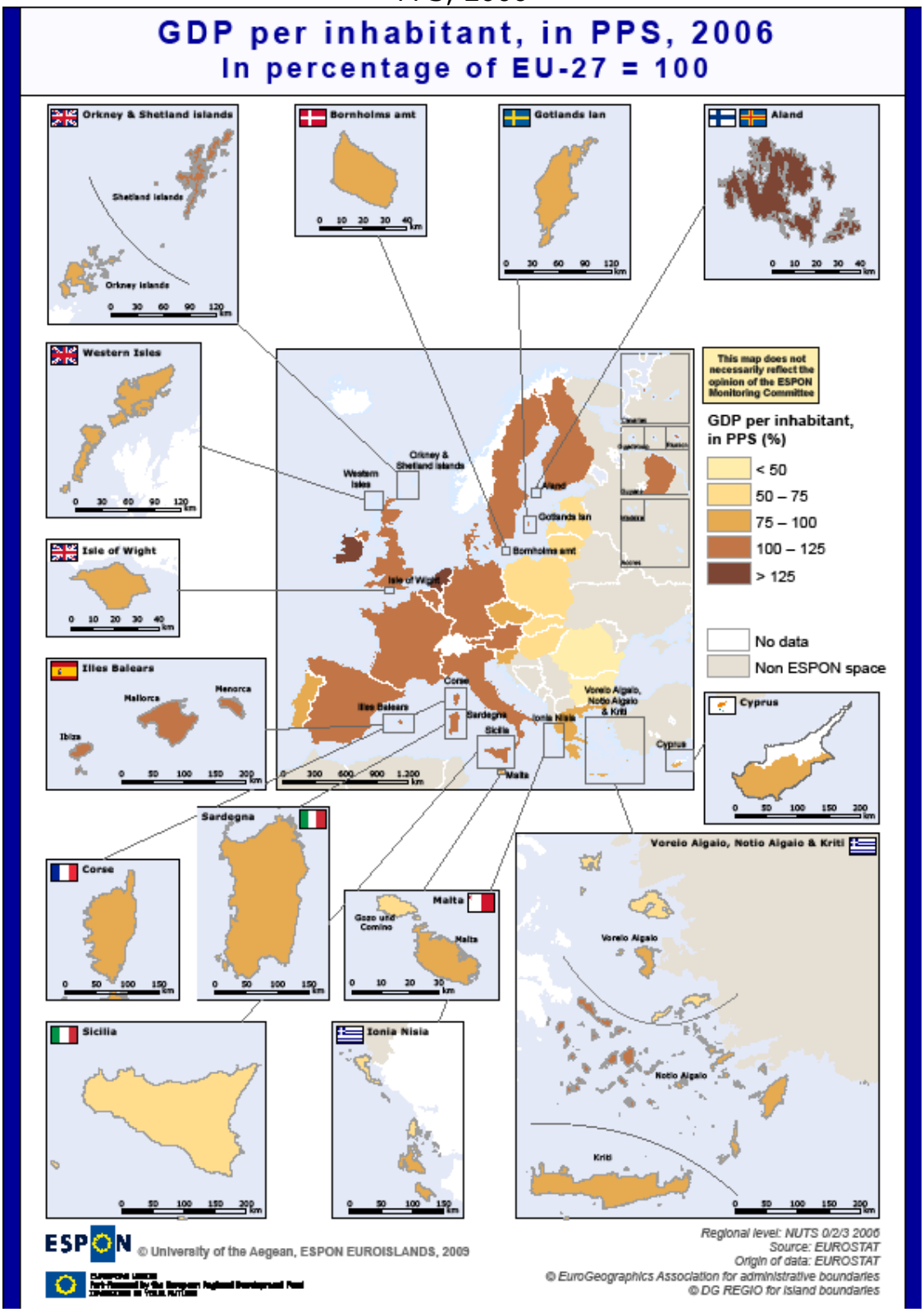
Graph 1: Population Age Structure (2006) EU average, Member states, NUTS II islands



Source: EUROSTAT web database, 2009

[5] EU, 2009, Territories with specific geographical features, n° 02/2009, table 3.1, p.8 and table 4.1, p.9

Map 2: GDP per inhabitant of Member States and island regions, in PPS, 2006



Data from the case studies are more extreme: on Kalymnos only 11,1% of population is over 65 due to the very high fertility rate, on Lipsi and Lipari 18,4%, on Saaremaa 18,3% and on Kokar 24,8%. For young people, the corresponding data are 16,1% for Lipari, 14,9% for Kokar, 14,4% for Saaremaa, 19,1% for Lipsi and 20,4% for Kalymnos. **This implies that the percentage of the dependant population is very high on small islands.**

Economically active Population and Employment Rate

These two indicators are important as they give an indication of the dynamism and the competitiveness of the local economy. Demography influences the supply of labour but the economic performance creates jobs opportunities and demand for labour in terms of numbers and skills.

Economically active population rate is more influenced by demography as it reflects the percentage of the young (<15) and the old (>65) population of the area. Only 4 island regions (Zakynthos, Eivissa i Formentera, Aland and Gotland) out of the 28 island NUTS 0, 2 and 3 areas (EUROSTAT data base, 2006) have a score better than the EU average 54,5% (Table S.3.1.4 – Map 3)

Employment rate has to do more with the possibility of a person on active population to find a job. UK's and Denmark's regions, most of the Swedish, Dutch and some German regions exceed the 63,3% of European average of active population rate. Aland is among them with 77,6% (EU, 4th Report on Economic and Social Cohesion, 2007). In the Mediterranean, some of the regions with the worst performance in Europe are located, together with many regions in Eastern Europe: Malta with 53,9% Corse with 52,8%, Sardegna with 51,6% and Sicilia with 44,1%. Voreio Aigaio has also a rather low score: 56,8%. The other regions perform better with a score around the European average: the Illes Balears Region with 67,9% is almost approaching the Lisbon target (70,0%) followed by Kriti (64,9), Cyprus (64,5%), Ionia Nissia (64,0), and Notio Aigaio 63,0 .

The same pattern is observed for female activity: with a European average at 55,9%, Aland is the leading region with 76,7% followed by Cyprus (58,4%) and Illes Balears (57,5%); while Sicilia and Malta have the lowest scores (28,1% and 32,1% respectively).

What stems from the above is that Aland -following Nordic trends- and *the tourism influenced islands* (mainly Illes Balears, Cyprus and Notio

Aigaio) have higher employment rates than the EU average and the rest of the island regions.

Unemployment

With an average EU 27 rate at 7% for 2008, East Germany, Poland, many Finish regions and a big part of the Mediterranean regions face serious unemployment problems (EUROSTAT, 2009). In 2007, this EU27 average was at 7,5% compared to 11,6% for island regions (EU, 2009, p.8). Among these regions, Sicily, Sardegna, Kerkyra, Zakynthos, the Dodecanese and Corse perform worse, while Aland and generally the Nordic islands perform better (Map 4).

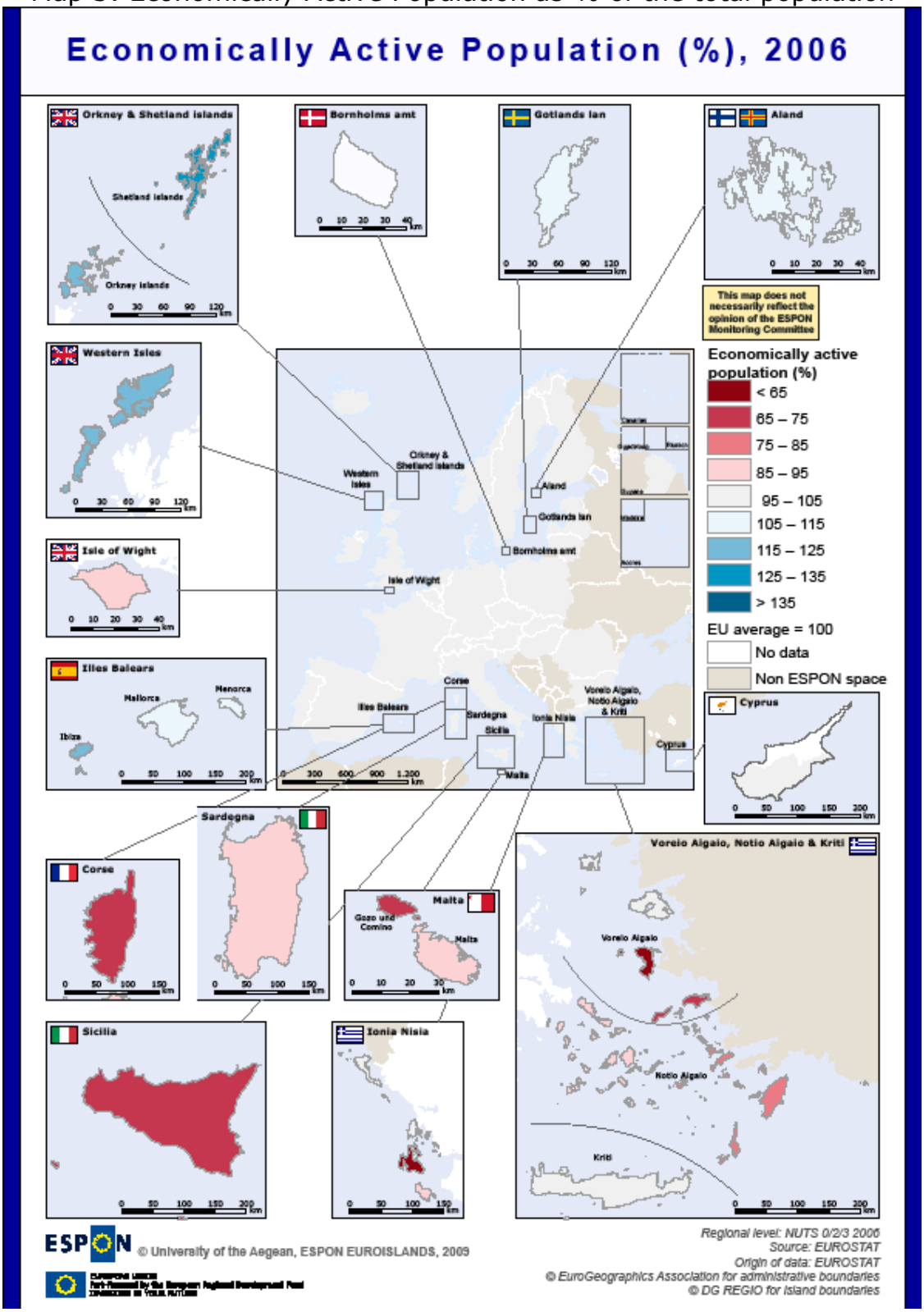
Land use and land cover - Artificial area

The part of the area under artificial cover is the first indication of existing pressures. In this study, the analysis of artificialization is limited to the nine case study islands with the use of Corine land cover data. On three of them (Malta, Gozo and Lipari), the artificial areas are more than 10%. In Malta and Gozo, natural areas cover a limited part of the islands (18,7% and 33,8%) and the rest of the area is dedicated to agriculture. On Lipari more natural areas (57,2%) and less agricultural lands (18,6%) are found. Cyprus and Mallorca follow with artificial surfaces, with 7,5 and 5,5% respectively of their total surface. The tourism and the residential economy in general are the driving forces for this evolution; it has to be underlined that tourism, real estate and construction sector are important activities in almost all the islands and more particularly in the Mediterranean ones.

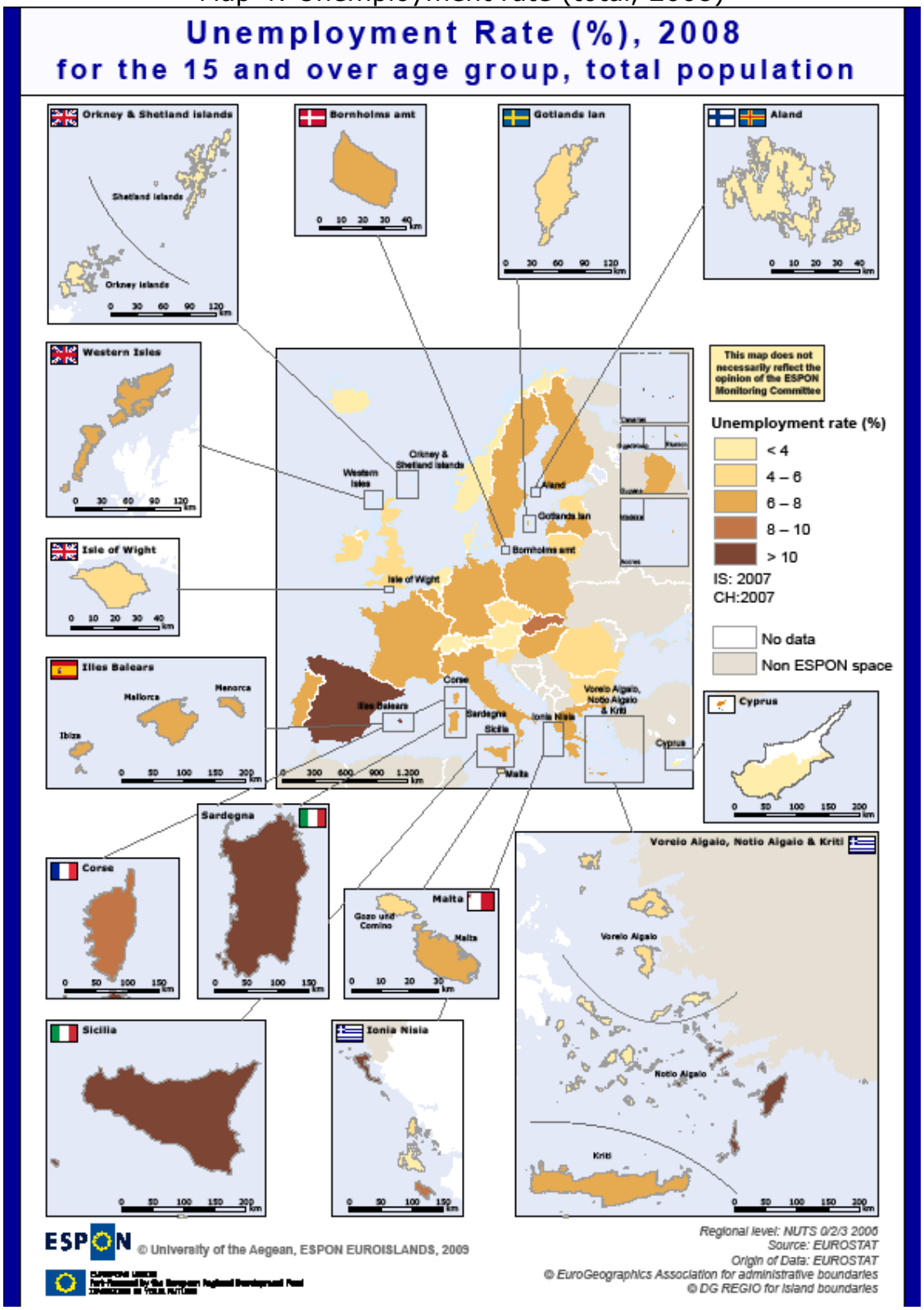
The findings of this analysis are summarised in a **State index** (see the Scientific Report for a detailed analysis) based on the following variables:

- GDP per capita;
- Active population rate as percentage of the total population;
- Unemployment rate;
- Percentage of population older than 65 years of the total population;
- Percentage of artificial land of the total area;

Map 3: Economically Active Population as % of the total population

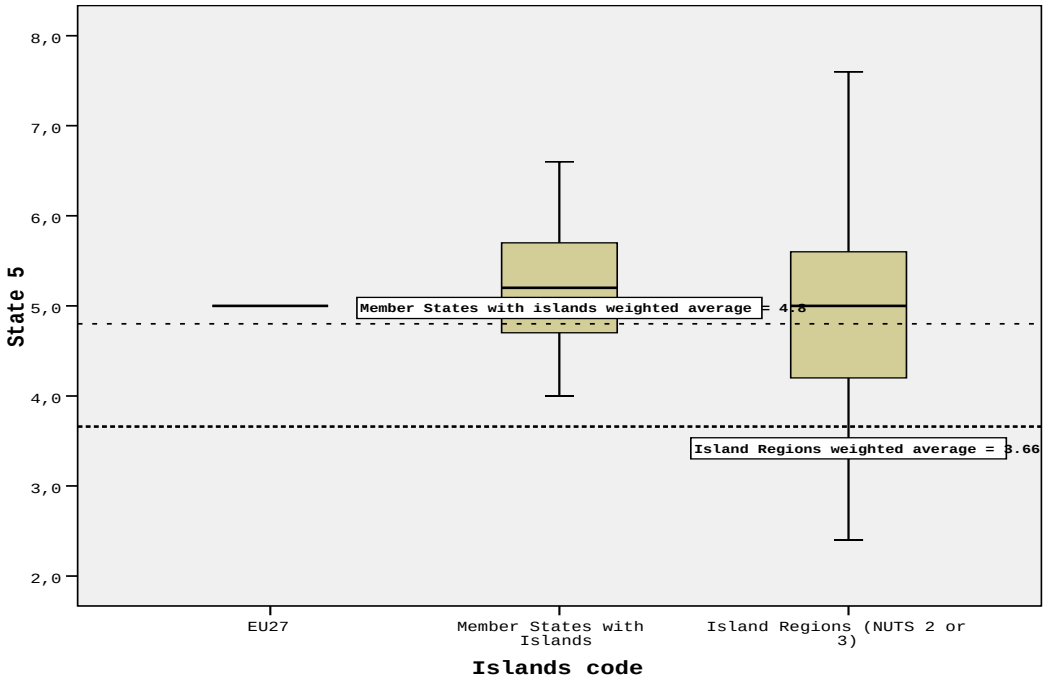


Map 4: Unemployment rate (total, 2008)



The values of this index demonstrate clearly that the **average of island regions is lower than that of the EU-27, but also lower than the average of the States with island regions** (graph 2). The data of the GDP, total and active population evolution underline a recent dynamism as islands have better scores than the EU-27 average. But, this performance, which is not based on an improvement of the competitiveness of their economies, seems unable to reduce the development gap between the islands and the European mainland.

Graph 2: Box Plot of the state index for the EU27 average, the Member states with islands and island NUTS 2 and 3 regions



The graph confirms the significant disparities observed between islands. A Principal Component Analysis was firstly used to classify the island regions into groups and it was followed by a Discriminant Analysis for the verification of these groups (see the Scientific Report for details)[6]. These results, combined with the islands population size, are presented in Table 2.

[6] Some of the islands can be classified as belonging to either groups; Orkney and Zakynthos can be classified either with the performing islands or with intermediate ones; Kerkyra and Sardegna are between intermediate and lagging islands.

Table 2: Classification of NUTS 2 & 3 island regions and the case study islands

Size / state	Big islands	Medium	Small
Performing islands	**Mallorca** Menorca Eivissa - Formentera **Cyprus** Gotland	Åland * Shetland* Orkney* **Lipari**	
Intermediate islands	Kriti **Malta** ***Sardegna*** Isle of Wight *Dodecanisos** (Rodos) *Kerkyra*	Bornholm Kyklades* Zakynthos Western Isles	**Samso** **Kokar**
Lagging islands	*Corse* *Sicilia* Lesvos	Kefalonia Chios Samos Gozo Lefkada **Kalymnos** ***Saaremaa***	**Lipsi**

Notes: - The islands in bold are the case study islands.
- The islands in italics are the ones with high unemployment rate.
- With asterisk: Archipelagos. Sicilia, Sardegna and Kerkyra are also archipelagos but the biggest island totally dominates the region.

- **The performing islands**: In this first group Åland, Illes Balears, Gotland, Cyprus, Shetland and Orkney are characterised by a positive state drawn by a rather performing but fragile economy. The bigger islands (Illes Balears and Cyprus) among them owe this to economic specialization (mass tourism-construction plus off-shore activities for Cyprus) and face high environmental pressures due to the characteristics of tourism. Gotland (a big island) and the medium size archipelagos regions of Åland, Shetland and Orkney owe their performance to external parameters: the public sector (the GVA of the public sector for Gotland is 41,2%), a specific fiscal regime for Åland and the oil extraction platforms close to Shetland, rather than the utilization of local comparative advantages. In the case of Shetland and Orkney the presence of an important primary and manufacture sector (about 24% of the GVA) seem to make the difference from other islands with just an important public sector.
- **The intermediate islands**: In the second group there are ten islands/group of islands with results around the average performance of all islands: some of the islands have an important

tourist activity such as Zakynthos, Kyklades, Dodecanisos, Kerkyra, Isle of Wight and Kriti; Malta and Sardegna have a balanced but not very performing economy; performances on Bornholm and Western Isles together with Isle of Wight are based on an important public sector.

- **The lagging islands**: Chios, Lesvos, Samos, Kefalonia, Lefkada, Gozo, Corse and Sicilia, have low attractiveness (except Corse) and a low performing economy influencing negatively all the examined parameters.

1.2. The low attractiveness of islands as an obstacle to their economic and social sustainability

The second question of the analysis concerns **"the causes which have led to the current situation**" linking the existing situation of the area (the state of sustainability) with its level of attractiveness (representing the "causes").

The concept of insularity is the connecting link, the common characteristic of all islands regardless of their size, population and development level. Insularity expresses 'objective' and measurable characteristics, including small size (area and population), isolation and remoteness, as well as unique natural and cultural environments. However, it also involves a distinctive 'experiential identity', which is a non-measurable quality expressing the various symbols that islands are connected to. More specifically, islands are spaces which are shaped by but also which shape the experiences of the people who live there, whether these are local inhabitants who have been there all their lives, returning islanders, visiting mainlanders, or retirees from other countries. Finally, within islands there is also a conceived or representational reality arising from their place in myth, folklore, literature, and history as places of escape, allure, paradise, refuge, but also incarceration. Thus, islands can be thought of as objects '*of the mind*' as well as '*physical*' objects. Practically, "insularity" is composed by four characteristics[7]:

A. <u>*Small Size*</u>: More often than not, islands are small both in terms of areal size and population compared to European mainland. Their small population results in a limited internal market and constrained local demand for commodities and services, as well as limited workforce. This, in its turn, limits scale and concentration

[7] Islands are characterised by the features of the other specific areas as well: most of them are mountainous; they constitute internal or external European boarder areas and some of them are sparsely populated.

economies. Concurrently, small size means that islands tend to have precious few -if any- land resources for extensive agriculture, whilst they also regularly lack key natural resources, including adequate water supplies, fossil fuels but also non-fuel minerals. In cases where raw materials may have been available in the past, these have now often been exhausted. The islands' small size has meant their environmental balance is regularly seriously endangered and this trait, in turn, makes environmental management a necessity.

B. *Remoteness and isolation:* that result in high installation and operating costs for companies, households and the state.

C. *Special experiential identity:* The particularities of insular space affect perceptions, behaviors and actions. As has already been mentioned, islands are 'objects of the mind' in addition to being physical objects and they are viewed in different ways by visitors – tourists and mainlanders – compared to long-term local inhabitants. While for the visitor, islands can be places to 'escape' from everyday life and live 'utopias', local inhabitants may have highly different views.

D. *Particular, rich and vulnerable natural and cultural environment*: Because of their small size and their isolation many islands have witnessed the evolution of unique endemic species and, as a result, have valuable terrestrial and marine ecosystems. Additionally, numerous islands have a rich historic past due to their strategic position on the maritime routes, which is presently highlighted through monuments, settlements and landscapes; many of these have been classified as national, European, or even world cultural heritage sites. This unique natural and cultural capital has been used till now mostly for the development of tourism - and in the case of the majority of Mediterranean islands mass tourism.

Specifically, the impact of insularity to several attractiveness parameters is approached by distinguishing between attractiveness for businesses and attractiveness for population. Since regional attractiveness has been explored in previous EU studies, a lot of parameters have already been identified; variables related to Lisbon and Gothenburg strategies- are also used (Table 3). These parameters have also been confirmed by the Islanders, Local Authorities and Chambers of Commerce, who gave also their perception about their relative importance: Services of General Interest (transport-trip frequency, health care, education, water and energy supply) and Job opportunities are the main factors for the inhabitants; Services of

General Interest, economic incentives and governance for the entrepreneurs.

Table 3: Attractiveness parameters and influence of insularity

	Attractiveness Parameters	**Direct influence by insularity**
1	*Accessibility*	---
2	*Public and Private services to business and population*	--
3	*Agglomeration economies*	---
4	*Environmental and cultural heritage*	+++
5	*Feeling of safety - Security*	++
6	*Natural and technical hazards*	+/0
7	*Labour qualification*	indirect influence
8	*Information society*	indirect influence
9	*Research and Innovation*	indirect influence
10	*Social capital*	indirect influence
11	*Governance Quality*	indirect influence
12	*Employment opportunities*	indirect influence

Source: TPG

Once the list of *Attractiveness parameters* was established, a causal relationship between them and *Insularity* was explored; the identification of the parameters influenced **directly** and **permanently** by the characteristics of insularity and the type of if this relationship (negative or positive) are very important. In Table 2 they type and intensity of this relationship is presented:

- The **Small Size** of the population of islands (always compared with the European mainland) and the small local market have negative influence on the development of agglomeration economies, economies of scale and agglomeration dynamism on islands. Such economies are a necessary condition to stay competitive in the national and the global market.
- The **Small Size** of islands also influences the availability of resources; increasing their vulnerability to natural hazards.
- Additionally, the small size results in fragmented demand from the population and the few and small enterprises. This demand is not satisfied at all or at the same level as in the mainland by public services; since construction and operational costs per capita are significantly higher. Services by private operators are provided only if they are profitable and this is feasible only in bigger islands.
- **Isolation and Remoteness** add up to low demand and influence negatively the accessibility of islands, but affect positively natural richness.
- **Small size, isolation and remoteness** make people feel safer on islands.

Other parameters of attractiveness are not directly influenced by insularity but they are either the indirect results of the particular historical development of different islands or the result of external global socio-economic and environmental forces.

The variables used for the construction of the Attractiveness Indexes are presented below.

Accessibility

According to the ESPON study (ESPON Atlas, 2006, p. 34), "the 'core' of the European territory and the 'periphery' are concepts based on the idea of "accessibility". Under this perspective, geography and physical distance are very crucial parameters when referring to accessibility in terms of infrastructure and transport services. This means that it is rather difficult for a European peripheral area to have a good accessibility index when far away from the European Pentagon (London-Paris-Milano-München-Hamburg). This situation may appear better when considering accessibility by air, where the existence of an airport -and particularly an international one- improves access possibilities. The accessibility of a peripheral area cannot be improved rapidly, as geographical distance and frequency of scheduled trips are also very significant parameters. Therefore, "peripherality" is considered as a permanent geographical feature and the fact that some of these peripheral regions are islands should be taken into account.

Considering islands, since most of them are located in the geographical periphery of Europe and that entails long trip durations, the lowest level of accessibility is expected for almost all of them within Europe. Additionally, on most of them and particularly on the smaller ones, airports do not exist, so they can only be accessed by sea which makes the accessibility of these islands even worse.

Evidence for the above can be seen in Map 5 depicting the values of a Multimodal Accessibility Index[8], despite reservations on its calculation[9]. **Despite the fact that the multimodal accessibility index overestimates the accessibility of islands, the data demonstrate that all islands are below the European average (100)**; only two of them -Mallorca and Isle of Wight – are very close

[8] The accessibility approach is based on the ESPON 2006 program's study "Transport services and networks" and the data are from ESPON DataBase.

[9] Air accessibility is given too much importance, sea accessibility is absent, accessibility by road and rail is not relevant unless combined with sea transport.

to the European average (Map 5). Since the index concerns only the main island where the airport and the main port are located, the above analysis covers only NUTS 3 level and does not reflect the reality of archipelagos.

In general, accessibility for islands is quite high only within the limits of the island, with "easy" transport at approximately the same cost with the continental mainland. On islands with large populations, where most public services (health, education, administration etc.) are offered locally, "overseas" travel is less necessary and frequent. In a few cases –where an island is very close to another big island or to the continental mainland and the corresponding service is available- the population can commute every day even for school or job needs. This is the case for instance in the Archipelagos of Stockholm and Uppsala Counties, in Aigina and Salamina (close to the port of Athens – Piraeus), Iles aux Moines (Brittany), and Gozo among others.

In terms of accessibility, islands are in a less favourable situation compared to the continental mainland as far as the transport choice, travel time and costs are concerned, including island states. Accessibility is even worse for small islands as revealed by the case studies: more complex (need to use many different means of transport to travel out of the island); more costly; lengthier. **The situation is aggravated in the archipelagos** where the permanent population of the very small islands needs to commute every day to receive basic services such as education, health, etc. **(double insularity).**

Urban Dynamism

Dynamic cities and urban regions are recognised as vital assets in regional development. A total of 1595 Functional Urban Areas (FUAs) with more than 20.000 inhabitants have been identified across Europe on the basis of commuter relations and employment areas. Some of them are of trans-national importance, the Metropolitan European Growth Areas (MEGAs, more than 70 in Europe, 47 of them with more than one million people); others have a trans-national, national, regional or local importance (ESPON, 2006, Potentials for polycentric development in Europe). The importance of towns and cities lies in the agglomeration economies and economies of scale that develop due to the concentration of different activities and population, as well as in the competition between companies that helps to innovate and to keep prices low. The attraction of diversified activities and services for enterprises and population and dynamism related to cultural and social life are other important aspects of towns as well.

On islands, there are the only two MEGAs: Valetta and Palma considered as "weak" MEGAs, since they have limited functions and lower competitiveness especially in the fields of knowledge and innovation. 15 more FUAs of trans-national or national importance are located on 9 more islands. Their importance in population, in tourism, as transport nodes, in manufacturing, in knowledge process, and in decision making (both private and public) at the European level is presented in the Map 6. The island FUAs are mostly renowned for tourism: only Valletta is an important centre for transport, knowledge and public decision making, while Calgiari and Catania are considered as important knowledge centres for their universities.

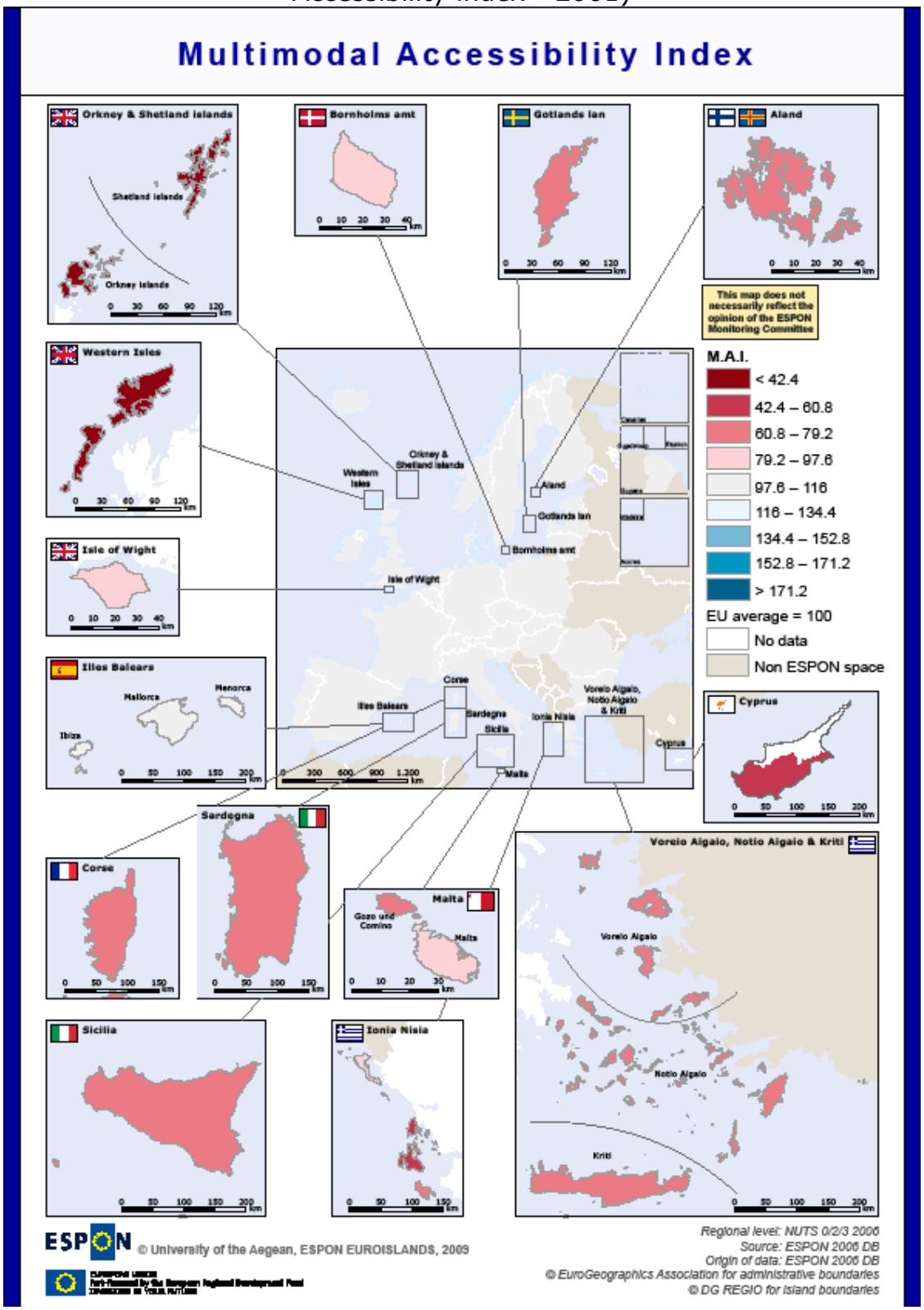
Islands are lagging behind compared to European continental mainland cities in terms of agglomeration economies, since due to the population size and the small size of the market, **economies of scale cannot be developed**, diversification of activities and services is low, cultural and social life remains limited and therefore, urban dynamism conditions that enable the creation of FUAs and MEGAs cannot be met.

Natural and cultural assets

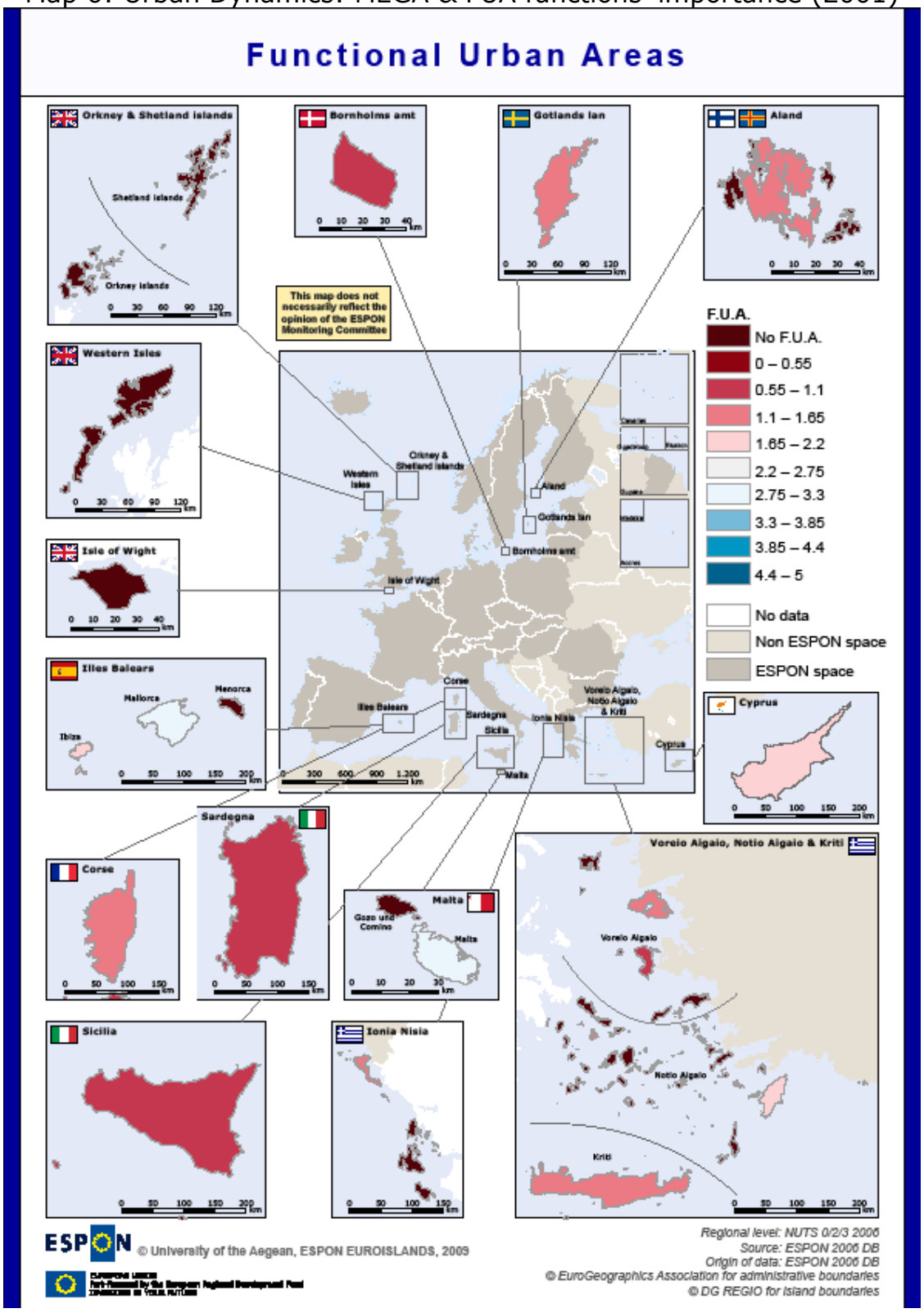
Environmental and cultural heritage are capital assets that can help the development of islands and enhance quality of life. Many of the activities on islands rely on these resources (such as tourism, farming, fisheries, cattle-breeding, quarrying, etc.) and often constitute a mono-activity without alternatives; this results in high economic, social and environmental vulnerability. The **environmental capital** of the islands is particularly rich, especially on Mediterranean islands, as the share of the surface under NATURA 2000 reveals.

Cultural heritage estimation is not easy. Existing approaches place emphasis on monuments, sites, events, landscapes etc., **cultural infrastructures** (museums, theatres, galleries etc.), **intellectual capital** and the **professionals of culture** that can valorise the existing capital and produce new. Concerning the number of monuments and sites registered in islands, Gotland in the North, Sicilia, Sardegna, Illes Balears and the Greek islands in the South have the highest numbers. Employment in culture is very low to all NUTS 2 Mediterranean islands, except Cyprus. Aland, following the trend of most of the Scandinavian regions have a high level of employment in **cultural professions**. A positive relationship between GDP per capita and the percentage of cultural employment has been detected in the ESPON 2006 program, with an important exception: Illes Balears.

Map 5: Accessibility of European Islands (ESPON Multimodal Accessibility index - 2001)



Map 6: Urban Dynamics: MEGA & FUA functions' importance (2001)



The existence of important **cultural and natural assets** especially in the Mediterranean islands can be a **very important advantage with an appropriate framework for their sustainable use.** Until today, these assets are used as scenery for tourism development and often their preservation is considered as an obstacle for more intensive development. However their exploitation requires an adequate policy, suitable management and the corresponding human and social capital.

Labour Qualification

Education, vocational training and lifelong learning play a vital role in the economic and social strategy of the European Union within the Lisbon process and the Europe 2020 strategy. Securing education and lifelong learning opportunities in every region and for all inhabitants has to be the cornerstone for national strategies.

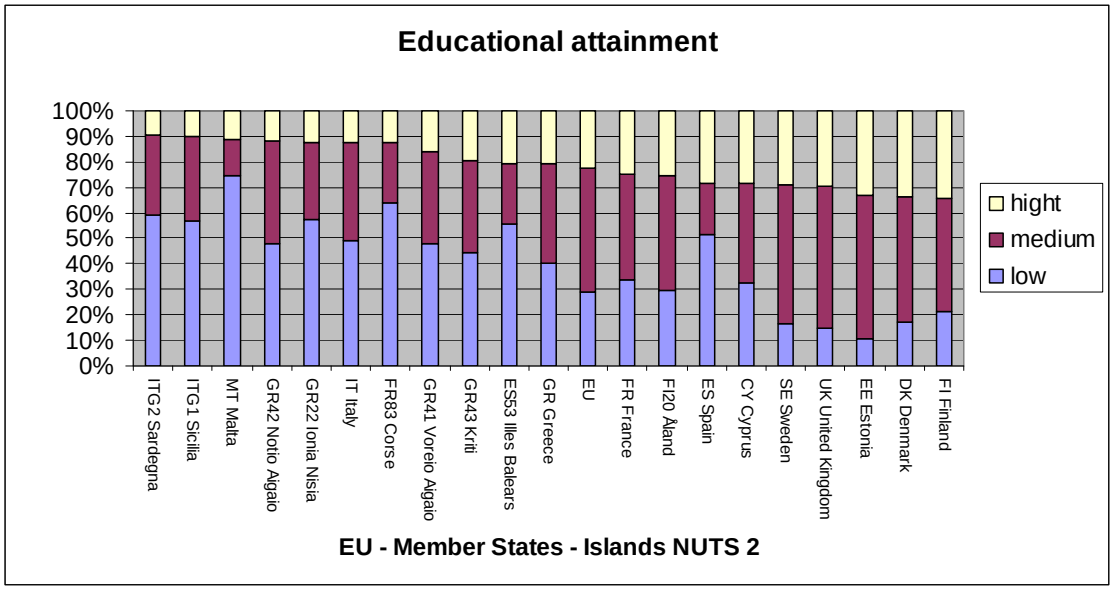
The proportion of the population aged 25-64 years who has successfully completed **tertiary level education** is diverse across Europe, with the EU27 average at 22,4% (Graph 3): in the south, islands regions with less than 20% are found, while Sardegna, Sicilia, Notio Aigaio, Ionia Nissia, Corse and Malta have less than 12,5%; except Kriti and Cyprus. In the north, most of the Nordic countries and island regions have more than 25% (on Aland 25,4%) of the population with a such a diploma.

The share of the **population with low educational level** is exactly the opposite, as expected, that is high for almost all Mediterranean regions. In Malta the ratio is extremely high at 74,7% (with an EU27 average at 29,1%), while the other insular regions (Kriti and Illes Balears included) have a ratio between 45% and 60%, only Cyprus scores close to the EU average (32,6%, Graph 3).

It appears therefore that the human capital of the islands, especially the Mediterranean ones, **lacks competences and knowledge and is of low educational level** (compared with EU27 averages and national results) even on islands with a high level of GDP per capita and **despite the presence of a University** (Sicilia, Sardegna, Malta, Illes Balears). This is the result of the type of economic development for these islands with a high level of GDP that is largely based on a low-knowledge activity: tourism. The presence of a University seems not enough to reverse this trend so far, as even high-skill graduates may face difficulties finding a job in the existing economic structures and may leave. Low trends of lifelong learning make the situation

worse, undermining their competitiveness. On Nordic islands, human capital is better prepared to face new challenges.

Graph 3: Proportion of the population aged 25-64 years by educational level (2005) [10]



Source: EUROSTAT web database, 2009

Information society

Information society has a double role on islands: first, it contributes directly to GDP as a productive sector; and second it indirectly affects local productivity and improves the issues that the low accessibility raises for the population and local businesses for different key services, such as financial services, education and training, information, health and cultural services, commerce, personal contacts. The penetration of ICTs has two different components: access to Internet and the capacity to use it: the first is related to the existing infrastructures and the latter to people's skills needed to participate to the information society (expressing the digital divide).

The level of **Information and Communication Technologies** penetration on islands varies significantly and is directly related to the corresponding national performance. At the European level, the use of ICT is higher in denser populated areas such as capital regions. Islands in north Europe have high percentage of households with broadband

[10] Tertiary level education is considered as "High educational attainment", upper secondary qualification is considered as "Medium educational attainment" and up to lower secondary qualification is considered as "Low educational attainment"

connections and their population uses the internet very often. On the contrary, Cyprus, Greek and Italian islands have very low penetration of ICTs. Malta, Illes Balears and Corse are situated in between.

The findings on ICT penetration follow a **similar pattern as the labour qualification results**, with the Nordic islands performing better that the Mediterranean ones. The 'technology gap' results in the lack of information and knowledge, factors necessary to achieve social equity and economic competitiveness.

Research and Innovation

In islands, R&D is particularly important in the light of the characteristics of insularity (small scale, environmental vulnerability and remoteness). The penetration of technology in their low skilled societies as well as its adaptation to insularity is necessary.

The EU as a whole dedicates 1,9% of its GDP and 1,11% of the employment to R&D. In all islands, very low expenditure and human capital are dedicated to R&D in comparison (Eurostat webdata base, 2009) and only in one case (Kriti) R&D the percentages are higher than the national ones: 0,94 % of the GDP and 0,84% of the human capital compared to 0,59% and 0,77% (2005); from the other regions Sicilia (0,8% and 0,6% respectively 2005), Malta (0,54% and 0,56% - 2008), Voreio Aigaio (0,48% and 0,39% 2005) and Sardegna (0,58% and 0,47% - 2005) have the highest involvement. On the contrary, Aland (0,16% - 0,21% -2007) and Illes Balears (0,33% – 0,31% - 2007) have particularly low involvement in R&D. Considering that the part of the private sector resources dedicated to R&D is lower than 0,2% (except in Malta where it is 0,4%) the assumption that research is concentrated in the Universities and in public research institutes is unavoidable. This is typical for Sicilia and Sardegna that are considered as knowledge nodes of European significance (ESPON Atlas, 2006, p.25 – EUROSTAT, 2009, Annex I, map 8.1).

All islands perform very poorly in R&D. This is due to **(a) the lack of significant Research Institutions** located on the islands (lack of infrastructure) and **(b) the low attractiveness of islands for highly educated and skilled people.** Among the Mediterranean islands, all of which are below average Kriti, Sicilia, Malta and Sardegna perform better than the rest since these islands have Universities and research institutes, which are the incubators for R&D Development.

Governance quality

A survey reveals that there are different national traditions of governance across European space and that these differences still influence practices (ESPON Atlas, 2006, p.60). A categorisation of countries in terms of their "shift towards governance" shows that countries such as France, Spain, UK, Sweden, Denmark and Finland are leaders at this process. On the other hand in Malta, Cyprus and particularly in Greece, traditional patterns of government are still dominant.

The intensity of interregional co-operation is another indirect sign of changes in government mentality; Baltic Sea regions (even Polish regions) seem to be the most active ones through the B7 network. Highlands and Islands, Kriti, Corse and Illes Balears are also active and so are North Italy, South France, coastal regions of Spain and Portugal (ESPON Atlas, 2006, p.60). Such experiences as the ones of the B7 network are rarer in the Mediterranean islands. Individual efforts for introducing participative governance procedures exist in some localities, such as the island of Lipsi with impressive results (as the analysis of the questionnaires of attractiveness indicates) but this is an exception rather than a general trend.

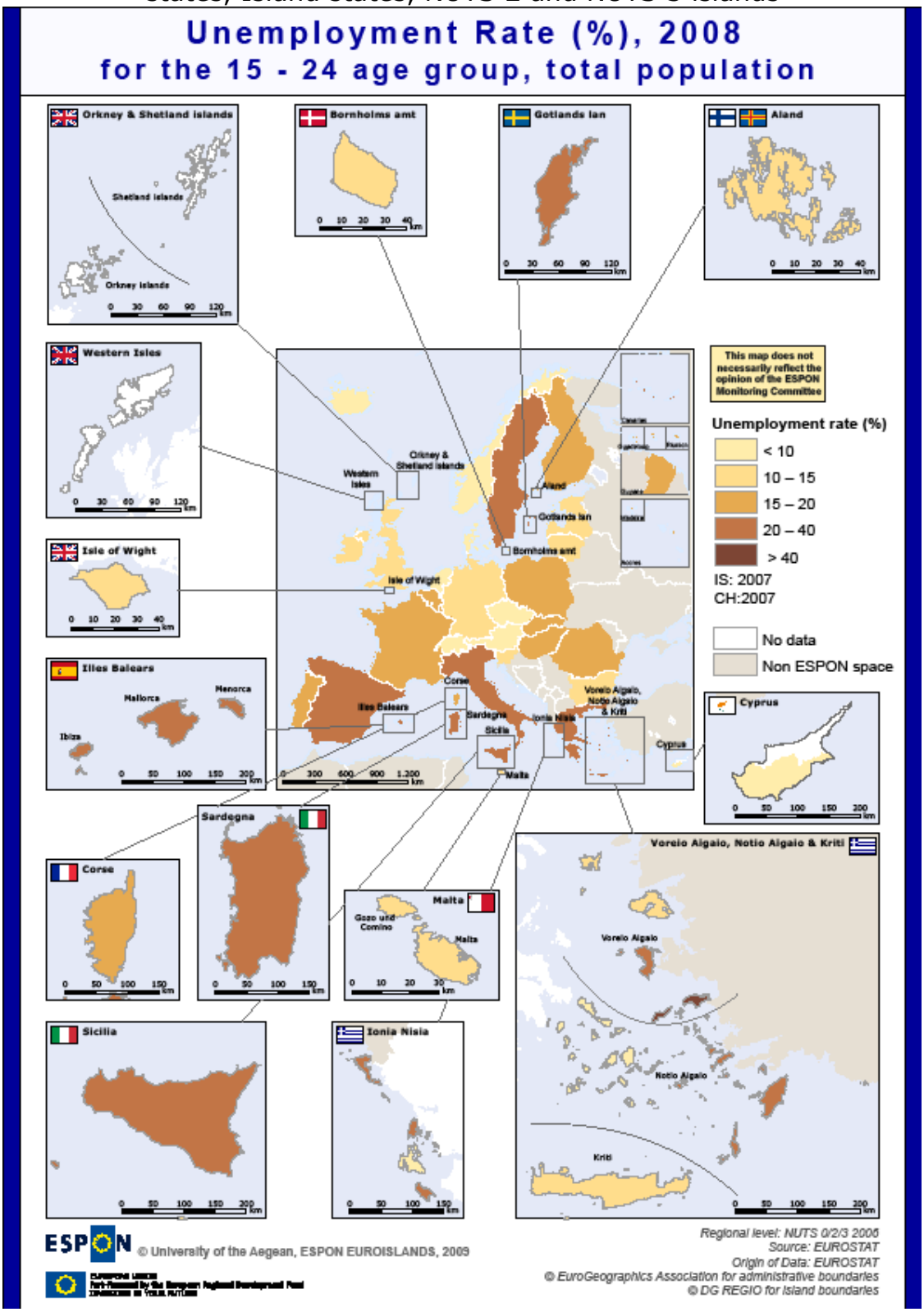
Previous ESPON studies (ESPON 2006f) evaluate countries and NUTS 2 regions for their governance performance. Even if the valuation system is different between countries and regions, it is clear Nordic countries and regions plus Spain have better performances than the European average; specifically at the regional level in a scale between 1 (better performance) and 4 (worst performance), Aland, Balearics and Cyprus are graded with 1, Corse with 2, Malta with 3, when the Greek and the Italian islands are graded with 4.

This parameter can explain some differences of the state of the islands, as **governance quality influences public policy and is linked to effective development.**

Unemployment of the Young

Unemployment of the young in EU 27 is more than double of the overall unemployment rate (15,5% compared to 7% in 2008). The lowest rate is recorded in Cyprus with 9%, while the highest ones on Sicilia and Sardegna of 39,3% and 36,8% respectively (Map 7).

Map 7: Unemployment rate for the 15-24 age group for Member states, Island states, NUTS 2 and NUTS 3 islands



The classification of attractiveness factors according to local populations and businesses

The findings of the research to local authorities on the attractiveness factors reveal that islanders consider the quality of the health care system, trip frequency, job opportunities, regularity of water supply, quality of life and quality of education as the most important factors of attractiveness for living. The most important factors for businesses as considered by the Chambers of Commerce and Industry are: trip frequency, economic incentives, regularity of water supply, development vision of local authorities, regularity of energy supply and travel cost.

Attractiveness Indexes

Three attractiveness indexes, the direct, indirect and assets attractiveness index, are used in order to compare islands' to European mainland's attractiveness, based on the above parameters. For the construction of the **Direct Attractiveness Index** the following parameters are used:

(a) for accessibility, the ESPON's Multimodal Accessibility Index as it is the only one covering the whole Europe at NUTS 3 level,

(b) for urban dynamism the Functional Urban Areas (FUA) concept was used, where data are available only at NUTS 3 level,

The inclusion of a variable related to Public Interest Services at the NUTS level is not relevant as the problem of availability or not (and the quality of services) is raised at the island level. The "Safety" parameter cannot be included as data are not available on the NUTS level. "Natural and Technical Hazards" are not considered by the stakeholders as an important parameter. Natural and Cultural assets are considered separately, as they concern a potential that may be developed or not.

A European average is not available and the classes used for the calculation of the index had to be estimated with different methods (details in the section 2 of the scientific report). This index is calculated only on the NUTS 3 level (as accessibility and urban dynamism on the national and the European level are irrelevant). As already explained above, **islands score particularly low** for both these variables (the median value is 3 with the EU27 average at 5); only two islands are above the average of European NUTS 3: Malta and Mallorca (Graph 4A).

The **Indirect Attractiveness Index** is calculated with the use of the following indicators:

(a) The percentage of population with low education level of the total population in 2007 for labour qualification;
(b) The Research and Development expenditure as percentage of the GDP (2008);
(c) The percentage of households with broadband access % of the total number of households for ICT evolvement;
(d) The unemployment % of young people (15-24 years old) for jobs opportunities;
(e) The Governance indicator (qualitative approach from ESPON 2006.

The above variables are considered as key ones in the Lisbon Strategy as they are driving forces for a competitive economy in a long term perspective. The **results for islands** are particularly **alarming with all island regions scoring clearly lower than the European and the member states average** (Graph 4B).

The **Attractiveness Assets Index** is calculated with the use of the following indicators:

(a) for natural assets, the percentage of NATURA 2000 area;
(b) for cultural assets, the concentration of monuments in an area.

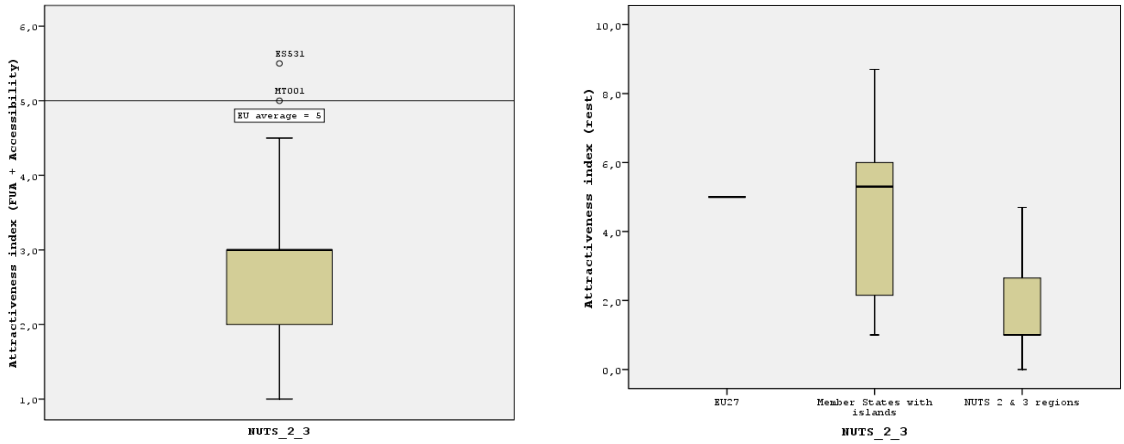
The Direct and the Indirect Attractiveness Index confirm that **islands score particularly low for all the analysed variables** (Graph 4): this appears to be the **cause of the low performance of islands.** Attractiveness and performance is even lower for small islands and archipelagos. The Attractiveness Assets Index confirms that natural and cultural assets constitute a prominent potential for a significant number of islands.

Therefore, **insularity has to be considered a permanent, natural feature that affects negatively, directly and indirectly, islands' attractiveness.** Therefore, it also makes their performance in terms of sustainable development less successful. These characteristics of islands **are not compatible with the attractiveness principles of the dominant development model**, which is characterised by mass production of standardised goods in or near urban centres. Activities on islands:

a) Can not enjoy the privilege of economies of scale as islands are characterised by limited variety and quantity of resources;

b) Can not have good accessibility and low transport cost, as islands are isolated and remote areas;
c) Can not profit from agglomeration externalities as islands have limited markets and activities.

Graph 4: Box-plots of the Direct and Indirect Attractiveness indexes for islands NUTS 3 island regions (A) and for national values and NUTS 2- 3 island regions (B)[11]



A **B**

2. Analysis of the islands' future potential from a European perspective

From the previous analysis some points of importance stem:

- **The performance of the islands is generally lagging behind EU-27** for most of the key development indicators, as the State Index confirms. This low performance *has to be attributed to the low attractiveness of the islands (see previous section)*;
- **Vulnerability** is a characteristic feature of the economy of islands (typically a monoculture or an economy based on the state's presence) and their environment (as intense economic activities based primarily on natural resources threaten the fragile insular ecosystems).
- **The attractiveness of islands is particularly low compared to national and to EU-27 averages**; this is true for all attractiveness parameters, influenced directly or indirectly by insularity, and for all islands. Low accessibility, low presence of Public Interest Services, low penetration of ICT, low labour

[11] A European average can not be calculated for the Attractiveness Assets Index.

qualification, low R&D and innovation are among the features that characterise European islands today and undermine their future.
- On **small islands and archipelagos** attractiveness and performance are **even lower**;
- **Natural and cultural assets** constitute a promising potential for a significant number of islands.

The Green Paper suggests "Turning territorial diversity into strength". Apart from that, the Territorial Agenda of the EU (CEC, 2007) already underlined that diverse territorial potentials may form the basis for sustainable economic development. It states that *"(...) the diverse territorial potentials of regions for sustainable economic growth and job creation in the EU must be identified and mobilised. (...)"*

Deeper understanding of the strengths and weaknesses of specific regions is necessary for the formulation and development of effective policies, and there is a high demand for comparable and comprehensive evidence and knowledge from a European perspective for each type of region. Development cannot be based only on existing activities and "recognised" resources. Development processes are dynamic, and often "new" resources have to be revealed and utilized, tangible or intangible. The challenge for islands is to exploit the constantly changing global environment and make use of the characteristics of **insularity as advantages rather than disadvantages.**

What could be an islands' strategy during the second decade of the 21st century based on the characteristics of insularity, the strengths the weaknesses and the limitations of islands but also the international environment?

Concerning the **Strengths** of the islands, the main comparative advantages are the quality of life and their natural and cultural assets. The Quality of Life (low stress life in a small scale society, quality landscape, proximity to nature, low human pressure on the environment) is an advantage that has to be preserved. A high density of natural and cultural capital and a strong cultural identity mainly in the Mediterranean islands is combined with the fact that islands have low fragmentation by artificial surfaces; but this advantage is not particularly valorised to develop new jobs (cultural professions, environmental management) or to "renovate" traditional ones for example by producing quality food products. An important limitation - since the natural and cultural assets are irreplaceable and non-

renewable resources- is that they are "consumed" by low added value tourism. The long-standing advantage of the islands as nodes of the global maritime network can be exploited again within a different development pattern based on "livability" (ESPON 2006e, Synthesis Report III).

Concerning **Weaknesses**, insularity affects directly and permanently some of the most important attractiveness parameters on islands: accessibility, public interest services, private services and networks, economies of scale, market organisation. All the above parameters increase investments and operational costs for companies, households and local authorities. Islands' products and services cannot be competitive in the European and the global market as low production cost is unattainable for them. These disadvantages have indirectly influenced the educational level of the labour force, employment opportunities, information technology penetration, innovation and entrepreneurship.

The **Opportunities** (as accruing demand for quality of life, quality and safe food products, specific interest tourism, residential services etc) **and Threats** parameters (climate change, globalisation, economic crisis, energy prices raising, water scarcity, extinction of fishing stocks etc.) are quite common issues for all the islands independently of their size, location and development level. Opportunities have to seize the need to upgrade *"the business environment through 'soft infrastructure'. Less tangible assets need to be cultivated, that enhance territorial capital and enable a region to realise its own potential. The exact formula will depend on the particular region"* (ESPON 2006e, p.79).

More explicitly the islands have to exploit:

- New technologies in the fields of communication and information diminish the negative impact of insularity (small scale and isolation). New technologies can also be beneficial for small and medium sized companies and services such as education and research, health care services, information, cultural and other creative activities and so on.
- Other technological changes (development of new forms of renewable energy, technologies of partial substitution of natural resources, progress in the transportation sector, etc.) can have a moderating effect on the limitations caused by insularity.
- The shift of human aspirations towards quality as it is expressed by an increasing demand from different population groups (such as researchers, high position entrepreneurs, artists, individuals of

economic potential etc.) to settle in areas with high quality natural and man-made environments; in this case the provision of a broad range of facilities (economic and social services as well as various amenities) appears to be a prerequisite.
- The increasing importance of leisure activities. Again, islands that offer plenty of opportunities for leisure-oriented activities can turn themselves into attractive locales.
- The green economy, with low resource input and waste output that is a global demand, fits with islands' low resource availability.

The **Threats** listed above have a global importance but they will affect more heavily islands that are more vulnerable than European mainland. For instance, since transport is already very expensive for islands compared to the European mainland, when energy prices rise transport costs also rise disproportionally. This is also true with climate change: sea level rise threatens more islands than continental mainland and water availability is a crucial parameter –at least for the Mediterranean islands. Finally, the increasing globalisation exposes "traditional competitive activities" such as tourism, agriculture and fisheries to competition with low cost countries; therefore innovation is the only way to stay competitive.

The fact that islands have specific characteristics and permanent natural handicaps **should not lead to the conclusion that islands are handicapped territories**. On the contrary this supports the view that islands need **the right strategy to valorize these characteristics within the European and the global environment**. The modification of the European EUROPE 2020 strategy to an *Islands' 2020 Strategy* yields three priorities (Table 4).

Table 4: Priorities of EUROPE and Islands 2020 Strategy

EUROPE 2020 Strategy	Islands 2020 Strategy
1. Smart growth: developing an economy based on knowledge and innovation	**1. Qualitative islands**: focusing on well branded, quality products and services using local resources destined to niche markets
2. Sustainable growth: promoting a more resource efficient, greener and more competitive economy	**2. Green islands**: reducing the use and growing the reuse of scarce resources such as water, land, energy
3. Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion	**3. Equal Opportunities islands**: giving the same opportunities to insular companies and populations to perform as in European mainland

In more detail:

- The priority for Qualitative islands. In spite of the consequences of size and insularity (small market, low accessibility), there are various examples where islands' products based on local resources and know-how are competitive. This success can be extended to services' production such as tourism, instead of consuming the islands' limited resources for a mass activity. New knowledge, innovation and skilled human resources are prerequisite for the success of such a strategy that has to be niche "oriented".
- The priority for Green islands is a priority linked with the limited natural resources of islands; the strategy lies on reduced use of resources such as water, land, energy and a recycling of waste produced both by enterprises and the local population.
- The priority for Equal Opportunities islands is a priority linked with the goal for equal access of all European citizens to Services of General (Economic) Interest (SGI) -which are a *sine qua non* condition for quality of life and competitive entrepreneurship- as expressed initially in the European Spatial Development Perspective. The relevance of SGI for economic, social and territorial cohesion is underlined in the Lisbon Treaty (article 14 and protocol 26).

The proposed strategy for the islands is based on:

A) The analysis on the islands' specific characteristics and potential to be valorized (priorities 1&2) and the weaknesses that have to be addressed (priority 3) in order to improve the performance of islands' economy and achieve sustainable development goals;

B) The fact that there are already actions on islands which are in accordance with the presented strategy and could be considered as best practices or as potentially good practices seeing that many projects are under implementation.

Below are some examples of **best practices** classified by priority axes:

- **Quality Islands**: Several agricultural and manufactured products of islands have "resisted" the competition within the European and the global market despite their relatively high prices, *based on their quality (of local inputs and traditional production methods) and/or their uniqueness, creating a brand name*. This concerns many food

and beverages products such as drinks (wines, beer, ouzo, raki, liqueurs etc.), different types of cheese, honey, olive oil, mastic, meat and different types of sausages, butter, potatoes, cakes etc. Many of these are regulated and protected by the European quality system of Protected Destination of Origin (PDO), Protected Geographical Indication (PGI), Traditional Specialty Guaranteed Agricultural Products, Special Poultry Farming etc., which provides official quality designation. It may also concern tissues and cloths, handcrafts and other manufactured products, which, with or frequently without official designations, have their brand name.

If the above success stories are based mainly on sectoral or business initiatives usually with the support of public authorities (national and local) in traditional sectors, there are cases *where quality is the main goal of an integrated local initiative:* "Bright Green Bornholm" is the continuation of a successful Leader+ project where quality and sustainability were associated and concerns different sectors as energy, tourism, cultural products and services, foodstuff, manufactured products. "A Flavour of the Archipelagos" in Åland Islands is a similar initiative financed by Interreg and is associated with local entrepreneurs. The "Aegean Cuisine" in Notio Aigaio is an initiative of the Regional Innovation Center (running under the control of the local Chambers of Commerce and Industry) to promote local production and know-how in order to differentiate and upgrade the tourism product. "Cretan Quality Agreement" in Kriti is another one, seeking to promote the Cretan Diet (and Cretan food) and to improve the quality of the tourism product.
In Illes Balears, about 15 business clusters have been set up in order to increase the productivity and competitiveness of the local firms: these include an audiovisual cluster, an IT cluster applied to the tourism sector, a nautical cluster, an Ibiza Music cluster etc.
"Master and Back" is a high level training program implemented and financed by the Region of Sardegna; it concerns young people which are selected to attend PhD and Master degree courses in Italy or abroad and then to work for two years in the public or the private sector in Sardegna. In Malta, the Ministry for Gozo has financed the additional cost of high level courses in Malta for Gozitan students, in order to facilitate the access of local people to higher levels of education.

- **Green Islands**: Different initiatives have been undertaken on islands to address either general environmental problems, such as climate change, or specific problems related to insularity. Islands, as isolated systems, have attracted the attention of European,

national and local authorities but also of researchers and businesses for experimental applications on Renewable Energy Production: on Kythnos Island (Kyklades) in the '80 a hybrid integrated and autonomous system was installed along with the first wind power-mills park in Greece. Samsø is a well known example for being an energy independent island based on wind, solar, biomass energy; most important is the direct involvement of islanders in the project. In Eigg, a Scottish island of 80 inhabitants, an autonomous system based on a combination of renewable energies realized a local dream of around the clock energy. There are many other examples (Gotland, Bornholm, Canary Islands, Illes Balears etc.) where islands were used as pioneers in renewable energy systems, a fact that has permitted to create economic activity, jobs and know-how into a modern sector. The Network "IsleNet", established during the '90s with the political support of CPMR's Island Commission to address energy problems of islands, has a consequent contribution to this progress; the implication of many mayors from islands to the Covenant of Mayors and the implementation of projects like "Pact of Islands" and "Green Island" by the DG Energy is some of the output of good networking and governance.

Some other success stories can also be underlined: On Milos island (Kyklades) a 600kw wind mill is producing 2.600 m^3 of potable water daily covering local demand, substituting the transfer of water by ship from the mainland. A similar project of an off-shore (floating) desalinization system using wind power realized in Greece from the University of the Aegean has received an EU award (RegioStars 2008). Mallorca's local authorities have developed an integrated system for treating all the solid waste produced on the island. Illes Balears have an extensive program for the management of natural and cultural resources: 7 natural and 1 national park, Minorca as Unesco's Biosphere Reserve, 113 areas within the Natura 2000 network, a monitoring system for *Posidonea oceanica* and an Integrated Costal Zone Management system. Corse has established an Office for the Environment and has engaged in protection actions within the natural reserves and regional Natural Park. The Scottish Islands Federation is promoting the sustainable island based on an alternative way for food production. The Network of Small Greek Islands "Dafni" is working for the promotion of best practices on different topics of sustainability but also to support local authorities to implement innovative actions in their territory; this association runs also the "Aegean Energy Office" under EU finance. In Sardegna, the collaboration between the Regional Conservatory of the Coasts, the Municipality of Cabras, the

Marine Protected Area of Cabras, the Association of Cabras' Fishermen has lead to the creation of a specific touristic product based on the valorization of a Natura 2000 area.

- **Equal Opportunities Islands**: *providing equal opportunities to all has been considered as a pillar of democracy in Europe*. This has placed states or regional authorities in charge of providing services of health, education and training, culture, transport, post, telecommunications, energy, etc. Initially, many of these for islands were provided within a monopoly status, covering the extra cost for islands. Today, most of these services are deregulated and the competition principle has to be applied within the single European market rules. This application is not always without difficulties as the tiny insular market creates often a "de facto" monopoly situation. How, within this context, have the public authorities tried to satisfy the needs of islanders?

  Concerning transport services, different practices have attempted to ensure maximum frequency and competition between different companies (in bigger islands), or a minimum service (in small islands, during the winter). At the same time, the travel costs have been kept by many as low as possible within the limits of European legislation. Quality and equity of service between inhabitants of different islands are two additional conditions to be fulfilled. The Territorial Continuity Principle is applied in different ways in islands such as Kökar (with 3 to 5 connections per day with Åland mainland), Samsø, Corse, Illes Balears, the Scottish or the Brittany islands by subsidizing part of the cost of the journey for the permanent inhabitants using private or public companies. In Åland, the transport system between the islands of the Archipelago, that has its origins in the '50s, has 9 ferries capable for ice-braking, assuring the same quality of transport to all the islands all over the year, free of charge for the residents financed (18 million € in 2009) by the government.

  In Greece, the state gives priority to assure a minimum service by subsiding the ship companies' operational cost and not the cost of travel to islanders (100 million € in 2009). But, as users consider the services offered not satisfactory, local authorities such as the Municipalities of Kalymnos and Tilos have decided to create municipal companies to bridge the gap. In air transport, the connections considered as non profitable are also subsidized through pluri-annual contracts to keep schedules and prices low for

all passengers in order to improve accessibility for smaller islands and to create inter-islands connections.

The development or the maintenance of other SGI in islands (e.g. hospital services in Samso) face similar problems as the reduction of public expenditure is a common goal in all member states; in Dodecanissos a "mobile health center" financed by the Prefecture has permitted to provide on a regular basis a wide range of health services to the inhabitants of small islands such as Lipsi. In the Papa Westray Island (archipelagos of Orkney) the six teenagers that reside on the island fly every Tuesday morning off their island, stay with host families for two nights and return on Thursday after school. This service, or the operation of high schools in small Greek islands, where teachers are more than students, allows young residents to stay in school and on the island.

Some common success factors of all the above cases can be summarized:

- ***Good governance and local strategy***, with intra-regional networking. In most of these cases, the driving force for the initiation of a project is the local government in association (cooperation) with different local stakeholders. The mobilization of endogenous forces is a starting point for the elaboration and the application of any strategy, especially an innovative one.
- ***Inter-regional networking*** (interregional organizations and interregional cooperation programs) that can provide external scientific, organizational and financial assistance and mobilize the small and disparate regional and local authorities.
- ***R&D and Innovation structures*** are necessary for the adaptation and the efficient use of external innovations (i.e. wind power) but also of the existing local know-how (i.e. food production).
- ***New skills of the human capital*** are considered as necessary for the enhancement of local economies. Local authorities have tried to mobilize local population unable to finance the acquisition of knowledge and skills and/or abroad and local enterprises to employ them.
- ***Extra financing*** (European/national/regional) is necessary for the mobilization of the local stakeholders for innovative actions (i.e. green strategies, networking etc) and the provision of better public services to islanders.

All the above factors are related to the attractiveness of the islands as already analyzed. But, their success has until now localized

and isolated results with limited impact on the overall state of the islands[12]. The most important reasons seem to be:

- Such actions usually address indirect attractiveness issues only partially and therefore seem to create necessary but not sufficient conditions to change existing trends;
- An overall strategy supported with specific policies, national or European, is missing.

Setting coordinated policies and integrated programs tackling all the attractiveness factors at the same time seems to be a more effective strategy.

3 Evaluation of existing policy measures for islands and policy options

In order to answer the third question ("What policies could be applied to increase the attractiveness of islands?"), it is necessary as a first step to proceed with an ex-post evaluation of European policies and to examine if the outputs of these policies address the attractiveness problem of islands. Some policy recommendations are formulated after that first step.

All European policies have direct or indirect territorial impact (EEA, The environmental dimension of environmental sustainability Annex I – p.20-22); and therefore all of them have impacts to the state of the islands. Within the specifications of the project it is recommended to focus on the policies related to the: (a) Enforcement of entrepreneurial initiatives; (b) Management and valorization of natural and cultural resources; (c) Enhancement of human resources; and (d) Services of Public Interest. The policies chosen to be assessed -as related to the above topics- are presented in the Table 5:

Table 5: EU - Policy area

Policy area (project specifications)	EU-Policy	Case studies Islands
Natural resources	Environmental policy	Mallorca, Cyprus
Human Resources	Regional policy- ESF	Lipari, Mallorca
Entrepreneurship	Competition	Malta
Public services	Transport and energy	Kalymnos, Samso
Entrepreneurship, Human	Regional policy – ERDF	Kokar, Samso

[12] As most of the above initiatives are recent, their impact is not reflected yet at the sustainability indicators

resources		
Natural resources and entrepreneurship	Common Agriculture Policy	Sardegna

3.1 General evaluation of existing policy measures for the islands (improving islands' attractiveness)

The Island Impact Assessment (IIA) follows the general guidelines and steps[13] already formulated to use existing information from previous analysis and provide comparable results. But in the IIA analysis, and especially in the recognition of cause-effect relations, **the specific characteristics of islands have to be introduced.** As it has already been mentioned, these characteristics affect attractiveness of islands and indirectly affect their sustainability state. The integration of attractiveness and sustainability factors is performed through the conceptual framework used (Figure 1) in this study, while the variables considered critical are already used for the calculation of the Attractiveness and the State Indexes. Within this approach, the effectiveness of policies for islands is estimated by the effects of the **results on attractiveness parameters in the short term and of their impacts on sustainability parameters in the long term**. It has to be mentioned that every (sectoral) policy affects directly one or more attractiveness parameters but not all of them; for instance the amelioration of the transport infrastructure (policy output) affects the Accessibility (result) of an island (but not other parameters as Labor Qualification or R&D) and has an impact to employment and air quality (impact) (Figure 2).

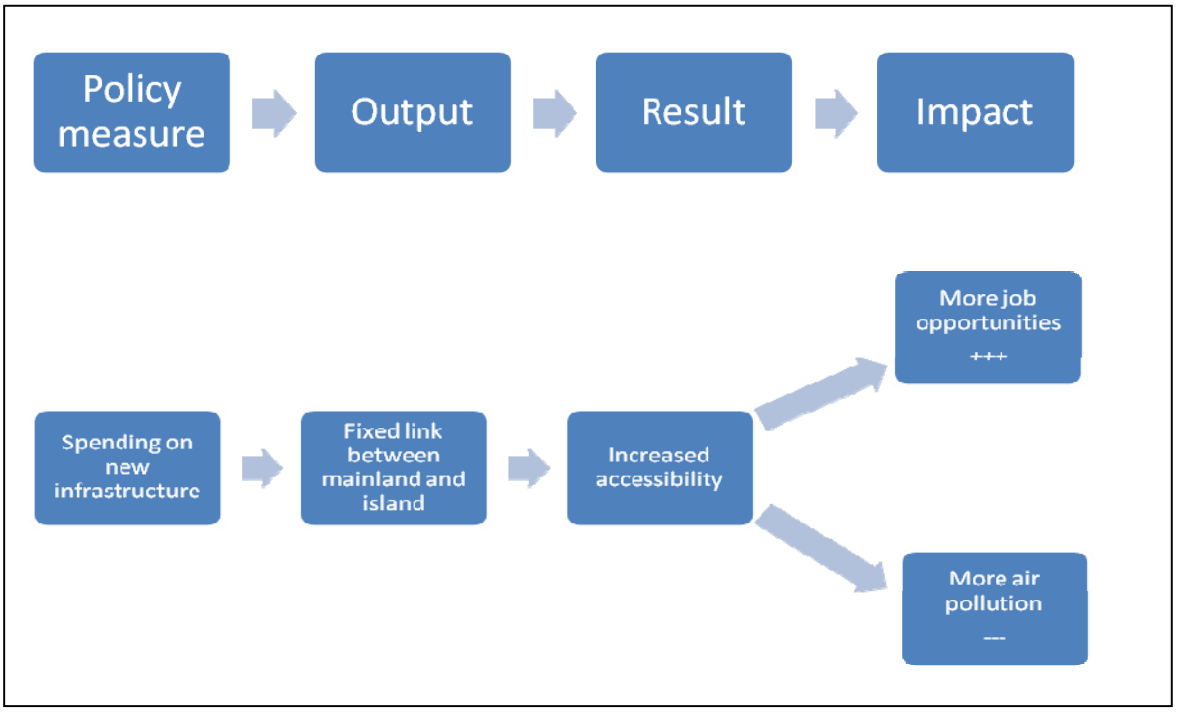
European policies are assessed through the following steps:

a) Policy axes: definition of the policy intervention concerned;
b) Territorial dimension of the policy: consideration if the policy axe has an explicit, implicit or no territorial dimension with input from the EEA study "The environmental dimension of environmental sustainability";
c) Policy output: a general description of the main expected output of the policy;
d) Policy result and impact: the parameters of islands' attractiveness and sustainability that have to be directly affected by the policy's outputs (cause-effect relation);
e) Island Impact Assessment: the output of the policy in (selected) islands and the way (positive or negative, strong or weak) that

[13] The guidelines of the Territorial Impact Assessment (TIA) (29 January 2009, p.7) and by TIPTAP final report (p.6-12) of ESPON are used.

attractiveness and sustainability parameters are affected in islands by these policy outputs.

Figure 2: Causal links between policy measures, outputs, results and impacts



It has to be underlined that the IIA is based: (a) on previous reports and other documents assessing European policies (mainly ESPON projects)[14], (b) on data concerning the state and the attractiveness of the islands (c) on information from the case studies and (d) on TPG appreciation. The results of the TIP TAP project on CAP and Transport Policy ex-ante evaluation for the period 2007-2013 is also used.

Afterwards, a description of the policies axes, their results and impacts as well as their assessment concerning islands is attempted; a schematic presentation can be found in the Table 6.

a) Environmental Policy.

The EU Environmental Policy is structured in many axes for all components of the environment[15] as well as tools for the minimization

[14] The different projects that assessed sectoral policies analysed limited policy axes.
[15] In the ESPON 2006 program the study "Territorial Trends and Policy Impacts in the Field of EU Environmental Policy" 3 axes of the Environmental Policy were evaluated: water management, nature and biodiversity and civil protection in five cases studies.

of the impact from human activities on the environment (EIA and SEA directives). All these policy axes create frameworks that Member States (MS) and local authorities have to apply. EU finances these activities through the Structural and Cohesion Funds (around 19% of their budget is allocated to environmental protection during 2007-2013)[16]. They have been implemented on islands in a different way depending on the MS action plans:

- The Habitats and Birds Directive is implemented on many islands, with Natura 2000 zones being designated: on Illes Balears 21,8 % of the territory is covered by this Directive compared to 8,7% initially and 41,3% recently for Cyprus. Information from the case studies (Mallorca) underlines that recovery of natural vegetation and species is reported after the implementation of the directive. Even if this policy has positive results can its results on biodiversity, habitats and species be assessed as equally positive? No general answer can be given as no information exists to compare the situation before the implementation of the policy and today. Indirect information from the fragmentation index and the classification of the Regions according to their natural and environmental assets (EEA, 2010, Annex I p.24), shows that pressures related to the intensity of economic activities such as tourism, quarrying, transport or agriculture have not stopped (ESPON 2006b). On the other hand, in the absence of this Directive the decrease of biodiversity would be unavoidable, as habitats would be degraded and species extinct.

- Concerning the Water Directive Framework its implementation did not resolve problems of quality and availability of drinking water; in islands like Mallorca and Cyprus a significant part of the needs are covered by desalinized water proving that the water resources are permanently damaged.

- The Blue Flags program's results reflect the positive impact of three EU policies (Waste Treatment, Water Bathing Directives and Cohesion Policy) and local governance. The use of a environmental quality "flag" as a marketing tool for tourism promotion have positive environmental as well as socio-economic impact: in Illes Balears there are 71 beaches and 22 marinas and in Cyprus 54 beaches with blue flag.

[16] ECORYS Nederland BV, 2008, A Study on EU spending

- Concerning solid waste treatment in Mallorca there is a consequent progress concerning treatment but a delay concerning recycling; in the case of Cyprus the process for compliance with EU regulation is financed by the current National Framework 2007-13.

b) Common Agriculture Policy (CAP)

There are two pillars in the CAP: the Single Farm Payments (SFP) and the Rural Development (RD) Policy; the first (the evolution of the Subsidies system) is considered to *"favor core areas than peripheral ones"* and the second *"has been of more limited effect. However, some components, such as agri-environmental measures in the more prosperous Member States, and the Liaisons Entre Actions de Développment de l'Economie Rurale (LEADER) Community Initiative in some regions, show promise in terms of effectiveness and EU-level cohesion"* (ESPON 2004, p. 15). TIPTAP analysis based on the policy hypothesis of "modulation" of funds from Pilar 1 to Pilar 2 for the period 2007-13 with an overall cut of resources distributed don't let room for hope for a economic growth to insular LFA's as Sardegna.

An integrated program for rural development was implemented in Sardegna during the period 2000-6 following programs applied during the previous programming periods as well as a Leader II project. The fact that this program was designed in parallel with the Regional Operational Plan has created some planning and coherence difficulties as both of them had the same goal. Undoubtedly the implementation of such a program has a considerable output and significant results related to the goals of preserving and valorising of natural resources (Agri-environmental measures, organic and integrated farming, agro-tourism), renewal of farmers, compensation of the lower income in LFAs etc. The impact is less positive either in economic terms (negative evolution of GVA in primary sector in current prices) or in employment terms; it seems that the interruption of export subsidies for pecorino cheese is one of the reasons of this decline.

The RD policy's positive but limited (insufficient) results in islands can also been confirmed from other cases as the Aegean islands where - despite the specific program– agriculture is declining, lands are abandoned and eroded with a high risk of desertification. The CAP has no positive mention for higher production cost on islands and all European Less Favoured Areas (LFAs)' are treated in the same way regardless of their location.

c) Public Interest Services: Energy and Transport.

The main axes of the EU policy for Energy and Transport are:

i) To ensure connections among EU regions and also supports cooperation and projects in areas such as urban transport;
ii) Energy Policy promotes the development of renewable energy and energy system connections across the EU;
iii) Support for Trans-European Networks (TEN) for energy (e.g. electricity and transmission projects) and transport, including highways, roads, maritime and inland waters, combined transport and air);
iv) Liberalisation of transport and energy services.

The amelioration of the European transport network has no direct impact to Kalymnos accessibility; indirectly Kalymnos is "penalized" as the success of the TEN policy makes Kalymnos less accessible at the European level than previously compared to other territories on the mainland. At the same time, in order to ameliorate the sea accessibility to the surrounding islands and the mainland, the municipality of Kalymnos has created a local company without any European financing.

The liberalisation of transport services is not without problems for islands even if the legislation recognises the specific situation of the islands notably by authorising public service obligations; the new legislation framework does not necessarily lead to better and cheaper accessibility, as the Corsican example reveals (EURISLES, 2002). Public Service Obligations do not concern international links, which may be of great importance especially for Island States: e.g. Cyprus is not regularly linked by boat with the EU mainland, due to the fact that such a link presents no economic interest for private companies.

EU policy for the promotion of renewable energy has direct and indirect positive results and impacts on Samso; the reduction of energy dependency and of CO^2 emissions as well as the creation of new investments (GDP and employment increase) with local participation and the creation of R&D and innovation structures (Energy Academy) are some of them. The creation of the brand name "Samso the green island" is also important for its overall development. Certainly projects as Samso's, Green Islands and Pact of Island can help islands to meet 20/20/20 objective. In Cyprus, possibly catalyzed by Directive 2009/28/EC for the promotion of Renewable Energy systems, recent developments in the field are encouraging as 6.7 MW of photovoltaic systems and 7.9 MW of biomass utilization units have already been installed. But does these "success stories" imply that EU energy policy (including energy networks) meets the need of islanders

for "good" and "cheep" energy services? Certainly not for all European islands as there is no plan to cover all the islands.

d) Human Capital Policy: ESF action – Cohesion policy

There are two main actions financed by 22% of the Cohesion Policy Funds:

- The European Employment Strategy seeks to support skills and a better functionality of the labour market through national plans;
- The intervention through the European Social Fund into disadvantaged regions and regions in economic restructuration to improve skills of employees, women, young and unemployed people by supporting educational, training and lifelong learning programs.

The application of different programs financed by the ESF for human capital, activity rate and the labour qualification on islands remains low. On Illes Balears, qualified workers leave as a consequence of a non developed labour market for them. At the same time, this kind of labour market (basically tourism and construction) attracts non qualified workers from the mainland and abroad. From this point of view, the impact of the applied policy is ineffective in the long term. On Lipari on the contrary, different programs are applied for women, young people etc. and their results and impacts are assessed as positive from the stakeholders.

e) Entrepreneurship: Competition, Regional and R&D policy

The enforcement of entrepreneurial initiatives can be direct (state aid system, networking, internal market regulations,) or indirect through the amelioration of the "economic environment" (knowledge and innovation mechanisms, labour qualification, infrastructures etc). Competition Policy assures the implementation of the internal market controlling the State Regional Aid Systems (to be focused on lagging regions) and co-finances it through the structural funds. The EU, through its Enterprise and Industry Policy, operates the Enterprise Europe Network with centers assisting SMEs across Europe. These centers are typically located in big towns and far away from islands' very small enterprises.

Since 2007, there is a very limited positive discrimination for State regional aid in islands for those with less than 5000 inhabitants[17], the outermost and the low density regions, independently of their GDP/per

[17] It is very important to underline that this provision is made not at the NUTS2 level as usually for Cohesion Policy measures but at the LAU level, considering the problem of double insularity.

capita level. Therefore, insular enterprises in the rest insular areas have to compete with others located in the European mainland under very unequal circumstances[18]. R&D regional programs applied to most of the island regions had a temporary output and insignificant results if the share of GDP and employment in R&D is considered.

The difficult adaptation of Maltese enterprises to the internal market is a proof of the problems of small isolated economies to be competitive. Most of Malta's industrial enterprises are extremely small, with 75% employing less than 5 workers. Many of these firms had been sheltered from foreign competition by protective trade legislation, outright bans, price controls and by stringent tariff and non-tariff barriers. In the run up to EU accession, and to compensate for the overall impact of the dismantling of protectionist measures, Malta has implemented a comprehensive strategy for the development of SMEs and the craft sector. The main planks of this initiative included the setting up of a small business efficiency unit, a business incubator centre, a national crafts council, and regulations providing legal protection for small businesses in their dealings with large firms and public enterprises. This policy was not able to stop the decreasing of the sector but consumers have access to more products and better prices.

A very important tool for islands' development in general and for the "enforcement of entrepreneurial initiatives" in particular is the financing coming from structural and cohesion funds: it involves 31,7% of the European budget. The actions financed by these funds (transport and environmental infrastructure, human capital, knowledge, innovation and enterprises are the main beneficiaries) aim to ameliorate the competitiveness of the lagging regions. **The outputs of this policy are positive but the results not so much,** since the attractiveness parameters are remaining low compared to those of the European mainland. This is due to the fact that they tend to depend on many more parameters including the quality of the programs and their implementation (governance).

The financing through the cohesion policy fund concerns mainly the "Convergence" (ex-Objective 1) regions independently if there are insular or not. Island regions and islands belonging to NUTS 2 regions with "high" GDP/capita such as Illes Balears, Åland, Isle of Wight[19],

[18] CCI Haute Corse, 2002, Les PME face aux handicaps insuleurs.
[19] Isle of Wight was not an Objective 2 area during 2000-6, as South East Region is a "rich" one.

Gotland etc. that are characterized as 'Regional Competitiveness and Employment' regions during the 2007-13 programming period and objective 2 during 2000-are receive low per capita financing from cohesion policy funds.

Some general observations come out from the above analysis:

- As ESPON already reports, **EU sectoral policies contribute at the European level** –if at all- and **rather coincidentally to territorial cohesion**, and therefore **much less for islands' attractiveness and sustainability**
- EU sectoral policies outputs and results are not necessarily **adequate and/or strong enough for changing islands' attractiveness and state.**
- Almost all EU sectoral policies treat EU territories in the same way independently of their particularities and this is **discriminating towards territories with specific characteristics as islands.**
- EU sectoral policies have sectoral goals (such as the increase of accessibility for transport policy, the decrease of CO2 emissions for energy policy) and general goals for the EU level (such as the increase of productivity or competitiveness of the European economy); **so the divergence of results and impacts of these policies to different territories are not considered at all.**
- **EU policies have no territorial coordination – integration;** so measures of different policies may have contradictory results and impacts (i.e TEN and competition policy in one hand and policies targeting accessibility through Structural Funds in the other), **or no positive results at all as they address only few of the attractiveness problems.**

Many times in the table 6 the IIA concludes that the efficiency of policies and programs mainly depends on national and regional governance giving perhaps the impression than insularity has no impact on the results; the fact is that the efficiency of a policy is lower in an island region in comparison with the efficiency of the same policy on the continental area of the same MS; this stands for infrastructure construction, for training courses, for environmental management etc as economies of scale are not possible and the transfer of personnel, resources and machinery on islands costs. At the same time human capital in an island region is lower than at the mainland of the same MS; this fact implies less competences and know-how for effective planning in the islands of a MS than on his mainland.

Table 6: Policy axes, outputs and their assessment for islands

EU-policy Policy axes	**Territorial dimension**	**Policy Output**	**Attractiveness/*Sustainability* parameters directly affected**	**Islands Impact Assessment (compared to the EU mainland)**
Environmental policy				
Water Framework Directive	Explicit (water catchment zones)	Management plans obligation	Natural Heritage *Natural Conservation (fresh water availability)*	Positive. Differentiate results as efficiency of policy depends on National and Regional Governance and low impact (problems of water availability in most of islands)
Habitats and Birds directive	Explicit	Designation of Protected areas and Management Plans	Natural Heritage (% of Natural Zones) Employment opportunities *Natural Conservation (biodiversity)* *GDP, Employment*	Positive. Differentiate results and impacts as efficiency of policy depends on National and Regional Governance and on increasing pressures
Bathing Water directive	Explicit	Controls and Management Plans to prevent land based pollution	Natural Heritage *Natural Conservation (quality of sea water)*	Positive results and impacts
Waste Framework Directive	Implicit	Recycling Systems obligation for treatment and recycling waste Water treatment systems obligation. High cost of implementation	Natural Heritage Employment opportunities *Natural Conservation (fresh water and soil quality)* *GDP , Employment*	Differentiate results and impacts as efficiency of policy depends on National and Regional Governance influenced by high cost of insularity
Common Agriculture Policy				
CAP Subsidies	No explicit territorial dimension, but activities affect strongly territories	Revenue growth concentrated to developed areas and big exploitations (75% of the budget)	*GDP & GDP per capita evolution* *Income* *Employment evolution* *Population evolution* *Age structure / % of population +65 years Active population rate %* *Environmental Conservation*	(-) negative results and impacts for islands as it provides more assistance to farmers in favourable areas (big farms, in areas of plains, close to markets, etc.) increasing difference of competitiveness between productive and less productive areas.

EU-policy Policy axes	**Territorial dimension**	**Policy Output**	**Attractiveness/*Sustainability* parameters directly affected**	**Islands Impact Assessment (compared to the EU mainland)**
Rural development	Focus on rural areas and on LFAs (all islands are LFAs as well as parts of the mainland)	RD plans per country. Promotion of local Governance (Leader). Differences for LFAs. It provides: - incentives for investments - public investments for the improvement of the quality of life in rural areas (including islands) - additional incomes for farmers in LFAs	Employment Opportunities Business competitiveness Environmental and Cultural Heritage preservation Governance quality *GDP & GDP per capita evolution* *GDP per capita convergence* *Employment evolution* *Population evolution* *Women employment/activity rate* *Poverty risk / income distribution*	(+) rather positive results for islands but insufficient impacts in order to keep activity, population, agricultural land use in order to avoid erosion, loss of distinctive landscape and to produce environmental services.
Transport and energy				
TEN (transport and energy)	With strong territorial dimension	New infrastructures and amelioration of links between MS. Promotion of Multimodal Transport. Creation of a "real" internal market	Accessibility (Reduction of transport time and cost – amelioration of security) Environnemental Fragmentation – Pollution / Environnemental and Cultural Heritage (Pressure on environnemental capital) Economic Effectiveness	Without results in islands Negative impacts as TEN ameliorate the situation in European mainland and not consider islands as art.170 of Lisbon Treaty asks.
Competition policy – Privatisations (transport and energy)	Implicit	Free Competition for lower prices and better service	Accessibility Public Interest Services Employment Opportunities Competitiveness *Economic Effectiveness* *Social Cohesion*	Positive results in big islands Negative results and impacts in medium and small islands
Public Service policy	Implicit	Public Service Obligations - National policies/funding	Public Interest Services (amelioration of mobile infrastructures and services) Accessibility, Employment Opportunities, Competitiveness	Fragility of the system as private company can go out of business Probable diminution of local employment and income Competition and amelioration of service is

EU-policy Policy axes	**Territorial dimension**	**Policy Output**	**Attractiveness/*Sustainability* parameters directly affected**	**Islands Impact Assessment (compared to the EU mainland)**
			Economic Effectiveness *Social Cohesion*	not guaranteed even in bigger islands
Renewable energy	Implicit	Renewable energy projects (Covenant of Mayors, Green Island, Pact of Islands)	20/20/20 objective Employment opportunities *Economic effectiveness* *Social Cohesion* *Environmental Conservation*	Positive results and impacts depending on Regional Governance
Regional policy- ESF				
Training – Life long Learning	Explicit focus on less developed areas	Organisation of training courses for employers, employees and unemployed – young and women	Labour qualification Employment opportunities (women, young) *Social cohesion (Active population %, unemployment %, income and income distribution)*	Low output (mainly in small islands) and inefficient results and impacts (skills and employment rate remain low). Efficiency of policy depends also on National and Regional Governance
Competition				
State Regional aid system	Explicit - Regional aid focus on less developed regions	Financial aid to companies. No positive discrimination for islands	Competitiveness (incentives to business) Employment Opportunities *Economic Effectiveness and Social Cohesion*	Inefficient results; low impact as economic activity and activity rate remain low.
Regional policy – ERDF				
Cohesion policy	Explicit focus on less developed areas **(**Convergence Objective)	Regional operational programs' elaboration and implementation	Employment opportunities Business competitiveness, R&D Environmental and Cultural Heritage Public Interest Services Accessibility *Economic effectiveness*	Positive but inefficient results for attractiveness amelioration Inefficient impact "Developed" islands are as mainland regions under 'Regional Competitiveness and Employment' objective receiving very low EU funds. All islands are not considered as

EU-policy Policy axes	**Territorial dimension**	**Policy Output**	**Attractiveness/*Sustainability* parameters directly affected**	**Islands Impact Assessment (compared to the EU mainland)**
			Social Cohesion *Environmental Conservation*	boarder areas (internal or external) in order to participate in the cross-boarder cooperation
R&D – Innovation				
R&D Regional Plans	explicit	R&D Regional Plans	Research and Innovation (% of GDP and employment in R&D – Patents) Labour qualification Employment opportunities *Economic Effectiveness* *Employment*	Inefficient results; Without impact. Efficiency depends on National and Regional Governance
Research Framework Program	No		Research and Innovation (% of GDP and employment in R&D – Patents) Labour qualification Employment opportunities *Economic Effectiveness* *Employment*	Inefficient results; Without impact.

3.2 Analysis of policy options

As the analysis of the study revealed, the most significant reasons for the current situation of the European islands (i.e. low attractiveness, developmental lag against the continental mainland regions) are related to the characteristics of insularity and the lack of adapted or insufficient implementation of European policies. Furthermore, the analysis identified the need for the adoption of an alternative strategy which could lead to a balanced and sustainable development of the European islands.

Local authorities when asked[20] to define the factors that a future insular policy should take into account they identified environment and transport, as main parameters that should be included in a future policy for islands.

The implementation of a different strategy for the islands requires nevertheless the appropriate policy adaptations at all levels: European, national and regional/ local. In this context, based on the subsidiarity principle of the EU, a set of relevant European policy options may form a European policy framework to support the European islands to tackle their specific situation by responding to the problems arising from their permanent natural or demographic handicaps (i.e. insularity), as well as to utilize the opportunities emanating from their rich natural and anthropogenic environment and cultural heritage. The aim of this European policy framework should be to **improve the attractiveness of the islands,** give them the opportunity to compete within the European single market on equal terms and finally ensure **sustainable development.**

Such a policy framework should be based on the following principles:

- **Respect of the provisions of the Lisbon Treaty** and mainly Article 174 referring to *"… regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and islands, cross-border and mountain regions*". This calls for the acceptance of the unfavourable consequences specifically islands face due to their natural characteristics, and the development of a European policy framework to encounter them (article 175). Such a framework should take into account that permanent natural handicaps need permanent interventions.

[20] For more details see Scientific Report and Annex II

- **Provision of equivalent opportunities** to the European islands for certain services and infrastructure (e.g. equivalent accessibility to transport, capital, energy, communication, technology, etc). This argument is also supported by the Commission's Communication on "A single market for 21st century Europe". In this communication the Commission states under its operational principle: "Ensuring equal treatment and promoting universal access" that: "*Territories with a geographical or natural handicap such as outermost regions, islands, mountains, sparsely populated areas and external borders, often face challenges in terms of access to services of general interest, due to the remoteness from major markets or the increased cost for connection. These specific needs must be taken into account*". The recognition of this need by the European Commission calls for relevant support measures dealing with the impacts deriving from these handicaps which are identified as inhibitory for the sustainable development of the islands. Specific provision for TENs' is provided in article 170.
- **Respect of the Proportionality principle**. The proportionality principle which is fundamental for the European legislation and policies should be applied each time EU plans/ implements policies with significant territorial impact. It should be considered that the cost for the implementation of a European policy tends to be bigger in the case of an insular/ isolated area, due to their permanent natural/ demographic handicaps and their impacts (e.g. accessibility problems, limited population etc). For this purpose, when it comes to infrastructure or provision of goods and services in such areas, an assessment of the additional cost incurred for the citizens and enterprises of these areas is required. For instance the application of Waste Management Policy with the implementation of a recycling system and landfill has a different cost for the same population in a town of 300.000 inhabitants on the mainland and the same population dispersed on the 48 inhabited islands of Notio Aigaio Region (see Par.3.2.2.2 of the Scientific Report). In order for an EU policy to be able to achieve its objectives in all the EU regions, the additional cost needed for its implementation in the islands (due to their permanent natural handicaps) should be taken into account. Moreover, the policy implementation regulations should be more flexible and adapt to the scale of the territory concerned (the small scale of the islands concerning i.e. the specifications of a landfill) in order to achieve the optimum impact.
- **Promotion of the endogenous development** of the islands based on the exploitation of their particular assets while keeping

balance between the three components of sustainable development (environment, society –including culture-, economy).

In addition to the above principles, a policy framework for the European islands should respect the differences among islands arising from the different intensity with which the insularity characteristics act on the attractiveness and the overall performance (as expressed by the State Index) of the European islands. Therefore, the intensity of the policy options, as well as the intensity of the funds to be applied should be adjusted to the intensity of insularity.

As an example it is worth to refer to the interrelation between different sizes (in terms of population) of the islands as one of the insularity characteristics and policy measures. According to DG REGIO (see Annex I, p.19) *"…the size of the population and hence of the local market is a major determinant of the development challenges faced by a given territory and the diversity of situations is likely to be much more limited within each subgroups of islands"*. This implies that the smaller the island (in terms of inhabitants), the lesser the possibilities for reaching agglomeration economies and economies of scale[21] and more intensive the required policy measures (e.g. services of General Interest) to encounter insularity.

As an initial basis for the differentiation among islands according to the intensity of insularity the classification of the European islands presented in the current analysis could be used.

An additional parameter that 'shades' the intensity of insularity in some islands and has also to be considered on the adjustment of the policy options is the intraregional inequalities occurring in cases of archipelagos/ island complexes ("double insularity") as well as in cases of islands belonging to a continental mainland region, where the reality differs from island to island, or island to mainland respectively despite the fact that administratively they are in the same region. For these cases a specific care is needed in order to reveal the **intra-regional disparities among the different islands of an archipelago** before applying the policy measures. This requires an additional statistical effort in order to collect or produce data at the island level, because the data at the level of administrative unit (NUTS 2 or 3) might not be representative for all the islands.

[21] enterprises in bigger islands have more opportunities (bigger local market, better accessibility) than in small islands

Forming a policy framework for the European islands is now imperative, as EU is in a phase of initiating its Strategy for the next decade (EUROPE 2020), reconsiders its Cohesion Policy in order to include territoriality and generally reforming its budget strategy. Some indications of this new era are given in Barca's Report, e.g. by proposing Strategy, Place Based Territorial Perspective, Focus on Priorities, Monitoring System based on indicators, debate on Results concerning the Well-Being of populations. Therefore, it would be useful to examine how specific territories (like islands) could obtain a different treatment by addressing their **attractiveness concerns (priorities)** within the "new" European policies in order to be able to fulfil their sustainability goals (islanders' well-being). Policies and Financial Instruments should be adapted to the territorial needs. It is useful to remind the definition of the European Court of Justice which considers that a discrimination "*… consists in treating similar situations differently, and different situations similarly" (Finding of the Court of First Instance –fourth chamber-, 26 October 1993. Wagner Ruling Cases T-6/92 et T-52/92).* Arguing that the functioning of the Internal Market requires common rules discriminates the islands where the freedom of movement of persons and goods is relative and the principles of competition are skewed.

Within this context and on the basis of the previously quoted principles, a European policy framework for the islands could be governed by the following three general strands:

A. Possibilities for adaptation and better coordination of European policies, especially among the ones that have a strong territorial impact, in order to take into account islands' specific characteristics and potentialities.

A1. Design and implementation of integrated multi-sectoral and multi-fund programmes and interventions at the island level, with the goal to achieve the highest value impact for the territory, increasing its attractiveness for both residence and entrepreneurship. A coherent development framework for islands that aligns sectoral and local priorities, objectives and approaches, recognizes the realities of these territories as well as their endogenous potential, both at the design and the implementation stage, creates complementarity and synergies among the different European policies and brings together local, regional and national levels of governance.

A2. The Impact Assessment (IA) that should be launched for every EU policy and program has to comprise "islands" as a specific category of territory[22]. The impact of the European and the national policies on the attractiveness of the islands should be recorded at the design phase recognizing their natural characteristics as constant factors affecting their development in a severe way. Therefore the adaptation of the policies to the specific islands' development conditions is necessary to ensure that the policies are relevant to the islands' needs, potential and opportunities.

A3. The creation by the Commission of the **Inter-Service Group** on Territorial Cohesion comprising of representatives of various Directorate General has to be considered as a substantial step towards the coordination of European policies and the consideration of the particular situation of the different types of European territories (urban, rural, mountainous, insular etc).

A4. A more **complete system of criteria**, using as a base the State and the Attractiveness Indexes, should complement the use of GDP per capita as the indicator used for determining regions eligibility and policy intensity for financing by the EU Cohesion Policy. **A complete set of statistical indicators that reflect the real situation of the island territories needs to be further developed and monitored**. The attractiveness criteria used in this study have a clear territorial dimension and could form the basis to depict the territorial diversity of the EU. Furthermore the eligibility rules included in the (Cohesion Policy) regulations should apply in the case of island territories in such a way that provides full range eligibility of actions included in the Islands' Strategy and not only the restricted number of actions based on " a list of thematic priorities linked to the priorities, Integrated Guidelines and flagship initiatives of Europe 2020" (5th Cohesion report p.14) as designed mainly for the European mainland.

B. Possible adaptation of some European Sectoral Policies with an explicit spatial dimension in order to take into account the specific characteristics of islands.

B.1. Transport Policy

As accessibility is a crucial parameter in order to ameliorate the attractiveness of an area, the TEN-T has to be a real multi-modal policy and to be applied on islands as well. The creation of maritime

[22] It has to be underlined that the analysis in TIPTAP project does not take into account the different types of EU territories.

and air corridors between the European mainland and the islands by financing the fix and the mobile infrastructures can contribute to this direction. Diminishing the transportation cost of goods and persons by applying of the territorial continuity principle is a complementary measure for increasing accessibility.

Even if the EU Regulation No 3577/92 applying the principle of freedom to provide services to maritime transport within member states imposing the Public Service Obligations or the Public Service Contracts on islands routes may be considered as a good example on how EU law and policy, it can be adapted to islands conditions; there is room for improvement as problems of seasonality combined with low demand –mainly in small islands-, quasi-monopolies situations, the application of public service in international routes etc have to be addressed.

B.2. Energy Policy

A combination of the "Energy-efficient Europe" and the "Green High Tech" scenarios has to be adopted (ESPON 2010, p.96-98). There is a need for a long term planning taking into account the long run trends, the changes affecting the energy sector but also the islands' specificities.

- The first goal has to be a more "energy-efficient islands" leading to a decrease of the per capita consumption. This is important because: (a) producing energy on islands will be always more expensive that on mainland and as it has to phase the rather low but intensively seasonal demand and (b) islands have to participate in the reduction of CO2 emissions target. This goal could be achieved by developing programs for public and private buildings, local companies – building sector could be boosted in this way without "consuming" more of the limited space of islands. The use of electric cars can be promoted mainly in the smaller islands where the distances to cover are very short.
- The second goal refers to the development of technology on renewable energy: developing new industries around green energy sources such as wind power, tidal power, solar power and biomass have to take into account the scale of the islands and the fact that natural and cultural landscapes and biodiversity are nowadays the most important assets that islands possess.
- A third goal, the connection of islands to the European mainland's network could be examined as a complementary target in order to ensure secure supply of energy at affordable prices within an effective system.

B.3. Environmental Policy

On islands: (a) the environmental resources such as water, land, wetlands are limited and valuable and (b) these resources are their main comparative advantage for high added value, competitive "qualitative and green islands". Therefore, an integrated approach should be adopted in order to achieve the sustainable use of the fragile natural assets for the fulfilment of the local population needs.

The adaptation of Environmental priorities in order to take into account the specific needs of small and isolated populations within a rich but fragile environment that reduce the use and increase the reuse of scarce resources such as water, land, energy through an integrated approach; diminution of energy consumption is more crucial and compatible with the "quality islands" option but less economic efficient solution than the development of renewable energy systems (disproportionate to the scale of the islands' wind mills). Mitigation of the climate change impacts have also to be addressed as sea level rise and change of rainfall patterns are expected.

B.4. Rural Development Policy

Reinforcement of the Rural Development Policy and specifically the measures for LFAs' in order to produce high quality and high added value food within a high quality environment and landscape; supporting pluri-activity, innovation, lifelong learning, networking (intra- or inter- island between different activities in order to increase the market) and local governance (on the island level) is a prerequisite in order to produce "sustainable" structural changes within the local production system. **A restriction of the LFA's concept to Specific Territories with permanent natural handicaps has to be adopted in order to concentrate the financial effort**. The local Governance on the island level has to be reinforced and extended[23] based on Leader's initiative positive experience.

B5. State aid

The Treaty on the functioning of the EU (article 107, 3,c) allows aid to be used to facilitate the development of certain areas where it does not significantly affect competition ("category c" regions). In this category are included areas with a GDP per head below the EU-25 average, those with unemployment over 15% higher than the national

[23] The Local Actions Groups created by Leader initiative comprising the principal local actors could assume the elaboration and implementation of the Rural Development Plans on the island level

average or those with major structural changes as well as regions with permanent obstacles (islands with a population of 5000 or less, regions with low population density etc); this means that an island of 6000 inhabitants affect competition more than a central continental area with some million inhabitants and high unemployment rate. EU has to reconsider the criteria of this "category c" in order to take into account in one hand the magnitude of population in order to respond to the criterion "affect competition" and in the other hand the attractiveness parameters of different EU regions; **such a modification would include all the EU island regions and islands within this category**. EU has also to increase the aid given to the enterprises of those areas and to modulate it accordingly to their level of attractiveness and the accumulation of characteristics as low GDP per capita, high unemployment, low population density etc.

C. Ideas on compensation of the "insularity cost" that island entrepreneurs and inhabitants bear in order to acquire the same level of services and goods as European mainlanders whether referring to the construction of basic infrastructures or the provision of basic public services.

- **C.1 The setting up and the operation of the General Interest Services** such as Transport (including fixed and mobile infrastructures), Communication, ICT, Health, Education, Energy, Water Management, Waste Treatment in order to secure equitable (in quality and cost) services to all islanders independently where they live (small islands are directly concerned) but also to give enterprises the possibility to operate; the "territorial continuity" principle can be used as a basis for the calculation of the insularity cost. Particular effort has to be developed in order to achieve the Europe 2020 targets for better education (diminution of early school leavers, increase the presence of young people within the post secondary education).
- **C.2. The creation and the operation of (specifically the very small) insular enterprises**; this has to cover not only the investment costs but also the need for outsourcing different services such as accounting services, marketing services, the production and the incorporation of innovation within the productive process and generally the provision of any kind of expertise necessary for the development of competitive activities. State Regional Aids System

has to "positively discriminate" small insular enterprises[24] especially when these are focusing on the goals of "qualitative and green islands", incorporating innovations and qualitative employment. Moreover, State Regional Aids System has to support in a similar way self-employment mainly when it concerns the establishment in islands of scientists enriching in this way the local labour force and providing specialized services to enterprises and inhabitants. The diminution of the VAT for activities (productive processes) effectuated on the islands (external transport included) in order to compensate part of the extra operational cost is another measure that could support the small island enterprises.

- **C.3. Creation of permanent[25] structures, clusters and networks** in order to provide external consulting to the very small insular enterprises for R&D and innovation, management, design of new products and services, access to new capital and new markets etc, in order to tackle in a permanent way the low penetration of innovations in the islands and address the low competitivity of their economy. So the islands regions have to support in a permanent way this kind of investment not only to absorb and spread innovations produced elsewhere but also to produce adapted solutions for the specific problems of islands. This kind of structures based on the use of communication systems could create virtual "agglomeration economies" and compensate a part of the isolation "penalty" of islands. Moreover, all islands regions have to be considered as external or internal European border regions and participate in the cross-border cooperation; the current limit of 150 km imposed for cross-border cooperation should be reviewed.
- **C.4 The cost of living and acquisition of services for all the inhabitants** that cannot be produced locally such as the access to hospital or university services, to cultural activities, to information, etc
- **C.5. The training and the life long learning** of employers, self-employed, employed and unemployed people adapted for small and isolated populations. The promotion of e-learning services, the financing of high level courses for small groups (the Gozo experience), the financing of specific studies, necessary for the success of local development plans, out of the island (the Sardinian experience) etc are some examples.

[24] Small enterprises have more difficulties to access finance than the bigger ones; in the case of insular enterprises the situation is even worse.

[25] The fact that many structures and networks have be financed on project basis from European Funds has not permitted their longevity after the accomplishment of the project; moreover, in many cases these actions were either supported or totally executed by external consultants without creating know-how locally.

- **C.6 Support the traditional sectors and activities** such as fishing, farming, herding, etc. that are tightly associated to the identity and the quality of islands' lifestyle but which cannot compete with the large mainland areas.

The role of Insular Chamber of Commerce could be reinforced as intermediate bodies in order to alleviate the administrative burden of the coordination/application of these measures from national and European authorities.

The above policy measures have outputs that influence the different parameters of attractiveness. The proposed policy options have focused more on the necessary structural changes (i.e. entrepreneurship, human capital, R&D-innovation, SGI, protection of natural assets etc) that can have positive impacts in mid and long term on the sustainability of islands than on direct income increase that has immediate positive impact for the local population but which stops when the transfer of money stops.

This analysis clarifies that the positive discrimination demanded in EU policies for islands in order to address their permanent obstacles must differ according to inter islands disparities: disparities concerning their **population size, their sustainability state** (where GDP and unemployment level are included) **and their attractiveness have to be taken into account.**

Adaptation of EU policies will not automatically transform islands' situation; national government support is also necessary as it is the case in Nordic islands where the quality of Services of General Interest and of governance as well as the contribution of the public sector in the islands' GVA and employment has resulted to a better development level. Of course these practices were possible through direct public intervention (public services) during a period of high development rates in countries with high development level where islands represent a very low share of their development. It is less obvious nowadays when public transfers are severely controlled as public deficits are not any more allowed and some of "classic" public services as transport, energy and communications had to be opened to competition; furthermore mainly in Island States (Cyprus and Malta) but also in states as Greece, Italy and Spain where islanders are representing a significant part of their population, the financing of the specific island strategy described previously only from national public funds seems rather difficult.

4 Issues for further analytical work and research, data gaps to overcome

The analysis has highlighted three different areas for further work:

A) Concerning the implementation and the monitoring of a policy **adapted to the specific characteristics and needs of the islands** considered as a sub-category of the Specific Territories.

- **The unavailability of data at the island level**- restricts a more analytical work as the use of NUTS 2 and NUTS 3 information (when it is available) cannot reflect the islands' reality (archipelagos, coastal islands). EUROSTAT could fill this gap by: i) adopting a "specific" territorial nomenclature and ii) using statistical techniques in order to give estimations at the island level (when it is under the NUTS 3 level).
- **The "Insularity cost"** coming out from the islands specific characteristics as "territorial dis-continuity" and small market **has to be estimated in order to be addressed by the different EU policies.** This cost influences the investment and the operation cost of the state, the enterprises and the inhabitants making islands unattractive.
- **The use of composite Attractiveness and State Indicators instead of the per capita GDP indicator** in order to determine the regions covered by Cohesion Policy could address the complexity of the notion of territorial cohesion.
- **The creation of a new Multimodal Accessibility Index** in order to incorporate sea transport and to distinguish between the transport of people from the transport of commodities. The cost of different means of transport has also to be included in this accessibility index.

B) Concerning the concepts and the tools used for the analysis

- The concept of **"Territorial Cohesion"**, a recent one within the EU jargon, does not have yet a **clear and operational definition**. However the Green Paper on Territorial Cohesion states that "*the concept of territorial cohesion builds bridges between economic effectiveness, social cohesion and ecological balance, putting sustainable development at the heart of the policy design*". But "*This aspiration has not yet been met by a clear definition of territorial cohesion. It is still subject of ongoing discussion although much of the discussion has focused on economic and social aspects rather than the environmental dimensions of the concept*" (EEA, The environmental dimension of environmental sustainability, p.7). Even concepts such as

"economic effectiveness", "social cohesion" and "ecological balance"[26] or "human and environmental well-being" have not a clear definition and there is no any broader commitment about the parameters, variables and indexes describing and measuring them; there is no more commitment about the weights of these dimensions resulting to a underestimation of environmental one. In every study different sets of variables are used; so the results of the different studies are not directly comparable. **Consequently, it seems urgent to clarify the concepts and to create a basic common set of variables and indexes and to produce the corresponding data sets.**

- Other concepts such as ***"Attractiveness"*** **and** ***"Equity of opportunities for all the citizens of EU"*** **have also to be clarified** if they are going to continue to be part of the EU evaluation system; these concepts have a clear territorial dimension as they can explain the unequal pattern of distribution of population and activities within the European territories and what can be the sustainability goals in the different EU territories, including islands.
- Related to the above, functional improvements are needed to the impact assessment of EU policies tool, the TIA. *"The fact that no common concept for TIA does in fact exist at present" (TIPTAP, op.cit)* does not facilitate policy evaluation. One of the main problems concerns the use of variables. Even if an evaluation system of the projects was set up during the '90s, discerning outputs, results and impacts for every policy, the set of indicators used in the different studies does not follow this classification. This results to consider outputs of policies (i.e creation of a Natura zone) as an impact on environmental conservation (measured by the share of artificial land into the studies area). Consequently, a classification of the variables in order to have the **necessary information for the TIA cause-effect relations has to be effectuated.**

C) Concerning data availability

The lack (or the public unavailability) of data on different topics related to the analysis of the state in different areas as well as the output, the results and the impact of policies at the basic administrative units (NUTS 2 and 3) is a crucial handicap that has to be bridged in order to produce IA and TIA's of EU policies.

[26] The concept of "sustainable development" and its 3 dimensions (economic effectiveness, social cohesion and environmental balance –or environmental conservation-) is not much clearer.