

Annex I - Methodology

1. Methods used

1.1. Overall description of the methodology of the project

As already mentioned in the Inception Report of the project, the basic assumption underlying the overall approach is that areas which are no longer attractive for establishing competitive economic activities and attracting or retaining population will shrink their socioeconomic base and their overall viability, and therefore diverge from EU and national goals for sustainable development, economic, social and spatial cohesion. External or internal socio-economic and environmental parameters can be blamed. Three fundamental questions will be answered within the context of this study:

- What is the situation of Europe's islands within the context of sustainable development?
- What has caused this situation? Here, the concept of attractiveness is utilized to search for an answer.
- 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 for analyzing the situation and revealing problems (question 1); researching the causes that have led to this situation (question 2); and supporting the processes of planning and policy formulation (question 3).

In the following sections the methodologies for the different phases and types of research are presented in some detail. The structure of the presentation is as follows:

- The methodology for the estimation of sustainability and the making of the Islands' Atlas, including the definition and compilation of the parameters that will be used;
- The methodology for estimating attractiveness, including the definition and compilation of the parameters that will be used and the classification of the parameters;
- The methodology for the research on the case study islands.

1.2. Estimation of Sustainability for the Islands' Atlas

The estimation of the sustainability of the islands results in the Islands' Atlas. This estimation is based on the use of sustainability indicators fleshing out the differences that separate islands from the EU -27 as well as the national entities. Specifically, it is important to monitor how the islands vary from the EU and national means in terms of measures of economic efficiency, social justice and equity, as well as environmental conservation.

Regarding the **efficiency of an area's economy**, the parameters are used in order to evaluate the output (growth) of the productive system (economic effectiveness) and the development of the economy and its prospects in time (fragility).

Social justice/equity records the diffusion of the benefits arising from the economic growth to the overall society; it is depicted in the evolution and the structure of population and in social cohesion.

The estimation of **environmental conservation** concerns the capacity of the natural capital to ensure the supply of environmental good and services to a specific society by taking into account the specific characteristics of the islands (relatively small land masses and isolation) that limit space and results in vulnerable ecosystems and the impact of climate change.

The qualitative estimation for the indicators is derived either by already published work or by the opinions and views of local respondents (stakeholders) in the case study islands. The quantitative estimations are based on: (a) data from the ESPON database at NUTS II and NUTS III level; (b) data from EUROSTAT database at NUTS II and NUTS III level; (c) data from published studies and reports on the particular issues; (d) data from the research to local stakeholders, either in the case study islands or the research to the rest of the insular European stakeholders (see sections 2.3 and 2.4 for details).

Special care was taken during the collection and compilation process for (i) the consistency of the data, to ensure comparability; (ii) the creation of time series; and (iii) the qualitative variables that were used from reliable sources and with the same type of assumptions. All these metadata for the variables are vital for a complete and reliable data set.

The completion of the estimation is very much limited by the lack of data and the inconsistency of data. The fact that European Islands can be either NUTS 0 (Member States), NUTS II, NUTS III, LAU I or even LAU II has not allowed the completion of the data base of the project.

Our efforts to fill the enormous gaps in the existing data (especially for the environment) with a number of local researches for both the sustainability and the attractiveness of islands did not meet the required response from stakeholders (see sections 2.3 and 2.4 for details). **Since the current work is not a data-collecting study but a policy oriented study, the estimation was completed with the available data and with the assistance of published work.**

1.3. Estimation of Attractiveness for the Islands' Atlas and Methodology for the Classification of Attractiveness Parameters

For the second part of the approach (the causes of the existing situation of islands) the use of a number of parameters for the estimation of the attractiveness of islands is used. Attractiveness is estimated for two different groups of locals: (a) companies; (b) the population. For the selection of the variables, already existing approaches are used from previous EU studies (mainly in Economic and Social Cohesion and ESPON 2006 reports) with the inclusion of insularity. The parameters used are presented in Table 1¹.

Table 1. Issues that affect the Attractiveness of Islands for Companies and Population

Companies	Population	Definition/ calculation process
Accessibility	Accessibility	<p>It refers to the real time needed to access an island by ferry (refers to both passengers and goods). The concept of Virtual Distance is used that is calculated with the formula: $VD = (RT + BT + WT + (P * 168/N)) * TS$ Where: - VD stands for the Virtual Distance in Km; - RT stands for the Real Travel Time between the port and the destination in hr and includes the total travel time for all possible stops of the ferry if there are two ferry trips to reach the destination); - BT stands for Boarding Time in hr (i.e. the time required to be in the port in order to get on the ferry that is 2hr for Pireas and 1hr for other ports); - WT stands for possible waiting time the total trip includes a change of ferries in a port in hr; - P stands for the probability to catch the ferry: If there is one daily connection then there is a possibility of having to spend 12 hours ashore on average and $p = 12/24 = 0.5$, for 2 daily connections $p = 6/24 = 0.25$, for 3 daily connections $p = 4/24 = 0.17$, and for 4, $p = 2/24 = 0.08$;</p>

¹ The detailed analysis of the calculation / estimation of these factors is presented in the annex 7 of the Inception Report.

		<ul style="list-style-type: none"> - N stands for the frequency of weekly connections between the departure and the destination port; - TS stands for the travel speed of the ferry in Km/hr.
Labor qualifications/ cost	Employment and career opportunities	EUROSTAT/ESPON data – Stakeholders and Case study research for both
Services & infrastructure in support of businesses /Reception facilities	Access at and quality of public interest services	Stakeholders and Case study research for both
Incentives for companies	Security	Stakeholders and Case study research for both
Agglomeration economies /Size of market	Urban dynamism (cultural and social life)	EUROSTAT/ESPON data – Stakeholders and Case study research for both
Value of land	Value of land / housing	Stakeholders and Case study research for both
Research and innovation	Cultural identity	EUROSTAT/ESPON data – Stakeholders and Case study research for both
Social capital	Social capital	Stakeholders and Case study research
Governance quality (vision, strategy, mobilization....)	Governance quality (vision, strategy, mobilization....)	Stakeholders and Case study research
Environmental and cultural heritage / capital	Environmental and cultural heritage / capital	Stakeholders and Case study research
Hazards	Hazards	Stakeholders and Case study research
ITC facilities and use	ITC facilities and use	Stakeholders and Case study research
Networking services		Stakeholders and Case study research

For most of these parameters data are not available at any spatial / administrative level. Therefore, a number of different researches were designed and executed by the project team. As it is already analysed in the inception report, input was used from: (a) insular stakeholders, (b) permanent population of the islands of the case studies and (c) companies established on the case study islands. Along with these forms and questionnaires that are used, the stakeholders were also contacted for the provision of data and information for the sustainability of the islands. The input from stakeholders and field research are used for a first classification of attractiveness parameters.

1.3.1. Information from all the islands and the project's stakeholders

A very wide list of stakeholders –including decision makers from a large number of islands- was compiled and three different questionnaires were addressed to them²:

² The questionnaires are available in the Annex of the Report.

- (a) A questionnaire on attractiveness factors concerning households;
- (b) A questionnaire on attractiveness factors concerning companies;
- and
- (c) A form for recording best practices for policies and evaluation of European policies that are related with attractiveness.

The list includes:

- (a) Local Governments (Mayors of small islands and Directors/executives of NUTS II/III) that have received all three questionnaires and forms;
- (b) Presidents of Chambers of Commerce and Industry (CCI), (one per NUTS II/III area) that have received only the second questionnaire plus the form about best practices and European policies.
- (c) "Horizontal" stakeholders, such as the CRPM Islands' Commission, INSULEUR and ESIN that have distributed the questionnaires to their members.

For most of these stakeholders the relevant questionnaires were attached either as e-mail attachments or as paper forms and were send back either digitally or printed.

1.3.2. The research to local populations and local companies

These researches were performed in the case study islands only and are presented in more detail in the following section.

1.3.3. Methodology for classification the attractiveness factors

The analysis of the data is aiming to identify the factors affecting this attractiveness and their values and to prioritize these factors (i.e. to find their gravity). The total island attractiveness must be viewed through two distinctive approaches. The first is to unveil the factors that affect the attractiveness of islands as a place for residence and to estimate their values and their gravity. The second one is to unveil the factors affecting island attractiveness as a place to develop economic activities as well as their value and their importance.

The first step is to identify the potential factors that affect islands attractiveness, through a) a literature review and b) brainstorming sessions among the members of the research team. The aim is to conclude on a list of possible factors-indices that can be used in order to measure the attractiveness of insular areas. For that reason the literature review is focused on the examination of relevant topics such as spatial analysis and the development of insular areas as well as the ESPON's database. After concluding on a list of factors, a

brainstorming session comprises the second level of the methodological framework. The research team along with experts in "insularity" examined the list of factors resulted from the 1st level in order to clear them up. The aim is to delete those that have the same or similar meaning-use and to add factors that have not been detected by the literature review. The outcome of the first phase of the methodological framework is the indices that they are going to be accessed for their importance on the attractiveness of an island or an insular region.

As regards the island attractiveness as a place for residence, the literature review and the brainstorming session concluded on the identification of 25 critical factors. The same approach concluded on the identification of 24 critical factors for defining the island attractiveness as a place to develop economic activities.

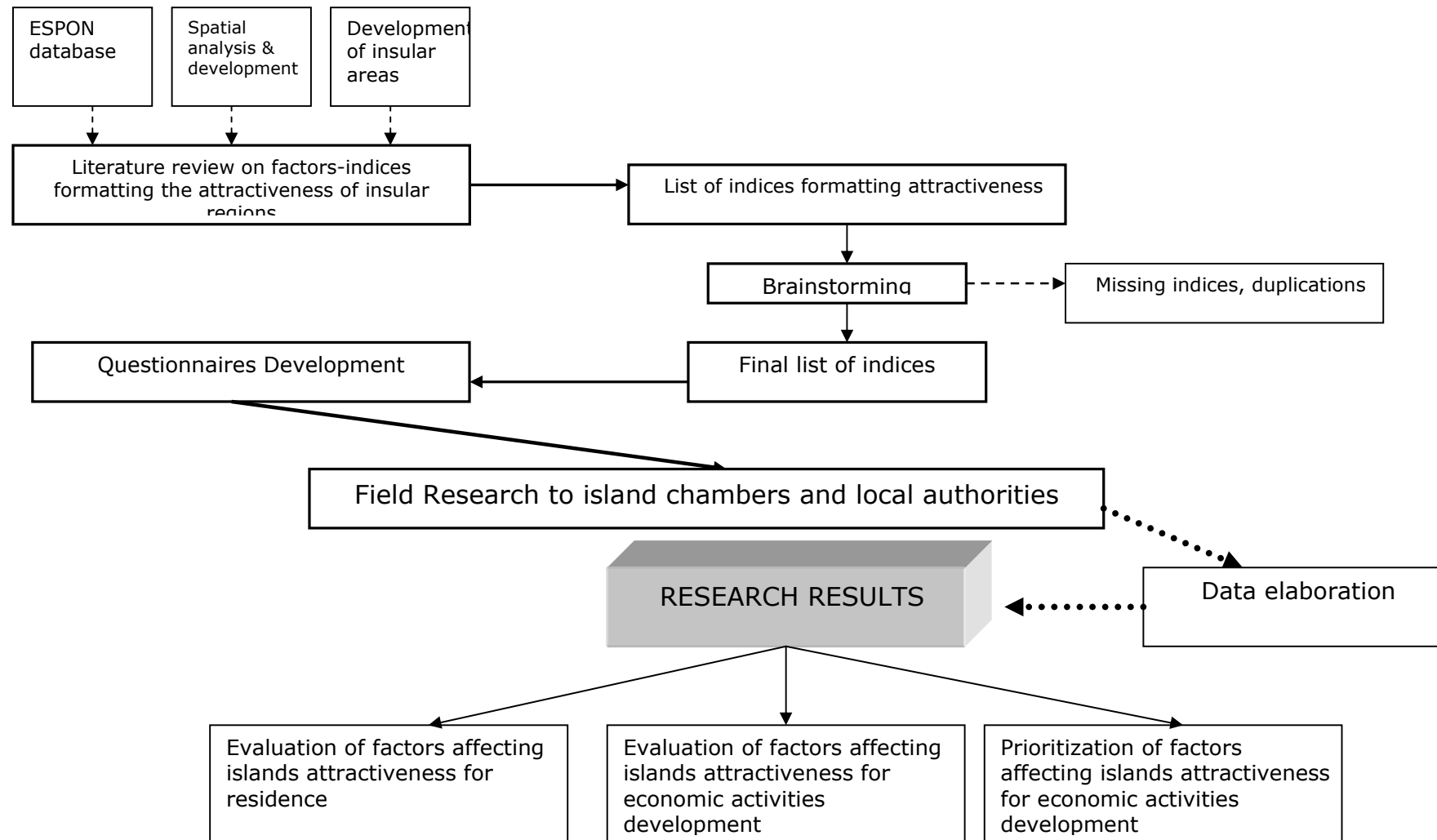
Based on these factors, two lists were developed, one with the factors influencing island attractiveness for populations and one with the factors influencing island attractiveness for developing economic activities. Regarding the questionnaire on islands attractiveness for economic activities, the respondents asked to evaluate every factor in a Likert-type scale of 2-5 (with 2 being a very important factor for calibrating the islands attractiveness for economic activities and 5 being an insignificant factor). Finally there was also the option for the respondents to not express any opinion on a specific factor(s). Moreover the respondents asked also to rank the five most important factors from a total of 24.

The local authorities requested to complete the questionnaire on economic activities attractiveness in the same way. For the questionnaire concerning islands attractiveness as a place of residence, the local authorities asked to evaluate the 25 factors in a scale of 2-5 (with 2 being a very important factor for determining the islands attractiveness for living and 5 being an insignificant factor).

The data gathered have been processed with the Statistical Package for Social Sciences (SPSS v.17.0) software and the MS Excel. In total, 48 European island chambers participated in the research. From them 38 chambers completed the questionnaire part which referred to the prioritization of the five most important factors of attractiveness while all of them completed the questionnaire part for factors evaluation. As regards the local authorities' questionnaire, it has been completed by 40 authorities from the 75 who have received it. 33 out of the 40 participants completed the factors prioritization task of the questionnaire while all of them completed the factors evaluation task.

The methodological framework is presented in figure 1.

Figure 1. The methodological framework of the research



1.3.4. The Delphi Method-methodological framework

The Delphi method developed by RAND Corporation in the mid '50's and took her name from the ancient oracle of Delphi in Greece. According to Delbecq et al (1975; pp.10) *"The Delphi method is a method for the systematic solicitation and collection of judgments on a particular topic through a set of carefully designed sequential questionnaires interspersed with summarized information and feedback of opinions derived from earlier responses"*. The method is consisted by a repeating process in which a questionnaire is distributed to the experts through a series of rounds. Before the beginning of the second round, the participants informed on the answers of the first round (this process is repeated in the remaining rounds) (Groom et al, 2007). The process is ended when a high degree of consensus achieved between the participants or when the answers from round to round are not changing.

Delphi is an unstructured method, thus it allows to the supervisor research team to adopt and apply the basic rules according to the needs of the issue under examination (Groom et al, 2007). The method is mainly used for treating qualitative data in order to conclude in quantitative data (Wiersma and Jurs, 2005). The method is useful when:

- The research issue does not allow the application of analytical techniques, but it can be benefited from subjective judgments in a collective base.
- Individuals whose contribution is required for the examination of a problem, belongs to different backgrounds regarding experience and expertise (Linstone and Turoff, 1976).

The application of the Delphi method follows usually six steps.

- 1) The development of the research issue and of the variables
- 2) Selection of the participants. Usually the participants are experts with experience and expertise on the issue under examination. Moreover the use of experts with an interest on the research issue is an important factor affecting the response rate (May and Green, 1990).
- 3) Conducting the first round
- 4) Feedback of the trends and opinions as expressed in the first round. Usually some statistical data are used such as the mean, median and the frequency of the answers.
- 5) Conducting the second round
- 6) Repeating step 4. If the judgments are very different from the means of the first round, then the participants must justify their

answers. The arguments must mention in the report of the second round.

7) Conducting the third round

8) Repeating step 4. If the judgments are very different from the means of the first round, then the participants must justify their answers. The arguments must mention in the report of the second round

9) Analyzing the results of the final round.

Usually the consensus between the participants is achieved in the third round.

For the proper application of the method there are two basic principles to be accomplished (Groom et al, 2007):

- The experts interact only through the feedback mechanisms provided from the supervisor team, for avoiding the "group dynamic effects", i.e. the effects of sovereign personalities or the effects of unwillingness to confute with experts of greater experience, knowledge or expertise)
- The anonymity of the answers in order to provide the experts with the greater degree of individuality and freedom (see also Lindqvist and Nordanger, 2008).

The advantages of the Delphi method according to Cone (1978) are:

- Every member of the panel can interfere in every step of the process
- No one is forced to defend his or her judgments.
- The method allows the formation of a trend or a consensus for a specific issue.

Moreover and despite the fact that the consensus is the ultimate goal, where consensus can not be achieved, the method can clarify the issue examined through the exploitation of different judgments (Buckly, 1995).

The main disadvantage of the method is its heavy reliance on experts (Keeney et al, 2001) and consequently on subjective judgments. The panel of experts is selected with any other method apart from random selection. Thus, there is a question how the results of the method can be the base for decision making in socially related issues (Groom et al, 2007).

The Policy Delphi, is a method that handles this problem in a different way, it seeks to generate the strongest possible opposing views on the potential resolutions of a major policy issue. (Turrof, 1970). A policy issue is one for which there are no experts, only informed advocates and referees. An expert or analyst may contribute a quantifiable or

analytical estimation of some effect resulting from a particular resolution of a policy issue, but it is unlikely that a clear-cut (to all concerned) resolution of a policy issue will result from such an analysis; in that case, the issue would cease to be one of policy. The expert becomes an advocate for effectiveness or efficiency and must compete with the advocates for concerned interest groups within the society or organization involved with the issue. The Policy Delphi also rests on the premise that the decision maker is not interested in having a group generate his decision; but rather, have an informed group present all the options and supporting evidence for his consideration. The Policy Delphi is therefore a tool for the analysis of policy issues and not a mechanism for making a decision. Generating a consensus is not the prime objective, and the structure of the communication process as well as the choice of the respondent group may be such as to make consensus on a particular resolution very unlikely.

There are six phases that can be identified in the communication process that is taking place in Policy Delphi. These are:

(1) Formulation of the issues. What is the issue that really should be under consideration? How should it be stated?

(2) Exposing the options. Given the issue, what are the policy options available?

(3) Determining initial positions on the issues. Which are the ones everyone already agrees upon and which are the unimportant ones to be discarded? Which are the ones exhibiting disagreement among the respondents?

(4) Exploring and obtaining the reasons for disagreements. What underlying assumptions, views, or facts are being used by the individuals to support their respective positions?

(5) Evaluating the underlying reasons. How does the group view the separate arguments used to defend various positions and how do they compare to one another on a relative basis?

(6) Re-evaluating the options. Re-evaluation is based upon the views of the underlying "evidence" and the assessment of its relevance to each position taken.

1.4. Methodology for the Research in the Case Studies

This part of the overall approach is vital for providing information and data for smaller islands and islands that are not autonomous administrative entities. The original selection of six case studies was based on: (a) the resident population (three categories: Large, Medium-sized and Small islands); (b) administrative status (or jurisdiction) (three categories: state, NUTS II or III islands, and

islands that can be coastal, archipelagos, or small islands of an insular region); (c) geographical distribution and location (two categories: islands of the North (Baltic/ North Atlantic) and the South (Mediterranean); (d) the island's development status (four categories: Convergence Regions, Phasing-out Regions, Phasing-in Regions and Competitiveness and Employment Regions). The final list of the case studies included 9 islands, as three more large islands were included, two state ones (Malta and Cyprus) and one NUTS II (Sardegna). The field work of the research was therefore performed either by field trips on smaller islands, or with the assistance of local stakeholders. Regarding the questionnaires, the most important difference refers to the type of questions regarding attractiveness: while the ones that were used to local authorities and Chamber of Industry Commerce has asked to classify attractiveness factors regarding their *importance*, the ones used on residents and companies asked about the *satisfaction* of the existing situation on their island of residence regarding these factors. The analysis was performed with the use of statistical software and individual values for each question were calculated, assuming that each "agree completely" answer was multiplied with 2, each "agree" with 1, each "neither agree nor disagree" with 0, each "disagree" with -1 and each "disagree completely" with -2. These values were normalized by dividing them to the number of answers to facilitate comparisons.

1.4.1. The research to local populations

The research to local population theoretically refers to many different social groups, as attractiveness differs for different groups over characteristics such as age, education, occupation, family status, etc. For this particular research, we have assumed two different groups:

- (a) Local residents that live on the island for all their lives or at least for more than 15 years; and
- (b) "Newcomers" or residents that have moved to the island during the last 15 years.

The type of research strategy and the sampling was different for these groups according to the size of the islands' population.

- For permanent residents on small islands: for a relatively small population the size of the sample was set at max 50 residents, with a sampling process that depended on the knowledge of the population, but everywhere either random or a combination of snowball and random sampling were used, based on the available population (i.e. those that are present at the time of

the survey). In the case where the later two strategies will be adopted, the researchers need to take care that the sample is representative in broad terms with the overall population (e.g. to ensure that most of the sample will be old people on islands where the majority of the population are elderly). There can be no actual representative sample, but this approximation is still better than nothing.

- For permanent residents and islands with big populations: here the design of the strategy was more complicated and the decision was to distribute the questionnaires to local administrations (mayors).
- For newcomers: theoretically, the design is not affected by the size of the island, since there is no record that could allow random strategies to select the sample. Therefore, snowball strategies (i.e. each respondent provides one - three more contacts for interviews) were adopted, in the case studies where newcomers were actually located. In large islands, this category was not completed in the end.

The particular research strategy had to be fitted to the new case studies and therefore was flexible on purpose. Nevertheless, stakeholders from the biggest islands did not respond and the gaps of the data required to complete the analysis were not filled.

1.4.2. Attractiveness parameters according to local businesses/entrepreneurs

For local businesses a slightly different approach was used, as the type of business is very important for the approach followed here. As mentioned already in the sustainability section, the research is more interested in businesses that are involved in a "competitive" productive activity (e.g. 'exporting' products or services which bring income to the area; and preventing leakages).

The max size of the sample was set at 30 businesses in any case. For some small islands all such local businesses were covered (on Lipsi Island).

1.5. Methodology for the investigation of social capital

The aim of the analysis is to investigate social capital among European regions which are insular (Cyprus, Illes Balears, North Aegean, South Aegean, Ionian Islands, Crete, Sicily, Sardegna and Bornholms Amt) or

include island areas (Scotland, Mediterranean and Southern Finland Aaland), data from round 1 of the European Social Survey (ESS, Jowell, 2003) were utilized except for Cyprus where data from Round 3 (Jowell, 2007) were used³. Details of the total sample are presented in Table 2. Regarding the characteristics of the sample, 53.6% of the respondents were female and 46.4% male. The average age for the total sample was approximately 48 years of age. Regarding educational level the highest percentage is presented among individuals who have completed upper secondary education (20.5%) followed by lower secondary or second stage of basic education (18%).

Table 2. Regions included in the analysis⁴

North/South Europe	COUNTRIES			REGIONS		
		N	%		N	%
NORTH	Denmark	14	0.6	Bornholms Amt	14	0.6
	Finland	726	33.4	Southern Finland Aaland	726	33.4
	United Kingdom	184	8.5	Scotland	184	8.5
SOUTH	Cyprus	594	27.3	Cyprus	594	27.3
	Spain	43	2.0	Illes Balears	43	2.0
	France	176	8.1	Mediterranee	176	8.1
	Greece	280	12.9	North Aegean	63	2.9
				South Aegean	35	1.6
				Ionian Islands	39	1.8
				Crete	143	6.6
	Italy	158	7.3	Sicily	102	4.7
				Sardegna	56	2.6
	Total	2175				

Description of Variables

In order to observe differences between regions several variables from the ESS database were utilized. For the observation of differences

³ R Jowell and the Central Co-ordinating Team, European Social Survey 2002/2003: Technical Report, London: Centre for Comparative Social Surveys, City University (2003); R Jowell and the Central Co-ordinating Team, European Social Survey 2006/2007: Technical Report, London: Centre for Comparative Social Surveys, City University (2007)

⁴ The European Social Survey was conducted in different spatial levels throughout different EU countries non corresponding with the European NUTS. In our analysis the islands or areas including islands (i.e Mediterranean for France) are included. There is no data from Malta, Sweden and Esthonia.

between regions one-way ANOVA was conducted whereas differences among North and South Europe were estimated with the appropriate t-test available from the Statistical Package for the Social Sciences (SPSS 16.0).

- **Social trust** was measured with three variables combined in one factor created through Explanatory Factor Analysis (EFA) (*'Most people can be trusted or you can't be too careful', 'Most people are fair or try to take advantage of you', 'Most of the time people are helpful or they are mostly looking out for themselves'*) (Cronbach's a reliability indicator: 0.81). All questions were measured on a 0-10 Likert scale with lower scores representing lower levels of trust.
- **Trust in institutions** was also explored with a new variable created through EFA combining questions measuring the level of *trust for the national parliament, the legal system and the European Parliament* (Cronbach's a: 0.78). All questions were measured on a 10 point Likert scale similar to the previous variables.
- Another set of questions, combined through EFA, explored the **level of satisfaction for public issues** including *the level of satisfaction for the government, the economy, the way democracy works in the country, the health system and the educational system* (Cronbach's a: 0.83). All questions were measured on a 10 point scale with lower scores representing lower levels of satisfaction.
- Regarding **social networks**, the number of organizations that citizens are members or have participated as volunteers was estimated. Furthermore, the **level of interest in politics** was measured on a 4 point scale with lower scores revealing higher levels of interest for political issues.
- Finally, the **feeling of safety** was also investigated. Respondents were asked to evaluate on a 10 point Likert scale their *Feeling of safety when walking alone in local area after dark*.

1.6. Islands' typology

"ESPON typologies provide a special view of the ESPON area allowing to identify regional characters and to analyse the causes of their differences. In addition to simple benchmarking the typologies show the regional setting with regard to the selected thematic orientation. They provide the conceptual analytical tool to describe territorial structures on the basis of indicators derived which could be used for further investigations with regard to other spatial structures and developments". (ESPON, Monitoring Territorial Development, p.13)

The types of data that we need to statistically analyze in this project require the employment of multivariate methods. There are several motivations for this. We have to search for the pattern of relationships between many variables simultaneously. Complex interrelationships will not allow a useful analysis to be obtained by using each variable in isolation. The main motivations are:

- Classification – dividing variables or samples of islands into groups with shared properties.
- Identifying gradients, trends or other patterns in island multivariate data.
- Identifying which explanatory, independent or environmental (if any) variables are most influential in determining sample structure.
- Finally and perhaps most importantly, we will aim to distil the most important features from the sets of the complex island data, so that these can be presented clearly to policy makers and stakeholders. This often entails displaying the main features in a 2- or 3-dimensional plot.

Our data set will comprise a number of samples, cases or observations. For each sample there will be values for a number of variables.

The methods used in this analysis can be applied to the following types of variable record:

- Quantitative measures – e.g. population sizes
- Semi-quantitative measures – e.g. densities on a scale 1 to 5, or perceived attractiveness on a scale 1 to 10.
- Binary or presence/absence records – e.g. a facility or other object has a score of 1 if present in a sample and zero if not.

Data may be transformed if necessary to avoid high magnitude variables dominating the analysis. At the same time variables will be examined for their correlation between them. “Duplicated” (highly correlated) variables will be removed from the analysis to decrease the volume of data.

Particular multivariate methods to be used include but are not limited to:

- Principal Component Analysis

This is a standard method that can display the main features of a multivariate data set and may reveal hidden features within the data.

- Multidimensional Scaling

This method produces an ordination of only the samples (not the variables) in an n-dimensional space so that the most similar samples are placed closest together.

- **Linear Discriminant Analysis**

This is a standard method for testing the significance of previously defined groups, identifying and describing which variables distinguish between the groups, and producing a model to allocate new samples to a group. We envisage that this method will be especially useful in our analysis of island data. For instance we could pre-allocate our samples to groups that are characterised by the size of the island and check to see whether this classification holds.

- **Cluster Analysis**

It is used to show in a dendrogram, tree or branching diagram the relationships between objects or samples. This approach is useful when samples clearly fall into distinct groups. Dendrograms are a powerful representation method, which are easily understood.

1.7. SWOT analysis

SWOT analysis is the appropriate tool for summarizing the islands' actual situation before the elaboration of policy propositions.

From the attractiveness analysis the islands have been assigned by concrete characteristics. The analysis of data regards the existing situation of the islands and the causes explaining this situation. This step is essential so that the proposed policy is targeted on the one hand to boost the strong points of the examined islands and on the other hand to mitigate problems of different intensity. Analysis must be completed in order to recognize the opportunities and threats arising from the external environment:

- (a) From external factors, such as climate change, energy issues, globalisation, change of consumption patterns, migration flows, technology change, etc.),
- (b) From EU and national policies.

Especially the SWOT analysis is aiming at (European Commission 1999):

- The *reduction of uncertainty* concerning the application of a concrete developmental policy, action or program, in a geographic unit with particular characteristics.

- The *localisation the sovereign and critical defining factors* (internal and exterior), that influence the success of developmental policy, action or program.
- The validated *support of completed strategic* connection of developmental action, with the endogenous potential of the application region, as with the exterior environment.

In the cases of local or regional spatial and developmental planning, SWOT analysis includes schematically the following *stages*, which differ or are adjusted depending on the particularities of each case (European Commission 1999):

1. *Investigation of the developmental program's, intervention's, action's or policy's environment.* At this stage the more powerful tendencies and the problems that are expected to influence the case study are elected, with the help of basic social - demographic, economic, policies and spatial or other individual variables and indicators.
2. *Investigation of likely action.* At this stage it is investigated, in a preliminary level, the total likely actions, concerning the more basic problems that were realised at the previous stage.
3. *Exterior analysis of occasions and threats.* This stage includes in-depth validation and combined research and analysis of occasions that are offered by the exterior environment, and the threats that are emanated from this, particularly those that do not take place under the control of the local or regional administrative authorities, and that influence considerably the social - economic development.
4. *Internal analysis of strengths and weaknesses.* This stage includes in-depth validation and combined research and analysis of the internal advantages of the local or regional economy and society and the planning developmental action, as well as the more basic internal weaknesses, particularly those which can be faced with the complete exploitation of advantages and possibilities.
5. *Categorisation of likely action.* This stage, which results from the research and analysis of the previous stages, includes the "final " categorisation of action that aims in the enhancement of strengths, in the exploitation of opportunities, and in the attenuation or in the effacement of weaknesses and threats. This stage concerns in the process of *strategic planning* of developmental policy, action or program, in a way so that the objectives that initially had been placed are achieved, in the maximum level.