

SUSTAIN

SCORING COASTAL SUSTAINABILITY

A report on the sustainability criteria
scoring and their assessment

NOVEMBER 2012



THE SUSTAIN PROJECT

Funded through the INTERREG IVC programme, SUSTAIN has been a 3-year project part-funded by the European Regional Development Fund. It was a Regional Initiative addressing environment and risk prevention (Priority 2 of the programme) and the sub-theme water management. The project budget was €1.8m.

The objective of SUSTAIN was to create a fully implementable policy tool to help coastal authorities and communities throughout Europe to deliver sustainability on Europe's coast. This tool will be applicable to all 22 coastal states of

the European Union. It is based on a set of easily measurable sustainability indicators that were developed and assessed during the lifetime of the project to enable Authorities to measure effectively the sustainability of our coasts.

The project partnership was made up of 12 partner organisations from across the EU. The lead partner for the project was the Coastal & Marine Union – EUCC (The Netherlands).

Visit www.sustain-eu.net where you can find more information as well as the SUSTAIN Publications in 9 European languages!

COLOPHON

SUSTAIN Partnership. 2012. **SCORING COASTAL SUSTAINABILITY, A report on the sustainability criteria scoring and their assessment.** SUSTAIN Project / INTERREG IVC.

This report has been developed with the contribution of all partners of SUSTAIN.

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The Interregional Cooperation Programme INTERREG IVC, financed by the European Union's Regional Development Fund, helps Regions of Europe work together to share experience and good practice in the areas of innovation, the knowledge economy, the environment and risk prevention. EUR 302 million is available for project funding but, more than that, a wealth of knowledge and potential solutions are also on hand for regional policy-makers.

INTRODUCTION

SUSTAIN has developed an indicator-based methodology and scoring system which enables a self-assessment approach for local and regional authorities, to evaluate their sustainability performance for the purpose of improving the management of coastal zones. It enables coastal authorities to determine whether they are reaching their strategic sustainability goals and to identify situations requiring management intervention.

Relevant indicators have been chosen to cover 22 distinct Issues within the four recognisable pillars of sustainability i.e. Governance, Economics, Environmental Quality and Social Well-being. There are both Core and Optional Indicators to reflect locally specific situations which can vary across Europe's many diverse regions.

This report describes the process that took place during the development of the **SUSTAIN Indicator Set** and the use and final production of the policy tool, **DeCyDe-for-Sustainability**. This spread sheet tool allows the Core Indicators to be scored numerically, to support the self-assessment and to determine whether an Authority is moving towards a sustainable end-point. During the SUSTAIN project, all partners have trialled the tool, consequently an assessment has been done which resulted in a final, refined and robust list and scoring method.

The lessons learned from this exercise and the final tips on how to use the DeCyDe-for-Sustainability tool provide a better insight into the process that took place, as well as showing what can be expected and how the tool can be used.



SUSTAIN visit Sefton, UK

The SUSTAIN Indicator Set and its assessment process

The SUSTAIN Indicator Set, described in the Measuring Coastal Sustainability Guide, has been based on indicators that are generally already in common usage and ones that, according to EU legislation, should be regularly monitored. New indicators, although possibly more relevant to sustainability have not been introduced if there is no data-base from which to measure them.

SUSTAIN offers two sets of Indicators differing from the more traditional approach of applying a fixed, standard indicator set. In SUSTAIN CORE and OPTIONAL indicators have been defined.

They represent the four pillars of sustainability: governance, environmental quality, economics and social well-being. In order to show their relevance to sustainability the different indicators have been grouped into a number of Issues. A Checklist approach has been introduced in respect of the Governance pillar, rather than indicators which are notoriously difficult to measure for this particular theme.

These indicators have been robustly selected using three criteria:

- relevance to sustainability,
- availability of data, and
- ability to be scored.

During the last three years, these indicators have been tested and refined as result of assessment and review process performed by the SUSTAIN partners. More importantly, their relevancy for sustainability has been considered, discussed and agreed. The process entailed various steps and all partners, in particular those who do not represent a local or regional authority, have engaged their local and regional contacts at authority level who have voluntarily provided data and tested the criteria and the tool. The tests done to refine the DeCyDe-for-Sustainability tool took place during spring / summer of 2012 and were followed by a review of the suitability of all CORE indicators through a semi-quantitative method set up by the Canary Institute of Marine Science (ICCM) with contributions by all other SUSTAIN partners. This resulted in the final version being presented by SUSTAIN.

Relevance of SUSTAIN Indicators for sustainability

Over the last few years, the concept of what determines a sustainable community has been discussed by many municipalities. Our communities are striving for sustainable development - "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987).

Four pillars underpinning sustainability are generally recognised which take into account Economics, the Environment, Social aspects as well as Governance. Within each pillar, issues have been identified in SUSTAIN through a consultation procedure involving all the partners. Of course, it is the linkages and integration among

the issues and, ultimately, within the pillars that will show support for sustainability.

Whilst the economic, environmental quality, and social well-being pillars have been well defined and documented in community sustainability planning, inclusion of the governance pillar is a relatively new phenomenon in sustainable development. SUSTAIN has included the governance pillar because of the important role that policy development and implementation plays in ultimately defining our attitudes, values, and behaviours. This four-pillar approach to sustainable development recognises that a community's vitality and quality of life are closely inter-related and fully contribute to the vitality and quality of its engagement and expression.

Applying the DeCyDe-for-Sustainability methodology to SUSTAIN

Introduction

DeCyDe-for-Sustainability is a practical method that can be implemented to give a numerical value to an individual indicator. It is also an approach which is in line with the trend of public policies to move from a purely conceptual and theoretical view to a more pragmatic approach, based upon observed data.

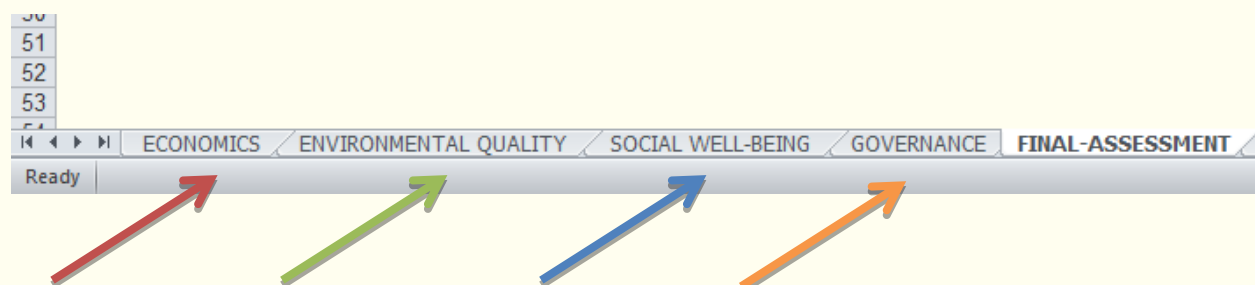
When talking about decision support, the important questions are “who the decision-makers are” and “what their competences are”. Because many decision-support systems currently used are both sophisticated and complex, rather than supporting decision makers who may not have high academic competences, they are simply not used. This means that decision-makers increasingly rely upon their intuition and judgment, and even interests, to reach decisions.

These challenges led to use and develop for the SUSTAIN Indicator Set the DeCyDe-for-Sustainability method that integrates logical processes, established scientific knowledge and real local data, together with local knowledge and experience and a high degree of participation. It offers a method that supports the decision-makers and stakeholders to understand and justify the main issues that are involved in the process of decision and the trade-offs between different decisions and alternatives. At the same time, it gives them the chance for real participation, i.e. to incorporate their views, evaluations and perspectives in the process.

The structure of the DeCyDe-for-Sustainability tool

DeCyDe-for-Sustainability tool is based on DeCyDe tool and method. It is structured in three preparatory, self-contained and inter-related steps and a final stage where the actual decision-support work is done. The preparatory steps are self-contained because they can be used per se, each step giving specific results. They are

interrelated since when put together they lead to the final stage, where the decision is supported, based on facts and data and not to perception and intuition. However, the first step, the data base, is necessary for the consistent development of the other steps:



The 4 Pillars of Sustainability: The DeCyDe-for-Sustainability tool contains 4 Excel work sheets: Economics, Environmental Quality, Social Well-Being, Governance that need to be completed and can be accessed from the bottom bar of the Excel document. Additionally, there are also 3 Excel sheets available for the step concerning the weighting process.

Step1: The values of the indicators

DeCyDe has been built specifically for, and is specific to, each core SUSTAIN indicator as a result of the assessment process done by the partners. It is spreadsheet-oriented. Determining the values of each indicator actually forms the baseline work. The information provides a set of essential data that is needed in order to guarantee the unbiased character of the results of the decision process.

The largest effort of measuring sustainability is in collecting the relevant data for each indicator. The results of the assessment by the SUSTAIN partners reveal that the data:

- ◆ is quite dispersed and time to find the data is an essential part of the methodology.
- ◆ has often been collected by monitoring in units other than those specified in the various European Directives.
- ◆ is often available is from different years.
- ◆ is only occasionally available at the needed spatial level i.e. it is available nationally or regionally but not locally and sometimes it is simply not available at all.

However, this need be no detriment to using and scoring the available data, provided that the same data sources are consistently used each time sustainability is measured. This is quite important to retain as only by using the same data sources and the same Core indicators (and the same optional indicators that may be selected) the measurement of sustainability throughout years or exercises can be achieved.

Data should be found for as many of the Core indicators as possible and for those Optional¹ indicators which are considered the most relevant. This set of core data is organised in DeCyDe-for-Sustainability in a way that supports the decision-makers to picture the real image of the existing situation and understand the problem through number.

¹The DeCyDe-for-Sustainability tool is flexible and changes and introduction of optional indicators can be done. For this purpose and any other enquiries please contact Xenia Loizidou & Michalis Loizides, ISOTECH Ltd - www.isotech.com.cy, email: xenia@isotech.com.cy.



SUSTAIN meeting Lisbon, Portugal

Step 2: The setting of criteria/parameters

This is the part of the method which should be structured and modelled. It consists of two parts:

Part 1: Assessing the pillars, issues and indicators against the policy options being implemented

This is achieved through a highly participatory process: the decision makers and stakeholders are asked to go through them during dedicated structured meetings/workshops, discuss and decide on the specific set of indicators that is going to be scored in order to support their decision. The approach is simple, i.e. the availability of data, the definition of the problem and the perception of the decision-makers and the stakeholders. It is important to have a robust

baseline study, a good set of data (the result of step 1) and a trained facilitator/expert who is not imposing decisions but supporting the process but who has a good knowledge of the overall objectives, of the data and of local/case specific characteristics. It has to be clear and provide the decision makers with the understanding that the aim is to solve the problem and to get a concrete result to support the decision to be made, rather than simply to attempt to model the collated indicators mathematically.



GOVERNANCE					
1	Policies/ strategies for sustainability	Scoring Ranges			Indicator Score
	1. A sustainable development strategy which includes specific references to the coast and adjacent marine is in place.	Yes	No	No Data	0,00
		10	1	0	
	2. There is effective political support for the sustainability process.	Yes	No	No Data	
		10	1	0	
	3. There are integrated, sustainability development plans.	Yes	No	No Data	
		10	1	0	
	4. The SUSTAIN Issues are covered by relevant policies at the local/regional level.	Yes	No	No Data	
		10	1	0	
	5. The SUSTAIN Issues are covered by relevant legal instruments at the local/regional level.	Yes	No	No Data	
		10	1	0	
	6. Guidelines have been produced by national, regional or local governments which advise planning authorities on appropriate sustainable uses of the coastal zone.	Yes	No	No Data	
		10	1	0	
	7. Strategic Environmental Assessments are used to regularly examine policies, strategies and plans for integration of sustainable activities.	Yes	No	No Data	
		10	1	0	

The **Governance pillar** consists simply of Yes (score=10) and No (score=1) statements concerning the implementation of actions and policies linked to sustainable development

As with other indicator pillars, the appropriate score needs to be typed under the scoring range

If no data is available for an indicator, the score of 0 should be typed under the No Data indicator.


Part 2: The “Scoring” of the criteria/parameters

The scoring of each indicator is achieved through a given ranges of values. The “scoring through ranges” approach converts state-of-the-coast indicators into sustainability indicators. This is because the score attributed immediately gives a reference value and relevance instead of just a snap-shot single figure which stands for nothing but itself.

The ranges of values are mainly defined on EU Directives and when these do not cover the specific parameters, limits provided by International Bodies are used. National and local regulations are also considered, as well as the results of the first assessment done at local and regional level by the SUSTAIN partnership.

The approach of scoring through ranges instead of using precise values, provides the method with flexibility: even data which could not be specifically identified or might be considered imprecise or give just an approximation can be used if identified within a range. Normally, indicators would be excluded if their precise value cannot be found. Therefore, using the DeCyDe methodology, all key parameters/criteria are incorporated in the decision process.

The value of each indicator when found is simply entered into the relevant cell in the spread sheet and the score attributed. As each score is entered, the overall scores alter automatically.



**DeCyDe
for
SUSTAINABILITY**

The ‘scoring’ of the indicators:

ECONOMIC PILLAR										
1	Economic Opportunity	Units	Scoring Ranges							Indicator Score
	1. Employment by sector	% Primary sector	<10%	11-20%	21-40%	41-60%	61-80%	>81%	No Data	4,22
			2	4	10	6	4	2	0	
		%Secondary sector	<10%	11-20%	21-40%	41-60%	61-80%	>81%	No Data	
			2	4	10	6	4	2	0	
		%Tertiary sector	<10%	11-20%	21-40%	41-60%	61-80%	>81%	No Data	
			2	4	10	6	4	2	0	
	2. Unemployment rate	%	>20%	15-19%	10-14%	5-9%	3-4%	<2%	No Data	
			2	2	4	6	8	10	0	
	3. Gross Value Added (per sector of economy, explicitly focusing on coastal dependent activities like fishing, aquaculture, tourism, port activities)	% of budget availability for coastal related sectors	>5%	5,1-10%	10,1-15%	15,1-20%	20,1-25%	<25%	No Data	
			1	2	4	6	8	10	0	

1) The user assigns a score by typing it as indicated by the scoring bar under the scoring ranges

2) If no data is available for a specific sub-indicator, then 0 needs to be typed under the “No Data cell”

3) The total indicator score will be automatically calculated, placed in the right of the scoring sheet and updated in the FINAL-ASSESSMENT sheet (as presented in page 10)

Step 3: The Weighting

The issues and the pillars under which the indicators fall are organized in matrices (based on the concept of comparing couples). The number of matrices, i.e. the number of levels that will be incorporated in the decision support method is defined in step 2, when the key parameters/criteria are decided. Again, well-structured workshops have to be organised, with the decision-makers and the stakeholders that have already participated in step 2. The matrices are presented in a spread sheet form and they need to be ready and programmed in order to have direct results the moment the weight/importance between a couple of parameters/criteria is agreed among the participants.

When the various weighting for the Issues and Pillars are entered into the relevant cells, the spread sheet automatically calculates the overall score of all the indicators used. This is given as a single numerical value. The first time the exercise is completed, the number can be regarded as a reference value against which all future exercises can be compared, provided the same indicators are used each time. It can be seen that if the exercise is repeated in the future, a comparison can be made between the two applications to determine if progress is being made towards a more sustainable future. If the result, when the exercise is completed for the first time, is considered a base level (e.g. = 100) then any future change can be converted to a percentage increase or decrease. In this way, it is also possible to compare the effort being put into sustainability in any number of localities.



ECONOMICS											
	Economic Opportunity		Fisheries & Aquaculture		Land Use		Tourism		Transportation		Weight Coef
	score		score		score		score		score		
Economic Opportunity	1	0,2	1	0,2	1	0,2	1	0,2	1	0,2	0,20
Fisheries & Aquaculture	1	0,2	1	0,2	1	0,2	1	0,2	1	0,2	0,20
Land Use	1	0,2	1	0,2	1	0,2	1	0,2	1	0,2	0,20
Tourism	1	0,2	1	0,2	1	0,2	1	0,2	1	0,2	0,20
Transportation	1	0,2	1	0,2	1	0,2	1	0,2	1	0,2	0,20
Total	5,00		5,00		5,00		5,00		5,00		1,00
Total check	1,00		1,00		1,00		1,00		1,00		

Example of the weighting of the Economic Pillar and Issue: This is best achieved through a structured participatory workshop during which comparisons are made between the four Pillars and/or the Issues within the Pillars. When the various weightings are entered into the relevant cells, the spread sheet automatically recalculates the overall score obtained above.

Final stage

When these three steps have been completed, the spread sheet tool can be operated further: DeCyDe-for-Sustainability allows decision makers to predict how the existing situation can be changed if, for example, they want to change the score of one or more Issues. That means that they can easily predict what will happen should they invest resources to support the change of score and thus the range, of a given indicator, e.g. by increasing resources in waste management recycling by moving them from aquaculture production. Alternatively, they can forecast what will happen if they change the importance among the four main pillars e.g. putting more resources into Economics and less in Environmental Quality through a change in their policy. Through this exercise, the decision makers can evaluate and

assess a large range of ideas and actions within different policy options. They have a “number” that gives them their “score” each time they would take a decision, based on real data of the existing situation. They have the chance to anticipate the impacts of their decisions identify the pros and cons of different options and discuss them among the entire group of decision and eventually reach an optimised decision. Because this decision is taken through a participatory process, with the consensus of the decision actors -makers, there is a greater likelihood that they will all commit to supporting the implementation of their decision. Promoting the implementation of decisions through the consensus of decision makers is an important issue.



DeCyDe for SUSTAINABILITY

SELF -ASSESSMENT AND SCORING FOR SUSTAINABILITY RESULTS		
PILLARS	INDICATORS	Indicators Score
ECONOMICS	Economic Opportunity	5,56
	Land Use	2,00
	Tourism	4,00
	Transportation	7,00
		18,56
ENVIRONMENTAL QUALITY	Air Pollution	3,00
	Biodiversity and Natural Resources Management	5,00
	Change at the coast	6,00
	Energy & Climate Change	4,67
	Land use	2,00
	Public Health and safety	6,00
	Waste Management	4,67
	Water resources and Pollution	3,40
		34,73
SOCIAL WELL-BEING	Demography	4,00
	Equity	6,00
	Education and Training	2,00
	Local and cultural identity	0,00
	Public Health and Safety	4,67
		16,67
GOVERNANCE	Policies/ strategies for sustainability	4,57
	Monitoring tools for sustainability	5,33
	Human resources capacity building	5,25
	Implementation of good management practices	3,00
	Stakeholder involvement/ public participation	10,00
		28,15
TOTAL		98,11

NOTE: This is the final table for the self assessment and scoring of sustainability tool, without involving the weighting part. It is a stand alone tool that provides the "scores for sustainability" that can be compared year by year to check the developing process of each area in relation to sustainability principles. Any user that would like to proceed to the next step of weighting decisions please contact ISOTECH Ltd (xenia@isotech.com.cy) for further instructions.

The final assessment and scoring results example:

When scores have been assigned for the four pillars economics, environmental quality, social well-being and governance, the results are automatically calculated.

The final assessment work sheet generates and presents the summaries of the scores given for each issue/indicator and for each pillar.

This data can then be used in a weighting process, if desirable.

These results in the final score for sustainability performance in your region or municipality!

CONCLUSION

During the lifetime of the project SUSTAIN and through a participative approach, a mix of twelve local and regional authorities, research institutes together with an NGO and independent consultancy bureau have selected and tested a methodological approach, an innovative set of indicators and a scoring methodology.

This report highlights the relevancy of this approach, and the process of development and testing, as well as, the steps towards the final results and use of the SUSTAIN Indicators Set and DeCyDe-for-Sustainability tool.

It is hoped that the experiences and information on how to use it presented in this report will be helpful to other local and regional authorities willing to implement and make use of the methodological approach of the SUSTAIN Indicator Set and the DeCyDe-for-Sustainability tool. Ultimately this may help them progress towards a more sustainable future.



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