

Strategic Environmental Assessment in Regional and Municipal Planning in Portugal

Cláudia Fulgêncio⁽¹⁾, Pedro Bettencourt⁽²⁾, Pedro Afonso Fernandes⁽³⁾, Sara Moras⁽⁴⁾

(1) Environmental Engineer, Consultant of NEMUS
(2) Senior Environmental Consultant, CEO of NEMUS
(3) Economics, Senior Consultant of NEMUS
(4) Landscape Architect, Consultant of NEMUS

NEMUS – Environmental Management and Recovery, Ltd.
Estrada do Paço do Lumiar, Campus do INETI, 1649-038 Lisbon – Portugal
Phone: +351.217.103.160; Email: nemus@nemus.pt; URL: <http://www.nemus.pt/>

Abstract: After a brief overview of legal regime applicable to Strategic Environmental Assessment (SEA) in Portugal, this communication presents some evidence (evolution of processes per year and region, scope of the plans, etc.) based on available data from national and regional authorities.

The article is illustrated by three case studies that highlight the contribution of SEA to integrate environmental aspects in territorial planning in order to promote a greater sustainable development. These case studies will cover three heterogeneous regions: the interior Northeast region of Mainland Portugal (SEA of the Bragança Municipal Plan), a peripheral urban area of the Lisbon Metropolitan Area (SEA of the Santo António dos Cavaleiros Urbanization Plan) and the Algarve coastal zone (SEA of the Strategic Plan for the Requalification and Valorisation of Ria Formosa Laguna).

Keywords: Strategic Environmental Assessment; Sustainable Planning; Regional and local planning

1. INTRODUCTION

1.1. Legal regime

The purpose of the SEA-Directive is to ensure that environmental consequences of certain plans and programmes are identified and assessed during their preparation and before their adoption. The public and environmental authorities can give their opinion and all results are integrated and taken into account in the course of the planning procedure.

In Portugal, the Decree Law no. 232/2007 of 15 of June establishes the regime on the assessment of the effects of certain plans and programmes on the environment (transposing into internal law Directive no. 2001/42/CE, of the European Parliament and of the Council of 27 June 2001, and Directive no. 2003/35/CE, of the European Parliament and of the Council of 26 May 2003).

The legal regime applicable to the assessment of the effects of certain plans and programmes on the environment is complemented by the Decree Law no. 316/2006, of 19 September (amended by the Decree Law no. 46/2009 of 20 of September and by the Decree Law 181/2009 of 7 of August), which establishes the legal regime for land use planning instruments.

1.2. SEA Methodology

The strategic-based methodology for SEA proposed by Partidário (2007) is structured into three key phases (Figure 1):

1. Critical Factors for Decision-Making and SEA Context;
2. Analysis and Assessment;
3. Follow-up.

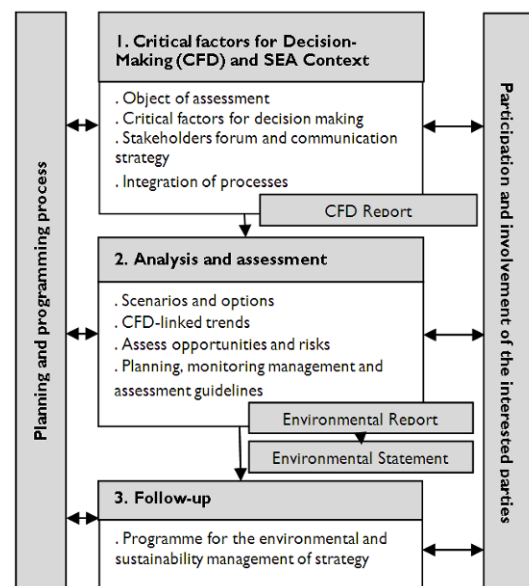


Figure 1 – SEA Methodological Sequence
(adapted from Partidário, 2007)

1.2.1. Critical Factors for Decision-Making and SEA Context

In this phase the scope of the SEA and the level of detail of the information to be included in the environmental report is established, and a *Critical Factors for Decision-Making Report (CFDR)* is produced. The procedural linkages between the SEA and the planning and programming procedures must also be established.

The *Critical Factors for Decision-Making (CFD)* result from the cross-related analysis of the following elements (Partidário, 2007):

IAIA10 Conference Proceedings'

The Role of Impact Assessment in *Transitioning to the Green Economy*
30th Annual Meeting of the International Association for Impact Assessment
6-11 April 2010, International Conference Centre Geneva - Switzerland (www.iaia.org)

- Strategic Reference Framework (SRF) – International, European and national (plus regional and local, where relevant) macro-policy framework and long-term targets and objectives as far as environment and sustainable development are concerned;
- Strategic Issues (SI) or goals associated with the object of assessment (plan or programme);
- Environmental Factors (EF) relevant for the assessment, selected according to the strategic focus, the assessment scale and, as a result, their relevance.

The CFDR must be submitted to the authorities with environmental responsibilities consultation, as legally required.

1.2.2. Analysis and assessment

The objective in the second phase is to perform the technical studies in accordance with the selected (and validated) CFD, allowing:

- Current state identification and trends analyses of environmental critical factors;
- Assessment of potential relevant effects, opportunities (positive strategic impacts) and risks (negative strategic impacts);
- Establishment of measures to prevent, reduce and, as fully as possible offset any significant adverse effects on the environment;
- Establishment of monitoring indicators for implementation in the follow-up phase.

Together with the plan or programme which is subject to environmental assessment, the responsible authority prepares an *Environmental Report (ER)* in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.

The ER (which includes a non technical summary) is submitted to consultation of authorities and to public discussion. Subsequently, a Public Discussion Report must be produced with the contributions and suggestions from interested parties, which is considered in the plan or programme final version for approval.

After the final decision regarding the plan or programme, the *Environmental Statement (ES)* is produced to inform the public and the consulted authorities how the environmental considerations were taken into account during the preparation of the plan or programme.

Finally, the ES and the plan or programme must be sent to Portuguese Environment Agency.

1.2.3. Follow up

Follow-up rely on strategic assessment indicators which track the planning and programming cycle over the plan implementation.

The authorities responsible for the development of the plans and programmes assess and monitor the significant environmental effects, verifying the adoption of measures foreseen in the ES.

Monitoring results should be made public through electronic means, brought up to date at least once a year and communicated to the Portuguese Environment Agency.

Portuguese Environment Agency is responsible to report the information about SEA to European Commission, and to make it available to interested parties.

2. METHODOLOGY

The first part of the article (introduction) was based at document review.

Neither Portuguese Environment Agency nor Regional Development and Coordination Commissions (RDCC) published statistics about the development of SEA processes by electronic platforms. Thus, the following data was requested by e-mail and telephone: plan designation; scope; plan promoter; date of the beginning of the process; phase of the process by December 2008 and December 2009.

Till 26th March 2010, only Lisbon's RDCC did not send the requested data. Data from these authorities was treated, in order to produce Chapter 3- SEA in Portugal.

The three case studies presented at Chapter 4 are on-going SEA processes developed under author's coordination at NEMUS – Environmental Management and Recovery, Ltd.

3. SEA IN PORTUGAL

Portugal Mainland has five Regional Development and Coordination Commissions (RDCC) (North, Centre, Lisbon, Alentejo and Algarve regions) which are generally involved in SEA's processes related with national, regional and local plans and programmes.

Data provided suggests that RDCC North was involved in SEA of 109 plans/programmes (37% of which already have an Environmental Report; the rest are still in progress), RDCC Centre in 187, RDCC Alentejo in 74, and RDCC Algarve in 56. At all cases, municipal plans are the most frequent (Figures 2 and 3).

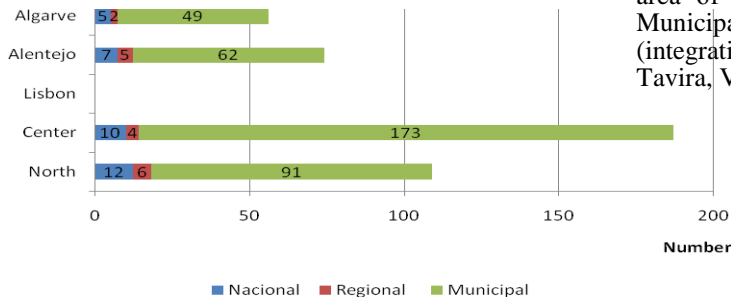


Figure 2 – Number and scope of plans and programmes by region, from 2007 to 2009

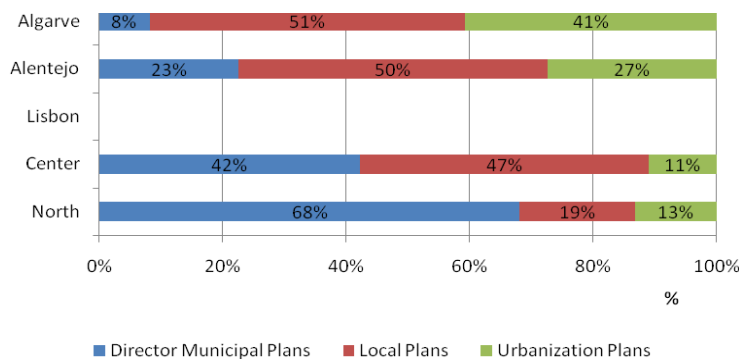


Figure 3 – Municipal plans by region, from 2007 to 2009

Data for the North’s SEA processes show a mean duration of 9 months between the submission of CFD Reports and the appreciation of Environmental Report first version. This duration could not be calculated for the other RDCC because data wasn’t available.

4. CASE STUDIES

In this section, three on-going SEA processes in Portugal will be presented:

- *Case study 1:* SEA of the Bragança Municipal Plan;
- *Case study 2:* SEA of the Santo António dos Cavaleiros (SAC) Urbanization Plan;
- *Case study 3:* SEA of the Strategic Plan of Requalification and Valorization of Ria Formosa Laguna.

The purpose of the case studies is to present examples of SEA processes associated with different scale plans in Portugal and the contribution of SEA to integrate environmental aspects in territorial planning.

These plans have heterogeneous objectives, cover different scales and territories, and are at different phases of planning and SEA processes to date.

4.1. Location

The case studies cover three regions of different characteristics in Portugal (Figure 4): an interior Northeast region of Mainland Portugal (Bragança municipality – Figure 5), a no-consolidated suburban

area of Lisbon from the late 60’s (part of Loures Municipality – Figure 6) and an Algarve coastal zone (integrating the municipalities of Loulé, Faro, Olhão, Tavira, Vila Real de Santo António – Figure 7).



Figure 4 – Case studies location.



Figure 5 – Bragança.



Figure 6 – Santo António dos Cavaleiros.



Figure 7 – Ria Formosa.

Table 1 summarises key data for each case studies:

Table 1 – Key data

Indicator	Case study 1	Case study 2	Case study 3
Area (ha)	117 390	596	19 245
Region	North	Lisbon	Algarve
Municipalities	1	<1	5
Population	35 000	22 000	210 000
Classified Areas	Yes	No	Yes

Source: Nemus (2009a, 2009b, 2010)

4.2. Plan stages

By March 2010, the three plans are at different stages of development (Table 2), and none of them have been approved yet.

Table 2 – Stages of planning process

Case study 1	Case study 2	Case study 3
Final version of the Plan submitted for approval	First version of the Plan	Final version of the Plan in development

Source: Nemus (2009a, 2009b, 2010)

4.3. Critical Factors for Decision Making (CFD)

The number of critical factors for decision-making is ranged between three (case study 2) and four (case studies 1 and 3), and reflected either the strategic framework and issues or the specific characteristics and the natural resources of each territory.

CFD resulted from the cross-related analysis of the following elements:

- Strategic Reference Framework (SRF);
- Strategic Issues (SI) associated with the plan;
- Environmental Factors (EF) selected according to the strategic focus and the assessment scale.

Some CFD were common between different cases (Table 3).

Table 3- Critical factors for decision making

Case study 1	Case study 2	Case study 3
1. Land Use and Landscape Planning	1.Valuation of Natural and Cultural resources	1.Coastal dynamics and environmental risks
2.Natural and Cultural Resources	2.Urban Requalification	2.Biodiversity and nature conservation
3.Biodiversity	3.Sustainable socio-economic development	3.Sustainable socio-economic development
4.Territorial Competitiveness	-	4.Territorial Competitiveness

Source: Nemus (2009a, 2009b, 2010)

The CFD Reports have been submitted to nine, seven and 16 authorities, respectively, for review.

SEA has revealed to be an important instrument to improve the communication between different authorities and to ensure environmental integration across different sectors.

4.4. SEA development

The three environmental assessments involved a team of at least eight specialists, from different areas: Geology; Economy; Biology; Environmental Engineering; Landscape Architecture; Archaeology and CAD/GIS.

Table 4 summarizes the key data concerned with SEA development:

Table 4 – SEA development key data

Data	Case study 1	Case study 2	Case study 3
Beginning of ER preparation	Apr-08	Set-09	Oct-08
Versions of ER submitted to authorities	1 st – Aug-08 2 nd – Feb-09 3 rd – Jan-10	1 st - Nov-09	1 st – Jun-09
Public discussion period	8 th May-09 – 23 rd Jun-09	-	19 th Oct-09 – 27 th Nov-09
Number of contributions	268 (0,8% population)	-	2136 (1,0% population)

Source: Nemus (2009a, 2009b, 2010)

The SAC Urbanization Plan has not been submitted to public discussion yet. In the other two cases, it took about one year from the beginning of ER elaboration to public discussion.

These long time frames were due to planning aspects and not to environmental aspects.

Bragança Municipal Plan and its ER were subjected to several changes, resulting from authorities' feedback. The complexity of the process was due to the legal regime for land use planning instruments.

The Ria Formosa Plan has a strategic nature, that is, it is not a "planning instrument" from a purely legal perspective. It had a single version and ER submitted either to environmental authorities or to the public in general, which simplified the process.

At analyzed cases, only about 1% of population covered by the plan has participated in public discussion. The public commented about plan matters, but not about SEA in general.

At case study 1, public contributions have been weighted and over 60% were completely or partially attended.

Next steps of SEA for case studies 1 and 3 will be the preparation of the Environmental Statement.

4.5. Opportunities, risks, guidelines and indicators

For each CFD, the ER highlighted plans significant environmental effects, opportunities and risks. These were evaluated and classified in a “high, medium and low” qualitative scale.

For case study 1, critical factors “Biodiversity” and “Territorial Competitiveness” had the larger number of high opportunities, related with the increase of ecological and forest values protection; the increment in new equipments and centers for culture and leisure; the projects related to tourism and business initiatives and the expansion of the Municipal aerodrome.

For case study 2, critical factor “Sustainable socio-economic development” was the one with more opportunities, mainly related to the strengthening of competitive role of Loures in the context of Lisbon Metropolitan Area; the development of a strategic network of local/regional equipments; the answer to housing needs; the employment promotion and the improvement of accessibility.

“Coastal dynamics and environmental risks” was the critical factor with the largest number of high opportunities as far as case study 3 is concerned. These positive effects concerned mostly with the improvement of protection against erosion and floods, and the decrease in undue occupations in the Public Maritime Domain.

The risks were mainly related with:

- Social problems caused by an ageing population (case study 1);
- Profitability decrease in small commercial services; reinforcement of residential functions, in a mono-functional territory where habitation offer is already highly and strictly zoned in coherence with the Charter of Athens (case study 2);
- Disturbance of fauna during the interventions (case study 3).

Risks and opportunities gave rise to guidelines which were considered in planning process and to indicators, which will measure plan implementation sustainability.

The number of high opportunities and risks, guidelines and indicators proposed to follow the effects resulting from plan implementation are presented in Table 5, by Critical Factor for Decision.

Table 5- Number of high opportunities and risks, guidelines and indicators by Critical Factor for Decision

Case study	CFD	O	R	G	I
1	1	2	0	3	5
	2	4	0	16	6
	3	9	0	5	5
	4	8	1	14	29
2	1	2	2	15	3
	2	5	3	13	7
	3	11	4	12	14
3	1	9	2	20	3
	2	6	3	12	0
	3	6	0	10	16
	4	4	1	10	3

Source: Nemus (2009a, 2009 b, 2010)

CFD – Critical Factor for Decision; O – Number of High Opportunities; R – Number of High Risks; G – Number of Guidelines; I – Number of Indicators

5. CONCLUSION

In Portugal, from 2007 to 2009, 426 SEA processes were submitted to Regional Development and Coordination Commissions of North, Center, Alentejo and Algarve. Data received show that municipal plans have triggered the largest number of processes.

Multidisciplinary teams responsible for SEA and environmental organizations that follow SEA process have an important role in improving plan sustainability.

SEA also contributes to improve the communication between different authorities and to ensure environmental integration across different sectors.

In the case of land use planning instruments, experience shows the planning process reflects in multiple revisions of Environmental Reports making the process longer than a year.

For example, in Bragança Municipal Plan and Polis Ria Formosa Plan, it took about one year from the beginning of Environmental Report elaboration to public discussion. For Santo António dos Cavaleiros Urbanization Plan, which CFDR was submitted to authorities at July 2009 the second version of the plan is still in development.

REFERENCES

- Partidário, M.R. (2007). *Strategic Environmental Assessment Good Practices Guide*. October 2007. Lisbon: Portuguese Environment Agency.
- NEMUS (2009a). Environmental Report of Santo António dos Cavaleiros Urbanization Plan. Loures Municipality. November 2009.

NEMUS (2009b). Environmental Report of Strategic Plan of Requalification and Valorization Intervention of Polis Ria Formosa. Sociedade Polis Litoral – Ria Formosa, S.A., June 2009.

NEMUS (2010). Environmental Report of Bragança Municipal Plan. Bragança Municipality. January 2010.