# SEA issues in Portuguese and Scottish small islands

Alexandra Polido[a,1], Elsa João[b], Tomás B. Ramos[a]

[a]CENSE, Center for Environmental and Sustainability Research, Departamento de Ciências e Engenharia do Ambiente, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Campus da Caparica. 2829-516 Caparica, Portugal.

[b]David Livingstone Centre for Sustainability, Department of Civil and Environmental Engineering, University of Strathclyde, Glasgow G1 1XN, Scotland.

[1]Email: a.polido@campus.fct.unl.pt

**Abstract**

Territories with specific features, such as small islands, may need "tailor made" SEA approaches. There is a lack of research on the subject as well as on the key factors to be introduced in the assessments of small islands. Previous work, using the islands of Azores and Madeira as a case study, identified that these territories mainly use the same regulations, guidance and procedures as the ones used in the mainland. The current research aims to establish a comparison of SEA practices between Portuguese outermost regions and the Scottish small islands, using as case study the islands of Azores (Portugal) and Orkney (Scotland). A content-analysis based approach was accomplished using the Environmental Reports. The preliminary analysis shows that future research should focus on: what would constitute a good "toolkit" for SEA in a small islands context; if an ecosystem service-inclusive SEA is a good approach for small islands contexts; if resilience thinking is relevant for these territories; and how small islands may engage effectively with stakeholders. Overall, this paper provides an analysis of the SEA issues in two different contexts of European small islands, their specific features and main differences.

**Keywords:** Strategic environmental assessment; Small Islands; Azores; Orkney; content-analysis.

## Introduction

There is evidence that Strategic Environmental Assessment (SEA) should be "tailor made" to the specific context (Fischer and Gazzola, 2006; Gunn and Noble, 2009). The main international SEA practices have been developed based on the experiences of a selected number of countries and may not be suitable for different territories (Fischer and Gazzola, 2006). Specific contexts and territories, such as small islands, may have different needs that must be reflected in the SEA (Gunn and Noble, 2009).

Small islands face constraints and vulnerabilities, and sustainability is paramount in these territories (Bass and Dalal-Clayton, 1995; Deschenes and Chertow, 2004). SEA may play a key role to help achieve it (Dalal-Clayton and Sadler, 2005; Fischer, 2007; Therivel, 2004). SEA may aid managers and scientists working within the small islands context, as well as the public, to be involved in the decision-making process (Maul, 1996).

This research focuses on a comparative assessment of the SEA regulations, practices, procedures and availability of information between two European archipelagos, the Orkney Islands, a Scottish Council area, and the Azores, a Portuguese Autonomous Region and European Outermost Region.

The Scottish SEA framework constitutes an example of best practice (Jackson and Illsley, 2006; Kelly *et al.*, 2012) and it is used in this research to help identify the improvements and changes for SEA procedures and practices in Azores. This is achieved firstly by establishing the SEA background in both territories, pointing to the main differences in the procedures, practices and availability of information by conducting a content-analysis to assess the main issues studied in Orkney SEA and the differences between the SEA issues in Azores. This constitutes a pre-assessment for further research.

## Methodology

Even though Scotland and Portugal share the EU Directive as SEA legislation background, there are differences between the national legislations and practices. The focus of this research is on the islands of Orkney and Azores. The Azores archipelago is an Autonomous Region of the Portuguese Republic which has specific legislation and procedures. In order to identify differences and to understand which are the core elements used in both systems, the research was developed in three main steps, described as follows:

### 1. Assessing differences between Scottish and Portuguese (national and regional) SEA

To assess the differences between both SEA legislation systems a document analysis, between the Environmental Assessment (Scotland) Act 2005, the Decree-Law 232/2007 (Portugal – national scope) and the Regional Decree-Law 30/2010/A (Azores, Portugal – regional scope), was conducted. Additional literature was used to interpret the legislation and as further information on the current SEA processes and practices. The analysis reviewed background information to set the context, the procedures, practices and the availability of information.

'IAIA13 Conference Proceedings'
Impact Assessment *the Next Generation*
33rd Annual Meeting of the International Association for Impact Assessment
13 – 16 May 2013, Calgary Stampede BMO Centre | Calgary, Alberta, Canada (www.iaia.org)

## 2. Selection of the case studies

To understand the core elements studied in SEA of the Orkney and Azores Islands a content analysis was also performed on 14 SEA case studies, where six were related to the Orkney Islands and eight to the Azores.

The case studies were selected taking into account the availability in the Azorean Regional Directorate of the Environment (DRA) webpage[1] (in the case of Azores) and the SEA database webpage[2] (in the case of Orkney), the type of Plan or Program (or Strategy) (PP/PPS)[3] (regional and special spatial planning PP/PPS and sectoral PP/PPS) and if the process was completed with, at least, final Environmental Reports and/or Post-Adoption Statements. In the case of Orkney Islands, SEA were only used if they were completed under the SEA Act. For the Azores, since there are no available SEA done under the Regional Decree-Law 30/2010/A, the analysis took into account the SEA done under the national Portuguese legislation. At this stage of the research, only the Environmental Reports were reviewed. The case study collection was made with the SEA processes available in the webpages in January 2013.

## 3. Content analysis

The content analysis was accomplished to assess which core elements were studied in the SEA of these territories, focusing on the environmental factors studied in the Environmental Reports. Also, it was intended to be the first approach, a pre-assessment for further investigation, tackling some differentiating issues.

Taking into account the preliminary findings obtained by this research, a preliminary framework for improvements and changes in SEA practices in these regions was developed through literature review (including scientific research, technical guidelines and practitioner reports) that focused on the sustainable development of small islands and the assessment accomplished in the previous steps.

## Results and Discussion

The results presented reflect (i) background information, for a brief overview of regulations, (ii) practices and procedures used in both cases, focusing on the main differences encountered during the research, (iii) availability of information of the SEA process on the governmental authorities' webpages and (iv) a discussion on how both systems can learn from each other.

### (i) Background

Both Scotland and Portugal share the EU Directive as SEA legislation background, but there are structural differences between them. In Scotland, the first SEA regulation came into force in 2004 (Jackson and Illsley, 2007), however, efforts were made to deliver an improved version of that legislation and a consultation process took place (Scottish Executive Environment Group, 2004 [SEEG]). In 2006, the Environmental Assessment (Scotland) Act 2005 (SEA Act) was enacted.

The wide coverage presented in the SEA Act constitutes an innovative approach in the EU context. The Act is applicable not only to plans and programmes but also strategies (PPS). This scope goes beyond the SEA Directive and covers almost all aspects of policy formulation in Scotland (Jackson and Dixon, 2006; Kelly *et al.*, 2012). Even though this wide scope of the SEA Act caused tension due to the dichotomy (i) willingness to become an SEA "world leader" (SEEG, 2004, p. 1) and (ii) what can be in fact accomplished with SEA (McLauchlan and João, 2012), the Scottish Environmental Protection Agency (SEPA) considers that *"the fundamental components of SEA in Scotland (…) are generally sound and fit for purpose"* (Scottish Environmental Protection Agency, 2011, p. 158 [SEPA]).

In Portugal, it was only in 2007 that the SEA legislation was introduced with the transposition of the EU Directive 2001/42/CE through the Decree-Law 232/2007 (national legislation). This legislation is a carbon copy of the SEA Directive. The Decree-Law allows for adaptation by the two archipelagos autonomous regions authorities of Azores and Madeira. In 2010, the Azores adapted it through the

---

[1] http://www.azores.gov.pt/Portal/pt/entidades/srrn-dra/?cName=srrn-dra&lang=pt&area=ct (accessed February 2013).

[2] http://www.scotland.gov.uk/Topics/Environment/environmental-assessment/sea/SEAG (accessed February 2013).

[3] In this paper, the acronym PP/PPS is used because the Portuguese/Azorean legislation only addresses Plans and Programmes (PP) but the Scottish legislations addresses Plans, Programmes and Strategies (PPS).

Regional Decree-Law 30/2010/A. There are few differences between the two regulations. Mainly, the Regional Decree defines that SEA are excluded from all the plan or programme that will be applied to areas with less than 25 hectares and introduces the need to carry out a "climate proofing" of the plan or programme, which means that in the regional legislation it is mandatory to assess all climate change impacts on the plan or programme and from the plan or programme and include mitigating and adaptation strategies into the plan or programme.

The Regional Decree-Law came into force in 2010, however, there are no SEA processes completed with this regulation in the Azorean Regional Directorate of the Environment webpage.

*(ii) Practices and procedures*

To help practitioners, the Scottish Executive developed an SEA toolkit which provides detailed guidance for practitioners (Noble *et al.*, 2012; Scottish Executive, 2006). The whole process is organised, structured and easily understood (Kelly *et al.*, 2012; Scottish Environmental Protection Agency, 2011 [SEPA]). At the same time, the Scottish Executive created the SEA Gateway Team to operate as a centralised body where the information is gathered and integrated to advise and co-ordinate the process to ensure SEA quality (Jackson and Dixon, 2006; Scottish Parliamentary Corporate Body, 2005 [SPCB]).

There are tools available in the Scottish Government SEA dedicated website[4], such as guidance for the consideration of climatic factors, air, soil and water. Furthermore, the SEA Toolkit provides templates for each stage of the SEA process, with guidance in each step. All of the six Orkney case studies used the template provided for the Environmental Report.

The Portuguese Environmental Agency (APA) and the Portuguese Directorate-General for Spatial Planning and Urban Development (DGOTDU) developed guideline manuals (Agência Portuguesa do Ambiente, 2007 [APA]; Direccção-Geral do Ordenamento do Território e Desenvolvimento Urbano, 2008 [DGOTDU]) that structure SEA practice in Portugal (Polido and Ramos, 2011). The Azorean Regional Directorate for the Environment adopted the APA (2007) as their SEA guidelines[5], showing that the methodologies used are influenced by outside agencies rather than the regional and local ones (Ramos *et al.*, 2009). However, none of the Azorean case studies use these guidelines (Polido and Ramos, 2012).

Nonetheless, in past research focusing on these Portuguese SEA cases, Polido and Ramos (2012) identified that environmental reports done by the same practitioners' teams had the same environmental issues studied and assessed; even the indicators used in the assessments were similar. McLauchlan and João (2012) also recognized uniformity in Scottish SEA as well as copied information between different processes. The authors point out that this practice disables the critical thinking that should be present in SEA.

This may happen because of the well-defined environmental factors that should be considered in SEA. The Scottish SEA Toolkit (Scottish Executive, 2006) defines the twelve environmental factors to be studied, which are also stated in the SEA Act and the Orkney SEA case studies complied with this. In the Azorean cases, five of the eight cases studied presented the Directive's environmental issues, and only two Portuguese cases had different issues assessed that integrate the environmental issues, usually called sustainability issues. The sustainability issues consist of an adjustment of the environmental issues taking into account the strategic reference framework and the plan or programme objectives (Antunes *et al.*, 2008).

One of the most discussed stages in SEA, as being a key issue in SEA development, is stakeholder engagement. Authors strongly advise that stakeholder engagement, including public participation, should occur in the early stages of the process, (Abaza *et al.*, 2004; Sadler, 1996; Verheem and IAIA, 2002). The Scottish SEA Review (SEPA, 2011) echoes this and points out that the responsible authorities should engage stakeholders, beyond the consultation authorities, since the scoping stage in order to obtain information and advice on key issues. This concern is referenced because the SEA Act clearly identifies the consultation authorities, the Scottish Ministers (Historic Scotland) (SPCB, 2005), Scottish Environment Protection Agency and Scottish Natural Heritage, and no other stakeholder is consulted

---

[4] http://www.scotland.gov.uk/Topics/Environment/environmental-assessment/sea (accessed on February 2013).
[5] http://www.azores.gov.pt/Gra/srrn-ambiente/conteudos/livres/Guias+para+aplica%C3%A7%C3%A3o+da+AAE.htm
(accessed on February 2013 – *In Portuguese*).

before the public participation process. In the Orkney case studies, the stakeholders that commented on the Environmental Report were mainly the three consultation authorities.

The Scottish SEA Review (SEPA, 2011) also raises the issue of the need to have another consultation authority to address health issues, however it is established that there should be a greater involvement of health authorities without the need of a new consultation authority. Both Portuguese guides (APA, 2007; DGOTDU, 2008) present a set of consultation authorities, where DGOTDU (2008) divides them by issues as well, including health authorities.

In the Portuguese Decree-Law and the Regional Decree-Law is presented an illustrative list of entities with specific environmental responsibilities (DGOTDU, 2008). In only two of the Azorean case studies, the list of entities consulted was presented; in these cases there had been between 16 and 22 stakeholders consulted. This list is placed in the final Environmental Report, which was also submitted to public participation. The opinions expressed by the entities with specific environmental responsibilities are not binding (DGOTDU, 2008), but it must say in the environmental report how the comments were addressed and if they informed the report or not and why.

### (iii) Availability of information

This research only focused on the availability of information available through the Governmental Authorities websites and it is not possible, in the scope of the present paper, to infer about the availability of information on site.

The SEA database developed by the Scottish Government and available through its website makes the information regarding the SEA process accessible for the general public. The documents from the different SEA stages are made available as well as the consultation authorities' responses. By contrast, the Portuguese Environmental Agency website only provides the Post-Adoption Statements from the mainland SEA. The Azorean Regional Directorate of the Environment has some Environmental Reports, the Post-Adoption Statement and a public participation report available in their webpage. As pointed by *Ramos et al.* (2009) the current scenario of availability of data and information regarding the SEA process is marked by poor or non-existent communication between national and regional authorities with responsibilities in the areas of impact assessment.

### (iv) How can the Scottish and Azores islands SEA systems learn from each other?

There are good practices in the SEA Scottish system that could be valuable for the Azorean case. Having specific SEA guidelines that enhance *"development of routines, enabling efficient use of time and other resources"* (McLauchlan and João, 2012, p. 29) is paramount in the Azorean archipelago (The Committee of the Regions, 2010), but a balance is needed for the critical thinking that the SEA aims to achieve. Specific guidelines for the Azorean context may be useful to ensure efficiency, however, the assessment methods must be adapted to each island and type of plan or program. Keeping in mind the twelve environmental issues presented in the Directive, it may be necessary to go beyond these suggested factors to an ecosystem service-inclusive SEA (Geneletti, 2011) or consider a resilience thinking approach (Slootweg and Jones, 2011). An integrated sustainability focus might be an approach to consider in future studies. Beyond the three traditional dimensions of sustainability, governance/institutional and cultural pillars should have a central role, since they are key concepts to respond to many of the special features of these territories.

The climate proofing of the plan or programme is also an interesting approach, which is already presented in the Regional Decree-Law 30/2010/A, SEA must take into account the impacts of the plan or programme on climate change, but also, the impacts of climate change on the PP. This idea is already present on the proposal for amending Directive 2011/92/EU (European Commission, 2012) concerning the environmental assessment of projects.

Furthermore, in such small islands, with population ranging between 428 (Corvo) and 138,207 (São Miguel) (Instituto Nacional de Estatística, 2012 [INE]) it is paramount to engage stakeholders, including the public, since the early stages of the SEA, to ensure public support, to acquire further information and to ensure an effective SEA (Ren and Shang, 2005).

Establish an SEA Gateway Team to advise practitioners and ensure SEA quality could be valuable to the Azorean SEA practice, however considerations of resource consumption must be taken into account. The availability of information model of the Scottish system could be imported, since it would make the SEA process transparent.

## Conclusions

This paper constitutes a pre-assessment for further research, a preliminary analysis of the SEA regulations, process, procedures and availability of information comparing Orkney Islands (Scotland) and Azores (Portugal). It constitutes a base for further research and helped identify research questions to be explored in more detail:

- What would constitute a good "toolkit" for SEA in small islands context?
- Is an ecosystem service-inclusive SEA a good approach for small islands' contexts? And if so, how should it be addressed?
- Is resilience thinking relevant for these territories?
- How may small islands engage effectively stakeholders?

Further detail is needed on these subjects and future research will focus on how the eight key-factors developed by Ramos *et al.* (2009) are taken into account in the SEA practice of small islands. This will be achieved through content analysis of selected case studies as well as through interviews and questionnaires addressed to the Consultation Authorities, Responsible Authorities and practitioners.

## Acknowledgments

**References**

Abaza, H., Bisset, R., & Sadler, B. (2004). *Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach*. Geneva: UNEP.

Agência Portuguesa do Ambiente. (2007). *Guia de Boas Práticas para Avaliação Ambiental Estratégica - Orientações Metodológicas*. Amadora: APA.

Antunes, P., Santos, R., Lobo, G., Videira, N., Costa, S., Vaz, S., Fernandes, T., & Ramos, T. B. (2008). Relatório Ambiental - Avaliação Ambiental Estratégica do Plano Regional de Ordenamento do Território dos Açores. Caparica: FCT/UM.

Bass, S., & Dalal-Clayton, B. (1995). Small island states and sustainable development: Strategic Issues and Experience. *Environmental Planning Issues, 8*.

Dalal-Clayton, B., & Sadler, B. (2005). *Strategic Environmental Assessment: a sourcebook and reference guide to international experience*. London: Earthscan/International Institute for Environment and Development.

Deschenes, P. J., & Chertow, M. (2004). An island approach to industrial ecology: towards sustainability in the island context. *Journal of Environmental Planning and Management, 47*(2), 201-217. doi: 10.1080/0964056042000209102

Direccção-Geral do Ordenamento do Território e Desenvolvimento Urbano. (2008). *Guia da Avaliação Ambiental dos Planos Municipais de Ordenamento do Território*. Lisboa: DGOTDU.

European Commission. (2012). *Proposal for a Directive of the European Parliament and of the Council amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.* (COM(2012) 628 final). Brussels: European Commission.

Fischer, T. (2007). *The Theory and Practice of Strategic Environmental Assessment: Towards a more systematic approach*. London: Earthscan Publications.

Fischer, T. B., & Gazzola, P. (2006). SEA effectiveness criteria-equally valid in all countries? The case of Italy. *Environmental Impact Assessment Review, 26*(4), 396-409. doi: DOI 10.1016/j.eiar.2005.11.006

Geneletti, D. (2011). Reasons and options for integrating ecosystem services in strategic environmental assessment of spatial planning. *International Journal of Biodiversity Science, Ecosystem Services & Management, 7*(3), 143-149. doi: 10.1080/21513732.2011.617711

Gunn, J. H., & Noble, B. F. (2009). A conceptual basis and methodological framework for regional strategic environmental assessment (R-SEA). *Impact Assessment and Project Appraisal, 27*(4), 258-270. doi: 10.3152/146155109x479440

Instituto Nacional de Estatística. (2012). Censos 2011, January 2013, from http://censos.ine.pt/xportal/xmain?xpid=CENSOS&xpgid=ine_censos_publicacao_det&contexto=pu&PUBLICACOESpub_boui=73212469&PUBLICACOESmodo=2&selTab=tab1&pcensos=61969554

Jackson, T., & Dixon, J. (2006). Applying strategic environmental assessment to land-use and resource-management plans in Scotland and New Zealand: a comparison. *Impact Assessment and Project Appraisal, 24*(2), 89-101. doi: 10.3152/147154606781765255

Jackson, T., & Illsley, B. (2006). Strategic environmental assessment as a tool of environmental governance: Scotland's extension of the European Union SEA Directive. *Journal of Environmental Planning and Management, 49*(3), 361-383. doi: 10.1080/09640560600598429

Jackson, T., & Illsley, B. (2007). An analysis of the theoretical rationale for using strategic environmental assessment to deliver environmental justice in the light of the Scottish Environmental Assessment Act. *Environmental Impact Assessment Review, 27*(7), 607-623. doi: http://dx.doi.org/10.1016/j.eiar.2007.05.004

Kelly, A. H., Jackson, T., & Williams, P. (2012). Strategic environmental assessment: lessons for New South Wales, Australia, from Scottish practice. *Impact Assessment and Project Appraisal, 30*(2), 75-84. doi: 10.1080/14615517.2012.660351

Maul, G. A. (1996). Small islands: marine science and sustainable development. In G. A. Maul (Ed.). Washington, DC: American Geophysical Union.

McLauchlan, A., & João, E. (2012). The inherent tensions arising from attempting to carry out strategic environmental assessments on all policies, plans and programmes. *Environmental Impact Assessment Review, 36*(0), 23-33. doi: http://dx.doi.org/10.1016/j.eiar.2012.03.002

Noble, B. F., Gunn, J., & Martin, J. (2012). Survey of current methods and guidance for strategic environmental assessment. *Impact Assessment and Project Appraisal, 30*(3), 139-147. doi: 10.1080/14615517.2012.705076

Polido, A., & Ramos, T. B. (2011). *Evaluation of Strategic Environmental Assessment Scoping Effectiveness.* Paper presented at the IAIA'11: Impact Assessment and Responsible Development for Infrastructure, Business and Industry, Puebla, Mexico

Polido, A., & Ramos, T. B. (2012). *SEA profile of small islands states and territories: The European ultraperipheral islands case.* Paper presented at the IAIA'12: Energy Future: The Role of Impact Assessment, Porto, 27 May - 1 June 2012.

Ramos, T. B., Caeiro, S., Douglas, C. H., & Ochieng, C. (2009). Environmental and sustainability impact assessment in small islands: the case of Azores and Madeira. *International Journal of Environmental Technology and Management, 10*(2), 223-240. doi: 10.1504/ijetm.2009.023523

Ren, L.-j., & Shang, J.-c. (2005). Necessity and method of public participation in strategic environmental assessment of China. *Chinese Geographical Science, 15*(1), 42-46. doi: 10.1007/s11769-003-0067-7

Sadler, B. (1996). *International Study of the Effectiveness of Environmental Assessment - Environmental Assessment in a Changing World: Evaluating practice to improve performance*: Minister of Supply and Services, Canada.

Scottish Environmental Protection Agency. (2011). The Scottish Strategic Environmental Assessment Review. Retrieved January 2013, from http://www.scotland.gov.uk/Topics/Environment/environmental-assessment/sea/Review

Scottish Executive. (2006). Strategic Environmental Assessment Tool Kit Retrieved January 2013, from http://www.scotland.gov.uk/Publications/2006/09/13104943/0

Scottish Executive Environment Group. (2004). Strategic Environmental Assessment: A Consultation on the Proposed Environmental Assessment (Scotland) Bill. Retrieved January 2013, from http://www.scotland.gov.uk/Resource/Doc/202575/0054007.pdf

Scottish Parliamentary Corporate Body. (2005). Environmental Assessment (Scotland) Bill: Explanatory Notes and Other Accompanying Documents Retrieved January 2013, from http://www.scottish.parliament.uk/S2_Bills/Environmental%20Assessment%20(Scotland)%20Bill/b38s2-introd-en.pdf

Slootweg, R., & Jones, M. (2011). Resilience thinking improves SEA: a discussion paper. *Impact Assessment and Project Appraisal, 29*(4), 263-276. doi: 10.3152/146155111x12959673795886

The Committee of the Regions. (2010). *Opinion of the Committee of the Regions on Improving the EIA and SEA Directives*. (2010/C 232/07).

Therivel, R. (2004). *Strategic Environmental Assessment in Action*. Londres: Earthscan.

Verheem, R., & IAIA. (2002). *Avaliação Ambiental Estratégica: critérios de desempenho*. Fargo: IAIA.