Marcus, C. C., & Francis, C. (1998). People Places: Design Guidelines for Urban Open Space. New York: John Wiley & Sons, Inc.

Marcuse, P. (1993). What's so new about divided cities? International Journal of Urban and Regional Research, 17(3). Retrieved from http://neighbourhoodchange.ca/wp-content/uploads//2011/06/Marcuse¬1993-Whats-so-New-about-Divided-Cities-IJURR.pdf

McCann, E. J. (1999). Race, protest, and public space: Contextualizing lefebvre in the U.S. city. Antipode, 31(2), 163–184.

Mitchell, D. (1995). The End of Public Space? People's Park, Definitions of the Public, and Democracy. Annals of the Association of American Geographers, 85(1), 108–133.

Nagle, J. (2009). Sites of Social Centrality and Segregation: Lefebvre in Belfast, a "Divided City." Antipode, 4(2), 326–347.

O'Leary, B. (2007). Analysing partition: Definition, classification and explanation. Political Geography, 26, 886–908.

Provisional guidelines on standard international age classifications. (1982). New York.

Pullan, W., Anderson, J., Dumper, M., & O'Dowd, L. (2012a). Rethinking Conflict Infrastructure: How the built environment sustains divisions in contested cities (21 No. 2). London.

Pullan, W., Anderson, J., Dumper, M., & O'Dowd, L. (2012b). Sharing Space in Divided Cities: Why everyday activities and mixing in urban spaces matter (21 No. 4). Conflict in Cities. London. Retrieved from www.conflictinicities.org/workingpapers

Shaftoe, H. (2008). Convivial Urban Spaces, Creating Effective Public Places. Sterling,VA: Earthscan.

Talen, E. (1999). Sense of Community and Neighbourhood Form: An Assessment of the Social Doctrine of New Urbanism. Urban Studies, 36(8), 1361–1379.

Till, K. E., Sundberg, J., Pullan, W., Psaltis, C., Makriyianni, C., Zincir Celal, R., … Dowler, L. (2013). Interventions in the political geographies of walls. Political Geography, 33, 52–62.

UN Habitat. (2013). Streets as public spaces and drivers of urban prosperity.

Van Deusen, R. (2002). Public space design as class warfare: Urban design, the `right to the city' and the production of Clinton Square, Syracuse, NY. GeoJournal, 58(2), 149–158.

Van Kempen, R. (2007). Divided cities in the 21st century: challenging the importance of globalisation. J Housing Built Environmet, (22), 13–31.

Webster, C., & Timothy, D. J. (2006). Travelling to the "Other Side": the Occupied Zone and Greek Cypriot Views of Crossing the Green Line. Tourism Geographies, 8(2), 162–181.

Whyte, W. H. (1988). City: rediscovering the center. Philadelphia: University of Pennsylvania Press.

Woolley, H. (2003). Urban open spaces (1st ed.). London: Spon Press.

ID 1332 | THE COLLECTIVE SPACES SYSTEM IN COASTAL AREAS PLANNING – THE IMPORTANCE OF BUILDING A THEORETICAL FRAMEWORK OF EVALUATION OF THE APPROACH OF DIFFERENT TOOLS

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ABSTRACT: The specialised literature links the collective spaces system (SEC, in its Portuguese abbreviation) to: the foundation that structures the urbanized areas; the network that coordinates the different aspects of urbanisation, relating them to each other; the set of spaces the individual travels and from which he interprets and understands the city; the grid which organizes the building and which endures beyond it; an urban value, able to trigger, on its own, other economic or cultural processes,

leading to investment and local initiatives; a driving force of local experiences; and the pillar of a Corbusian balance. Thus, inter alia, – for reasons relating to: the need of structuring the urbanized areas; the urgency of coordinating and relating the constituent aspects of urbanisation; the importance of providing interpretation to the city; the significance of organising the building; the promotion of local initiatives and local experiences; and the urban improvement itself – the role of the SEC in planning should be, nowadays, a central issue of debate. In coastal areas, where – due to agricultural productivity, fishery or energy production, or even for reasons relating to infrastructure concentration, cultural heritage and these spaces potential for touristic and leisure activities – the concentration of population is 3ultimately significant, this debate becomes all the more important. However, despite the fact that coastal areas planning tools have been directing a multitude of operations for the improvement of collective use spaces in these areas, these measures' contribution regarding the planning of the above areas is still unknown. Furthermore, upon consideration of thirty nine coastal areas planning tools, evidences that the improvement of collective use spaces has been promoted with environmental protection goals were, predominantly, found. If these evidences are verified, then limitations might arise with respect to the contribution of these tools for the coastal areas planning. This article aims to highlight the need of building a theoretical framework which, when applied to different cases and contexts, allows us to undertake this evaluation.

KEYWORDS: collective spaces system, coastal areas planning, coastal areas planning tools, theoretical framework of evaluation.

1 INTRODUCTION

Once acknowledged the sensitivity of coastal areas, as well as these spaces' propensity for the development of a range of activities that are, not always, in line with its carrying and use capacities, several national and international initiatives where its planning was discussed were carried out.

Worldwide, no initiatives have been identified as having the coastal areas planning as the focus of the debate, although six initiatives where this issue was ultimately discussed as a means of responding to other concerns stand out.

In the European context, six initiatives where the coastal areas planning was the focus of the concerns and eleven where this issue was discussed as an operational tool aimed at the materialisation of worries of a different nature have been identified.

Lastly, at Portuguese level, eight initiatives that focus on the coastal areas planning and eight where this issue was discussed as a means of responding to other concerns have been identified.

Despite the multitude of roles given to the SEC by specialised literature, in the context of the identified initiatives, we seem to primarily find evidences that the improvement of collective use spaces has been promoted with environmental protection goals.

If this assumption is verified, then limitations might arise with respect to the contribution of these tools for coastal areas planning. This article aims to highlight the need of building a theoretical framework which allows us to test this assumption.

2 CONCEPT OF SEC

According to Portas et al (2011), the Collective Spaces System (SEC) is:

1. the foundation that structures the urbanized areas;
2. the network that coordinates the different aspects of urbanisation, relating them to each other;
3. the set of spaces the individual travels and from which he interprets and understands the city;
4. the grid which organizes the building and which endures beyond it.

Alternatively, Portas (2012) presents collective use spaces as an urban value, able to trigger, on its own, other economic or cultural processes, leading to investment and local initiatives. By way of example, he lists the cases of pedestrianisation, boulevards, squares, parking, waterfronts, urban parks, promotion of intermodal transport networks, conversion of urban voids and integration of equipment of excellence.

Silva (2015), while focused on a specific type of collective use space – the square, highlights its role in merging the unit and its importance in boosting local experiences.

Lastly, Sequeira (2012), in a perspective resulting from his review of Le Corbusier projects, links collective use spaces to centralities and points out the balance in its construction.

For Sequeira (2012), this balance specific to the collective use spaces of Le Corbusier results from a symmetry and eurhythmy – according to the original meaning of the terms – that Le Corbusier had known. In other words, this balance is based on relations established between each part and the unit , between the different dimensions of each part, and between the different dimensions of the unit , representing a construction with no hierarchy, where the perspective is not aimed at a high point.

3 EVIDENCES RESULTING FROM THE APPROACH OF THE ANALYSED TOOLS TO THE SEC

Of the thirty nine coastal areas planning tools that have been analysed , evidences have predominantly reinforced that the improvement of collective use spaces has been promoted with environmental protection goals. More precisely, with a view to combat pollution, preserve biological diversity, promote sustainable development, maintain coastal defences or adopt an integrated response to combinations of objectives.

3.1 COMBATING POLLUTION

In order to prevent marine pollution resulting from the discharge of harmful substances, the MARPOL Convention provided the basis for the rehabilitation/construction of ports that incorporate appropriate infrastructures for receiving and repairing ships that carry said harmful substances.

In the interest of protecting and preserving the marine environment from sources of pollution, the construction of waste treatment facilities derived, among other factors, from the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.

Aiming at reducing the combined greenhouse gas emissions, the Kyoto Protocol made way for a myriad of interventions, including the promotion of projects pertaining to the profitability of tidal energy.

With a view towards protecting the environment from the adverse effects of waste water discharges, the Directive on Urban Waste Water Treatment encouraged the construction of collection and treatment systems for urban waste water.

In order to reduce discharges into the sea, especially illegal discharges, of ship-generated waste and cargo residues, the Directive 2000/59/EC of the European Parliament and of the Council, of 27 November 2000, promotes interventions for the improvement and construction of port facilities that allow for the reception of such ships.

Since mitigation is one of the means to fight pollution in order to, inter alia, protect coastal waters, the Water Framework Directive resulted, among other things, in measures of remediation of water bodies; injection of water in geological formations, mines and quarries; injection of natural gas or liquefied petroleum gas (LPG) in geological formations; and construction of catchments.

3.2 CONSERVATION OF BIOLOGICAL DIVERSITY

Taking into account the conservation of biological diversity, the Biodiversity Convention lead to a wide range of initiatives, such as the establishment of the system of protected areas and the promotion of a

series of measures aimed at protecting, rehabilitating and recovering degraded ecosystems and endangered species.

In order to preserve wild flora and fauna, as well as their habitats, the Bern Convention resulted in, among other measures, several interventions aimed at protecting natural habitats and relevant areas for migratory species, as well as banning temporarily, or locally, its exploitation and introducing native species.

To protect, manage, monitor and regulate the exploitation of species of wild birds naturally occurring in the European territory, the Birds Directive introduced a variety of interventions aimed at the creation of protected areas; upkeep and management in accordance with the ecological needs of habitats; re-establishment of destroyed biotopes; and creation of biotopes.

To ensure the conservation of natural habitats in Europe, as well as of wild flora and fauna, the Habitats Directive promoted, among other measures, the development of interventions aiming at maintaining and recovering a favourable conservation status of certain species and habitats.

In an attempt to develop sustainable fisheries that will not undermine the conservation of marine resources, while guaranteeing fishermen's jobs and incomes, the European Union's Common Fisheries Policy lead to a multitude of interventions, particularly regarding aquacultures.

3.3 PROMOTING SUSTAINABLE DEVELOPMENT

In the pursuit of a model for sustainable development , a series of measures stemmed from Agenda 21 regarding conservation and restoration of habitats;, suppression of deterioration and erosion of the coastline; and improvement of coastal settlements in terms of water supply, sewage system, solid waste and industrial effluents.

With the goal of fighting against situations of imbalance caused by the demand and occupation of coastal areas, the European Coastal Charter lead to, inter alia, the construction of raised walkways designed for pedestrian movement without disturbing coastal dunes and the use of native plants at green spaces level.

In order to promote the sustainable development of the European Union's coastal areas, the European Commission's Demonstration Programme on Integrated Coastal Zone Management promoted 35 demonstration projects, including, among others, the following: Strymonikos, Rade de Brest, Vale do Lima, Mar de Wadden, Dorset and La Gironde.

3.4 COASTAL DEFENCES

Prioritizing objectives of environmental protection, the Recommendations of the European Parliament and of the Council concerning the implementation of Integrated Coastal Zone Management in Europe were at the background of protection measures for coastal settlements and its cultural heritage, as well as of the creation and improvement of certain collective use spaces.

In order to recover the natural functions of coastal systems and, therefore, the natural resilience to erosion and flooding, from the EUROSION Project stemmed interventions designed to maintain, or improve, the level of protection granted by some specific construction works relating to new defences; to relocate people and goods ; and to re-establish balance sediment and the necessary space for the occurrence of coastal processes.

3.5 COMBINATIONS OF OBJECTIVES

Among other goals in terms of nature conservation and defence, the legal texts on the drafting and implementation of POOC lead to measures of promotion and improvement of beaches classified as strategic due to environmental or touristic reasons.

Striving for the protection and promotion of certain coastal areas considered sensitive and for the improvement of estuaries, port areas and other degraded areas, as well as for urban rehabilitation and recovery of beaches, dune systems and cliffs, the FINISTERRA Programme lead to a multitude of interventions.

These interventions include measures regarding: recovery and artificial reinforcement of dunes ; beach recharge; regularisation of mouths, sediment transposition of bars and reinstatement of dredged spoils; cliff stabilisation ; maintenance and construction of groins and protective walls; demolition and removal of structures in risk areas; beach rehabilitation ; promotion of public spaces and built heritage; implementation of garbage collection systems and cleaning of beaches; creation of basic infrastructures; rehabilitation of degraded urban centres and settlements; management of habitats considered a conservation priority; artificial opening and dredging of coastal lagoons; revitalization and recovery of salterns; planning, construction and maintenance of facilities and infrastructures relating to artisanal fisheries, aquaculture and activities of recreational navigation; recovery and creation of environmental education centres; and construction of walkways, footpaths, equestrian paths and bicycle lanes.

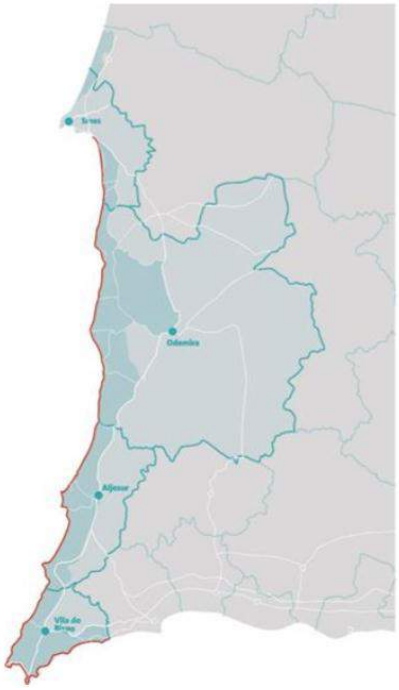
To ensure environmental quality standards at an European level, the "Livro Branco da Política Marítimo – Portuária Rumo ao Século XXI" lead to interventions in terms of modernisation and recovery of existing terminals, construction and improvement of accessibility networks and logistical platforms, and promotion of security, quality and technological development.

In order to protect and enhance environmental resources, several interventions were promoted within the framework of "Polis Litoral", such as the framework for action of "Polis Litoral Sudoeste", which will be explained below.

Denomination	Nature of the intervention
"Proteção e recuperação de sistemas dunares e arribas" [Protection and recovery of dune systems and cliffs]	- Buoying and stabilisation of cliffs and risk areas - Building of accesses and parking - Shutting-down and renaturation of unnecessary paths and unpaved roads
"Reposição das condições de ambiente natural pela recuperação e proteção dos sistemas costeiros" [Reinstatement of natural environmental conditions through the recovery and protection of coastal systems]	- Buoying and stabilisation of cliffs and risk areas - Shutting-down and renaturation of unnecessary paths and unpaved roads - Building of accesses and parking - Demolition of constructions in compliance with a future study - Renaturation of areas generated by demolitions and of other degraded areas - Rehabilitation of Lagoa de Santo André, Cabo Sardão – Entrada da Barca, Arrifana, Amoreira – Monte Clérigo and Ponta de Sagres, recovering existing structures and creating new support structures in line with the current needs - Recovery and renaturation of dune systems through planning and signalling of pedestrian movement, construction of wood raised walkways and placement of fences, eradication of alien plant species and planting of indigenous vegetation, and preparation of cleaning actions - Planning of building centres and its infrastructures
"Renaturalização da área designada por Vila Rosalinda" [Renaturation of the area known as Vila Rosalinda]	- Demolition of existing buildings and routing of demolition waste to its appropriate final disposal - Environmental and landscape rehabilitation of degraded spaces, namely through renaturation with indigenous vegetation
"Valorização da Reserva Biogenética da Ponta de	- Restoration of existing road network - Blocking the access for motor vehicles in some especially vulnerable places - Placement of land signs and information about existing heritage and natural values - Promotion of cleaning activities and landscape improvement of the area

"Valorização e qualificação de espaços balneares" [Promotion and improvement of bathing areas]	- Rectification and completion of interventions already carried out or proposed - Planning and signalling of road traffic and regulation of vehicle parking - Improvement and recovery of road and pedestrian access to the beach - Construction of fences, walkways, places of stay, palisades - Placement of land signs and information about existing heritage and natural values - Promotion of cleaning activities and landscape improvement of the surrounding area through recovery and renaturation of degraded areas
"Requalificação de pequenos aglomerados costeiros" [Rehabilitation of small coastal settlements]	- Creation of pedestrian paths - Construction of public spaces (pedestrian areas and squares) - Dredging and excavation of the basin - Demolition of existing supports for fisheries and construction of new ones - Licencing and construction of a restaurant in the pier - Placement of fingers, stakes and other mooring equipment for recreational and touristic boats - Creation of a bicycle lane - Rehabilitation of public spaces - Control of access, parking and motor traffic - Improvement of conditions for road traffic and pedestrian movement - Placement of quality urban furniture that will further strengthen the identity and consistency of the location - Intervention on the urban ecological structure and green spaces, creating new places of stay - Improvement of the urban image - Improvement of urban centre's public spaces - Rehabilitation of the public space on the riverside near the settlement's fishing area, according with a project drawn up by Vila do Bispo Municipal Council - Development of a green space area within the framework of cliffs, integrated in the urban rehabilitation project of Vila do Bispo Municipal Council regarding the fishing area
"Ecovia e ciclovias do Litoral Sudoeste" [Bicycle lanes of the southwestern coast]	- Adaptation of existing rural paths to bike lanes - Placement of land signs and information (touristic and environmental) - Creation of landscape observation and rest areas - Landscape rehabilitation of areas surrounding the bicycle lane, fostering cleaning and removal of weed species, as well as planting of indigenous vegetation - Construction of bike lanes enabling easy and alternative access to beaches - Placement of land signs and information (touristic and environmental) - Creation, where necessary, of landscape observation and rest areas - Landscape rehabilitation of areas surrounding the cycling lane, fostering cleaning and removal of weed species, as well as planting of indigenous vegetation
"Estruturas de apoio ao recreio e lazer" [Recreational and leisure support structures]	- Promotion and improvement of picnic sites and places of stay, emphasising these spaces as a support to guests

Table 1 – Framework for action of "Polis Litoral Sudoeste"



It is clarified that "Polis Litoral Sudoeste" is an "Operação Integrada de Requalificação e Valorização do Sudoeste Alentejano e Costa Vicentina" [integrated endeavour of rehabilitation and improvement of Sudoeste Alentejano and Costa Vicentina], which covers an area of 9 500 ha, located in the municipalities of Sines, Odemira, Aljezur and Vila do Bispo, and includes 150 km of coastal front (see Figure 1).

Furthermore, in the specific case of "Polis Litoral Sudoeste", the interventions identified in Table 1 were promoted around the three strategic axes indicated below and the territorial distribution of these interventions is explained in Figures 2, 3 and 4:

Figure 1 – Area covered by "Polis Litoral Sudoeste"

1. promotion of the natural and landscape heritage — incorporates the protection projects regarding dune systems and cliffs (outlined in light green in Figure 2), the reinstatement of natural environmental conditions through the improvement and protection of coastal systems (outlined in dark green in Figure 2) and the measures regarding de rehabilitation of the natural heritage (marked with circles in Figure 2);
2. territorial improvement supporting traditional economic activities — incorporates the interventions of improvement and promotion of fishing centres (marked with blue in Figure 3), of small coastal settlements (marked with orange in Figure 3) and of bathing areas (marked with yellow in Figure 3);
3. diversification of experiences in the territory, enhancing indigenous resources — incorporates the projects and actions aimed at promoting sustainable mobility (path marked in Figure 4), creation of support structures for activities of contact with nature and implementation of equipment for dissemination of natural and cultural values specific to this territory (marked with circles in Figure 4).

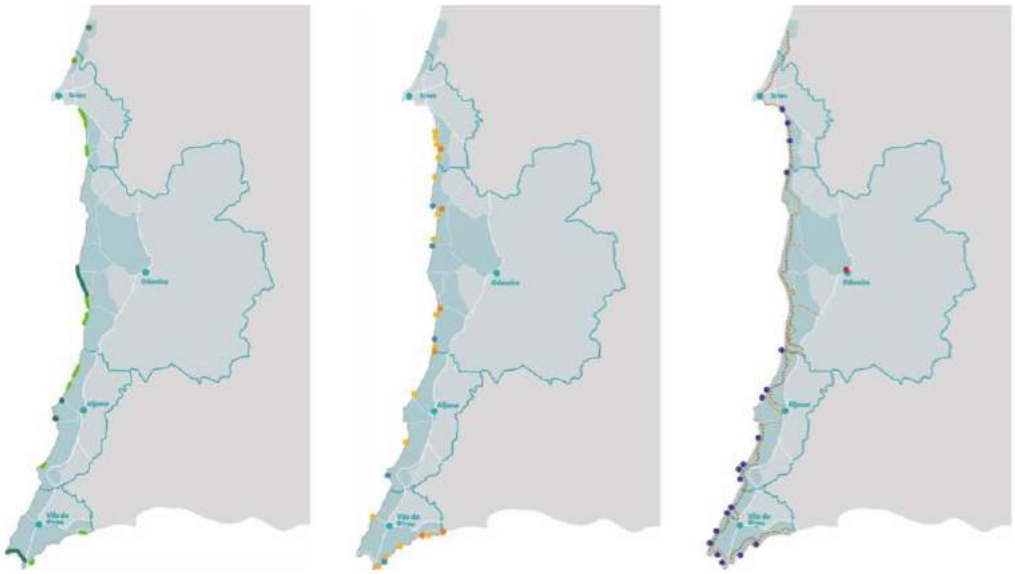


Figure 2 – Interventions fostered around the axis of promotion of the natural and landscape heritage | Figure 3 – Interventions fostered around the axis of territorial improvement for supporting traditional economic activities | Figure 4 – Interventions fostered around the axis of diversificationofexperiences in the territory, enhancing indigenous resources

4 CONCLUSION

The specialised literature links the collective spaces system (SEC) to: the foundation that structures the urbanized areas; the network that coordinates the different aspects of urbanisation, relating them to each other; the set of spaces the individual travels and from which he interprets and understands the city; the grid which organizes the building and which endures beyond it; an urban value, able to trigger, on its own, other economic or cultural processes, leading to investment and local initiatives; a merging component of a unit, which contributes to boosting local experiences; and a set of centralities, which are built upon a Corbusian balance.

However, of the thirty nine coastal areas planning tools that have been analysed, evidences have predominantly reinforced that the improvement of collective use spaces has been promoted with environmental protection goals. More precisely, with a view to combat pollution, preserve biological diversity, promote sustainable development, maintain coastal defences or adopt an integrated response to combinations of objectives.

From the interventions promoted to combat pollution, it is worth highlighting the rehabilitation/construction of ports that incorporate appropriate infrastructures for receiving and repairing ships that carry harmful substances, the construction of waste treatment facilities, collection systems and urban waste water treatment and the remediation of water bodies.

Regarding the interventions promoted for the conservation of biological diversity, it should be underlined the establishment of the system of protected areas, the promotion of a series of measures aimed at protecting, rehabilitating and recovering degraded ecosystems and endangered species, the creation of biotopes, and the formation of aquacultures.

Some interventions were encouraged in order to promote a model for sustainable development, such as suppression of deterioration and erosion of the coastline, improvement of coastal settlements, construction of wood raised walkways for pedestrian movement, renaturation, and some demonstration projects.

Regarding coastal defences, some interventions to build new defences were promoted, while other measures aimed at maintaining, or improving, the level of protection granted by previous construction works. Moreover, some interventions pertained to the relocation of people and goods and to the re-establishment of balance sediment and the necessary space for the occurrence of coastal processes.

For an integrated response to the combinations of objectives previously listed, several interventions were promoted, such as: promotion and improvement of beaches classified as strategic due to environmental or touristic reasons; cliff stabilisation; demolition and removal of structures in risk areas; artificial opening and dredging of coastal lagoons; revitalization and recovery of salterns; planning, construction and maintenance of facilities and infrastructures relating to artisanal fisheries, aquaculture and activities of recreational navigation; recovery and creation of environmental education centres and construction of walkways, footpaths, equestrian paths and bicycle lanes.

Since the implementation of these interventions was based on the development of specific projects that, although being promoted for the aforementioned purposes, eventually reflected other concerns, it is important to verify whether or not they convey the roles defined on specialised literature for the SEC. Thus, the need of building a theoretical framework that allows us to undertake this evaluation is seen as justified.

BIBLIOGRAPHIC REFERENCES

European Environment Agency (1998), O Ambiente na Europa, Office for Official Publications of the European Communities, Luxembourg.

European Commission (1999), Para uma estratégia europeia de gestão integrada das zonas costeiras (GIZC): Princípios Gerais e Opções Políticas, European Communities, Luxembourg.

Doody, P. et al (2006), Viver com a erosão costeira na Europa – sedimentos e espaço para a sustentabilidade, European Communities, Luxembourg.

Ministério das Obras Públicas, Transportes e Comunicações – Secretaria de Estado dos Transportes (2006), Orientações estratégicas para o setor marítimo-portuário.

Ministério do Ambiente, do Ordenamento do Território e do Desenvolvimento Regional (2006), Programa Nacional da Politica de Ordenamento do Território.

Portas, N. et al (2011), Políticas urbanas II – Trasformações, regulação e projetos, Fundação Calouste Gulbenkian, Lisbon.

Portas, N (2012), Os tempos das formas – A cidade imperfeita e a fazer, Escola de Arquitetura da Universidade do Minho, Guimarães.

Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973.

1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.

1997 Protocol to the United Nations Framework Convention on Climate Change.

Silva (2015), in Dias Coelho, C. et al, Os elementos urbanos, Argumentum, Lisbon.

Sequeira (2012), Para um espaço público – Le Corbusier e a tradição greco-latina na cidade moderna, Fundação Calouste Gulbenkian, Lisbon.

United Nations Conference on Environment & Development (1992), Agenda 21, Rio de Janeiro.

LEGAL REFERENCES

Directive 79/409/EEC

Directive 91/409/EEC

Directive 92/43/EEC

Directive 95/21/EC

Directive 2000/59/EC

Directive 2000/60/EC

Official Journal of the European Communities 2001/C 148/07

Lei n.º 5/96, de 29 de fevereiro

Lei n.º 54/2005, de 15 novembro

Lei n.º 31/2014, de 30 de maio

Resolução da Assembleia da República n.º 60-B/97

Decreto n.º 95/81, de 23 de julho

Decreto-Lei n.º 302/90, de 26 de setembro

Decreto-Lei n.º 451/91, de 4 de dezembro

Decreto n.º 21/93, de 21 de junho

Decreto-Lei n.º 309/93, de 2 de setembro

Decreto-Lei n.º 218/94, de 20 de agosto

Decreto-Lei n.º 151/95, de 24 de junho

Decreto-Lei n.º 159/2012, de 24 de julho

Decreto-Lei n.º 80/2015, de 14 de maio

Portaria n.º 767/96, de 30 de dezembro

Resolução do Conselho de Ministros n.º 22/2003, de 18 de fevereiro

Resolução do Conselho de Ministros n.º 90/2008, de 3 de junho

ID 1333 | PLANNING OF URBAN GREEN AREAS BASED ON GIS TOOLS

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ABSTRACT: Decision processes regarding the use of public resources in green infrastructure requires new approaches capable of providing on-going evaluation and trade-off analysis concerning the level of service that new urban green areas can provide in social-ecological terms. Such information is critical either to improve decision-making, planning practice (e.g. new locations) or even to improve landscape design processes. In order to solve these concerns, the present study aims to provide a model-based tool that allow to estimate service areas in Oeiras municipal ecological structure, but also capable to geographically identify socially meaningful areas for public investment regarding new urban green spaces. The study was developed in two phases. Grounded on kinematic laws and multi-criteria decision principles a conceptual model was initially shaped. Incorporating criteria and sub-criteria such as (i) the friction of slopes and (ii) the friction regarding physical conditions of the pedestrian public space (e.g. materials, dimensions, accessibility conditions, and others) into the model, the results revealed to be consistent with reality. This allowed developing a decision support system based on GRASS GIS and Bottle, in a second phase. The application was developed in Opensource environment using the Phython language, which allows programming the model and having as outputs the simulation of green space service areas and the