Belgeo
Revue belge de géographie

3 | 2015
Paysages, participation et expertise scientifique/ Landscapes, participation and scientific expertise

The European Landscape Convention at urban scale: insights from an exploratory approach in Lisbon

La Convention Européenne sur les Paysages à l'échelle de la ville: aperçu d'une approche exploratoire réalisée à Lisbonne

Isabel Loupa Ramos and Ricardo Silva

Electronic version
URL: http://journals.openedition.org/belgeo/16539
DOI: 10.4000/belgeo.16539
ISSN: 2294-9135

Publisher:
National Committee of Geography of Belgium, Société Royale Belge de Géographie

Electronic reference
Isabel Loupa Ramos and Ricardo Silva, « The European Landscape Convention at urban scale: insights from an exploratory approach in Lisbon », *Belgeo* [Online], 3 | 2015, Online since 30 September 2015, connection on 20 April 2019. URL : http://journals.openedition.org/belgeo/16539 ; DOI : 10.4000/belgeo.16539

The European Landscape Convention at urban scale: insights from an exploratory approach in Lisbon

La Convention Européenne sur les Paysages à l'échelle de la ville: aperçu d'une approche exploratoire réalisée à Lisbonne

Isabel Loupa Ramos and Ricardo Silva

The authors thank the group of students from the Master Degree (MSc) in Urban Studies and Territorial Management, registered in the course of Landscape Ecology in the academic year of 2013/14: David Asanidze, Tiago Guerreiro, André Pereira, Adilson Aires, Rogério Madeira, Ruben Henriques, Ana Tarrafa, Catarina Faria, Denis Andrade, Fiston João, José Serrão, Mariano Gomes, Margarida Afonso, Diana Bica, Rita Rente and Pascoal Fortunato.
The authors also would like to thank Carlos Souto Cruz, of Lisbon City Council, for making the spatial data available for this exploratory approach.

Introduction

1 By signing the European Landscape Convention (ELC) states commit "to recognise landscapes in law", "to establish and implement landscape policies" and "to integrate landscape into (...) policies with possible direct or indirect impact on landscape" (COE, 2000, article 5). In this context they also commit to identifying and characterising landscapes. The integration of landscape into legislation and spatial planning documents presents itself as pivotal to the implementation of the convention. Although there is no known recent literature presenting a Europe-wide survey on the implementation of ELC in planning practice, the general perception, based on the on-going discussions in international meetings, such as that held in Brussels in April 2014, is that it has not been

a straightforward process. Accordingly, the effective use of landscape as a basis for policy and planning decisions would appear to be pauper.

2 One could argue that integrating landscape in planning would benefit from a prior definition of a spatial typology of landscapes. Judging by the experiences throughout Europe, there is a wide spectrum of approaches to landscape classification and mapping, namely in accordance with the conceptualisation of landscape in place in each region (Van Eetvelde and Antrop, 2009). This variety has been well captured by the ELCAI project (Wascher, 2005). Accordingly, the different conceptual and methodological approaches have also given rise to a variety of the terminology used when referring to mapping landscapes. The process is often referred to as landscape classification, but it seems that the term landscape character assessment is being progressively used, judging by the holistic nature of the work carried out in England and Scotland – landscape character assessment focuses on "identifying distinct, recognizable and consistent patterns of elements in the landscape that makes one landscape different from another" (Swanwick, 2002). Landscape character assessment is thereby the process of mapping, describing and assessing landscapes on the basis of the presence and arrangement of landscape features.

3 The European Landscape Character Initiative (ECLAI) was instrumental in providing a systematic and comprehensive overview on concepts, approaches and methods (Wascher, 2005). Groom (2005, p.50) structured the approaches to the identification and mapping of landscape into four types along to two axes: "the degree to which the methods used rely either on human interpretation or on analytical approaches", and "the degree to which the methods use either interactive procedures or automated procedures". Parametric approaches with varying forms of automatism based on the overlaying of thematic maps became "very popular when GIS and digital maps became available" (Van Eetvelde and Antrop, 2009, p. 162), sometimes at the cost of underrepresentation of socio-economic data and the integration of dimensions that are not easily represented on a map, such as perceptions (see survey by Groom, 2005, p. 50). For instance, the ECOVAST (European Council for the Village and Small Town) approach directed to be used by the citizen themselves includes also perception in its landscape identification (ECOVAST, 2012) procedure in a very intuitive way – "looking, thinking, feeling".

4 The subsidiarity principle that guides the ELC does not foster the development of a united approach to landscape identification and mapping. Thus, each application needs to be adapted to each particular case, taking into consideration their specific characteristics. Countries and regions that more recently engaged in this process could draw on a vast array of literature and customize an approach that would best fit their landscapes, their institutional and cultural frameworks and their resources.

5 Landscape mapping exercises, focusing on identifying a spatial classification (whether it is called LCA or not), have been carried out foremost at national and regional scale. At local scale, LCA mapping seems to be less frequent, particularly in more urbanized landscapes. Nevertheless, according to the ELC (COE, 2000), landscape is everywhere as "it applies to the entire territory of the Parties and covers natural, rural, urban and periurban areas" (article 2). The European Landscape Convention thereby recognises the value of everyday landscapes for the well-being of citizens, also in urban areas – calling for the development of policies addressing the specificities of urban landscapes towards the "integration of landscape into [their] regional and town planning policies" (article 5d).

6 According to certain historic perspectives, landscape only exists outside the city (e.g. Santos and Queiroz, 1940). At that time landscape was strongly associated to the underdeveloped countryside, excluded from civilization. This perspective, still in place, has resulted in there being more literature produced dealing with landscape in rural and natural areas than in urban areas, with only a few studies (e.g. Sevenant and Antrop, 2010) having looked at the urban landscape in a holistic way using the conceptual framework provided by the ELC - "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (article 1a). Therefore, methodologies have been developed specifically for rural landscapes and cannot be transferred directly to urban landscapes.

7 Urban landscapes have been approached from a landscape ecology perspective. This perspective acknowledges that urban landscapes comprise both built and unbuilt land and that the "mosaic is quite complex, with residential, commercial, industrial, government–institutional, cultural-educational land uses, patches of remnant vegetation, secondary green areas such as parks or cemeteries, and other land uses" (Andersson, 2006; Breuste, 2004). It tends to focus on the natural elements of the urban landscape and its vast range of ecological and social functions, or the interaction between these (e.g. Sukopp and Wittig 1993; Alberti, 2008; Niemela, 2011; Marzluff, 2008). An urban ecosystem approach has been in use, which, in recent years, has focused strongly on assessing the provision of ecosystem services (e.g. Haase *et al.,* 2014).

8 From an urban studies perspective, urban landscapes have been addressed in two ways. One way has been to place the emphasis specifically on open and public space (e.g. Cullen, 1971; Maciocco, 2008). This perspective builds strongly on the sensorial dimension of the landscape concept as provided by experiencing the city. A second approach, grounded in urban morphology (e.g. Jabareen, 2006), sees form as "the spatial pattern of the large, inert, permanent physical objects in a city" (Lynch, 1981, pp. 47) – a pattern resulting from the aggregations of repeating elements in multiple layers as land use patterns, transportation or open space system - or as phrased by Salingaros (2005, p. 12) "city form can be understood as a complex interaction of networks and geometry". Analysis of geometry has benefited from tools such as space syntax to express the structures of the city by defining degrees of integration (e.g. Ratti, 2004).

9 From a landscape ecology perspective, spatial structure influences ecological functions and processes (Turner, 1989; Ahern, 1999; Forman and Godron, 1986). Therefore, it is closely connected with spatial methods of analysis and assessment, such as the development of metrics that can assist in the definition of such landscape units (van Eetvelde and Antrop, 2009). Landscape metrics have advanced significantly in recent decades, also taking alternative objectives into consideration (e.g. Leitão *et al.,* 2006). Nevertheless, the literature in this area does not focus necessarily on its application to urban fabric in a holistic way.

10 All the above approaches have in common the search for spatial relations between the multiple elements in the city, by using a quantitative approach based on metrics or a qualitative approach exploring perceptions and symbolic values. But they do not necessarily aim at being exhaustive by categorizing all the areas under study.

11 To our knowledge, LCA methodology has not been downscaled to compact urban areas at a city scale. Nevertheless, exploring how to apply LCA to urban areas is considered pivotal

for applying the ELC to all landscapes and including landscape in planning instruments at all scales.

12 In Portugal, LCA was firstly carried out on a nationwide scale. Methodologically, these landscape units gather data on aspects such as geology, landforms, land use, farm structure, settlement pattern, climate, proximity to the sea, presence of important structures or infrastructures, combined with satellite imagery and aerial photographs and extensive fieldwork, as well as direct contact with key informants. The latter provide sensitive judgement on the local and regional culture, identity and the character of the landscape. The characterisation of the units also combines the available information with a temporal dimension: the past influences and the most relevant historical features (Pinto-Correia *et al.,* 2004, Abreu *et al.,* 2004). The final map shows 128 landscape units (Figure 1) that are clustered into 22 groups. This approach at 1:250.000 scale fits, according to Groom's classification (2005, p.50), the M4 method type: "automated analysis, together with some interpretative refinement".

13 Since 1999 the legislative framework on spatial planning also calls for the definition of LCA in regional planning documents, which are primarily of a strategic nature. More recently, whilst not consecrated in the law, the competent authorities have issued guidelines aimed at enforcing the definition of LCA at local scale in Municipal Master Plans (Abreu *et al.,* 2011) – typically, zoning plans at 1:25000 or 1:10000 scale, including rural and urban areas.

14 From previous experiences in municipalities ranging from deeply rural to periurban landscapes (Loupa-Ramos *et al.*, 2013), the general conclusion drawn has been that the set of variables or landscape layers has to be expanded in order to identify what gives a locality its own sense of place and makes it different from other areas. Downscaling LCA, using the ELC framework, in urban plans is still a challenge. Traditional LCA approaches developed for broad-scale non-urban settings need to be reviewed, adapted and articulated with other disciplinary approaches.

15 It can be naturally questioned if the municipal scale, notably when using administrative borders as boundaries, is the most suitable way of addressing landscape. In line with the subsidiary principle the ELC does not define how "integration into policies" can be achieved. In the Portuguese case the Municipal Master Plans are the most powerful planning tools by establishing rules for land use change for the whole territory. Thus we argue for the purpose of this study that it should be aimed methodological developments that promote the integration into this planning instrument.

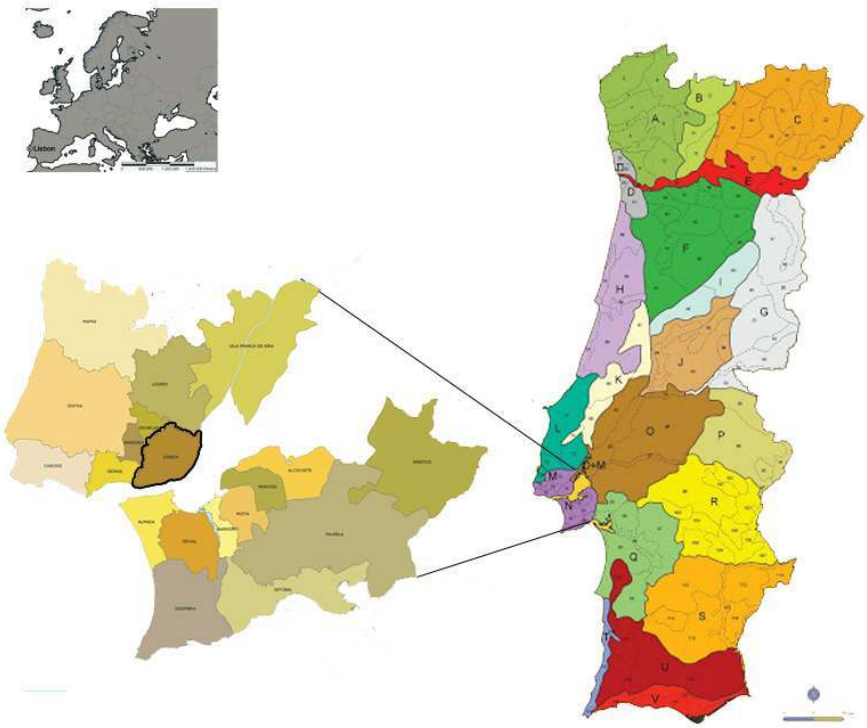
16 The European Landscape Convention also points out the need for awareness-raising and training/education in "landscape policy, protection, management and planning". Involving a group of students was regarded as an opportunity for achieving progress in the discussion of the identification of urban landscape character areas and raise landscape awareness. Based on the outputs of the discussion with the group, it was possible to reflect on how to integrate multiple perspectives and perceptions on urban landscapes. ELC also points the way for improved public involvement through public participation processes. One of the characteristics of public participation processes is the variety of outcomes derived from the interpretations and perceptions of each individual (e.g. Menezes, 2007). Integrating different perspectives from different kinds of publics is another challenge that has to be overcome.

17 Thus, taking into account these aspects of downscaling LCA mapping in urban areas and integrating different contributions, the main objective of this paper is to report on an exploratory approach carried out with a multidisciplinary panel of 16 students (sociology, architecture, civil engineering, geography, landscape architecture, history and policy management) of the Master Course in Urbanism and Spatial Planning from the University of Lisbon with a view to discussing (a) methodological approaches suitable for urban areas and (b) the integration of multiple perspectives on LCA. For this purpose an exercise was developed using the city of Lisbon as a case study.

Selected case study

18 The study area is the municipality of Lisbon (Figure 1), the capital and the largest city in Portugal. It covers a surface area of approx. 85 km^2 and has roughly 550,000 inhabitants (population density of 6,672.70 inh./km^2), according to the census of 2011; and lies between 5 and 220 metres (in the urban park of Monsanto) above sea level. It is located on the north bank of the River Tagus estuary.

Figure 1. Case study area – Location of Lisbon. Portuguese landscape units.



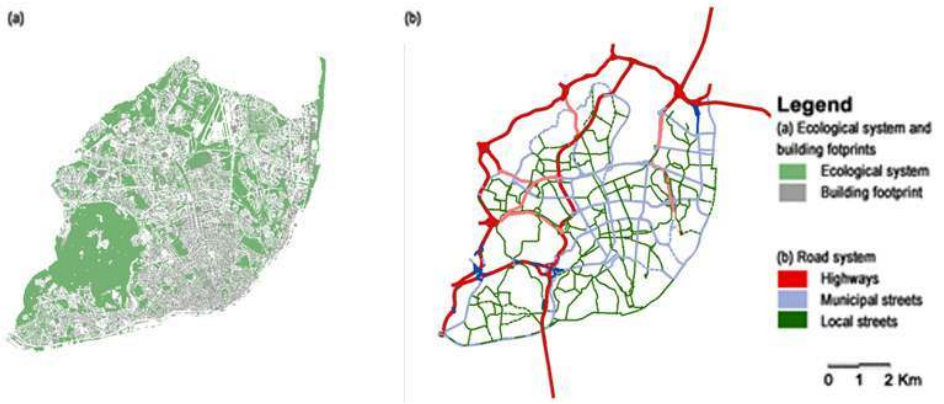
Pinto-Correia *et al.*, 2004, Abreu *et al.*, 2004

19 Even though it is a consolidated urban area, Lisbon reveals a high diversity of landscapes, such as Monsanto (urban forest), the Baixa district (old downtown area) and Parque das Nações (most recent urban expansion and venue for Expo 98). About 35% (30 km^2) of the Lisbon surface area is covered by what can be identified as an ecological system (Figure 2), representing a high diversity of natural areas in the city. The presence of steep slopes in the city, especially in the historical centre, provides the city with gradients of shades

and textures. The climate is typically Mediterranean – hot and dry summers and mild winters, and offering unique light conditions. The city has also a high road density. The strategic location on the Tagus estuary was a vital factor in the development of the city. Development took place initially on the castle hill (Castelo de São Jorge) and then spreading mainly to the west along the riverfront until the 19th century. In the early 20th century the city then began to expand northwards.

20 The municipality of Lisbon has been experiencing a continuous decrease in the number of inhabitants for some decades now (REOT, 2009). Lisbon, once the meeting-point of the world, still has a diverse and cosmopolitan foreign population, making up approx. 8.7% (34,500 inhabitants) of the total of the resident population.

Figure 2. Examples of additional layer for considered relevant for LCA at urban scale.



(a) Ecological System and building footprints and (b) Road system

Methodology

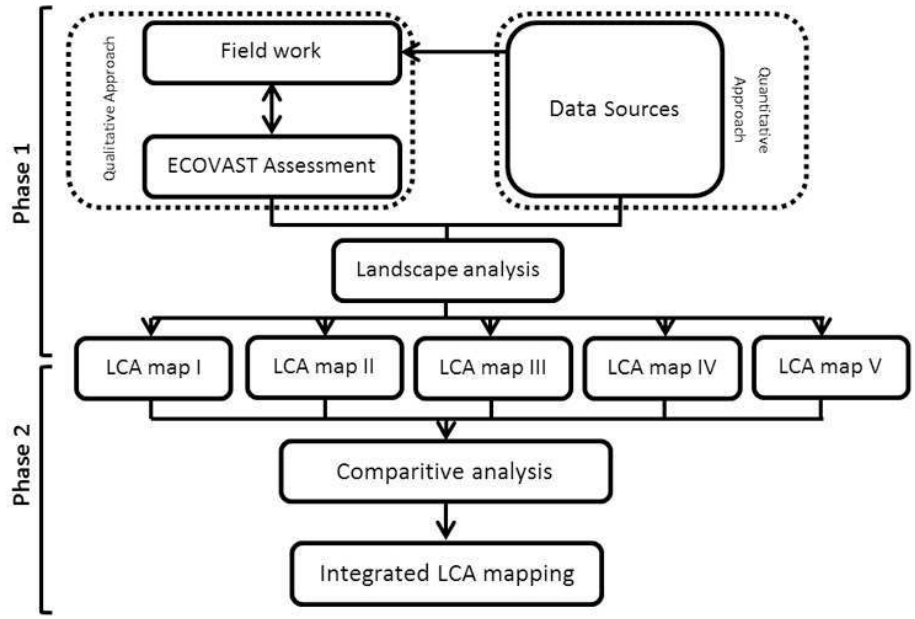
21 Methodologically, a combination of both qualitative and quantitative approaches was used to identify the LCA in urban areas (Figure 3). It was divided into two phases: (1) capturing the diversity of urban LCA and (2) combining different urban LCA maps.

Phase 1

22 The methodological approach used would eventually fit into Groom's (2005) M2 method type: 'expert' interpretation, with support of some automated analysis. Firstly, the ECOVAST assessment matrix was applied in the field, based on a qualitative approach. As part of the field work, the multidisciplinary groups completed the matrix of ten landscape layers describing and assessing each on a 1-10 scale (ECOVAST, 2012). The ten landscape layers that are assessed in this method are: rocks (surface geology), climate, land form (geomorphology), soil, land cover, agriculture and forestry, houses and settlements, other man-made features, historic features and feelings and associations. The information for describing the 10 layers was provided in a GIS database made available by the City Council. During the fieldwork discussions in groups resulted in a joined understanding that these layers are not adapted to describe the character of the

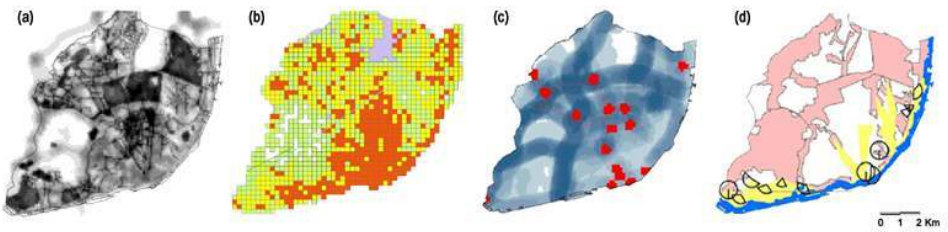
urban landscape. Thus, additionally, other spatial data information was gathered, such as building footprints, urban ecological systems, views of the river, road network, transport interfaces, green areas and historical maps.

Figure 3. Methodological workflow.



23 Following up the fieldwork the revised matrix was used as basis for the spatial analysis (quantitative assessment), carried out based on the methodology developed by Van Eetvelde and Antrop (2009). Using in GIS software (Figure 4), new information layers were created, using firstly intermediate information (such as terrain model, aspect, densities, and slopes) and, secondly, by selecting landscape metrics with the available data (such as, the ratios of green and urban areas or density of linear elements). All the layers were combined and weighted by each group in a way they judged to best capture and convey all the diversity and character of the urban landscape in the city of Lisbon. Finally, boundaries of each landscape unit were drawn according to the judgment of each group.

Figure 4. Examples of intermediate analysis procedures.



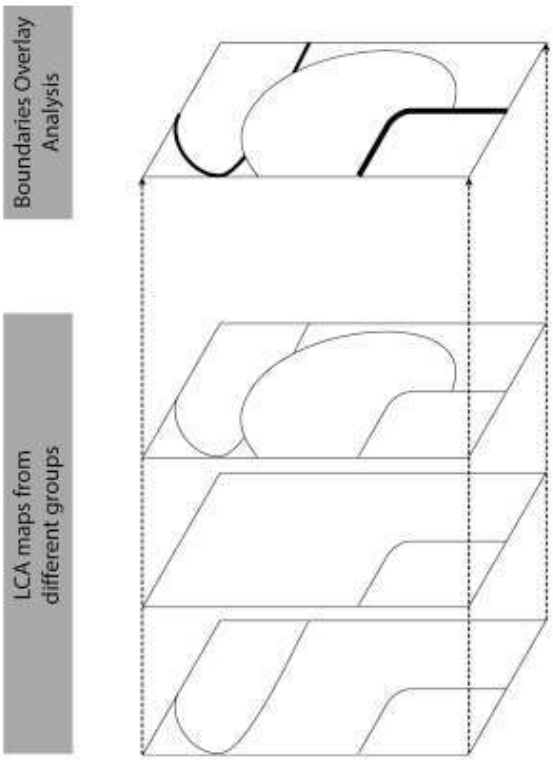
(a) Density of urban areas. (b) Ratio of green and urban areas. (c) Road infrastructure density. (d) Views to the river Tagus

Phase 2

24 With the aim of discussing how to develop an approach to integrating different LCA maps as those produced by the groups in phase 1 a spatial analysis procedure for comparing landscape units based on the boundaries in the LCA maps was explored.

25 The spatial analysis of the boundaries made it possible to identify the "persistency of the boundaries" and, therefore, to identify the boundaries drawn by each group and compare the number of repetitions (Figure 5). The number of repetitions was mapped using different weights according to the number of repetitions (the thicker the boundary the higher the number of repetitions).

Figure 5. Boundary overlay methodology.



26 Using GIS tools made it possible to carry out further spatial analysis such as calculating the Weighted Average (α), the Coherence Index (γ) and the Internal Fragmentation (δ) (Figure 6). For these calculations all the boundaries with more than two repetitions were taken into consideration. The Weighted Average map was achieved by dividing the sum of the perimeters by the total perimeter with the aim of identifying the units with the highest number of repetitions in their boundaries. The Coherence Index, calculated by dividing the Weighted Average by the Coefficient of Variation, served to identify the coherence of the perimeter of each unit. Finally, the Internal Fragmentation took all boundaries (even those only drawn once) within each unit into consideration followed by the division of the sum of the internal perimeters by the area of the unit.

Figure 6. Spatial analysis metrics.

$$\alpha = \frac{\Sigma\,(border\ lenght)}{Total\ Perimeter} \qquad \gamma = \frac{Weighted\ Average}{\substack{Coefficient\ of\ Variation \\ of\ perimeter\ class\ values}} \qquad \delta = \frac{\substack{Internal\ identified \\ boundaries(m)}}{Area\ (km^2)}$$

Weighted Average (α); Coherence Index (γ); Internal Fragmentation (δ)

Results

27 In the first phase the groups produced 5 maps based on their combined expertise (Figure 7), informed by their knowledge of the city, making it possible to decide upon which type of geographic information to integrate and how to carry out the spatial analysis. Each group chose to apply different landscape metrics, according to the relative strength recorded in each ECOVAST matrix. The results showed a variety of maps with a wide range of numbers of units – ranging from 4 to 12 units.

Figure 7. Groups' LCA Maps.

28 An analysis of the first results revealed some consistency between the urban landscape character areas identified. These are areas of distinctive characteristics, such as major green areas or the waterfront, resulting in similar geographic units in almost all maps. Other areas did not produce the same degree of consensus.

29 When comparing all the maps, Monsanto (major green area) stands out as a single unit even though the south boundary is not always coincident. It is characterised by a densely forested hill with few buildings and diverse leisure and sport facilities. Sometimes the boundaries follow the tree line (in maps a and b) or include the whole slope down to the river. The waterfront is also a unit frequently identified in the maps. Despite the diversity of uses and urban fabric, the presence of an adjacent water body such as the River Tagus provided ground for unity. Only one group (in map e) did not isolate the waterfront. The gentle eastern slopes of Chelas and Olivais also produced consensus in many of the LCA maps. This unit is characterised as an urban area with irregular urban fabric, with strong neighbourhood identity, marked by the modernist movement of the 60s, where one can still identify some urban agriculture. Also here the northern boundaries are clearer, the more so because they coincide with city limits, but also eventually because Olivais was based on a plan and is more identifiable then the scattered part of Chelas to the south.

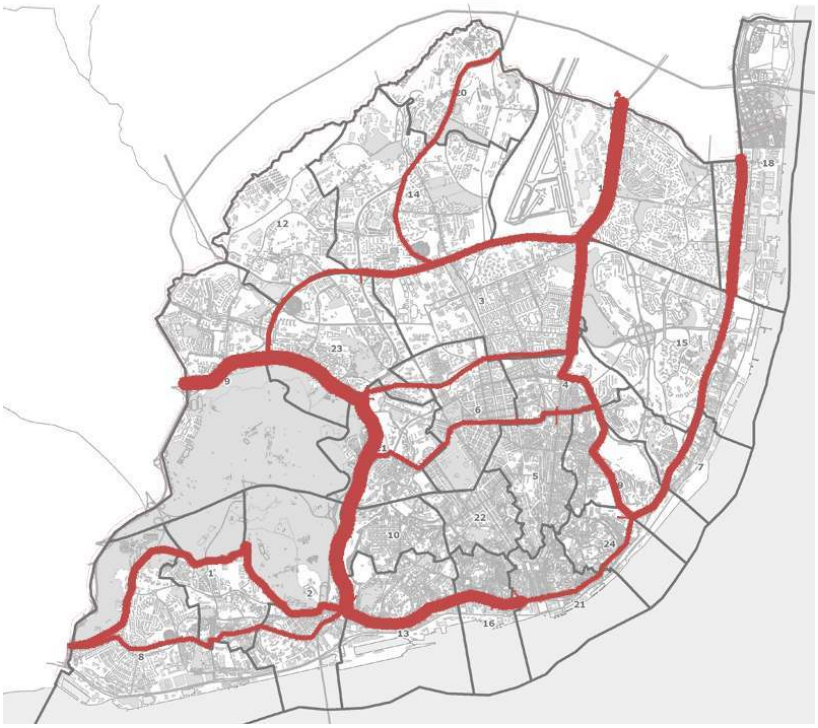
30 The central and northernmost areas of the city seem to be fuzzier showing great differences within the boundaries drawn in each map. These are the areas where the urban fabric is most dense and diverse. The maps suggest a division between the historic/ downtown area and the areas to the north. The former is a consolidated urban area with small open/green spaces and a higher number of facilities and greater degree of

historical identity (Baixa). And the latter, the northernmost areas of the city covered by most recent urbanizations on the main plateau, showing more and larger areas of open/ green spaces – called Alta de Lisboa

31 These results draw attention to the relevance of time dimension that acts on peoples' perceptions. Time strengthens identity and produces a collective memory of spaces that cannot be ignored in this process. Along the central North-South axis linking Baixa and Alta there are many different timelines which have been acknowledged and valued differently by the groups leading to a high diversity in limiting landscape units,

32 Moving on to Phase 2, a comparative analysis was carried out. The aim here was to enhance the persistency of the boundaries, recording only those that were repeated at least two times (Figure 8).

Figure 8. Overlay of the boundaries as registered in all maps.



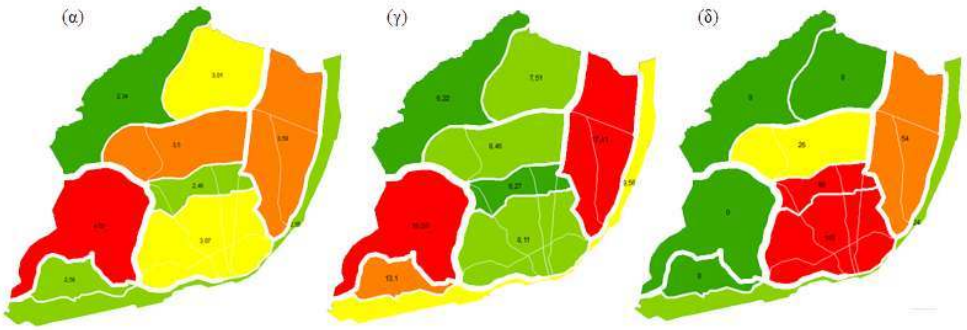
33 The weighted average (figure 9α) calculated from the overlay of the boundaries of the different LCA maps made it possible to identify the units with higher "persistency of boundaries", i.e. with higher number of repetitions of boundaries. The results show one unit (Monsanto – red) with higher values (4.02), thus meaning that its boundaries were identified more often. The other units have median values from 2.34 to 3.59.

34 The coherence index (Figure 9γ) enabled us to assess the consistency of each unit, i.e. if the number of repetitions in each unit was similar. The results highlighted the peripheral units and the Lisbon waterfront as those with greater consistency in their boundaries.

35 To calculate the fragmentation (Figure 9δ) of each unit the boundaries within each unit were taken into consideration. The outcome showed higher fragmentation in the central and eastern areas of the city, although the historic centre revealed much higher values (116 m/km^2 and 90 m/km^2) in comparison to the eastern unit (54 m/km^2).

36 Based on the results, almost all units were identified using the same boundary multiple times, demonstrating a high level of confidence in the isolation of units. However, the central part, linking the northern plateau to the historic centre on the waterfront (Baixa), is isolated multiple times but with less repetitions, thus showing less confidence (low persistency and high fragmentation) in where the historical landscape finds its limits.

Figure 9. (α) – Weighted Average map; (γ) Coherence Index map; (δ) Internal Fragmentation map.



	Weighted Average	Coherence Index	Internal Fragmentation
	<2,40	<7,00	<10,00
	2,41-3,00	7,01-9,00	10,01-25,00
	3,01-3,50	9,01-12,00	25,01-55,00
	3,51-4,00	12,01-15,00	55,01-90,00
	>4,00	>15,01	>90,01

0 1 2 Km

Conclusion

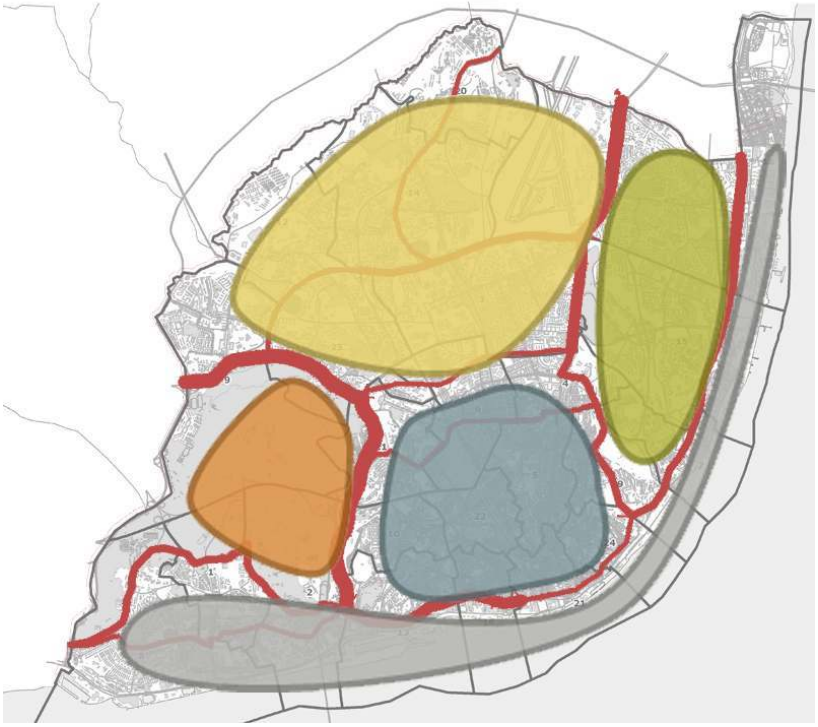
37 The methodology applied is recognised as limited, due to the fact that it does not yet capture perceptions. It does indeed capture the consistency of the perceptions as represented in the 5 resulting maps. However, in this case, it must be acknowledged that integration is not free from subjectivity. Combining the resulting maps using an expert approach can result in identification of 5 major landscape character areas for the city of Lisbon. One should note that these 5 units, rather than being homogenous in themselves, are mainly well differentiated from each other.

38 Thus, this exploratory approach was aimed at reflecting on ways to progress in identifying Landscape Character Areas at urban scale and achieving insights on how to meaningfully integrate geographic representations resulting from multiple perceptions. With regard to the first aspect, the exploratory exercise presented in this paper revealed that dealing with urban landscapes in a holistic way can be approached using the traditional LCA methodologies. Nevertheless, adaptations are required. Having as basis the ECOVAST layers some proved not applicable – as soil or urban settlement; others had to be adapted – climate had to be more focused on sun exposure and light conditions, agriculture and forestry were adapted to urban land uses; and new layers had to be introduced – housing density, green areas, and historical evolution. But also three-dimensional data as the height of the buildings, or tree height and cover proved to be essential in the understanding and for capturing all the distinctiveness and richness of the urban landscape that ultimately shapes its character.

39 When using urban scale or municipal scale (in the case of Lisbon these are the same) boundaries used are artificial from a landscape perspective. Improvements need to be made in using a multi-scale approach integrating local and regional scale in a more systematic way.

40 In relation to the second aspect, the integration of all contributions in a final consensual map was not straightforward. Some metrics were used to grasp the relationships between the maps as produced by the groups. Nevertheless, results based on the analysis of boundaries are still unsatisfactory and need to be complemented with analytical procedures that can interpret the change in identity of landscape units. Figure 10 shows a proposal of main LCA in Lisbon. This represents only an initial level of integration. In order to progress in detailing landscape character a participatory process including the citizens of each area could strengthen the outcome. Still, further developments are needed on how to integrate the public effectively in LCA mapping, which ultimately means - making it useful in the overall planning process.

Figure 10. Proposal of integrated map of main LCA for Lisbon.



BIBLIOGRAPHY

ABREU A., BOTELHO M.J., OLIVEIRA R. & AFONSO M. (2011), *A paisagem na revisão dos PDM – orientações para a implementação da Convenção Europeia da Paisagem no âmbito municipal*, Lisbon, DGOTDU.

ABREU A., PINTO-CORREIA T. & OLIVEIRA R. (2004), *Contributos para a Identificação e Caracterização da Paisagem em Portugal Continental*, Lisbon, Direcção Geral do Ordenamento do Território e Desenvolvimento Urbano.

AHERN J. (1999), "Spatial concepts, planning strategies and future scenarios: A framework method for integrating landscape ecology and landscape planning", *in* KLOPATEK J. & GARDNER R. (eds.), *Landscape ecological analysis: Issues and applications*, New York, Springer, pp. 175-201.

ALBERTI M. (2008), *Advances in Urban Ecology: Integrating Humans and Ecological Processes in Urban Ecossystems*, New York, Springer.

ANDERSSON E. (2006), "Urban landscapes and sustainable cities", *Ecology and Society*, *11,* 34.

BREUSTE J. (2004), "Decision making, planning and design for the conservation of indigenous vegetation within urban development", *Landscape and Urban Planning, 68,* Elsevier, pp. 439-452.

COE (2000), *European Landscape Convention: European Treaty Series - No. 176*, Florence.

CULLEN G. (1971), *The concise townscape*, New York, Architectural Press.

ECOVAST (2012), *ECOVAST Landscape identification – A guide to good practice. European Council for the village and small town*, UK, ECOVAST Publications.

FORMAN R. & GODRON M. (1986), *Landscape ecology*, Minnesota, Wiley.

GROOM G. (2005), "Landscape character assessment around Europe", *in* PÉREZ-SOBA M. & WASCHER, D.M. (eds.) (2005), *Landscape character areas. Places for building a sustainable Europe*, Policy Brochure as deliverable from the EU's Accompanying measure project European Landscape Character Assessment Initiative (ELCAI), funded under the 5th Framework Programme on Energy, Environment and Sustainable Development (4.2.2), p. 33.

HAASE D., FRANTZESKAKI N. & ELMQVIST T. (2014), "Ecosystem services in Urban landscapes: practical applications and governance implications", *AMBIO*, *43*, 4, Springer, pp. 407-412.

JABAREEN Y. (2006), "Sustainable urban forms – their typologies, models and concepts", *Journal of Planning Education and Research, 26*, pp. 38-52.

LEITÃO A.B., MILLER J., AHERN J. & MCGARIGAL K. (2006), *Measuring landscapes – A planner's handbook*, Washington, Islands Press.

LOUPA-RAMOS I., DIAS S., MENEZES H. & PINTO-CORREIA T. (2013), "Exercising landscape character assessment: providing context for involving stakeholders", International conference - *Landscape and Imagination*, Paris.

LYNCH K. (1981), *Good City Form*, Cambridge MA and London, MIT Press.

MACIOCCO G. (2008), *Urban and Landscape Perspectives: Volume 2*, New York, Springer.

MARZLUFF J. (2008), *Urban ecology: an international perspective on the interaction between humans and nature*, New York, Springer.

MENEZES H. (2007), "Integração dos agentes locais na definição e caracterização de unidades de paisagem: Caso de estudo: Concelho de Castelo de Vide", *Trabalho final da licenciatura em Arquitectura Paisagista*, Évora, Universidade de Évora.

MOUNDON A. V. (1997), "Urban morphology as an emerging interdisciplinary field", *Urban Morphology, 1,* USA.

NIEMELA J. (2011), *Urban Ecology: pattern, processes and applications*, Oxford, Oxford University Press.

PINTO-CORREIA T., ABREU A. & OLIVEIRA R. (2004), "Landscape evaluation: methodological considerations and application within the Portuguese national landscape assessment", *Multifunctional Landscapes, Vol. I – Theory, Values and History*, Roskilde, WIT Press, pp. 199-218.

RATTI C. (2004), "Urban texture and space syntax: some inconsistencies", *Environment and Planning B: Planning and Design, 31*.

REOT (2009), *Relatório de Estado do Ordenamento do Território – Estudo de caracterização*, Lisbon, Câmara Municipal de Lisboa.

SALINGAROS N. (2005), *Principles of urban structure*, Amsterdam, Techne Press.

SANTOS L. R. & QUEIROZ C. (1940), *Paisagens e Monumentos de Portugal*, Lisbon, Edição da Secção de Propaganda e Recepção.

SEVENANT M. & ANTROP M. (2010), "Transdisciplinary landscape planning: Does the public have aspirations? Experiences from a case study in Ghent (Flanders, Belgium)", *Land Use Policy, 27*, Elsevier, pp. 373-386.

SUKOPP H. & WITTIG R. (1993), *Stadtoekologie:Ein Fachbuch fuer Studium und Praxis*, Stuttgart, Gustav Fisher Verlag.

SWANWICK C. (2002), *Landscape character assessment - Guidance for England and Scotland*, UK, Scottish Natural Heritage and The Countryside Agency.

TURNER M.G. (1989), "Landscape ecology: The effect of pattern on process", *Annual Review of Ecology, Evolution, and Systematics, 20*, USA, Annual Reviews, pp. 171-197.

VAN EETVELDE V. & ANTROP M. (2009), "A stepwise multi-scaled landscape typology and characterization for trans-regional integration, applied on the federal state of Belgium", *Landscape and Urban Planning*, *91*, pp. 160-170.

WASCHER D. (2005), *European landscape character areas. Typologies, cartography and indicators for the assessment of sustainable landscapes*, Final Report as deliverable form the EU's Accompanying measure project European Landscape Character Assessment Initiative (ELCAI), funded under the 5th Framework Programme on Energy, Environment and Sustainable Development (4.2.2), Landscape Europe.

ABSTRACTS

Urban landscapes are an essential part of the daily lives of most of Europe's citizens. The European Landscape Convention (ELC) recognises the value of everyday landscapes for the well-being of citizens, in urban areas as well. There is far more experience in dealing with landscape in rural and natural areas than in urban areas. Literature dealing with urban landscape is rather

focalized on natural elements within the cities than on built areas. Downscaling the Landscape Character Assessment (LCA), using the ELC framework, in major urban areas is still a challenge. Thus, this paper aims at discussing how LCA approaches developed for broad-scale non-urban settings need to be reviewed, adapted and articulated with other disciplinary approaches. Within the exploratory exercise carried out in the city of Lisbon, it was also explored how different maps, as produced by different groups, can be integrated into a joined consensual view that captures the diversity and the uniqueness that provides the character of the urban landscape.

Les paysages urbains représentent un élément essentiel dans le quotidien de la majorité des Européens. La CEP reconnaît tout autant la valeur des paysages pour le bien-être des habitants des zones urbaines. Il existe cependant nettement plus d'études consacrées aux paysages des zones rurales et naturelles que d'études dévolues à ce sujet au niveau des zones urbaines. La littérature se focalise davantage sur les éléments naturels à l'intérieur des villes plutôt que sur les zones bâties. La réduction d'échelle de l'évaluation du caractère d'un paysage par le biais du cadre de la CEP demeure un défi dans les grandes agglomérations. C'est pourquoi notre article vise à examiner comment les approches par l'évaluation du caractère du paysage (ECP) mises au point pour les configurations non urbaines à large échelle doivent être revues, adaptées et articulées autour d'autres approches disciplinaires. Dans cette étude exploratoire menée à Lisbonne, nous avons aussi examiné comment différentes cartes, produites par différents groupes, peuvent être intégrées dans une vision consensuelle commune à même de saisir la diversité et la singularité qui caractérisent les paysages urbains.

INDEX

Keywords: landscape ecology, landscape character areas, urban morphology, spatial planning, Lisbon
Mots-clés: écologie paysagère, zones paysagères à caractère singulier, morphologie urbaine, aménagement du territoire, Lisbonne

AUTHORS

ISABEL LOUPA RAMOS

Instituto Superior Técnico, University of Lisbon, isabel.ramos@tecnico.ulisboa.pt

RICARDO SILVA

Instituto Superior Técnico, University of Lisbon, ricardojtsilva@tecnico.ulisboa.pt