

Chapter 27

Convention on Biological Diversity and European Landscape Convention: An Alliance for Biocultural Diversity?

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Abstract While the Convention on Biological Diversity (CBD) addresses the safety of species and ecosystems diversity, the European Landscape Convention (ELC) stresses the importance of preserving, managing and creating high-quality landscapes encompassing both natural and man-affected ones, in accordance to cultural values and taking into account people's perceptions of landscapes. This recent pan-European policy may be a strong support to widen the application of the CBD, but is this really happening? As a matter of fact, although almost all of the European Member States have ratified both the CBD and the ELC, it is not obvious at all that respective national policies proceed in an integrated way. The paper will focus on the potential interactions between the CBD and the ELC in sustaining biocultural diversity, then a brief overview, will show how the landscape conception promoted by the ELC is influencing sectorial biodiversity national policies.

Keywords Landscape policies · Biodiversity policies · Landscape planning · Landscape multifunctionality · Biocultural diversity

27.1 Preliminary Assumptions: “Landscape and Biodiversity”, a Couple not to Be Taken for Granted

In her definition of biocultural diversity Luisa Maffi includes “the diversity of life in all of its manifestations: biological, cultural, and linguistic, which are interrelated (and possibly coevolved) within a complex socio-ecological adaptive system” (Maffi 2008).

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Recently practice and research in territorial and landscape planning are increasingly called to commit to the task of safeguarding this complexity throughout the variety of ecosystems, biomes, landscapes (MEA 2005) as long as nature and culture are intended as strictly intertwined.

From a theoretical point of view, the concept is perhaps not so new as shown by the debate within other scientific fields at least since the past century—e.g. ethno-biology, anthropology, linguistics (Maffi 2008), historical ecology (as well documented by Cevasco 2007). But the broader reception of such a sophisticate approach to nature and culture within international conventions affecting spatial and landscape policies could probably give a broader impulse to put that principle on the ground, as in the case of the European Landscape Convention (ELC—CoE 2000).

The official policy definitions of landscape and biodiversity encompass both dimensions—natural and cultural—stressing the importance of their interrelations: the Convention on Biological Diversity (CBD, United Nations 1992), besides recognizing to biodiversity “ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values” (Preamble), stresses the fundamental role of indigenous and local communities in conserving life on Earth by means of “knowledge, innovations and practices [...] embodying traditional lifestyles” (Art. 8j). The relevance of such an issue requires a specific implementation programme (COP 2000) to encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices and to enhance the role and involvement of indigenous and local communities. Finally the recent joint programme between UNESCO and the SCBD remarks “a holistic approach consistent with cultural and spiritual values, worldviews and knowledge systems and livelihoods that contribute to conservation and sustainable and equitable use of biodiversity” (General Principles for the Implementation of the Joint Programme, p. 1).

On the other hand, landscape—as recently defined by the ELC—is shaped as a holistic dimension linking biological and cultural diversity as long as its “character is the result of the action and interaction of natural and/or human factors” (Art. 1a). Moving beyond a strictly ecological approach, social perception plays now a primary role for the landscape to such an extent that its inclusion is recommended into “regional and town planning policies and cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape” (ELC, Art. 5d).

The study of people’s perceptions towards the landscape basing on cultural diversity is currently relevant to natural resource and protected areas management. Resolution n.4.099 (IUCN 2008) “Recognition of the diversity of concepts and values of nature” recognizes nature conservation as a “human action rooted in diverse, evolving cultures and world views” thus setting the task of enhancing and promoting “nature conservation actions including and reflecting practices and traditions that are rooted in culture and embody the cultural values of the diversity of peoples of the world”. But the ELC stresses the importance of broadening this attention to the whole territory. Thus spatial planning is asked also to take charge of people’s values and aspirations towards everyday landscape (attempts are summarized in Cassatella 2014).

Nevertheless, scientific research should consider “landscape and biodiversity” as a couple not to be taken for granted.

At a theoretical level, “diversity” is not a desirable condition of a landscape *a priori*: ecological diversity does not coincide with visual diversity as well as human-perceived naturalness does not coincide with naturalness as defined by ecologists (Daniel 2001); conversely, homogeneity is the key criteria for identification of landscape character (Tudor 2014) and often an outstanding value to be preserved in the landscape, as stated by the Convention concerning the protection of the world cultural and natural heritage (UNESCO 1972).

At a planning level, biodiversity and landscape are key issues of environmental and landscape planning as long as they are assumed in the cultural ecosystem services framework (Cassatella and Seardo 2014). Attention is increasingly accorded to the importance of ecosystem services in providing a framework for taking into account more systematically the ecological impacts of alternative planning scenarios, pointing out trade-offs between environmental and landscape goals (Chan et al. 2006; Seardo 2012a). Moreover, spatial planning is commonly assumed as the place to achieve such integration of policies (Beatly 1995; van Asschea and Djanibekov 2012).

At the policy level, “territory”, “landscape”, “biodiversity” and “protected areas” are often regulated by specific sectorial and distinct policies. But, whereas on the one hand it can be easy to converge on abstract principles and policy tasks, on the other hand divergences may arise when it comes to put them on the ground. The word biodiversity never appears within the ELC official text, nor the ELC is mentioned by the SCBD Joint Programme (Annex 1. Examples of Relevant Declarations and Guidelines).

This suggests that even though the ELC endorses a multifunctional concept of landscape, focusing on its biocultural roots, thus potentially supporting the biocultural diversity issues, at a policy level the assumption of such an approach must be deeply investigated. As a matter of fact, although almost all of the European Member States have ratified both the CBD and the ELC, it is not obvious at all that respective sectorial policies proceed in an integrated way.

Suggesting that the integration should be investigated at least at three different levels (theoretical, policy and planning), the paper focuses on the policy dimension intended as a precondition to a well-integrated planning, specifically investigating the potential interactions between the CBD and the ELC in sustaining biocultural diversity.

27.2 The Analysis Framework

Following the ratification of the CBD, States are committed to develop National Biodiversity Strategies and Action Plans (NBSAPs or NBSs), while the ratification of the ELC foresees the integration of its principles cross-cutting sectorial policies.

The research has focused on the EU Member States committed in the implementation of the CBD and the ELC and has concerned the examination of the NBSAPs. At the time of closing the research (April 2012, revision in March 2014), the state of the art was the following:

- 23 EU Member States out of 28 had ratified the ELC;
- all EU Member States had signed the CBD (168 Countries all around the world had signed it), but the development of National Strategies and Action Plans are at different stages of progress.

Since then some changes have occurred, for example Croatia has joined European Union on 1 July 2013 (ratification of the ELC in 2003).

Do NBSAPs take into account the multifunctional dimension of landscape of the ELC to sustain biocultural diversity?

A comparative discourse analysis of EU Member States NBSAPs has been carried out on the basis of two criteria identified according to two relevant articles of the ELC.

Article 1(a) suggests that landscape multidimensionality is the result of the action and interaction of natural and/or human factors shaping its historic, natural and aesthetic visible features. According to this, the analysis has investigated the presence of social and cultural values related to biodiversity and landscape cultural services (e.g. spiritual, inspiration, aesthetic, recreation services).

Second, holism indicates that each landscape element gains its significance, importance or existence not only from its intrinsic properties but also in accordance to its relationships with the context (Antrop 2006). The spatial implication of this idea is an extended attention from few outstanding elements to their broader contexts, thus including “natural, rural, urban and peri-urban areas (...) land, inland water and marine areas (...) landscapes that might be considered outstanding as well as everyday or degraded landscapes” (ELC, art.2). According to this, the analysis has put in light the attention to biocultural landscapes not listed by the CBD.

The official website of the CBD has been the source for the official documents; last access dates to March 2014. In case of no English versions available for this year, reference has been made back to the last English versions published.

27.3 Results and Discussion

From the survey on the coherence of the NBSs with articles 1(a) and 2 of the ELC, different landscape conceptions seem to emerge.

The assumption of the multidimensional conception of landscape varies depending on the State, with a general oscillation among three main approaches.

These approaches can coexist within the NBSs either shaping a balanced mix or rather typifying them.

Although far from an ultimate and proper evaluation, the research has tried to extrapolate the main aspects characterizing the three approaches summarized in Table 27.1 and discussed below.

Table 27.1 Main aspects characterizing the landscape conceptions within National Biodiversity Strategies and Action Plans of the EU Member States

		ELC landscape conception defined by	
		Article 2, horizontal approach	Article 1(a), vertical approach
Landscape conceptions within NBSAPs	Landscape as large-scale for biodiversity conservation	Landscape as a large-scale for ecosystem knowledge and monitoring	
		Connection among ecosystems (natural and semi-natural)	
		Basis for national ecological networks	
			Adequate scale to establish partnerships for ecosystem management
			Reinforce conservation around PAs
Rural landscape	Prevalent attention to cultural landscapes. Countryside as wildlife habitat, rural landscapes as buffer zones for PAs		Cultural practices related to genetic, species, ecosystem and landscape diversity
			Relevance of natural and man-made landscape elements
			Scenic, perceptive, symbolic, cultural identity values of rural landscape features— multifunctionality of landscape features
Multifunctional landscape	Addresses to deeply human-affected and human-shaped landscapes (usually beyond those recommended by the CBD) e.g. following a gradient from natural protected areas to urban environments		Highlighting of historical coevolution and present connections between biodiversity and human practices
			From ecosystem functions to landscape values
			Role of people's perception
			People's awareness and participation in biodiversity conservation
			Cross-sectoral policy integration

27.3.1 Landscape as Large-Scale for Biodiversity Conservation

ELC article 2 suggests a spatial or horizontal enlargement of the landscape approach, moving from isolated protected areas to biomes and from natural to urban areas, while article 1(a) explicates a vertical deepening of the landscape conception concerning the functional and symbolic interrelation between cultural and natural factors shaping the landscape.

Evidences from the research suggest that strong consistence with the horizontal approach but weak consistence with vertical approach lead to NBSs not completely consistent with the ELC and usually centred on landscape as a large-scale factor exclusively aimed to support biodiversity conservation. As shown in Table 27.1, the main aspect characterizing this approach is a great emphasis to spatial connections among ecosystems, even to support planning of nation-wide ecological networks. Attention to non-natural systems is present, but usually in the perspective of restoring them for strictly ecological purposes.

Such an ecological-oriented approach stresses the priority of reinforcing the management of protected areas especially in connection with the surrounding environments. Bulgarian primary efforts are put in employing the principles of conservation biology and landscape ecology to designate effective buffer zones and to connect and coordinate reserves at the broader landscape scale.

Protected areas are to be intended as biodiversity hotspot of a national ecological network to be expanded by identifying high-priority regions to be integrated into this system. Biological diversity is intended to be supported by integration into all aspects of land, water and biological resources management, especially stimulating habitat restoration of wetlands, forests, lands supporting intensive crop agriculture, pastures, riparian zones and industrial zones degraded or destroyed by past management. Simultaneously impulse to environmental education and the development of an ecotourism policy shall strengthen the main target.

In the case of Czech Republic, the Territorial System of Ecological Stability of the Landscape—(TSES) is a mutually interconnected set of natural and semi-natural, ecosystems aimed to maintain the national natural balance. Territorial systems of ecological stability are classified as local, regional and supraregional systems and are defined, modified and further specified within preparation of the land use planning documentation.

In the UK a more effective landscape-scale approach is pointed out as the way to effectively establish coherent and resilient ecological networks on land and at sea, shifting away from piecemeal conservation actions. To achieve this, landscape-scale approach to ecological restoration will be applied to national parks and areas of outstanding national beauty. This approach is seen also to help achieving outcomes in not protected areas such as towns and open countryside. The landscape-scale approach is also seen as a strategy to be applied to the highly fragmented woodlands where small and isolated patches of ancient woodlands are particularly vulnerable to climate change, thus enlarging and buffering ancient

woods is identified as a priority. Particularly, support for local delivery in the implementation of a landscape-scale approach is considered essential to achieve the objectives of the strategy.

Forman (1995) defines “landscape” as a “mosaic formed by a group of ecosystems that are repeated in space with similar shape, in a mileage range, with identifiable boundaries (...). Specific level of biological organization of life”. Landscape ecologists link the concept of landscape to the idea of a specific “spatial scale” ideal for the investigation of ecosystems’ particular structures and processes not detectable at other levels of analysis: ecotones, connectivity between ecosystems, porosity of the landscape matrix, metastability strategies (Ingegnoli 1999).

The implementation of scientific instruments (e.g. gap analysis, ecological network model, etc.), in the development of place-based policies has to be considered a positive gain for NBSs; moreover, such approach generates scientific knowledge relevant to support planning in the identification of priority areas of intervention. A risk lies however, in the predominance of this approach in case of omitting to consider other cultural ecosystem services generally attached to nature-valuable areas or scarcely considering the wider set of biocultural dynamics affecting them.

27.3.2 Rural Landscape

Positive consistence with ELC article 2 and 1(a) can lead to rural-landscape-centred NBSs, focusing on nation-wide rural landscapes as wildlife habitat or to be managed as suitable buffer zones for Protected Areas. Unlike the above-mentioned approach, the present gives specific attention to cultural landscapes.

Austria focuses on the connections between landscape and genetic resources. Indeed farming highlights the variety of the national cultural landscapes mosaic, but the preservation of landscape needs the support of biodiversity policies, from species to the genetic level: as long as six autochthon sheep breeds are considered to be endangered, the Austrian NBS calls for breeding programmes designated to avoid genetic impoverishment also in the framework of broader cultural landscape conservation (especially in the Alpine regions). On the other hand, genetic resources in the Alps, such as grasslands plant associations, need to be identified, studied and supported by proper corresponding farming practices that also need protection. Austria NBS acknowledges that nature conservation and landscape protection have to be integrated also for their relevance to a wide range of legal entities (e.g. regional planning, agriculture, transportation). Moreover, biodiversity and landscape services have to be properly balanced when it comes to consider functional and aesthetic interactions between adjoining habitats (forest, forest edge, meadow) and to minimize the landscape impacts of energy lines, transmitter masts and windmills.

Irish NBS aims primarily to conserve and restore biodiversity and ecosystem services in the wider countryside, due to the consideration that much of the Irish biodiversity lies outside the protected areas. The so-called “Burren Farming for

Conservation” programme is pointed out as an emblematic agri-environmental initiative assisting the maintenance and recovery of ecosystems outside traditional protected areas with benefits for farmers and habitats both inside and outside the protected land. Landscape is the regarded spatial scale at which to tailor partnerships with and among farmers, but with great attention to local landscape features: for example, hedgerow and scrub are objects of a regulation for their removal and management (Irish NBS, target 9). Significantly, in the first version of its NBS, Ireland did not employ the term “landscape”, although having ratified the ELC, and the biodiversity conservation policy had a very sectorial approach focusing on the role of the rural landscape in terms of wildlife suitability.

The English NBS points out the historical role of mankind in the diversification of plant and animal species through traditional practices of agricultural land use. The main issue is to encourage farms multifunctionality (rural landscape cover almost the 80 % of the nation) and to apply environmentally suitable land management techniques emphasizing the historic landscape characteristics.

In Estonia, one of the issues for biodiversity policies is landscape fragmentation due to the rapid re-privatization. The NBS is a means to develop a unified landscape policy aimed both at preserving natural habitats (for example by establishing protection zones around water courses and lakes) and maintaining the richness and diversity of the national landscape. Such objectives are pursued linking conservation to agricultural policies which can help to restore and create woodlands, wetlands, dunes, riverbeds, strips, dry stone walls, etc.

Usually, multidimensionality of the landscape is taken into account by according importance to cultural practices related to genetic, species, ecosystem and landscape diversity, to the diversity of landscape elements both natural and man-made as well as to scenic, perceptive, symbolic, cultural identity values of rural landscape features. Nonetheless sometimes this approach can lack of the same multifunctional perspective while treating other ecosystems.

27.3.3 Multifunctional Landscape

Finally, strong consistence with both ELC article 1(a) and 2 is the most favourable condition.

This approach satisfies ELC article 2 by intending landscape in a holistic manner, not only in its spatial dimension but also as a means to reveal and manage mutual interactions and dynamics among natural and cultural factors.

Namely, this approach is generally characterized by: (a) enlargement of attention from ecosystems functions to landscapes values, (b) highlighting of the connections between biodiversity and human (traditional) land use/management practices, also in a co-evolutionary and historical perspective; (c) addresses to deeply human-affected or human-shaped landscapes and (d) a strong integration among sectorial policies.

Addresses to deeply human-affected and human-shaped landscapes beyond the ecosystems recommended by the CBD, are given by France, Germany, Latvia, Lithuania and the United Kingdom which dedicate specific sections to the urban landscape. Latvia focuses on the monitoring of invasive species within urban ecosystems creating inventories of genetic resources stored in urban parks and botanical gardens, seeing these places as “oasis of biodiversity” (a dualistic view of the urban environment prevails, considering only open spaces).

In Germany, the *Eingriffsregelungen*, regulating the ecological compensation of new building interventions, includes not only environmental but also scenic measures for the “preservation of the aesthetic character of the landscape”. On the other hand, Germany’s attention is given also to open spaces within the urban landscapes which need to be preserved from soil consumption with a more “systemic” approach, incentivizing densification in specific areas. At the federal level, mapping areas not yet fragmented by major traffic arteries help establishing priority interventions for the safeguard and the restoring of ecological corridors.

Moreover, France devotes a specific action plan to the urban environment (Plan d’action urbanisme) focused on the reform of the planning law and of the financial instruments supporting a sustainable spatial development. The construction of Ecoquartiers and EcoCités and the elaboration of a specific action plan for the ecosystems multifunctionality in urban areas are other specific issues included in the NBS.

Portugal focuses on the importance of recreation services of bio- and geo-diversity landscapes safeguarded by the Regional Natural Monuments of Geological Interest.

Aesthetic and inspirational ecosystem services are put in light by the Finnish NBS, as long as 2009, since Finland has at its disposal National Urban Parks aimed to safeguard special situations of coexistence between natural and cultural values and to “protect and maintain the beauty of natural or cultural landscapes, biodiversity, historic features or other social and recreational values associated to the urban environment”.

“Putting people at the heart of biodiversity policy” is a priority for the United Kingdom as people’s awareness towards biodiversity is intended as the basis for any action. The provision of a new green areas designation, empowering communities to protect local environments that are important to them, is significant.

The Conference of the Parties (COP, the governing body of the CBD which advances implementation of the Convention through the decisions taken at its periodic meeting) has established seven thematic programmes of work corresponding to some of the major biomes on the planet (agricultural, arid and sub-humid lands, forests, inland waters, marine and coastal ecosystems, mountain ecosystems, island ecosystems, protected areas). Each NBS takes into account such biomes in order to address specific conservation measures. Besides these, the comparative analysis of NBSs puts in light the need for attention towards other ecosystems and other landscapes, encompassing above all cultural landscapes (see Fig. 27.1).

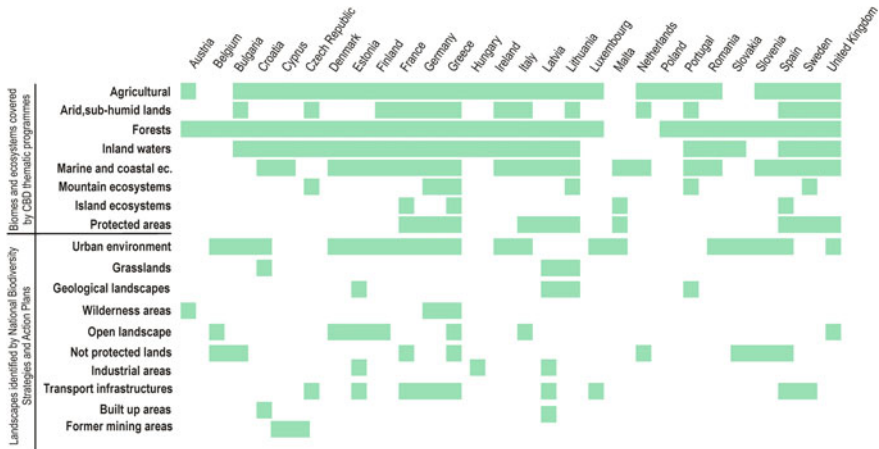


Fig. 27.1 A panorama of biomes, ecosystems and landscapes from the National Biodiversity Strategies and Action Plans of the EU member States (last update: March 2014): not all of them are covered by specific CBD thematic programmes, thus reflecting diverse national needs to spread the attention to landscapes

27.4 Conclusions

Policy integration is foreseen both by the CBD (taking part to the joint programme between UNESCO and the SCBD) and the ELC (Art. 5.d).

As a matter of fact, in the field of sustainability studies, environmental policy integration is commonly understood as balancing economic, social and environmental interests and policies in a way that trade-offs among them are minimized and synergies (or win-win-win opportunities) maximized (adapted from Berger et al. 2009). Moreover, policy integration on landscape issues influences spatial planning and having the power of jeopardizing its effectiveness (Seardo 2012b).

As shown in the discussion, coherence of biodiversity policies to ELC has been investigated, revealing a variety of approaches not always completely fitting to ELC conception of landscape. Namely, a sectorial approach to biodiversity—focused mainly on its intrinsic value—seems to be still present in NBSs. The major shift regards the assumption of a strictly ecological approach to landscape as a scale for planning and intervention thus not enhancing the interrelations with human practices and cultural ecosystem services and people’s aspirations. Indeed, NBSs should establish on a strong nature conservation basis, provided that social and cultural dimensions are not excluded.

Not to be forgotten is the temporal shift among the ELC and the NBSs, a few of which dating back before the opening to ratification of the ELC and not yet updated.

At a policy level, addresses should be given for further policy harmonization in order to increase the relevance of the multidimensional conception of landscape in sustaining biocultural diversity within NBSs, namely: launching joint initiatives between the two conventions or stressing the role of landscape within the present ones such as the UNESCO-SCBD Joint programme; references to the ELC and the multidimensionality of landscape should be strengthened within the CBD COP guidance on NBSAPs (addressing both to new on-going NBSs and the updating ones).

The outputs of the research regard exclusively the NBSs and cannot be transferred to a general judgment on the complex policy framework of each State on the biodiversity issues. Thus the research should not be considered fully satisfactory until other aspects will be investigated: the presence of specific national policies addressed to landscape, the implementation of biodiversity–landscape programmes or the existence of integrated funded projects (Waldron et al. 2013 have drawn a picture of the current national expenditure), but also relevant immaterial aspects should be investigated such as the possible fear of watering down the conservation efforts by introducing into biodiversity policies a broader set of cultural values attached to biodiversity.

All of these aspects are not matter of this contribution, but should be collected in order to integrate and improve the present results.

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