

AN EXPLORATION OF NATIONAL AND EUROPEAN POLICY IMPACTS ON LANDSCAPE CHARACTER: THE CASE OF VOLCANIC LANDSCAPES

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CONTEXT, OBJECTIVES AND METHODOLOGY

Greece is characterized by a plethora of landscapes of considerable distinctiveness, some of which represent internationally unique cases, necessitating commensurate protection and management. The objective of this paper is to explore and assess the impacts of national and European policy on the Greek landscape, with an emphasis on the volcanic landscape. Policies examined here cover the whole range of those with a spatial dimension (landscape policies, land use policies and spatial/regional planning policy, as well as all other relevant policies), with a focus on tourism policies. The paper draws on research conducted in the context of the 7th Framework Programme for Research and Technological Development (FP7) European project VOLANTE (www.volante-project.eu).

With the aid of SWOT analysis, we attempt to understand the interactions of these policies both among themselves and also with the landscape, and to suggest prospective directions or synergies within the broader context of future policy development, as the latter bears on the Greek—and especially the volcanic—landscape. Our approach is landscape-oriented; thus the ensuing discussion begins with an examination of landscape concepts, approaches and management.

BASIC CONCEPTS AND CONSIDERATIONS

If we accept that landscape constitutes an area perceived by humans as the result of action and interaction between natural and/or anthropogenic factors (Council of Europe, 2000), then high-value landscapes represent internationally unique examples, of universal significance. These encompass all types of cultural landscapes, as well as protected natural areas, such as national parks, natural landmarks and monuments, Absolute Nature Reserve Areas, geotopes, UNESCO natural monuments, volcanic landscapes, etc.

Moreover, the geomorphological distinctiveness and aesthetic dimensions of European landscapes is widely acknowledged, as for example, in the recommendation Rec (2004)3 “On conservation of the geological heritage and areas of special geological interest”, adopted by the EU Committee of Ministers on 5 May 2004, with the specification that “geological and geomorphological features form the structural framework for all landscapes, and are essential characteristics of landscapes that need to be considered when applying the Landscape Convention. Landscape assessments made in this way will take account of the particular values assigned to them by populations concerned, and in many instances these values will relate directly to the geological features of the landscape and their heritage value” (Council of Europe Committee of Ministers, 2004).

Landscape uniqueness and the aesthetic dimension of landscapes are affected by a great number of factors, predominant among which are geomorphology and geomorphological processes continuously evolving in various places on the surface of the earth (e.g. the S. Aegean volcanic arc and the occurrence of ancient volcanic rocks and structures) and are classified as “geological features of interest”, a category of the Greek system of recording geotopes (Drandaki, 2001; Theodosiou-Drandaki, et al. 2001; Zouros, 2009). Among the latter, geotopes constitute a special landscape category, underlying the geo-historical evolution of a place or region.

In Greek legislation, geotopes are defined by Law 3937/11 (GG 60/A/2011), “Conservation of Biodiversity and Other Provisions”, as “geological and geomorphological structures, which comprise natural formations and represent important moments of the geological history of the land; they are important witnesses of lengthy evolution or exhibit modern natural, geological processes, which continue to take place on the surface of the Earth” and may be designated as Protected Natural Formations. Geosites and geological monuments are included in Category III of protected areas, “Conservation of Natural Features” (i.e. Natural Monuments) by the International Union for the Conservation of Nature (Larwood, Badman & McKeever, 2013).

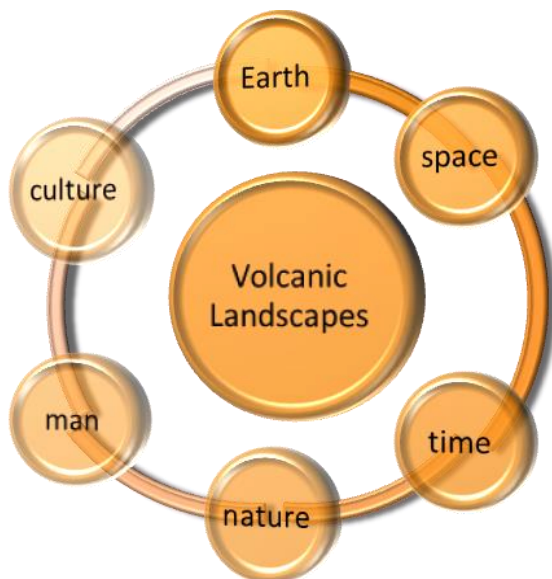


Fig. 1: Basic concepts and relationships of volcanic landscapes

Among other geomorphological formations, geotopes include: interesting geological formations (sites of lithological or other formations), volcanoes and volcanic formations (e.g. lakes and hot springs), sites representative of paleo-environments (paleo-fauna, paleo-flora and paleo-ecosystems), landforms created by climatic change, various types of tectonic structures, geomorphologically-representative sites, mines and landscapes created through active geodynamic processes (Theodosiou-Drandaki, 2001; Theodosiou-Drandaki et al., 2001; Zouros, 2009).

Volcanic landscapes represent a distinctive category of landscapes, dominated by tectonic structures and processes resulting from volcanic activity on the earth’s surface. As a category of landscapes (characterized by multi-functionality, sustainability, participatory governance, etc.), volcanic landscapes are, as far as their management is concerned, subject

to legal frameworks relating both to landscape and to land use. However, they also necessitate additional legal measures of institutionalization, protection etc., on the basis of their distinctive volcanic nature and characteristics.

Nonetheless, not all volcanic landscapes share the same characteristics, nor do they all exhibit volcanic features to the same extent. Moreover, not every such landscape is unique or of extraordinary significance. Just as not all landscapes are protected, neither are all volcanic landscapes protected; they should, however, be incorporated into spatial management plans. Such plans should depend on their particular landscape characteristics, on the basis of which their planning, protection and management ought to be implemented. Furthermore, all policy with a spatial impact obviously affects the landscape—directly or indirectly, fully, partly or relatively. Apart from such policy, however, there is a need for special legal consideration and active intervention for volcanic landscapes.

Volcanic landscapes may be characterized as: a) diverse, b) complex and c) unique. This is obviously where the difficulty of defining volcanic landscapes stems from—in terms of how they are distinct from other landscape categories—as well as their multitude of typologies, namely their

categorizations on the basis of their landforms and tectonic processes, including the particularities of their time-space evolution.

THE GREEK CASE

Among the key factors underlying the present-day geomorphological state of most Greek landscapes are plate tectonics, volcanism and the rise and fall of sea level.

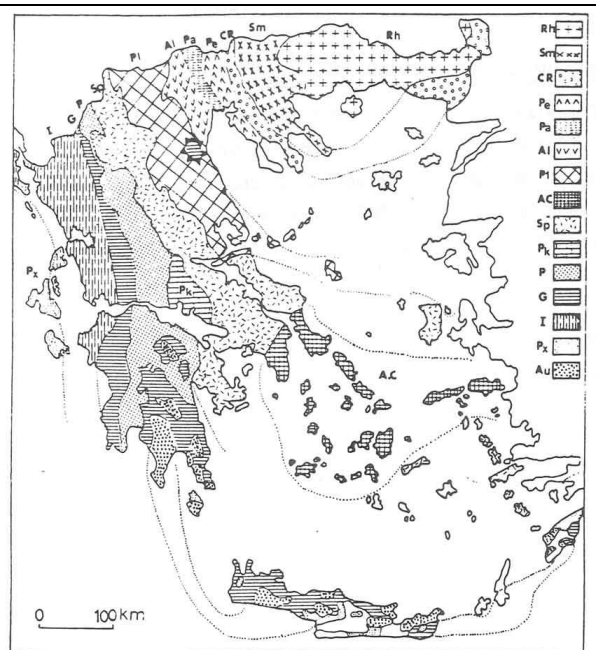


Fig. 2: Geo-tectonic patterns of the Greek territory. Source: Mountrakis et al., 1983, Ch. 3.

The landscape and its protection are addressed in Article 24 of the Greek Constitution. The composite nature of landscape (environment and culture) is acknowledged by Law 1650/1986, “For the Protection of the Environment”, through which National Parks, Nature Reserve Areas, Absolute Nature Reserve Areas, Protected Forests, Protected Significant Natural Formations and Landscapes, and Eco Development areas were established.

Moreover, the landscape is acknowledged through the protection of antiquities and cultural heritage, and specifically Law 1469/1950, which introduced the concept of places of “outstanding natural beauty”, but which unfortunately failed to extend protection beyond these areas (Vladou, 2012; Maria, 2010; Schistou & Terkenli, 2013).

Before the implementation of the EU Habitats Directive through national legislation and prior to Law 1650/86, the following categories of protected areas were also established: National Woodland Parks, Aesthetic Forests, Natural Monuments and Landmarks (Law 996/71) and Wildlife Refuges, Controlled Hunting Areas and Game Breeding Stations (Law 177/75, as amended by Law 2637/98). (Vladou, 2012; Maria, 2010; Schistou & Terkenli, 2013) (Table 1).

Since the time of the Aegida land mass, through multiple tectonic movements and the submergence of the African plate below the Eurasian one, as well as through lateral pressures of the Anatolian plate, multiple faults are created, as evidenced by the southward movement of the volcanic activity in the region, resulting in the basic geo-tectonic structure of the Greek territory—the Greek volcanic arc (Fig. 1 and Fig. 2). The Greek volcanic landscapes are characterized by high aesthetic value and an abundance and great variety of landforms, caves, hot and thermal springs, metals and rocks, biodiversity etc. (Theodosiou-Drandaki, 2001; Theodosiou-Drandaki et al., 2001; Zouros, 2009).

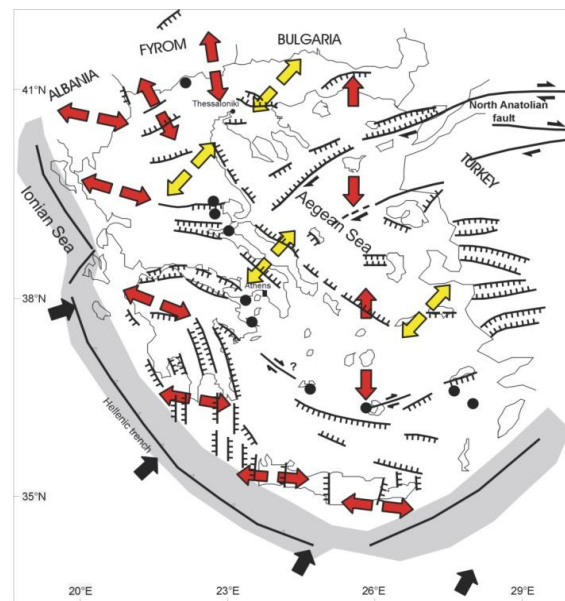


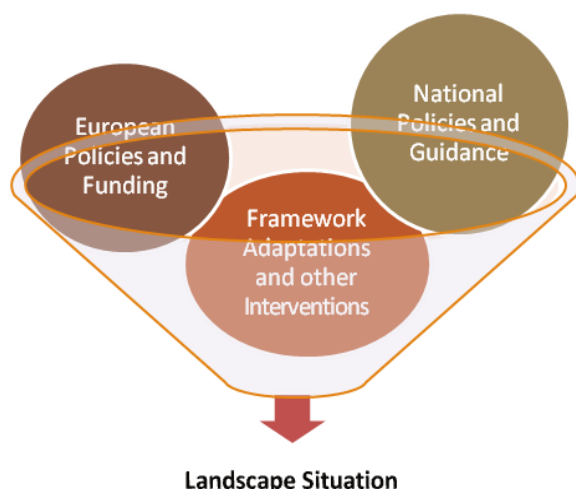
Fig. 3: Main features of the active tectonic forces of the Greek arc and the broader Aegean region. Source: Mountrakis et al., 1983, Ch. 5.

After 2011, there followed Ministerial Decision 10106 (GG 45/2011) of the Deputy Minister of the Ministry of Environment, Energy and Climate Change (MEECC) “Adoption of the specifications for drafting the Regional Frameworks for Spatial Planning and Sustainable Development” (standards for evaluation, revision and specialization of Regional Frameworks), and Law 3937/11 (GG 60/A/2011) “Conservation of Biodiversity and Other Provisions”. Reference is made in this legislation to the acknowledged need for the protection of the geological and geomorphological heritage, as well as the institutionalization of Geoparks (Table 1) (Schistou & Terkenli, 2013; Dimitriadi & Kallia-Antoniou, 2011).

Period to 1950	1975	1986	Period to 2010
Special protection status of ecosystems since 1938 with additions to provisions of Forest Code Law 5351/1932 “On Antiquities”	Greek Constitution Article 24	Law 1650/1986 for the protection of the environment Law <u>2242/1994</u> Law 2742/1999 Law <u>3010/02</u> Law <u>3065/02</u> Law <u>3164/03</u> Law <u>3536/07</u> Law <u>3621/07</u> etc.	Special Framework for RES Law 3827/10 “Ratification of the European Landscape Convention” Law <u>3851/10</u> Law <u>3889/10</u>
Law 1469/1950 “On Places of Outstanding Natural Beauty”			
2011 –to-date			
<ul style="list-style-type: none"> • Law 3937/2011 (GG 60/A/2011) “Conservation of Biodiversity and Other Provisions”. Reference is made in this legislation to the acknowledged need for the protection of the geological and geomorphological heritage and for the institutionalization of Geoparks. • Ministerial Decision 10106 (GG 45/2011) of the Deputy Minister of the Ministry of Environment, Energy and Climate Change “Adoption of the Specifications for Drafting the Regional Frameworks for Spatial Planning and Sustainable Development” (standards for evaluation, revision and specialization of Regional Frameworks). 			
Table 1: A brief layout of laws and milestones in landscape protection in Greek territory.			

EUROPEAN POLICY AND DIRECTIONS AFFECTING LANDSCAPE

At an international level, the landscape has constituted a protected good, since 1972, the year of the signing of the Convention Concerning the Protection of the World Cultural and Natural Heritage. Although it is generally acknowledged that there is no specific landscape policy in the European Union, landscape change occurs, to a great extent, as a result of the implementation of agricultural, environmental, infrastructure, urban and energy land use policy, as well as other policy mainly directed to the global market (Cosor et al., 2012; Terkenli & Schistou, 2013) (Table 2).



National development planning of European Union member-states tends to be the result of comprehensive development choices, of EU political directions, of economic circumstances and of each country’s sectoral development strategies. (Fig. 4).

Fig. 4: National and European policy impact on landscape.

Strategies and Action Plans

- **General**
Lisbon Treaty–EU2020 – Strategy–EE
- **Sustainable Development**
EU SDS 2001 (Göteborg Strategy) Renewed EU Sustainable Development Strategy COM (2005) 37
Thematic strategy on the sustainable use of natural resources COM 670 (2005)
- **Environment**
Sixth Environment Action Programme of the European Community 2002-2012 – The Biodiversity Action Plan
- **Territorial development**
First action program for the implementation of the Territorial Agenda of the European Union, European Spatial Development Perspective (ESDP)
- **Energy**
Energy policy for a competitive Europe–White Paper Climate Adaptation Strategy
- **Transport**
Green Paper. Towards a new culture for urban mobility–Transport Policy COM (2009)

Directives

- Water Framework Directive 2000/60–EU
- Floods Directive 2007/60/EC
- Birds Directive 1979/409/EEC
- Habitats Directive 1992/43/EEC
- EU Landfill Directive 1999/31/EC
- Nitrates Directive 1991/676/EEC

Regulations

- Common Agricultural Policy (CAP)
- Rural Development
Sapard Regulation 1268/1999
- Regional Development
The European Fund for Regional Development (EFRD) Regulation 1080/2006 – LFA Regulation 1698/2005 (Less Favoured Areas (LFAs) – McSharry Reform 1992 – Cohesion Fund Regulation 1664/94

Table 2: European policies and directives affecting the landscape. Source: Cosor et al., 2012.

NATIONAL POLICY AND DIRECTIONS AFFECTING LANDSCAPE

A) Spatial Planning Policy

The most significant policy addressing landscape issues, either directly or indirectly, is Greek policy and directions at all three spatial levels (national, regional and local); its basic implementation tools are Law 2742/1999 - (GG 207/ A/07.10.1999) “Spatial Planning and Sustainable Development and Other Provisions”, the General Framework Spatial Planning and Sustainable Development (GG128/A/03.07.2008), and the Special Frameworks for Spatial Planning and Sustainable Development, etc. However, inadequacies in the General Framework for Spatial Planning and Sustainable Development and in protection statutes have brought about landscape degradation, environmental conflicts and general physical deterioration of the Greek landscape. As an example, there has been a downgrading of the General Framework, mentioned above, vis-à-vis the Special Framework for Tourism, which promotes large tourism investments—the mixed-use resorts), which had been institutionalized with Law 4179/2013, “with minimal provisions for environmental protection, even in areas under the status of protection” (WWF 10th Annual Review, 2014). More detailed reference to this specific law is made in the Tourism and Economic Policy section, below.

Moreover, according to remarks by the WWF and many other parties, Law 4269/2014 (GG 142/A/28.06.2014) “Spatial and Urban Planning Reform – Sustainable Development” promotes tourism land uses, without comprehensive and integrated planning. It abolishes the protective provisions, at the level of local specificity and essentially upholds, at the level of highest priority, those provisions which facilitate any and every investment project (WWF 10th Annual Review, 2014). Problems, however, also arise from the publication of Ministerial Decision 10106 (GG 45/17-03-2011) from the Deputy Minister of the Ministry of Environment, Energy and Climate Change “Adoption of the specifications for drafting the Regional Frameworks for Spatial Planning and Sustainable Development – (standards for evaluation, revision and specialization of Regional Frameworks).

The updating of the Regional Framework for Spatial Planning and Sustainable Development marks the commencement of regional landscape policy (Gemenetzi & Zacharos, 2012). In effect, however, former state obligations are promoted at the regional level with dubious results.

“Although the specific studies are expected to present challenges and problems in their realization and implementation, they constitute a positive step towards a more integrated approach to landscape, which also introduces the city/ urban planning scale” (Gemenetzi & Zacharos, 2012).

A consequence of the deficient implementation of spatial planning and protection measures, in areas under institutionalized protection or not, over several decades, is the emergence of serious problems in tourism and land uses, both at the national and at the regional levels. Furthermore, there has been unrestricted and pervasive illegal construction, throughout the landed territory of Greece, while the environmental and natural resource carrying capacity have not constituted a criterion in the policy for land management (Schistou & Terkenli, 2013).

B) Environmental Policy

The environmental sector has been seriously impacted by various national policies in different sectors, despite the transposition into Greek domestic law of EU directives on the environment and on nature protection, the promotion of conservation measures and the reinforcement of national environmental legislation, such as through Law 4014/2011 “Environmental Licensing of Projects and Activities, Regulation of Illegal Constructions in Connection with Environmental Stability and Other Provisions falling under the competence of the Ministry of Environment” and Law 4178/2013 (GG 174/A/08.08.13) “Tackling Illegal Building – Environmental Stability and Other Provisions” etc.

Among problems ensuing specifically from these latter laws, was the circumvention of more general provisions, through special or small-scale measures, incomplete implementation of the strategy for biodiversity, lack of funding for the management of areas under protection, forest fires and failing to implement other directives fully. The outcome of such implementation of environmental policy, up to the present, is evident in a variety of ways through land use transformations, on the Greek landscape and on national natural resources. Specifically, besides inadequate management of natural resources (aquifers, water reserves, forests, minerals, agricultural land of high productivity, air quality, etc.) and the trend towards their exhaustion, there has been over-exploitation of natural ecosystems, depletion of non-renewable resources, reduction in biodiversity, ecological degradation and many other environmental consequences.

EU Environmental Policy, as transposed into Greek legislation, has had a more general positive effect on the Greek landscape. Specifically, the Water Framework Directive had positive impacts on matters of protection, rational management and use of water resources. However, the drawing up of management plans for water departments was delayed, leading to problems of management plan data inadequacies and water availability in the Greek islands.

The European Habitats Directive 1992/43/EEC and the Birds Directive 1979/409/EEC had broadly positive impacts on the Greek landscape. The legal implementation of the Directives is considered adequate and positive; nonetheless, there have been deficiencies in the ways they were upheld, as well as problems in matters of protection and management. Another significant achievement was the determination of areas under protection and of conservation zones, as well as of their management agencies and rules and restrictions of protection. Law 3937/2011 (GG 60/A/2011) “Conservation of Biodiversity and other Provisions” constitutes such a legal milestone. The Waste Framework Directive also had a positive impact, albeit less pronounced; it is expected to lead to improved environmental protection in Greece and its more rational management. Different outcomes and impacts have been recorded in its implementation, with the factor of insularity exacerbating its high costs of application (Cosor et al., 2012).

With regard to forest policy, there has been intense criticism of the new Law 4280/14, by both environmental and other types of organizations, over the significant changes it brings about to forestry legislation and, in particular, as regards matters of forest conservation. Particular reference

to this is made in the 10th WWF Annual Review Summary, with the title “Environmental Legislation in Greece”, with remarks such as the fact that the Law “legalizes many categories of illegal construction in forest lands; extends the use of protected forested lands for industrial, energy, mining and tourism installations, roads, networks, agriculture; allows the building of residential houses within forested land owned by housing cooperatives, a use which was never allowed and has been ruled unconstitutional by Greek courts; abolishes the absolute protection hitherto enjoyed by forested lands that have been destroyed by fire or clearing (‘reforested lands’), and allows their use for various activities and installations; [and it] allows for the clearing of forested lands for agriculture” (WWF 10th Annual Review, 2014).

Finally, despite the country's efforts to enhance the protection of nature, in accordance with Law 3937/2011, we observe that, due to the currently ongoing credit/economic crisis, there has, unfortunately, been much back-stepping. We regard as proof of the latter fact the concerns raised by Professor Vokou, the Chairperson of the “Nature 2000” Committee, during the National Development Conference for the programming period 2014-2020, on May 21, 2013 organized by the MEECC. In her comments, she stressed that, even today, there are management bodies for only 25-30% of the protected areas. She also emphasized that there is ignorance as to who will manage them, how this is to be monitored, what the goals and priorities of conservation management are to be, and what steps need to be taken towards that direction in the future. Especially noteworthy is also the lack of data to be incorporated in the six-year implementation report of Directive 92/43 in Greece (Vokou, 2013; Terkenli, Schistou & Pavlis, 2013).

C) Policy on Energy and Transportation

The transposition of European directives in the sector of transport and energy generally appears to be negative, whereas positive are deemed the impacts of the transposition of European legislation on renewable energy sources (RES), into Greek law.

In the transportation sector, during the time span 1980-2010, infrastructures were upgraded, modernized and extended, e.g. the national coastal highway serving northern Crete, the Via Egnatia motorway in northern Greece, etc. The uncontrolled change in roadside uses, and, in particular, rural uses, must also be acknowledged. Available transportation services and related infrastructures are considered inadequate, as regards their present use, but also their future demand. The need for transportation network extension is ever present, with further anticipated impact on the landscape. The latter impact is viewed as especially critical in cases of application in the islands (Terkenli, Schistou & Pavlis, 2013; ESPON, 2013).

Changes have been brought about in the energy sector, and specifically as regards EU directives on RES, especially during the past few years, both at the legislative level, but also as regards land uses, mainly through the construction of inland and coastal wind farms and the use of agricultural land for photovoltaic parks. Such energy investments have positively affected the tourism sector, as regards the ready production of electrical energy, but have also brought about significant and irreversible changes to the landscape, they have resulted in the loss of productive agricultural lands, etc. Thus, on the one hand, the introduction of RES in Greece has been positive, but, on the other hand, this has affected the Greek landscape negatively (Terkenli, Schistou & Pavlis, 2013; ESPON, 2013).

D. Common Agricultural Policy

The implementation of the Common Agricultural Policy has been shown to affect land use in many different ways, whether direct or indirect, (Cosor et al., 2012). The latter fact, in combination with other policy, brought about the intensification of agriculture (Terkenli & Schistou, 2013). There is unequal distribution of farmers' financial support, depending on the farm area and other stipulations (favorable regulations for large landholdings, for farmland in the plains and in close proximity to the markets, etc.), to the detriment of small and isolated farm holdings, leading to increased pressure on uncompetitive farms.

Since the 1980s, agricultural intensification, increased productivity and yields, natural ecosystem degradation and soil erosion have been evidenced. During this decade, a transformation of farmers into entrepreneurs took place, accompanied by changes in their sources of income and their active role in land resource protection. This period is followed in Greece (1980-2010) by uncontrolled urban expansion (Beriatos, 2008), with major parallel tourism development, through an extension of the network of tourism destinations, as well as through the lack of land use legislation and through tourism development strategy.

According to Minetos (2009), there was generally a shift “from agricultural land to urban uses, forested land and woodland to urban uses, from agricultural land to forest land uses, etc” (Terkenli & Schistou, 2013).

E) Tourism and Economic Policy

The multifaceted significance of tourism has only very recently been acknowledged at the centralized European level, and specifically in the context of European cohesion policy and other regional programs, actions and policies. In order to withstand global tourism competition successfully, Europe needs to highlight its comparative advantages and, in particular, its landscape diversity and its outstanding cultural and natural riches (Dimitriadi & Kallia-Antoniou, 2012).

During the period 2007-2013, the European Commission promoted actions and measures for the incorporation of tourism into other policies: programs for European Community support of tourism, through European structural funds (ERDF, ESF), the European Agricultural Fund for Rural Development (EAFRD), European Fisheries Fund (EFF) etc. (Dimitriadi & Kallia-Antoniou, 2012).

For example, in Greece the National Strategic Plan for Agricultural Development, 2007-2013 (NSPAD) subsidizes agrotourism and ecotourism activities. Moreover, alternative tourism activities receive subsidies, in the context of the National Strategic Reference Framework (NSRF), 2007-2013, of the Operational Programme “Competitiveness and Entrepreneurship”.

The development of Greek tourism, however, has not occurred in the context of a programming framework for the protection of natural resources, with resultant pressures and adverse impacts on the Greek tourism industry. Particularly in rural areas, some of the main causes of pressure on such land use change were: the combination of a failed urban spatial policy from 1950 onwards, the increase in the number of secondary residences, urban sprawl, ownership patterns, non-compliance with building provisions for both planned and for out-of-plan areas (illegal construction), lack of a complete cadastre, rampant tourism development, etc. (Terkenli & Schistou, 2013).

These trends were exacerbated, through the mass tourism model which prevailed in the country; through the transition from an agricultural to a tourism-dependent economy; through changes in landed activities, land uses and natural resource exploitation; through the lack of common tourism strategy and marketing; through inadequate transport and connectivity between coastal and inland regions of Greece, as well as between coastal and insular areas of Greece; through the loss of protected status for forested lands; through the expansion of pre-existing tourism infrastructures, etc. The results and consequences of these trends include the deterioration of the environmental balance of certain vulnerable areas, the abandonment or underdevelopment of certain areas, the exacerbation of regional imbalances, and the degradation of areas around the great majority of the country’s tourist destinations.

During the past three years, apart from the issuing of the Special Framework for Spatial Planning for Tourism, there has been an effort to bolster and systematize the legal framework addressing tourism issues in Greece, for instance, Law 4179/13, whose purpose, among other things, was not only to strengthen enterprise and to allow for new tourist products (i.e. condo hotels), but also to attempt to bring about functional regularization of the infrastructure of various tourist attractions. These are praiseworthy attempts, but this law has been subject to criticism from various ecological standpoints, which have highlighted its adverse environmental pressures, stemming from construction within NATURA 2000 areas. Modifications to restrictions on out-of-plan building, so as

to permit tourism-related construction in natural and forest areas and other such detrimental measures, have also been faced with severe opposition (Schistou & Terkenli, 2013).

Intense criticism has been aimed both at the amendment of the Special Framework for Spatial Planning and Sustainable Development for Tourism and on matters, such as the creation of mixed use resorts in NATURA 2000 areas, as well as at certain related recent laws, such as Law 4269/14 “Spatial and Urban Planning Reform – Sustainable Development”.

With regard to the spatial and urban planning reform, objections were raised, regarding the downgrading of spatial planning at the national level and the promotion of the new concept of state national spatial planning strategy and national–regional spatial planning frameworks, while Law 4280/14 contains provisions, which are regarded by some ecological organizations as exacerbating strains on forest ecosystems.

Finally, the investment-oriented Law 3908/2011 (GG 8/A/01.02.11) “Aid for Private Investment to Promote Economic Growth, Entrepreneurship and Regional Cohesion” as amended and implemented “strengthens investment plans with tax exemptions or capital grants or other subsidization (with both national and EU funds), but with substantial environmental and social deficiencies” (WWF 10th Annual Review, 2014).

Many environmental organizations focus on the issue of social, environmental and spatial planning breakdown, following adoption of the first Medium-term Fiscal Strategy Framework in 2011 ((WWF 10th Annual Review, 2014), namely Law 3986/11 “Urgent Measures for the Implementation of the Medium-Term Fiscal Strategy 2012-2015” establishing a *soci  t   anonyme*, named “The Hellenic Republic Asset Development Fund S.A.” with the sole purpose of exploiting state-owned assets. Through this Fund, a large part of the private property of the State, of special ecological, historical, cultural, etc. value (e.g. thermal springs), through competitive processes incorporated in the Fund, passes into private ownership through long-term concessions.

SWOT ANALYSIS

Based upon this recorded evidence, relating to the impact of spatial and sectoral policies on the Greek landscape, an attempt is made, through SWOT analysis (Table 3), to gain an understanding of the interactions of these policies, both among themselves and with the landscape.

<u>Strengths</u>	<u>Weaknesses</u>
<ul style="list-style-type: none"> • Outstanding geophysical and cultural reserves for the development of all types of tourism • Potential for potent tourism brand name creation (geothermal energy, spas etc.) • Potential for geotope/ geological and cultural heritage conservation • Favorable physical environment for renewable energy sources (geothermal energy, spas etc.) • High biodiversity and geodiversity indices 	<ul style="list-style-type: none"> • Deficiencies in landscape management and protection • Incomplete legal protection of areas of geomorphological or other landscape interest • Degradation of cultural heritage • Tourism monocultures • Urban sprawl (primary and secondary residence, resorts) • Tourism activities--saturation or under-exploitation • Lack of infrastructure—i.e. transport • Rural population reduction • Abandonment of traditional cultivation methods—single cultivar intensive cultivation • Intense mining activity • Vulnerability to climate change • High dependence on public funding
<u>Opportunities</u>	<u>Threats</u>

<p>Priorities of the new Partnership Agreement for the Development Framework-NSRF 2014-2020 Partnership Agreement Priorities</p> <ul style="list-style-type: none"> • Boosting competitiveness and business extroversion • Development and deployment of human resources • Environmental protection and shift to a green economy • Infrastructure development, modernization and completion of access infrastructures • Enhancement of institutional capacity and efficiency of public administration and local government <p><u>Individual aid (in accordance with E2020 thematic objectives)</u></p> <ul style="list-style-type: none"> • Aid for research, improved access to ICTs, in order to enhance competitiveness of small and medium-sized enterprises—including those of the agricultural sector and of the fisheries and aquaculture sector—and promotion of climate change adaptation • Environmental conservation and protection and resource efficiency promotion • Promotion of sustainable transport and quality employment • Investment in education and training for skill acquisition • Support for the expansion, enrichment and diversification of the tourism product, e.g. volcano branding 	<ul style="list-style-type: none"> • Reduction in the public investment budget (national and EU resources) • High dependence on public investment • Fragmentation of productive activities • Climate / environmental change • Economic and financial crisis <p><u>Results</u></p> <ul style="list-style-type: none"> • Change in landscape character • Loss of landscape attractiveness • Fragility of the natural environment • Mono-activity in tourism (which precisely depends on the exploitation of the natural environment)
<p>Table 3: SWOT analysis: examination of the impact of spatial and sectoral policies on the Greek landscape.</p>	

REMARKS AND CONCLUSIONS

In our effort to understand the interrelationships of the policies presented above both among themselves and with the landscape, as well as drawing from insights gained from their implementation, we are led to the documentation of a very complex problem of balances and interactions, especially as regards spatial, economic and environmental policy. These policies themselves also exert pressures on the Greek landscape, and especially those of high value and distinctiveness, as in the case of volcanic landscapes. More specifically, among other problems, there are inefficiencies regarding the principles of complementarity and integration in the planning context abound which are exacerbated due to the inadequate environmental and landscape responsibility involved. These inefficiencies are coupled with a lack of assessment of the policies themselves and of policy synergy, policy overlaps regarding the object of action or protection, and deficiencies, with regard both to the planning and to implementation of environmental policy. It has been argued that “if different sectoral policies are planned and implemented separately, problems arise with duplications, conflicts, appeals or limited results. In contrast, joint planning, incorporation of the dimensions of each policy into those of others, cross-cutting coordination and their complementary implementation may lead to spectacular multiplier effects” (Kafkalas & Andrikopoulou, 2000).

The ensuing outcomes, consequently, take the form of (permanent or otherwise) pressures on natural resources and the landscape, land use conflicts between tourism, agriculture, mining, fishing, development of infrastructure, etc, which lead to landscape deterioration. Such degradation may be effected on either the biotic or abiotic parts of a landscape, through large-scale construction, in areas of high environmental vulnerability (such as volcanic landscapes). It may also come about as a result of many other factors, including improper implementation of the institutional framework or inappropriate mechanisms of urban and regional planning, in combination with inadequate

appreciation of the cultural landscape, as well as deficient measures for raising public awareness and education (with resulting circumvention of provisions relating to protection and conservation).

The promotion of development measures, as well as landscape (and especially volcanic landscape) planning, management and protection, must adhere to respective European strategic guidelines and rules, such as the EU Reform Treaty (2007) for “economic, social and territorial cohesion” and the “Europe 2020” strategy, always in alignment with the directions of the European Landscape Convention (ELC). In particular, the institutionalization and implementation of policies promoting sustainable development ought to uphold relevant ELC articles (Table 4) on landscape planning, management and protection, setting down the general measures which governments ought to take, in order to shape national policy on landscape.

Each Party undertakes:

- to recognize landscapes in law as an essential component of people’s surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity;
- to establish and implement landscape policies aimed at landscape protection, management and planning through the adoption of the specific measures set out in Article 6;
- to establish procedures for the participation of the general public, local and regional authorities, and other parties with an interest in the definition and implementation of the landscape policies mentioned in paragraph b above;
- to integrate landscape into its regional and town planning policies and in its cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape

Table 4: Article 5 of European Landscape Convention – General measures (Council of Europe, 2000).

Therefore, “a shift from viewing the legal protection of landscape as a ‘luxury’, to seeing it as everyday social necessity, is considered an essential living framework for humans, as adopted from international law, through the text of the Council of Europe’s Florence 2000 European Landscape Convention” (Maria, 2010b). Finally, the environmental, social, aesthetic or other carrying capacity of this resource must constitute essential criteria in landscape planning and policy formulation. Such policy must invariably fit the characteristics and outlooks of different places, always taking into consideration landscape particularities and values.

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