

The unique volcanic landscape of Santorini Problems of environmental protection in the existing institutional framework

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The development of the concept of landscape and addressing the object of protection in the Greek institutional framework

The landscape as a concept and as an object to be protected is in the Greek legislation since the 1950s, when was identified with the term 'Areas of Outstanding Natural Beauty'. Twenty years later (N. 996/71) the concept of the 'National Park-Aesthetic Forest' and 'Preserved Natural Monuments', was introduced. Although the concept of landscape in these settings had, from a single element to a broader territorial unity has been dealt with in an abstract and somewhat subjective way. Then newer settings and especially the Law 1650/86 "On the protection of the Environment" have been gradually enriched the concept of landscape, by introducing the issue of peaceful coexistence between nature and the human design.

The laws and regulations stated above were used until recently, some occasionally and other more often, along with the environmental legislation, the archaeological legislation (archaeological sites and monuments) and legislation on architectural heritage (traditional villages, preserved, etc.), thus creating a framework with a direct or indirect reference to the landscape, the effectiveness of which is under consideration in this paper since policies are often fragmented

The Law. 3827/2010 and the new tools we expect to institutionalize in a spatial and urban level

In 2010 the Greek parliament goes on to vote for the "Ratification of the European Landscape Convention" (Law 3827/2010) (the Convention of Florence) which is providing the basis to create a clear and coherent landscape policy development, land use and urban design with clear objectives, programs and implementation plans. With the revision of the Regional Frameworks for Spatial Planning and Sustainable Development the landscape is reflected for the first time as a significant environmental economic, cultural resources and comparative advantage of the country.

The challenge is a methodology of recognizing, recording and categorizing the landscape into zones, to implement coordinated conservation actions, promotion management and rehabilitation, in order to incorporate the underlying spatial and urban planning.

Since it has been started in 2013 and is in progress a program under the Ministry of Environment, Energy and Climate Change (YPEKA) for a series of studies morphology rules for building in areas inside and outside small settlements which will integrate human made landscape in urban planning. According to the specifications, these studies are aiming at setting up a specific construction framework that will highlight the architectural identity of small settlements and rural landscape with specific conditions and rules. Although these studies have expected difficulties because of their maximalist and fuzzy nature, as well as problems in their implementation and application, they are a positive step towards a more integrated view of the landscape and introduces the urban scale.

However, as we will see through the example of Thera the effort to manage space and therefore the landscape is done through other parallel processes especially in areas with increased pressure such as Santorini

Addressing the volcanic landscapes in Greek institutional framework - examples

The volcanic landscapes are simultaneously the most "attractive, dramatic and interesting" landscapes. With mineral wealth, warm waters and fertile soils were selected as habitation sites from antiquity, a condition that brought as a result impressive architecture and archaeological treasures. However as a legal concept the volcanic landscape has not yet institutional status in the various planning levels. As a result each case is dealt differently every time, from different regimes.

For example Nisyros area of particular aesthetic value area because of the presence of two active volcanoes and because of pristine vegetation surrounding them has been designed as an area in need of special protection together with 25 other islands



The European landscape Convention and the new tools that we expect in spatial and urban level The volcanic landscapes in the Greek existing legal framework

The case of Santorini

In our presentation we will not try to document and evaluate the applied institutional arrangements by which the state handled such an important resource such as the landscape of Santorini.

Structural characteristics of the volcanic landscape of Santorini

What makes the landscape of Santorini so unique; Its uniqueness is due to the natural conditions that brought the eruption of the volcano, the special climatic conditions, the specific resources and the cultural heritage.

The rugged terrain of Caldera is a geological and historical evidence, a "wall" of vertical height apparent geological sections, where successive volcanic layers are distinguished.

On the other side of the island, lies the rural landscape in smooth downward slope with mild elevation gradients. The fertile volcanic soil, the strong winds and the lack of water resources, are the factors that led to specific ways of cultivation with terraces retained by dry stone walls and low heights of plants and crops.

The high quality of vineyards of Thera is because of the soil, which absorbs the warm water vapor which escapes from the volcano and transmits the vines substituting the absence of water.

The landscape of Santorini vineyard is organized in an ancient pruning technique, the "coils", a vegetable basket, in which the grapes mature sheltered from the winds.

After the 1960s, the small properties that were consisted mainly of vineyards, were gradually turned into plots. The vineyards year by year were contracted -from the early twentieth century who were 45,000 acres, to 14,000 in 1997. From then until the present day its extent appears to have been stabilized at about 13,000 acres.

Despite the creation of the cooperative and other wineries, and the production of high quality wine, known worldwide, the amount of arable land has not increased and agriculture has been discredited.

Traditional ways of housing. Villages – Cave houses

As was the case everywhere, the same in the case of Santorini, the traditional ways of housing were shaped by the specificity of the place. The terrain, the orientation, the utility of volcanic material, the easy configuration of soft layer of pumice had offered comparatively natural advantages for residential development. Along the edge of caldera a large number of undercut structures occurs in beds of torrents from historical times, mainly where the morphological conditions are favorable (i.e. the slopes of the order of 30-40%), creating in many cases unique settlements .

These forms constitute a representative element of the architecture of the island, should be protected from the great building activity, and should be maintained with requirements for safe construction.

Tourist and building pressure in the landscape of Santorini - current trends

The landscape of Santorini is, for 30 years the subject of intense and disproportionate residential pressures due to the development of tourism and the expansion of the construction sector. During the period 1995-2008, Santorini was one of the top destinations along with other Cycladic islands, such as Paros and Mykonos, in the construction of holiday homes with approximately 230 new building licenses annually.

With over 34.000 legitimate beds, Santorini shows the highest tourist pressure indicators followed by the islands of Mykonos, Paros.

Today, during a time of economic crisis, tourism not only have survived but has shown dynamic growth, as it is indicated by the rise of arrivals

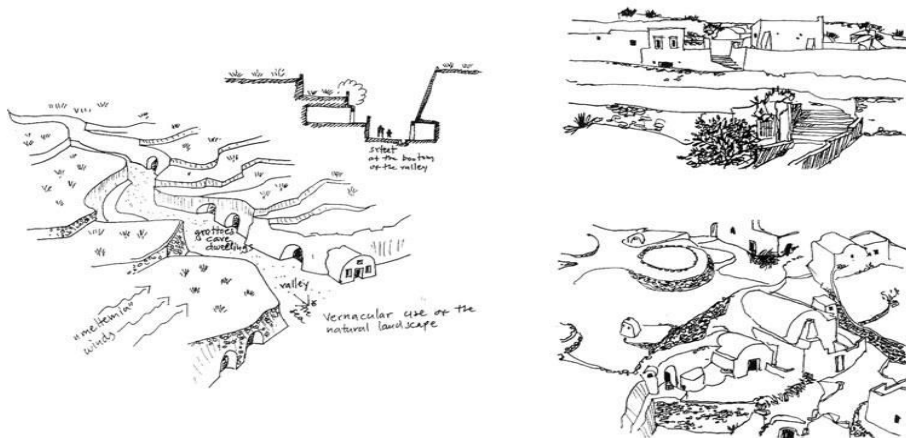
Record of the applied legal framework of protection and construction on Santorini

In the late 1960s, the bay of Caldera and the archaeological site in the southern part of the island, were declared as historical monuments and sites of special natural beauty, while in 1972 the entire island complex of Santorini was declared a historic site and landscape of outstanding beauty

As it turned out, the state supervision of construction activity -which was exerted then by the department of archaeology; worked effectively towards residential pressures of the times and in the long run, resulting in the preservation of old shells. 18 from all the settlements are characterized as traditional and for their protection and upgrade specific decrees with specific building regulations were institutionalized in 1978 and 1988.

Since the mid 1980s, the necessity for quality improvement and regulation of tourism development has been acknowledged and measures were taken for the first time in restricting the building of hotel facilities in the wider area of Caldera.

The community of Oia and all the Bay Area was designated as tourist saturated and the construction of new beds was banned. At the same time,, the settlements of Kamari and Perissa were also designated as an area of controlled tourist development, in which is only allowed the creation of new beds of high category.



The protection issues in the existing legal framework in the island of Santorini

In the same direction are also the Housing Control Zones which were institutionalized

in 1990 and established permitted uses, conditions and building restrictions for the entire island. Especially in the Caldera area, permitted uses were limited mostly only on residence, above and below the ground with maximum allowed building of 150sqm, without taking into account specific measures for the existing cave houses in the settlements or in the off-structuring plan.

With the most recent specific regulation in 2012 and the revision of Housing Control Zones of Thera, two key issues are institutionalized.

Prohibition in Caldera Zone of any form of new construction and alteration of the morphology of the landscape and of the natural environment, as well as prohibiting building in subsidized agricultural land, again without taking into account specific steps for the register and zoning of agricultural land.

In 1993 the Ministry of Environment under the Programme ENVIREG has commissioned a Special Spatial Study for Thera in order to update the existing provisions and to specialize settings where appropriate.

The existing institutional framework besides other conditions and building restrictions recorded, contributes to the construction of new structures and undercuts defines minimum area of 40sqm for housing and minimum area of 150sqm, for other uses, without having defined any commitment as to the location and the form of the building .

Thus, the necessity of maintaining the undercut as special local architectural structure is not recorded, as a result of the volcanic soil but as subsidizing the building beyond the rated.

The impact of parallel policies. Saturation regime, bans, arbitrary

The absence of an integrated plan with developmental, spatial and regulatory dimensions, brought as a result the evolution of the landscape of the island and their prospects, were influenced by the application of uncoordinated and sometimes contradictory, policies. A factor that constitutes the modern context of building activity is the fact that they were developed on the margins of spatial policy, with general institutional frameworks relating to off-plan building and construction in settlements containing less than 2000 inhabitants. The long delay in the implementation of the announced spatial policy, but also its circumvent in practice, as evidenced by the size of arbitrary on the island, is only one indication of this problem.

For example, the restrictions set by the mid-1980s with the construction of hotels in many parts of the island, combined with a series of conflicting territorial policies, and given the failure of control mechanisms, enhanced the growth of ancillary accommodation and arbitrary constructions

Therefore, today by all the lawful tourist building In total, only 41% is controlled, adopted and indicated for tourist use, since the remaining terms 20.400 beds in rooms and tourist residences are located freely everywhere, according to the terms of layout of the house.

