MAKING SICILY GREENER: THE REGIONAL PLAN FOR PARKS AND RESERVES

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Abstract: The aim of this study is to focus on the protection of landscape in Sicily and therefore its parks and reserves are the core of this investigation. The Region of Sicily, conscious of the need to defend its territory, with the support of some legislative measures, since the '80s has gained a respectable position among the more advanced European regions in this field. However, despite the achievements of this intensive environmentalist trend, much remains to be done in the actual implementation of the rules in order to limit the degradation of the landscape and to start a program of environmental restoration.

Key words: landscape, protection, legislative measures, environmentalist trend, sustainable tourism

1. INTRODUCTION

Sicily is not just art and culture, but also nature and extremely diverse and attractive landscapes, where woods alternate with steppes, lakes with still active saline, perennial rivers with dry rivers. Some of them are settled long the coast, some on the hills or on the mountain ranges in rather inaccessible places and for this reason they are well preserved and they still keep their wild nature. Yet and fortunately after years of neglecting and destroying nature the Region of Sicily, the institution par excellence responsible for the environmental protection, starts to be aware of its own role in terms of landscape preservation.

Until the eighties Sicily does not look like a European region in terms of ecological sensitivity. In fact, while a strong ecological conscience spreads all over Europe through the establishment of parks and reserves, Sicily seems to sidestep this process of civilization.

The basis for the protection of such rich natural heritage were laid in 1981 with the Regional Law n. 98, when the nature reserves of Vendicari, Zingaro and Stagnone of Marsala were established. Due to the regional law n. 14 of 1988 and to the subsequent reserve national framework law 394/ 1991, 79 new protected areas (85.181 ha) were added. In the meantime, four regional natural parks (185.824 ha) have been set up: Etna, Nebrodi, Madonie and Alcantara.
An overview of the entire territory of Sicily (Fig. 1) gives an idea not only of how wide and varied the organization of environmental protection is, but also of how it is differently structured. As you can see, in fact, the protected areas are numerous and composed of parks, reserves, oases. The protection of the areas of environmental value established so far (nearly 13.2% of the whole Sicilian territory) is the responsibility of the Region, through the Land and Environment Department. State parks and state nature reserves still do not exist in the island, even though the establishment of the National Park of the Iblean Mountain is in progress. It is important to remember that the protected areas (reserves and parks) in Sicily are very heterogeneous. It is possible to find agricultural, pastoral and forestry activities inside the same protected area. Moreover, flora and fauna might be connected with human activities. For instance, birds are in many cases connected with human activities (grazing or cultivation of open field). That’s why only correct and sustainable agronomic, pasture and forestry activities may enhance the naturalistic value and the environmental function of an area (Bagliani M., Dansero E., 2011).

The purpose of this study is to present how the environmental regional plan aims to put in practice the guidelines underlined by the national framework law 394/91 and briefly introduces the four regional parks and the most recently established nature reserves. The focus is on the general condition of Sicilian landscape and on exploration of the possibility of implementing conservation strategies compatible with human needs, landscape preservation and sustainable economic development.
2. PRINCIPLES AND AIMS OF THE LANDSCAPE’S REGIONAL PLAN

Bill No 795, "Establishment, management and development of protected areas", prepared by the Regional Land and Environment Bureau has recently been approved by the Regional Government, headed by Raffaele Lombardo. The modification of the existing legislation was necessary in order to implement the basic principles of the national framework law 394/1991, to strengthen the results achieved so far and to make management more efficient. In addition, the aim is to provide additional operational tools for the managing authorities of nature reserves, to increase attendance at parks and reserves and to improve management of protected areas in order to sustain the cultural, social and economic development of the local communities.

The bill, aiming at reducing expenditure, provides for the abolition of the figure of vice-president, who currently plays merely ceremonial functions, but with a considerable financial burden borne by the parks; excludes the Cts (Technical and Scientific Committee), whose functions are absorbed by the technical departments of the park and, for regional and national matters, are transferred to the Crippn (regional Committee for the protection of natural heritage). Therefore the organs of the park are reduced to only three figures: the President, the Governing Council – whose function is administrative and strategic - and the Park Community, whose task is essentially consultative and without any cost to the parks.

The bill aims to put into practice the following principles: 1) Principle of sustainable development (Article 3 - c Legislative Decree no. n. 152 of 2006); 2) Principle of horizontal subsidiarity (Article 118 Cost); 3) Principle of procedural and organizational simplification; 4) Principle of progressive financial autonomy of local managers and self-responsibility in the management; 5) Principle of institutional collaboration; 6) Principles of transparency and participation.

3. PRESERVATION AND ATTENDANCE AT THE REGIONAL PARKS

Etna Park was founded in 1981 and covers a surface wide 58,095 hectares. Its centerpiece is Etna1, the highest active volcano in Europe and one of the largest in the world, which is a natural attraction for its eruptions and incandescent lava-flows. It is located along the eastern coast of Sicily, covers a surface of 1.600 square kilometres, has a perimeter at the base of 150 square kilometres and it is about 3.350 metres high. Its irregular shape is due to its natural development which is the result of the superposition of several collapsed volcanic layers (Fig. 2). The most well-known among them is Valle del Bove, that is a large depression on the eastern flank of the volcano and represents a kind of reservoir in which lava flows are conveyed to. The volcanic activity is monitored by researchers from the National Institute of Geophysics and Volcanology. Over the past three

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1 The volcano, in Roman times, was known as "Aetna", while it was named “Aitne” by the Greeks; both names come from the Greek word “Aithein”, which means “to burn”. Another appellation given to the volcano, which is rarely used nowadays, is “Mongibello”. This term comes from the Latin word “Mons”, mount, and the Arab word “Grbel Utland” which means mountain.
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centuries, about seventy eruptions have been reported. Therefore, an average of one every, five years. Nevertheless, the pattern of distribution of the eruptive activity in a space-time is considered quite irregular and therefore does not allow medium-term forecasts about possible developments. The most destructive and documented eruptions are three: in 1669, the lava destroys several cities, including Catania, and then flows into the sea; in 1928, the lava destroys the town of Mascali; in 1991, the eruption lasts 473 days; between 2001 and 2002, the most recent eruptions badly affect the tourism sector in Piano Provenzana and the volcanic ashes disrupt Catania air traffic.

However, the beauty of the Etna Park is not only the grandeur of eruptions and lava flows, but also the enchanting landscape surrounding the volcano and rich of sounds, smells and colors. The observer’s attention is surely attracted at a lower lever by the green of vineyards and the yellow of orchards and chestnut oaks, at a higher level by the dark colors of the forests of beech and birch (Fig. 2), at the highest level by the black of the lava.

Here, among bushes and ferns, it is possible to bump into a wild cat, fox, porcupines, weasels, dormice, just to name a few examples of the fauna. There are many birds that inhabit these places, from the peregrine falcon to the owl, from the sparrowhawk to herons and pigeons, the true queen is the superb golden eagle.

Due to the wide extension of the Park and the multitude of access, routes and footpaths, it is recommended to follow signs and have a guide, who is indispensable for some excursions. It is worth visiting the following routes: Piano Provenzano – Monte Nero-Monte Zoccolaro - Monte Nero degli Zappini - Monte Gallo – Rifugio della Galvarina-Case Pirao - Monte Spagnolo – Cisternazza (viable in about a day); the complete circumnavigation of Etna, Etna tour by Circumetnea train, Etna tour by car (viable in about five days).

Naturally the park territory is protected at different levels and precisely into the areas “A”, “B”, “C” and “D”. The “A” zone consists of blank spaces where human activity is very limited. It is used for sheep farming, for carrying out scientific investigations, for going on excursions and skiing. The Zone “B” consists of large natural areas, where at a low altitude a mix of houses and lands of farmers are located. The zone “C”, located near populated
centers, is an area where the usage of buildings and lands has been allowed in order to enhance the area.

The zone “D” is the area where the activities related to the achievements of the purposes of the park take place. There is also a fifth zone, the “C-high mountain”, situated in the “A” zone that includes the area of “Cantoniera” and “Piano Provenzana”. In the area of “integral reserve” the nature still has its integrity, while out of it the development of the traditional economic activities is kept and preserved; in the area of “the protection of controlled expansion” which is considerably peopled, the economic development is consistent and respects landscape and environment. The territory of the Park of Etna extends from the peak of the volcano to its slopes and includes twenty ancient towns, worth visiting for their rich history and artistic heritage. Luckily, in the last few years, tourism has experienced a remarkable evolution, giving rise to a wide and varied range of goods and services. In addition to the traditional forms of tourism, the rural tourism, in line with the increased environmental awareness, is gradually promoting the local agricultural development in an integrated and sustainable way. Visits to vineyards and associated wineries and tasting the typical products are the main attractions for a target of medium-high level foreign and local people tourists. From one side to the other of the volcano tourist paths are designed through larger and smaller villages, along the coastline and the countryside, through vineyards and orchards. They are so much interesting for offering a new interpretation of the landscape, made up of culture and life stories. (Cotugno, L, 2012).

The region of Nebrodi was considered by Arabs as an “island in the island”, thanks to its peculiar geological and natural features, found nowhere else in Sicily. With the establishment of the Nebrodi Park in 1993, consisting of 21 municipalities located in the area of Nebrodi, the Sicily Region recognizes and wants to re-evaluate a complex system of culture, history and environments. Indeed the park offers an agenda of policies and interventions aimed not only at preserving the area, but also at starting an active exchange of experiences between the ‘peasant’ culture and the urban culture. Therefore the tourism event is meant to be a moment of educational culture. The park includes the most important
and largest woodland areas of Sicily (about 50,000 hectares). The best-known arboreal species are *Fagus sylvatica* (situated in the most southern area of diffusion), *Quercus cerris*, and *Quercus suber*. It is also possible to find *Quercus ilex*, *Taxus baccata*, *Ilex aquifolium* and significant lacustrine and rocky environments. Both the vertebrate and the invertebrate fauna specimens are very rich.

The Madonie Regional Park is located between Palermo and Cefalù and in its 161.76 square kilometers of extension contains one of the most remarkable mountain ecosystems in the Mediterranean basin due to the rich diversity of its fauna and flora, which includes trees, chestnut and beech trees. Officially created in 1989, it hosts 15 municipalities², rich of historical patrimony and ancient traditions. Nearly all of them strictly observe and celebrate religious festivals, which over the years have been transformed into traditional town festivals. Sheep farming, production of excellent cheese, production of ceramics at Polizzi Generosa and Collesano, stone masonry at Geraci, production of wooden barrels, staircases and handles and weaving of willow baskets are among the most typical commercial activities of this area. Moreover, it is worth mentioning the producers of excellent olive oil at San Mauro Castelverde and Scillato and of delicious pastries and liqueurs at Castelbuono.

In order to enhance sustainable tourism several nature routes running through the park are accessible on horseback, on foot or by bike. All of them are easy to follow and are well signposted. In addition, the Park offers other opportunities: a 18 hole golf course have been recently constructed at Campofelice di Roccella; a new Parco Avventura Madonie has been opened in the middle of a dense wood near to Petralia Sopran a with various acrobatic paths in the trees, horse riding, archery, trekking and many other attractions; the seaside resort of Cefalù located on a coastline with numerous bays and small sandy beaches.

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² Petralia Sottana, Isnello, Polizzi Generosa, Geraci Siculo, Collesano, Cefalù, Gratteri, Castelbuono, Caltavuturo, Scillato, Petralia Sopran a, Pollina, Castellana Sicula, Sclafani Bagni and San Mauro Castelverde.
The Alcantara Park was established in 2001, it covers the basin of the Alcantara river located on the northern slopes of the Etna volcano. Its name has an Arabic origin (Arabic: القنطرة al-Qanṭarah, 'the Bridge') and refers to a bridge from Roman times found by the Arabs. Unfortunately, only a few ruins of this bridge are extant. The river, whose source is located in the Nebrodi Mountains near Floresta, crossing a series of imposing lava flows has created deep gorges characterized by their sheer sides and columns with prismatic bases. The columns surround the walls of the basalt canyon like organ pipes. It is possible to take a swim in the small pools and cascades created inside the gorges. The river environment boasts a unique and spectacular variety of flora growing along the banks of the river, such as willows, black alders, poplars and oriental plane trees.

Access to the park is located near Motta Camasta at Fondaco Motta and from this point it is possible to descend into the gorge to the riverbank on foot via a long pathway or, upon payment, via a series of private lifts. In the summer the Circumetnea railway offers a tourist package which includes a guided tour of the Alcantara Gorges. Another feature worthy of a visit are the so-called "Gurne" of small lakes which are formed by the river near to Francavilla di Sicilia.

4. THE NATURE RESERVES

It was due to the regional law n.98/1981 that the Nature Reserves were established in Sicily. This law provided also the definition of 'reserves', classified as "sea or land areas of vast dimensions, with significant morphological, palaeontological, biological and aesthetic properties". The first reserve established was the Zingaro Nature Reserve, named "Mother Reserve" of all the protected areas in Sicily. To adopt this law it was not easy at all. The economic resources were few and the bureaucratic procedures to access funding were quite slow. Moreover, lack of interest towards environmental issues was widespread among the whole society and the land speculation was very high. The nature reserves have remarkably increased in number in the last half century and due to the Regional law, 10/6/1991 79 new nature reserves have been established, extending to about 82,500 ha (Angelini A., 1999).

The study aims now to examine the most recently founded nature reserves and all the strategies adopted to guarantee a correct use of them:

Carburangeli Cave Nature Reserve was founded in 1996. Located in Carini, in the territory of Palermo, it is characterized by interesting karst phenomena. Throughout the centuries rare specimens of stalagmites and stalactites were created by the constant dripping of the water. Its scientific importance is enhanced by the rare group of bats which inhabits the Reserve. Guided visits are organized by Legambiente and it is recommended booking in advance. In order to safeguard the very delicate underground environment, it is allowed, only to very small groups, to visit just the first chambers of the cave and for no more than 90 minutes.

On its way to the sea, past the north of Mount Etna, the river flows through the municipalities of Randazzo, Mojo Alcantara, Francavilla di Sicilia, Motta Camastra, Castiglione di Sicilia, Graniti, Gaggi, Calatabiano, Taormina and Giardini-Naxos.
Grotta Conza Total Nature Reserve was established in 1995. Located in the territory of Palermo, it extends over an area of 4 hectares largely populated by the Mediterranean bush. Its geological importance is enhanced by the presence of limestone carbonate rocks. The cave can be visited all year round after authorization by the managing body, Italian Alpine Club Sicily, which organizes guided visits. However, it is important to request from the reserve office at least one week before the date of the visit. Only small groups of 5 to 20 excursionists are admitted for one hour tour.

Grotta di Entella Total Nature Reserve was founded in 1997. Located in the territory of Palermo, it offers a splendid environment that includes a man-made lake. It is close to archaeological-historical cities Elima and Entellina and provides a critical habitat for a rich wildlife, among which is the falco peregrinus. The managing body, Italian Alpine Club, organizes guided visits and provides speleological helmets. Since just small groups are allowed to visit it, it is strictly recommended to book in time at the reserve office.

Trapani and Paceco Saltpans Special Nature Reserve was established in 1995. Located in Trapani, it is a splendid naturalistic attraction, well known for its salt pans, big expanses of low water created by man in shallow parts of the sea. Therefore, the landscape is absolutely peculiar for its bright white salt piles, got from the sea water by using solar and windy power. Human works, water and old windmills are naturally tied up. The managing body, WWF Sicily organizes guided visits in the reserve along a signposted itinerary through the saltpan ecosystem, rich of several bird species present at different times of year.

Monte Conca Nature Reserve was established in 1995. Located in the territory of Caltanissetta, it constitutes a complete and still active surface and subterranean karst system, and it shows the whole range of morphologies, the main ones of which are dolines, blind valleys, furrowed fields, potholes, resurgences and caves. The cave has the particularity, typical of calcareous caves, of developing through spectacular waterfall wells, with little pools at the bottom. The cave can only be visited by expert speleologists. The managing body organises guided visits to be booked at the reserve offices.

Monte Pellegrino Special Nature Reserve was established in 1995. Located in Palermo, this reserve is a beautiful area with rocky mountains, a wide range of flora and fauna and several caves. The mountain at its highest point reaches 600 metres and it rises like a monolith of carbonated limestone. The 134 caves and cavities in its walls are of major speleological and palaeontological importance for the important prehistoric finds made inside them. In order to enhance a sustainable tourism through its four marked itineraries guided visits are organized for groups of maximum 15 people.

Monello Cave was founded in 1998. Located in the province of Syracuse, the cave is of major geological, speleological and biological importance. It is in the eastern area of the Iblei mountains, in the district of the Perciata cave (in the local dialect the latter name means “punctured”). It has a general development of 540 metres and in it there is rich and important cavern fauna with some species characteristic of this type of environment. Inside it there is a series of chambers with spectacular concretion morphologies in various shapes. On the surface and outside, the reserve area affords the type of natural environment typical of the “Quarries” in the Iblei. The managing body, C.U.T.G.A.N.A., organizes guided visits inside the cave. The visit involves medium difficulty, and takes about two hours.

All of the above mentioned protected areas, in order to ensure their safety, must follow certain rules and regulations. Inside the caves, for example, it is expressly forbidden
to use gas lamps or acetylene, while it is allowed to use electric ones; to abandon and deposit waste, to smoke, to touch and remove mineralization, concretions and rock samples, etc. As regards the protected zone of the reserves (zone B) it is forbidden to construct new buildings which might spoil the habitat, to demolish or reconstruct existing homes, to put up prefabricated buildings or trailers; to do any industrial activity, to install greenhouses, to hunt, destruction, to remove or damage plants of all kinds, etc. On the contrary, it is allowed to do traditional agricultural and livestock farming, to clear the fields by burning the stubble.

5. CONCLUSIONS

Without any shadow of doubt the Sicilian Region has initiated a process of environmental protection through the creation of about one hundred nature reserves and four wide regional parks. However, the project of making Sicily greener has been encountering many difficulties such as procedural and management ones that may undermine the efforts made so far by institutions, environmental associations and ordinary citizens. Surely, a proper land and landscape management needs a choral contribution from owners, managing entities, local and regional authorities in the correct use of the available resources. The quality of life certainly affects the current quality of the landscape and therefore education interventions should be expanded through schools and young people (Alaimo F., 2005).

Bearing in mind that preservation of nature should be at first place and then sustainable development, it is obvious that the elimination of some major elements of landscape disturbance might attract sustainable tourism. In particular, rural tourism is a valuable and productive phenomenon capable of giving development opportunities to the areas surrounding parks and reserves. Moreover, it might help overcome the problem of limiting the economic activity in the protected environmental areas. In this direction it is possible to promote the recovery of rural buildings and to reconcile farm with tourism. Indeed, it might bring benefits to farmers (supplementing their income with complementary activities) and to users (satisfying their need for rediscovering traditions and relax in rural areas).

Combining nature conservation policies with economic and long lasting quality development is a great challenge that requires attention and research. Unfortunately research activities often depend on the availability of funds. Finally, all the evidence suggests that on one hand knowledge is the basis of planning, while on the other hand obtaining incentives is certainly an element that could determine a great change in the management of parks and reserves.

REFERENCES


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