

CHAPTER

1

Introduction

Environmental connectivity and conservation in the Mediterranean basin. Some issues for discussion

Hermelindo Castro Nogueira

Is connectivity necessary in the Mediterranean? Would it help to improve the state of conservation of our ecosystems? How to harmonise nature and society?

Ecoregional planning holds an increasingly important position in the management of natural values. The spatial paradigm which goes beyond the species and the spaces and which tries to link processes is not conceptually novel. None the less, putting it into effect in the management and regulation of the territory remains, even today, one of the main challenges that managers, scientists and society at large have to cope with.

How can we link nature to nature and nature to society? The answer to this question is far from simple. There are no universally valid recipes to achieve spatial integration of protected areas, and in the search for and the implementation of formulae aimed at establishing linkages in the landscape, not only the environmental characteristics of the territory have to be taken into consideration, but also its social and cultural uniqueness. Otherwise, our attempts in this direction would be unavoidably heading for failure.

The notion of cultural landscape is a basic one if we are to understand the current situation in the Mediterranean basin; equally essential is to deal with a systemic approach to conservation in this territory. In fact, the main difference or uniqueness of Mediterranean nature in a wide geographical context stems from its close links with centuries - old human activity. The know - how of the Mediterranean man over the last ten thousand years has left us an inheritance of landscapes which, regardless of their being natural or naturalised, do constitute the preserved heritage of the coastal countries. The millennia - old growing of

wheat, vines and olive trees, together with extensive stock - breeding, have left their mark, and continue to do so in many places, in the outstanding patterns of the landscape. In this characteristic agricultural, forestal and pastoral ecosystems, where extensive cultivation fields, grazing lands and semi - natural areas alternate, the resulting landscape and ecological mosaic has played, and in many Mediterranean areas is still playing, an important role in the preservation of ecological processes and in the persistence of a rich ecological variety integrated into the landscape.

Ten thousand years later, intensive agriculture, the development of infrastructures, the growth of urban areas and, ultimately, the lack of integration of the conservation goals into the set of the sectorial policies, have given rise in many areas to a landscape pattern which determines the fragmentation of ecological processes, of fauna and flora populations, and to that of the ecosystems. Besides, these Mediterranean landscapes, stemming from and having been moulded through cultural evolution, still depend today on the smooth and harmonious relationship between man and environment. Because of that, the fast decline of local populations linked to the rural environment, and, as a result of it, the abandonment of the traditional management of natural resources in a large part of the Mediterranean region, is one of the main barriers to the preservation and the perpetuation of our cultural heritage.

This inherited situation, not only in the Mediterranean, but also in the rest of the planet's ecological regions, has been created to a great extent by the application, up to very recently, to the management of the territory of the conservation *versus* development dichotomy. Today we are aware that we cannot isolate, neither in space nor from a social and economic standpoint, the protected areas from the surrounding territory, if we want to preserve the processes determining the presence of natural values deserving to be preserved. The water and the nutrient cycles, the interactions between and inside populations and biological communities, are determined to a great extent by external changes. It is a reality that nature is interactive as well as dynamic, something which is proven by the fact that conservation policies limited to protected areas have failed to produce the expected results.

How can we link ecological processes within the global context of territory? This is, ultimately, our great challenge if we are to take a giant's step in the conservation of nature. Concepts have evolved and progress has been achieved,

but an important debate is still necessary on realistic methodological approaches. Methodological approaches adapted to and in keeping with the environmental, social and cultural reality of this old Mediterranean world.

Nowadays, from this point of view, the protection and the management of links between protected areas with a view to enhancing connectivity in the landscape, are evolving from the conceptual stage to their practical implementation in conservation strategies. There are numerous examples of development of projects intended for the protection and management of these links, or proposals for the establishment of link networks as a part of conservation strategies. Among these projects, some having international importance are worthy of mention: the Wildlands Project in the United States; the Central American Biological Corridor; the Natura 2000 Network in the European Union; the Emerald Network in Europe; the Macro - Corridor Project in the South - Western Australian coast or the World Biosphere Reserve Network.

In the Mediterranean context, however, the ecoregional planning of the protected areas and the connectivity of these areas within the territory, remain at a very early stage of development. Although some of the common concepts and elements of connectivity - related experiences which have taken place or are taking place in other ecological regions, such as the division of the territory into core conservation areas, buffer areas and linear continuous and discontinuous corridors, can be extrapolated to the Mediterranean basin, it is necessary to go in depth into the key aspects to be taken into consideration in the design of links between our protected areas and the surrounding territory, and to analyse the strengths and weaknesses of the environmental and social and cultural singularities of this region, so that we can evolve from the conservation of islands to the conservation of systems.

On the other hand, there is great diversity of socio - political and economic situations as well as diverse levels of development and implementation of strategies for the conservation of natural values in the different coastal countries. From a conservationist standpoint, in those countries in which projects have been started to increase the connectivity of the protected areas, the interest in the links between conserved areas has been focused, as a rule, on their role as corridors for the dispersal of organisms through inhospitable surroundings. However, the wider ecological role that they can play at the landscape scale has been frequently disregarded, as have other conservation benefits obtained by increasing

connectivity. Among others, a network of linkages would directly contribute to the conservation of biological diversity and natural resources; leisure and enjoyment possibilities would increase as well as the social and cultural cohesion within local communities.

Connectivity in the landscape, focused on its biological components, can be achieved by managing the landscape model, or by managing specific patterns of appropriate habitats. However, it is important to recognise that functional and effective ecological connectivity entails taking into consideration the wide spectrum of biological, political and socio - economic connections which are possible both in the scope of the protected areas themselves and in the surrounding matrix. The connectivity of protected areas in the landscape, when going from the “island” approach to the “network” or “system” approach, entails the integration of protected areas into a wider socio - economic and cultural context than the one delimited by their own boundaries. It requires to amplify the perception of protected areas at a bioregional scale, as well as making progress in the methodologies and instruments used to link them, not only in space, but also socially and economically, with the environment into which they integrate.