Sustainable management of the Mediterranean

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Received: 25 November 2014 / Accepted: 25 November 2014 / Published online: 5 December 2014
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The Mediterranean Sea is both a biodiversity and a political crossroad. Three continents are flanking each other along its shores, with an unparalleled mixture of cultures, economies, religions and political regimes. What human culture divides, however, is joined by ecology. The national boundaries mean nothing, for Nature. The use of the marine space must first of all respond to ecological laws, and these have logical supremacy over economic and political laws.

Managing the Mediterranean Sea is one of the most challenging enterprises humans can attempt. The range of disciplines involved is so cross-cutting that the specialists

at the extremes of the range often cannot understand each other, due to the complex jargons they use.

This volume contains a selection of papers presented at the conference “Sustainable management of the Mediterranean”, held in Rome at the Accademia Nazionale dei Lincei on March 21st for the XIV World Water Day 2014. It aims at sketching a conceptual landscape covering many aspects that are crucial for the integrity of the Mediterranean Sea. There is marine ecology, of course, but it is linked to inland ecology, due to the influence of rivers in a semi-closed basin as the Mediterranean one. Microbial communities are reviewed too, because they are changing just as the rest of the biota, and their changes might have great, albeit not immediately perceived, impacts on the functioning of Mediterranean Ecosystems. The Suez Canal connects the Indian with the Atlantic Ocean, enhancing shipping activities in the basin. The regulations of the impacts of these ships are constantly evolving and are worth being considered and revised. Overfishing is a plague for Mediterranean biota, but fisheries are an important portion of Mediterranean culture and must be managed so as to allow fishermen to continue to fish without destroying the resource they rely upon. Fisheries provide proteins to a growing population that, especially in the Mediterranean area, does have ample margins of improvement in its own diet(s). The overexploited populations might be restocked with specific programs, and the first attempts in this direction are taking place. Water circulation connects the various parts of the Mediterranean, transporting propagules (i.e. the propagation phases in the life cycle of all species) throughout the basin. Moreover, the enhanced frequency of extreme events, such as intense storms, is adding further complexity to an already complex landscape.

The title of this volume, the fil rouge that connects all its chapters, is the application of a widely employed jargon:

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sustainable Mediterranean. All political programs aim at economic growth. The marine section of the European Union 8th Framework Programme, Horizon 2020, is named Blue Growth. Growth is what we want. But growth must be sustainable, of course. Putting “sustainable” in front of “growth” provides a beautiful make up to all economic plans. Sustainable means that what we extract from the environment today should be available, in the same quantity and quality, to future generations. The line of reasoning is impeccable. Now, it is important to be consistent and pursue it.

Sustainable means that economy should not grow at the expenses of the good status of the environment. The European Union, in the Marine Strategy Framework Directive, establishes the descriptors of Good Environmental Status. The directives are there: an action is

sustainable if, when implemented, it does not alter the Good Environmental Status. As simple as that. In theory!

Biodiversity and Ecosystem Functioning are the pillars of the descriptors of Good Environmental Status. But our gaps in evaluating them are enormous, and the collection of papers in this volume gives some hints about this situation. There is a very large space for research, innovation, and sustainable technology.

The Accademia Nazionale dei Lincei is perfectly aware of this and the present volume is the outcome of just one of a series of initiatives that the Accademia has undertaken through the years and will continue to develop in the future. This is especially crucial in a country like Italy, where the natural sciences are not given the importance they deserve in school curricula and in the legislation.