Effectiveness of conservation policies for the maintenance of Natural capital

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Abstract

The landscape that we observe should be understood as a Social Ecological System (SES), where there is a broad interplay between ecological and socio-economic processes. These processes are the result of the space-time interaction of human activities, natural processes, and human-made ecosystems. The concept of SES allows us to understand the interactions between human activities and natural systems. Human activities have shaped and sculpted landscapes with a distinctly regional, being the natural disturbance regime (Moloney and Iasi, 1996, MEAS 2005). Currently, Land-use/Sand Cover changes are the underlying cause of fragmentation and substitution losses (Shiromani and Benso, 2015). Therefore, landscape can be meant as a Social Ecological System (SES). (Wolch et al., 2002, or rather a complex and adaptive system (Iasi, 1996) where the interactions among ecological patterns and processes, economic-manufacturing processes, and administrative political organization of society, interact each other. Considering the complex that characterizes this interaction, it is a way to understand better the dynamics of landscapes may be the study of Natural Capital (NC). NC is a concept associated with the landscape. The NC consists of a mix of goods and services provided by multi-functional landscapes (de Groot, 2006). It represents the overall result of a wide range of processes and interactions through which the natural components of SES, and the species that are part of them, help maintain and build human well-being and quality of life (Costanza et al., 2015). The idea of NC is a useful framework in which it is possible to consider as a whole, the output of goods and services associated with an entire landscape, viewed as a mixed economy that exists in the landscape (Helwegen, Young, 2007).

Methods

We adopted a time series of land use and land cover maps for the years 1987, 1997, 1997 and 2005, and 2002 of the Municipal of Brindisi and the Regional Park of “Saline Punta della Cisterna” (Fig. 1). In this paper, they have been used in relative way and not in absolute way to make easy the comparisons of the complex patterns of land-use dynamics over time and also to quantify the possible driving forces behind changes and the main effects of these processes on NC. We cannot identify the processes that have produced positive effects for the maintenance of NC independently of the type of management. Instead, although it is beyond the scope of this analysis, we have also analyzed the effect of different conservation policies in place in maintaining the NC. In this study highlights the importance of integrating different conservation policies in place in maintaining the NC.

Results

The extraction of the natural capital associated with an entire landscape, viewed as a mosaic of different land-uses, or more precisely, the goods and services associated with a natural landscape, represents the overall result of a wide range of processes and interactions through which the natural SES components, and the species that are part of them, help maintain and build human well-being and quality of life. The use of Natural Capital (NC) is a useful framework in which it is possible to consider as a whole, the output of goods and services associated with an entire landscape, viewed as a mixed economy that exists in the landscape.

Conclusions

The institution of a natural protected site, if well managed, support biodiversity and can play an important role in fostering NC. We want to highlight the fact that the role of the protected areas applied to the natural protected area planned the same role in supporting NC provided by the area. Therefore, the only recognition of the natural value of an area according to the European Directives has not been study effective. So, the successful conservation of biodiversity is not only of how much native and what kind of native is being protected but the various types of designation, but more important is the signifier which conservation policy is passed in practice by economic authorities. The presence of a natural management authority seems to be critical to better support the NC. In this context, policy analysts is a critical element in the appeal of the effectiveness of any public policy, including natural conservation policy. In particular, this analysis has shown the likely protection effect due to the institution of a natural protected area in the territory.

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Table 1.

<table>
<thead>
<tr>
<th>Land-use category</th>
<th>The most representative time</th>
<th>Economic service coefficient (5000/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Succulent</td>
<td>1997-2005</td>
<td>0.050.000</td>
</tr>
<tr>
<td>Grassland</td>
<td>1997-2005</td>
<td>0.050.000</td>
</tr>
<tr>
<td>Road</td>
<td>1997-2005</td>
<td>0.050.000</td>
</tr>
<tr>
<td>Natural Reserve</td>
<td>1997-2005</td>
<td>0.050.000</td>
</tr>
<tr>
<td>Natural Capital</td>
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</tbody>
</table>

Fig. 1 Map of Natural Value

Natural Reserve of “Torre Guaceto” was instituted in the 2003 while the Regional Park of “Saline Punta della Cisterna” was instituted in 2002, according to the Italian Law 594/1991.

Fig. 2 Trend of Natural Capital Value over time of the Natural Reserve of “Torre Guaceto” (Fig. 1) and the Regional Park of “Saline Punta della Cisterna” (Fig. 2).

References


