



Integrating environmental education in marine protected areas management in Colombia



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ABSTRACT

Environmental Education (EE) is a key component in any marine protected area management. However, its visibility and action plans are still poorly developed and structured as a clear element in management procedures. The objective of this study is to contribute with a methodological route that integrates EE to the existing model of management planning and strategies, taking the Colombian National Natural Parks System as a case study. The creation of the route is proposed as a participatory research with different stakeholders in order to respond to the specific conservation needs and goals for the National Parks System. The EE national diagnosis has shown that its integration within the parks management structure is a first priority need, being a converging result on the two case studies on National Parks from the Pacific Coast of Colombia. The diagnosis also demonstrates that communication, participation, training and evaluation have to be reinforced, linking the community and stakeholders involved in the park management to the whole EE process. The proposed methodology route has been agreed upon by the National Parks staff and incorporates advice and recommendations from different stakeholders, in order to better include the park users. This step will help us to advance toward sustainable management in marine and coastal protected areas elsewhere, taking into account not only the biological but also the social–cultural prism. The main challenges in the management and conservation of coastal and marine ecosystems today are discussed.

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1. Introduction

Coastal areas undergo a heavy anthropogenic pressure on biodiversity, complexity and key species biomass (Abdulla et al., 2008; Dayton et al., 2005; Jackson et al., 2001; Levinton, 2011; Rossi, 2013). The aim of Marine Protected Areas (MPAs) is essentially to relieve vulnerable habitats and species from such pressures. However, frequently, the conservation plans and recommendations do not reach stakeholders, politicians and especially end term users. The vast majority of the conservation work and practice remains obscure in the form of scientific papers, gray literature or technical reports and protocols, creating frustration on both sides: the people who make the rules and the people who have to apply such rules (Bearzi, 2007).

Nowadays, participative Environmental Education (EE) is an approach that is becoming increasingly more popular among conservation specialists and ecosystem managers faced with this information problem (Brewer, 2006; Fien et al., 2001; Hayes, 2009; Kamphuis, 2011; Salm et al., 2000). Recent works state the necessity to determine the goals of conservation, education and management, from an integrative perspective, in order to facilitate the sustainable use and protection of natural habitats, including not only the ecological and biological aspects but also social and cultural elements, with a view to having effective and inclusive management of protected areas (Bearzi, 2007; Hesselink et al., 2007; Pollnac et al., 2010; Sherrow, 2010).

Although considerable progress has been made in the field of community-based management, one of the major difficulties is to move from a passive community participation (e.g. information and consultative processes) to an active community involvement (two way communication, decision making, action for change). In this active involvement people participates in the experimentation and learning process, being the participation seen as one of the main rights of the community and not only a way to achieve project goals

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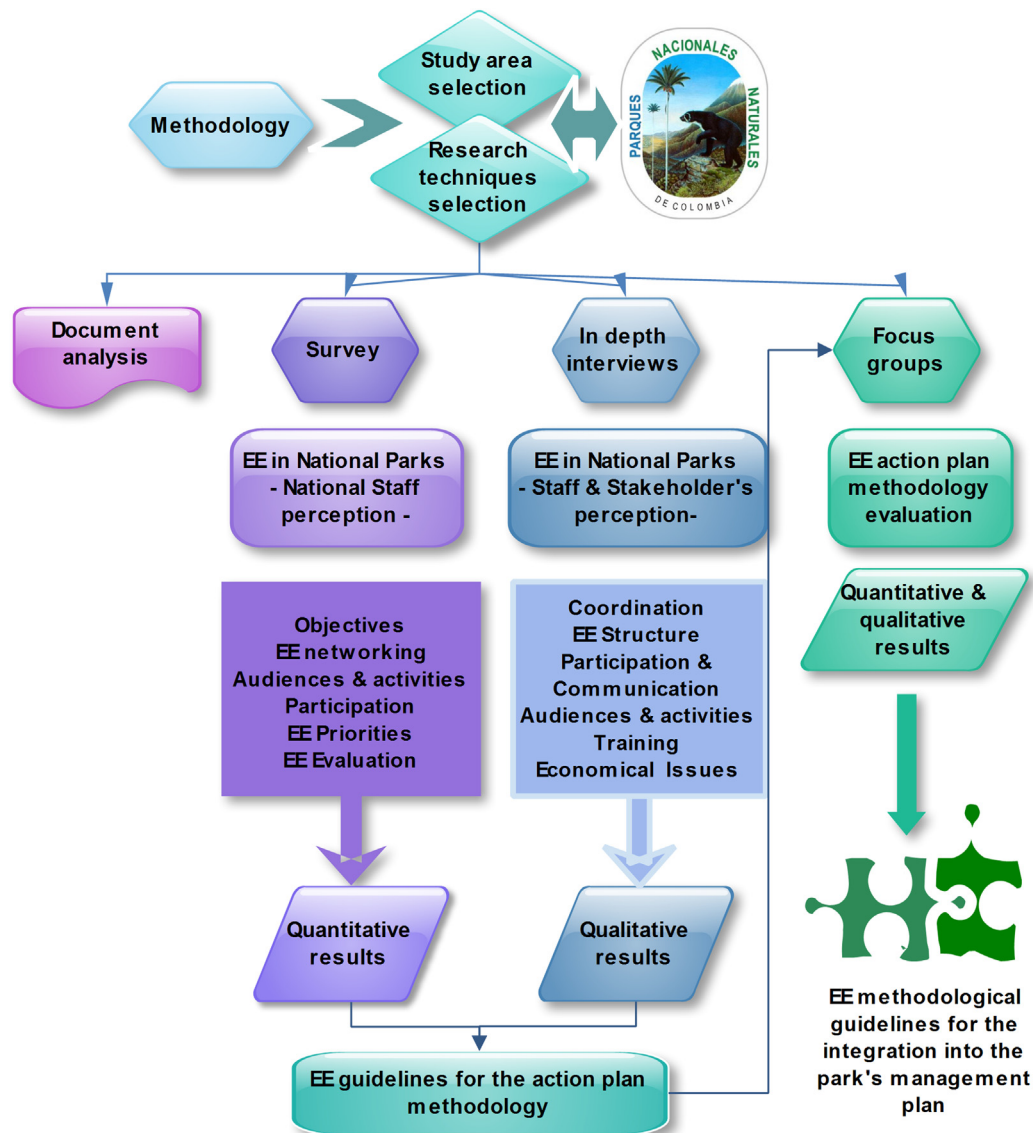


Fig. 1. Scheme of quantitative and qualitative methodology used in the research.

(Cornwall, 2008). The local and external people need something more than laws and policies (top down model), built by institutions (Kearney et al., 2007), but an approach that has to be bottom-up. In fact, it has been demonstrated that local communities have an essential role in this aspect, and a positive effect on the co-management of MPAs (Dahl, 1997; Gutierrez et al., 2011; Kearney et al., 2007; Mills et al., 2011). To achieve better management, the proper transmission of the educational approach has to adapt to the different communities in which they will be developed, and not the other way round; In this context, one of the major difficulties to achieve this active participation and community involvement, is the lack of well-defined objectives, especially in the methodology, systematization and evaluation of the educational programs and their contribution to conservation goals (Kuhar et al., 2010).

The present research seeks a change instead of reaching theoretical conclusions. The problem is closing the gap between pure theory and practice, where such conclusions are focused on applications that would enable reality to be transformed. It also seeks a continuous improvement in quality and must be based on shared criteria and a comparative analysis of different points of view (Benayas et al., 2003).

In order to gain a better understanding of the tools that have to be implemented to pass from a theoretical to a more practical approach in the transfer of information from scientists/managers to users, we accomplished in the present study three different targets: 1) Perform a diagnosis of the EE program not only in our study area but also to the whole National Parks System. 2) Establish the main rules of EE in MPAs with solid participation of Park staff members and stakeholders and 3) Integrate these rules into the Park's management plan with a focus on quality and long term practice alongside prioritized social actors. In order to do this, a first national survey was carried out including 20 National Parks (44% of the National Park's network) with a special focus on Gorgona National Park and Utria National Park, both located in the Eco-region of the Choco Biogeographic area (Mittermeier et al., 1998; Olson and Dinerstein, 1998). They were selected because of their biological value, location, socioeconomic and political situation, similar protected area dimensions, reference point for diverse researches in coastal and marine habitats and time within the National Parks System (UAESPNN, 2008a,b).

It is expected that the EE plan will contribute to integrate those stakeholders with major implications in the protected areas, reducing threats and anthropogenic pressures, and improve the

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