Social diversity for ecosystem management in La Palma Biosphere Reserve, Canary Islands: Perspectives, knowledge and management practices among local stewards in the near-shore marine ecosystem

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Abstract

Adaptive approaches to ecosystem management emphasize that ecosystems need to be treated as complex social-ecological systems. Furthermore, both ecological and social diversity need to be enhanced to improve the adaptability of such systems to surprises. Social diversity is approached in my research (Master Thesis) by studying the diversity of plausible contributions of local steward groups to ecosystem management, i.e. mental models of the ecosystem, ecological knowledge and management practices. These variables were explored by means of 28 interviews to representatives of the 8 local steward groups of the near-shore marine ecosystem of La Palma Biosphere Reserve. The flow diagramming technique was used to elicit mental models about ecosystem.

The thesis chose to study social diversity for ecosystem management in a local setting. Local stewards, defined as local actors who manage the ecosystem and their services on the ground, were considered as potential local holders of social diversity, providing a range of mental models, knowledge and management practices. A mental model approach to cognition was followed to unravel knowledge and attitudes towards ecosystem management.

The diversity provided by each informant and group was assessed by means of a new framework aiming to capture quantity and quality of these variables by using the aspects: quantity, variety and originality.

Results showed that local stewards of the studied system provided social diversity. Their contributions differed among local steward groups, being acknowledgeable for official managers, conservationists and professional fishers. However, key carriers of diversity were found in all groups.

Local stewards shared a mental model in terms of consensually acknowledging that the

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near-shore marine ecosystem was degraded and what were the main drivers that lead to that situation. However, they had not been able to respond to them in the current governance system.

Different kinds of knowledge, including experiential and scientific, are gathered, combined, and spread through formal and informal social networks. These networks can provide channels to combine the social diversity in place for the sake of ecosystem management. The Biosphere Reserve Consortium has a key role in facilitating these networks with the potential to become a platform for learning. The findings draw attention to the need of enhancing formal and informal social networks to gather the diversity provided by local stewards, avoiding the risk of this leading to homogenisation of mental models and knowledge.

**Keywords:** Local stewardship, social diversity, adaptive co-management, mental models, local ecological knowledge, local management practices, social networks