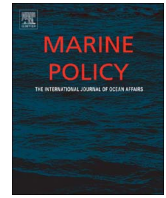




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Property relations and the co-management of small-scale fisheries in Costa Rica: Lessons from Marine Areas for Responsible Fishing in the Gulf of Nicoya

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ABSTRACT

Marine fisheries in Costa Rica have become characterized by overexploitation, ineffective centralized management and increased conflict among fishing sectors. Despite high economic and socio-cultural importance of small-scale fisheries, no formal mechanisms existed until recently to facilitate the participation of fishers in management. Marine Areas for Responsible Fishing (*Áreas Marinas para la Pesca Responsable*, AMPR) were legally recognized in 2009 as a co-management approach, enabling the designation of spatial management areas to be implemented collaboratively by artisanal fishers and government agencies. In this paper, we examine property and access relations shaping this emerging participatory management model using case studies primarily from the Gulf of Nicoya region. The policy demonstrably improves upon some aspects of management, for instance, by allowing artisanal fishers to determine gear restrictions within designated areas. However, the model lacks other attributes of more successful co-management scenarios, particularly exclusive access. The fugitive nature of resources further complicates property relations over these fisheries. The cases explored also illustrate broader institutional and systemic issues that preclude effective participatory management. Lessons from the region are used to propose significant shifts to the management of small-scale fisheries in Costa Rica.

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1. Introduction

The allocation of private property rights, in addition to centralized regulation, has been widely proposed as a solution to the degradation and overexploitation of marine resources, and natural resources more generally. Dominant bioeconomic approaches to fisheries management reflect the legacies of scholars like Gordon [1], Scott [2] and Hardin [3] and emphasize the need to capture lost rents resulting from inefficient harvest [4,5]. A number of challenges emerge when trying to impose the logic of rent maximization and privatization in small-scale fisheries, particularly given the heterogeneity that characterizes them and their role in sustaining diverse livelihoods [4,6]. This logic also ignores the specific socio-political relations involved in struggles over natural resources and the surplus value harnessed from their extraction [5].

Participatory management of natural resources has received increasing recognition over the last few decades as an alternative to centralized management and privatization [7–10]. Participatory management refers to the direct involvement of resource users and other stakeholders in decision-making and other policy processes with varying property regimes and degrees of decentralization. Two types of participatory management are broadly recognized: (1) community-based management approaches are those in which resource users have all management responsibility and resources are often held as common-property by a community of users, whereas (2) co-management may refer to a number of arrangements involving collaboration and shared property rights between resource users, government, and possibly other stakeholders such as non-governmental organizations (NGOs) [11,12].

Co-management has gained particular traction in fisheries management as a compromise between top-down and bottom-up approaches, given the failures of the former and the potential for co-management to promote legitimacy, representativeness and subsidiarity in decision-making through localized knowledge [8,9]. Some positive outcomes associated with co-management include increased efficiency, decreased transaction costs, greater success in

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meeting management goals, risk-sharing and ease of conflict resolution [13], as well as social learning, trust and growth of local institutions [10]. However, because co-management refers to a variety of possible collaborative arrangements, it produces equally diverse institutions and management outcomes [14–16]. Similarly, the specific property relations at play in co-management institutions are variable [17] and deserve specific consideration.

The objective of this paper is to examine an emerging model for the co-management of artisanal or small-scale fisheries in Costa Rica, where natural resources have traditionally been governed as state property through centralized regulation and the creation of protected areas. In 2009, a series of political advocacy efforts by artisanal fishing organizations culminated in an executive decree [18] that enabled the creation of Marine Areas for Responsible Fishing (*Áreas Marinas para la Pesca Responsable*, AMPR). The legislation defines an AMPR as a geographically delineated area of biological or social importance in which fishing is restricted to ensure sustainable use, management and conservation through cooperation between state agencies, fishers and other organizations. The impetus for establishing AMPRs is to protect local livelihoods and marine resources from the effects of non-selective fishing at various scales, as well as to address intra- and inter-sector conflicts, which have become pronounced as resources become increasingly scarce [19].

Negotiations associated with the formation of AMPRs are characterized by struggles over various forms of access. The resulting marine areas serve to territorialize fishing practices (i.e., through boundaries that define fishing restrictions and authorized user groups), but also reflect underlying social relations and cultural narratives. These dynamics are examined here primarily through two cases in the Gulf of Nicoya region, where the majority of AMPRs have been established [Fig. 1]. In these cases, the AMPR can be a mechanism for the formalization of existing norms and an arena for the contestation of property and access relations. Both also illustrate several problems that must be overcome in order to achieve broader national objectives in the management of marine resources. The following sections provide context on the governance of fisheries in Costa Rica, the theoretical framework and methods informing this analysis, and a discussion of individual cases and challenges of the AMPR model. The paper concludes

with considerations and recommendations for future management in Costa Rica.

2. Fisheries in Costa Rica and the shift towards co-management

Costa Rica is a Central American nation with an exclusive economic zone (EEZ) several times larger than its terrestrial area. Starting in the 1950s, Costa Rica's fisheries have been subjected to increasing exploitation by different sectors including a small industrial fleet, semi-industrial shrimp trawlers and a diverse artisanal sector with small- to medium-scale extraction [11]. Findings from a recent government report suggest that all major commercial fisheries are overexploited and heading toward collapse [20]. A historical reconstruction of marine fisheries in Costa Rica since 1950 indicates that total landings peaked at 600,000 t and have declined since the 1980s, much earlier than indicated by national statistics [21]. The progressive and relatively recent expansion of fisheries in Costa Rica was facilitated partly through neo-liberal structural adjustment policies which increased technological access, stimulated exportation and incentivized the formation of harvesting cooperatives in order to increase productivity and decrease reliance on imported seafood starting in 1970s [22,23].

Costa Rica is known for its biodiversity and environmental conservation efforts, including an extensive network of protected areas developed in the 1970s. However, the nation's marine conservation efforts have lagged considerably and most of its marine protected areas (MPAs) are extensions of existing terrestrial protected areas, created with few ecological and social considerations [24]. Protected areas are primarily designed to protect biodiversity, but lead to shifts in property relations which can have negative consequences for vulnerable social groups, such as displacement from resources that sustain rural livelihoods [25,26]. The management of MPAs in Costa Rica has been characterized by conflict over multiple uses and small-scale fishers are generally not represented in decision-making, in contrast to more powerful sectors (e.g., touristic recreational fishing) [27].

Natural resources in Costa Rica are managed by the Ministry of the Environment and Energy (MINAEC). Protected areas are managed under a decentralized system of regional conservation areas

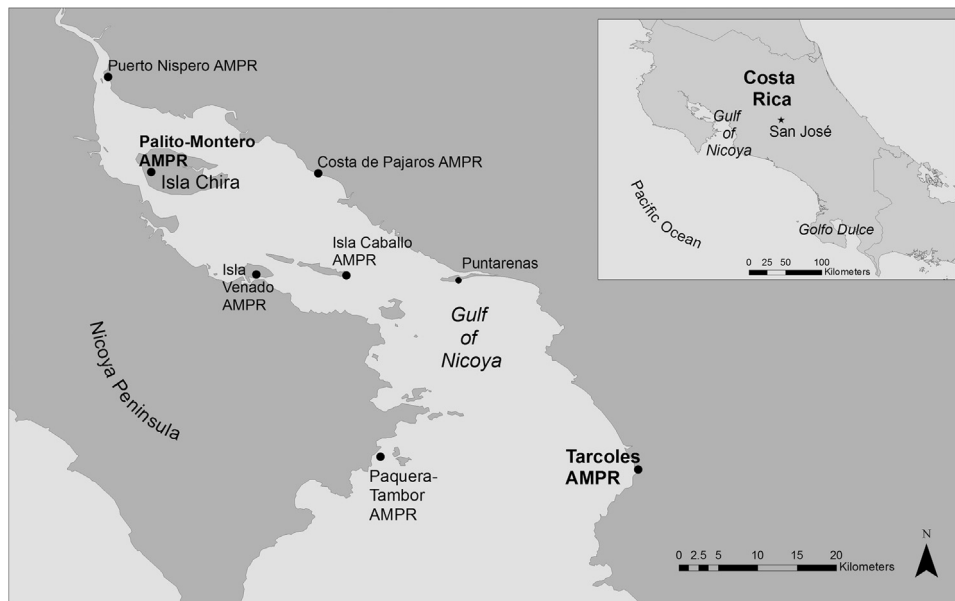


Fig. 1. Map of the Gulf of Nicoya including all the AMPRs established in the region.

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