

EDITORIAL

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# Enhancing stewardship in Latin America and Caribbean small-scale fisheries: challenges and opportunities

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## Abstract

This thematic series, entitled “Enhancing Stewardship in Latin America and Caribbean Small-Scale Fisheries”, emerged as part of a joint effort to bridge Latin-American scholars interested in networking on small-scale fisheries in the region. Built on results presented at two meetings (‘Too Big to Ignore’ (TBTI) Workshop in Curitiba, Brazil, and the 2<sup>nd</sup> World Small-Scale Fisheries Congress in Merida, Mexico), this issue combines a unique collection of emergent and pressing issues related to small-scale fisheries in Latin America. It comprises of theoretical, methodological and policy-related aspects across a range of topics such as co-management, biodiversity conservation, governance challenges, and territorial tenure, in seven countries - predominantly from South America. In this Introduction, we provide some background to the similarities and diversity within the Latin America and Caribbean region, and their relevance to small-scale fisheries stewardship. Subsequently, we briefly introduce the contributions that range from cross-scale governance in Chile, cooperativism in Mexico, species introduction in Bolivia, interactive governance in the Galápagos and co-management in Uruguay, Brazil and Colombia, to territorial losses in Brazil. Multiple contexts and processes, theoretical and analytical perspectives (multi-stakeholders, socio-ecological systems, cross-scale issues, territorial approach) are highlighted, as well as the policy challenges to safeguard small-scale fisheries from numerous pressures such as urbanization, industrial expansion, tourism, pollution, and conservation policies. This series aims at inciting further consideration of innovative perspectives to bridge local communities, academics, practitioners and policy makers in joint efforts to promote priority action on issues that require immediate attention and transdisciplinary multidimensional outlooks on that important sector.

## Introduction

*“Our America, the Patria Grande (Big Motherland), has in its people, content and continent, sense and projection: an openness to the world. A world that needs our life’s conception: the Brazilian, the Colombian, the Bolivian, the Chilean, the Uruguayan, and so on. But also all and each of our own and different ethnics that cross our nations, [...] show our colors, pigmentations, and transcendences. Thus, our Latin-American identity is and will be an identity opened to one’s neighbor, and never be closed to the unknown or different”*

*Rodó (1900)*

This thematic issue, entitled “Enhancing stewardship in Latin America and Caribbean small-scale fisheries”, emerged from a workshop in Curitiba, Brazil, organized by the global partnership for small-scale fisheries research ‘Too Big to Ignore’ (TBTI) (<http://toobigtoignore.net>) in 2013. Scholars from nine Latin-American countries were brought together to build a regional network for small-scale fisheries (Gasalla et al. 2013). The strong engagement of participants with local and community movements inspired this publishing project as an effort to offer a regional view on small-scale fisheries to a global audience. In addition, following the 2<sup>nd</sup> World Small Scale Fisheries Congress held in Merida, Mexico, three additional contributions were invited for this publication project. The final collection comprises seven original research articles and aims at flagging the awareness and some of the central ideas and values emerging in the region with regard to small-scale fisheries (SSF) in particular, but it also touches on regional identities and common challenges for natural resource governance in general.

Latin America and the Caribbean countries make a relevant contribution to global fish production and also to fish meal supply for aquaculture and animal husbandry, especially from ecosystems that have abundant fish stocks. However, small-scale fisheries provide a wider range of benefits for the coastal states of the Atlantic and Pacific oceans as well as for their multiple productive drainage basins. Although regionalization has gradually become a catchword in fisheries research and policies (Blount 2012), a regional perspective from Latin America and Caribbean (LAC) deserves some caution. The image of a unique LAC region is often contested due to its broad cultural diversity. Different ethnic traditions show ancestral connection with land and history, from more predominantly indigenous to more European-influenced regions. Hispanic and non-Hispanic countries, such as Brazil, sharply differ in colonization processes, as well as the heritage from classical civilizations contrasts with the alternative influence of Anglo-Saxon instrumental pragmatism (Lafer 2014). The quote above from the Uruguayan writer José Enrique Rodó still defines a peculiar South American vocation that puts in perspective both its peculiarities and zonal pattern. In addition to different imaginaries, the highly heterogeneous socioenvironmental and institutional contexts of small-scale fisheries require a focus on the large range of fishing production systems and social organizations, where a myriad of techniques, habitats, tools, target species, market and crew structures can be found (Salas et al. 2007). Finally, fish consumption varies remarkably across the region from high indices such as in Guyana (34 kg/person/year) and Panama (25 kg/person/year), to much lower figures where other animal protein sources are more easily available such as in Argentina (5 kg/person/year) and Honduras (3,5 kg/person/year) (FAO 2014; Flores 2014).

Notwithstanding their socioenvironmental diversity, Latin America and the Caribbean share important features and challenges which directly influence the pattern of small-scale fisheries. The historical legacy of invisibility of small-scale production systems, as well as the socioenvironmental impacts emerging from the neodevelopmentalist model, are common denominators driving continuities and changes in small-scale fisheries in the region. SSF are a source of food and job security and support cultural reproduction and knowledge. They have supported a wide range of human groups since pre-colonial times. Recent archaeological research has revealed that fisheries were the main activity of pre-Colombian societies inhabiting the Amazon, providing long-term subsistence to large Amerindian settlements (Prestes-Carneiro et al. 2015). At present,

in addition to income and food for the rural (and urban) poor, SSF also provide goods for regional and international markets and ecosystem services from more sustainable practices (see e.g., Salas et al. 2011).

Despite their high social and economic relevance in the region, SSF have been characterized by a history of inequality and social exclusion. Small-scale fishers have outlived major transformations in the history of the region; however, they have always occupied a marginal position in national policies. As a result, they have survived mostly in more isolated places while they have gradually disappeared or been highly transformed with the emergence of more powerful economic actors. Only recently have fishing communities become politically more active in claiming their rights to fishing territories. Peace building, democratization processes, and the emergence of a new left in national governments in the last two decades have opened up new spaces for political organization and contestation in Latin America, and allowed fishing communities to build up social movements in order to safeguard their livelihoods (see e.g., Castro et al. 2016). As a result, they became key allies of transnational activism against damaging activities in and around coastal and riverine areas. Consequently, in some cases, land tenure regulations, social policies, and participatory initiatives have led to the transfer of some power to fishing communities to protect their territories.

This thematic issue of MAST focuses on this changing socioenvironmental context in the region. Democratization and economic globalization have reshaped the social configuration of small-scale fishers and fishing communities. On the one hand, the region represents a hotbed of institutional innovations regarding local governing systems to regulate access to resources. Traditional communities heavily dependent on fisheries often comprise a form of *de facto* tenure over fishing areas in the form of Territorial Use Right in Fisheries (TURF) (Christie 1992). In some countries, the national state has shown major efforts to incorporate traditional knowledge and institutions into innovative territorial and governance models (Begossi 2010). In addition, social policies such as conditional cash transfers and food security programs have driven a rapid decline in poverty and inequality, reaching the Millennium Development Goal prior to the target date (FAO 2014).

On the other hand, the position of small-scale fisheries in environmental governance is particularly challenged by the limited institutional capacity of the state and persistent elite power (Castro et al. 2016). In particular, development and conservation policies represent two antagonistic drivers that currently reinforce the historical structure of inequality and invisibility of the fisheries sector. Development has increased the impact on access to or productivity of traditional fishing territories through rapid urbanization processes, infrastructure development, tourism, fisheries intensification, aquaculture, and pollution. Conservation has reduced access to traditional fishing territories through the implementation of no-take marine protected areas. Squeezed between these two areas of policy, small-scale fishers have been facing increased loss of territory and reduced access to productive fishing areas.

In sum, the interplay between new opportunities emerging from the increased political mobilization and institutional innovation on one side, and new threats emerging from increasing coastal and riparian grabs, on the other, characterizes the current context of SSF in Latin America and Caribbean. The historical expansion of industrial activities competing with traditional livelihoods, and the concerns

about sustainability, lack of management, and the relatively low ingestion of fish protein, are regional aspects of the so-called global “fisheries crisis”. Small-scale fisheries and the uncertainties about how they affect or are affected by changes in ecological and social system dynamics are key issues that require immediate attention (Gasalla et al. 2013).

#### **Enhancing stewardship in LAC small-scale fisheries**

The contributions that will follow this introduction come from seven Latin American countries – Chile, Mexico, Bolivia, Uruguay, Ecuador, Colombia, and Brazil - and take us through a myriad of socioenvironmental contexts, from the northern Caribbean Sea all the way to the south of Chile, from the Galápagos Islands on the Pacific coast, crossing the western Amazon, and reaching the Atlantic Ocean. The collection brings a number of theoretical, methodological and analytical approaches to address the multiplicity of contexts and challenges and highlights some possible solutions for the small-scale fisheries in the region undergoing rapid social and environmental change.

Gelcich et al. (2015) set the stage for coastal stewardship by offering a comprehensive overview of marine biodiversity conservation policies in Chile. As leading experts on Chilean TURFs, the authors focus on ancillary initiatives under the Convention of Biological Diversity as a strategy to scale up marine conservation and emphasize the relevance of cross-scale governance to enable this strategy. In particular, they emphasize the role of socioeconomic aspects and bottom-up processes in the siting of marine protected areas, and advocate participation of civil society at an early stage. Finally, they claim that a paradigm shift in marine conservation is needed in which the local communities that assume the costs imposed by conservation policies in their territories should be properly included.

The above conclusion is the departure point of Méndez-Medina et al. (2015) to outline a conceptual framework to analyse successful fishing cooperatives in Mexico. The authors initially provide an institutional ethnography and historical analysis of the Vigia Chico spiny lobster cooperative in Quintana Roo. Subsequently, they identify social, political and ecological drivers of their success: local social organization, resilience to perturbations, and the fishing concession process. The authors found that individual and collective livelihood goals beyond fishing as well as good articulation between local and scientific knowledge have strongly supported the successful performance of the cooperative.

Macnaughton et al. (2015) addresses a common problem in many freshwater systems, the impact of an introduced fish species. The authors showed the implications of introducing the large scaled fish *Arapaima gigas* (pirarucu or paiche) for an indigenous fishing community in the Bolivian Amazon. Based on resilience theory, the authors address the species introduction as an impact creating socio-ecological instability and driving the reorganization of the system. This highly economically valued species has provided both opportunities and challenges to the community. On one hand, it has provided an alternative economic source and triggered local organization to protect this community-based fishing territory. On the other hand, the introduction of this large predator seems to have had an impact on the diversity and abundance of other fish species and, in turn, has driven the formerly diverse small-scale fishing system to a

single-species intensified commercial fishery. To what extent these changes may affect the ecosystem and its social structure is still to be seen.

Paladines and Chuenpagdee (2015) assess the overall governance quality of the Galapagos Marine Reserve in Ecuador by applying the interactive governance perspective. This iconic protected area is characterized by a non-transparent decision-making process and is highly biased towards conservation policies. By focusing on the system-to-be-governed, the governing system, and governing interactions, the authors highlight the complexity, diversity, and dynamics of the study area and conclude that the low relevance of small-scale fisheries in the governance system limits the participation of fishers in the decision-making process and the accountability of this activity in the local economy. The authors conclude that only by taking into account the social component in the governing system can the marine reserve sustainability be improved.

Along the same lines, Trimble and Berkes (2015) address opportunities and challenges for co-management of small-scale fisheries in Uruguay and Brazil. In both case studies, the coastal communities rely on similar fishing resources, are undergoing socio-environmental crisis, and are moving from hierarchical governance to a more collaborative approach between local users and the state agencies. By using Ostrom's design principles, the authors assess the opportunities and limitations for building an effective adaptive co-management system in both sites. While the diagnostic approach of design principles is useful to reveal some institutional shortcomings in both cases, it lacks the analytical power to address more processual issues related to social learning and external drivers as observed in the case study.

Saavedra-Dias et al. (2016) address a less visible factor in co-management systems: the role of experts' opinion and the perceptions of key stakeholders in the Colombian small-scale fisheries on the Atlantic and Pacific coasts. Through a methodology combining interviews and workshops with three key stakeholders – fishermen, researchers and grassroots leaders – the authors identify points of synergy and conflicts across stakeholders and regions. The article sheds some light on the different images, values, and knowledge systems among key stakeholders and highlights the importance of developing some level of consensus in early stages of the co-management design in order to take socioenvironmental diversity into account and to enhance stewardship.

Lastly, in the final article of this thematic issue, Gasalla and Gandini (2016) illuminate power asymmetries in coastal zone management in Brazil and the territorial losses faced by small-scale fishers. The authors show the trend to coastal grabbing inherent in both development and conservation policies through the case of a typical shrimp fishery of the São Paulo coast. Through spatial analysis they estimate maritime territorial loss due to multiple policies and practices and discuss management problems and potential solutions. By bringing new meanings to maritime territories, that may be seen as spaces of reciprocity, food supply, and public-oriented communitarian work, they argue that environmental and fisheries stewardship should still make room for social justice and human rights.

Overall, the contributors illustrate the multiple and changing contexts and realities of small-scale fisheries in Latin America. Through a range of theoretical frameworks and methodological strategies, the articles highlight the main trends, threats, and innovations observed in the region. Historical analysis, cross-scale issues, territorial perspectives, socio-ecological systems, interactive governance and institutional analysis are

some of the analytical approaches used to address emergent challenges and opportunities for small-scale fisheries stewardship. Despite their diversity, all articles converge around the need for a more socially-informed governance perspective in which inclusiveness, interactions and stewardship are central elements. In particular, three key actors deserve close attention in the debate on small-scale fisheries stewardship in Latin America. First, the State has a contradictory role. On the one hand, it promotes socially inclusive territorial co-management policies, on the other, it hinders management by implementing conflicting development and conservation policies. Second, local communities and grassroots organizations have been instrumental in bringing traditional knowledge to the development of more sustainable territories and production systems. Local communities have struggled, however, to build their livelihood due to rapidly changing sociocultural, environmental and economic contexts. Finally, strategic actors such as academic institutions and activists have been instrumental in supporting knowledge building, network development, and political mobilization, but often are in conflict due to different images and concepts of sustainability, development and justice.

This collection raises also a series of pressing and emerging issues which have particular characteristics in the region such as coastal grabbing, introduced species, conflicting policies, multi-stakeholder networks and co-management models. In a context of a historical legacy of high inequality and dependency relations, weak institutions and political will, and limited concerted information gathering and monitoring, the relevance of initiatives rooted in the alliance between small-scale fishers, researchers and practitioners seems key to support institutional innovations for increased resilience of SSF systems. Such an analytical approach seems very useful and offers possibilities of effective dialogue and interchange on common issues that may be explored comparatively. New pressures from both developmentalist and conservationist policies, knowledge gaps and the fast pace of socioenvironmental changes should be balanced with social learning emerging from local empowerment, territorial and cultural rights, and knowledge building through partnerships. Despite the arguably artificial notion of homogeneity among Latin American and Caribbean small-scale fisheries, some observed commonalities are valuable starting points from which to build up a regional perspective for collective research, activism and policy agendas.

Our expectation is that this series can inspire further development of novel perspectives to be replicated, not as a blueprint model but as principles and guidelines from the improvement of small-scale fisheries elsewhere. Ultimately, the lessons from the case studies may also help to promote priority actions in LAC and beyond on issues that require a multidimensional agenda that better articulates economic, social, political, cultural, ecological, legal and ethical goals.

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#### **Authors' contributions**

The Editorial was equally divided between the two co-authors in conceptualization, writing and revision. MG outlined and wrote the first version of the Introduction section and FC complemented it with connections with the environmental governance debate. Brief description of each chapter in section Enhancing stewardship in LAC small-scale fisheries was equally divided between MG and FC. Final considerations (last two paragraphs) were outlined and written by FC and complemented by MG with connections with the debate on small-scale fisheries stewardship. Both authors read, revised and approved the final manuscript.



**Competing interests**

The authors declare that they have no competing interests.

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**References**

- Begossi, A. 2010. Small-scale fisheries in Latin America. *Management Models and Challenges* 9(2): 7–31.
- Blount, B. 2012. Towards regionalization of the common fishery policy? *Maritime Studies* 11: 4.
- Castro, F., B. Hogeboom, and M. Baud (eds.). 2016. *Environmental Governance in Latin America*. London: Palgrave.
- Christie, F.T. 1992. *Territorial use rights in marine fisheries: definitions and conditions*. FAO fish. Tech. Pap. No. 227. Rome: FAO.
- FAO. 2014. *State of the world fisheries and aquaculture: opportunities and challenges*. Rome: FAO.
- Flores, A. 2014. *Right to food, food security and small-scale fisheries: concepts and linkages*. Merida: 2nd World Small-scale fisheries Congress.
- Gasalla, MA, S Salas, PR McConney, RP Medeiros, R Chuenpagdee, and B Frank. 2013. Report on enhancing stewardship in small-scale fisheries through ecosystem approaches and other means. Too Big to Ignore (TBTI) Latin America and the Caribbean joint workshop with Working Group 4, 6–9 August 2013, Curitiba, Paraná, Brazil. TBTI:Canada.
- Gasalla, MA, and FC Gandini. 2016. The loss of fishing territories in coastal areas: the case of the seabob shrimp small-scale fisheries in São Paulo. *Maritime Studies*.
- Gelcich, S, L. Peralta, C.J. Donlan, N. Godoy, V. Ortiz, S. Tapia-Lewin, C. Vargas, A. Kein, J.C. Castilla, M. Fernandez, and F. Godoy. 2015. Alternative strategies for scaling up marine coastal biodiversity conservation in Chile. *Maritime Studies* 14: 5.
- Lafer, C. 2014. A política externa do Brasil para a América Latina. II Simpósio Internacional Pensar e Repensar a América Latina. PROLAM, University of São Paulo, 17–21 October 2014, São Paulo, Brazil.
- Macnaughton, A.E., F. Carvajal-Vallejos, A. Argote, T.K. Rainville, P.A. Van Damme, and J. Carolsfeld. 2015. "Paiche reigns!" species introduction and indigenous fisheries in the Bolivian Amazon. *Maritime Studies* 14: 11.
- Méndez-Medina, C., B. Schmook, and S.R. McCandless. 2015. The Punta Allen cooperative as an emblematic example of a sustainable small-scale fishery in the Mexican Caribbean. *Maritime Studies* 14: 12.
- Paladines, MJB, and R. Chuengpagdee. 2015. Governability assessment of the Galapagos Marine Reserve. *Maritime Studies* 14: 13.
- Prestes-Carneiro, G., S. Béarez, Bailon, Daniel AR Py, and E.G. Neves. 2015. Subsistence fishery at Hatahara (750–1230 CE), a pre-Columbian central Amazonian village. *Journal of Archaeological Science: Reports*. doi:10.1016/j.jasrep.2015.10.03.
- Saavedra-Dias, L.M., R. Pomeroy, and A.A. Rosemberg. 2016. Managing small-scale fisheries in Colombia. *Maritime Studies* 15: 6.
- Salas, S., R. Chuenpagdee, J.C. Seijo, and A. Charles. 2007. Challenges in the assessment and management of small-scale fisheries in Latin America and the Caribbean. *Fisheries Research* 87(1): 5–16.
- Salas, S, R Chuenpagdee, A Charles, JC Seijo (eds). 2011. Coastal fisheries of Latin America and the Caribbean. FAO Fish. Tech. Pap. No. 544. Rome:FAO.
- Trimble, M., and F. Berkes. 2015. Towards adaptive co-management of small-scale fisheries in Uruguay and Brazil: LESSONS from using Ostrom's design principle. *Maritime Studies* 14: 14.

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