

## SINTESIS – NATURAL RESOURCES MANAGEMENT IN SOCIO-ECOLOGICAL SYSTEMS: INTEGRATING ENVIRONMENTAL CONSERVATION AND LOCAL DEVELOPMENT

Cristiana Simão Seixas

Environmental Studies and Reseach Centre (NEPAM) / University of Campinas (UNICAMP)

Co-PIs: Juliana Sampaio Farinaci, Simone Aparecida Vieira, Rodrigo Rodrigues de Freitas, Paula Chamy,

Luciana Gomes de Araújo

FAPESP Process 2015/19439-8 | Term: Jun 2016 to May 2018



*On the left side, the cover of the booklet by Araujo et al. (2017); on the right side, fishers from Paraty (RJ) receiving the booklet. Within Project SinteSIS, we have been working simultaneously on advancing scientific knowledge, and on communicating with non-scientific public, in order to broaden the impact of our results. The booklet synthesizes some of our research and outreach results, written in a comprehensible and involving lay language.*

The overall goal of the SinteSIS project is to produce analytical syntheses of the diverse research on social-ecological systems and outreach effort carried out by the Commons Conservation and Management Research Group (CGCommons) over the past decade. We understand that (i) ecosystem sustainability depends, among other things, on ecosystems' adaptive capacity to social and environmental drivers of change, and (ii) system's adaptive capacity results from dynamics involving social actors, institutions, knowledge and resources available to management. In this context, the project seeks to contribute to the management and conservation of ecosystems considering the involvement of people who depend on them, integrating three theoretical approaches: resilience and adaptive capacity of complex socio-ecological systems; participatory management of common-pool resources (the commons); and ecosystem stewardship (integrating conservation and

development). Based on case studies with different levels of analysis and territorial coverage, our main objective is to identify potentialities and obstacles of different institutional arrangements for integrating conservation and development at the local level. The specific objectives are: (i) to analyze the evolution of ecosystem management and conservation arrangements involving local communities; (ii) to investigate how the different social groups (e.g., resource users, government, NGOs, researchers, companies) have worked on ecosystem management and conservation; (iii) to identify how traditional/local ecological knowledge and practices influence the management and resilience of socio-ecological systems; (iv) to investigate monitoring approaches of social and ecological variables in management and conservation of common-pool resources involving communities; (v) to identify feedback mechanisms present in these socio-ecological systems, influencing adaptability and local socio-ecological resilience; and, (vi) to identify contributing factors for community self-organizing processes related to environmental management. Data collection involves multiple research methods based on case studies. The study sites concentrate mostly in the Brazilian Atlantic Forest domain, but there are also cases from other biomes and countries. In exploring a diversity of cases and seeking challenges, opportunities and commonalities among them, we provide insights to advance scientific knowledge and the praxis of environmental management.

## SUMMARY OF RESULTS TO DATE AND PERSPECTIVES

Research has been carried out with *Caiçara* and *Caipiras* from the Atlantic Forest, *Cablocos* and *indigenous* groups from the Amazon, *small-scale fishers* along the coast of Brazil, and the *Machangana* people from the coast of Mozambique. The institutional arrangements investigated range from private enterprises, to community and NGO initiatives, to protected areas, including sacred sites. In order to elaborate syntheses of the work developed by our team, we organized four workshops for planning the writing of scientific papers and a textbook. These workshops have shown to be essential for the elaboration of our intended outputs. Building upon different methods for stimulating collaborative work, our workshops have been demonstrating innovative possibilities and perspectives for building knowledge and high-quality science. Some papers are already in advanced stages of development, synthesizing the results of diverse case studies aggregated by theme, for instance (i) stakeholders' participation on the management of common-pool resources; (ii) the role of traditional/local ecological knowledge in coping with change; and (iii) self-organization and feedbacks in collective action related to environmental issues. In addition to scientific articles, the SinteSIS project is preparing a textbook to fill a reference gap for training on conservation and management of common-pool resources in Portuguese. The book, with contributions of more than 20 authors, targets primarily undergraduate students from environmental sciences-related courses, though it may also be useful to managers, practitioners and professionals working on environmental management and conservation. Efforts for communicating academic work to a non-scientific public have been increasingly demanded and valued by society. In this sense, another innovative product by the SinteSIS project has been published: a booklet synthesizing some of our research and outreach initiatives, written in a comprehensible and involving lay language. The booklet *Caiçaras e caipiras: uma prosa sobre natureza, de desenvolvimento e cultura* (*Caiçaras and Caipiras: a prose on nature, development and culture*) (Araujo et al 2017) is intended to communicate to local communities and other social actors from our research/outreach sites the knowledge about environmental conservation and local development that we produced. The SinteSIS project is also contributing to feed comparative analyzes in two international research networks: the Community Conservation Research Network (CCRN) (<http://www.communityconservation.net/>) and Too Big to Ignore (TBTI) (<http://toobigtoignore.net/>) on small-scale fisheries. In Brazil, our team is part of Rede TransForMar (Transdisciplinary Network on Adaptive Co-Management for Ecodevelopment). All these networks are seeking to investigate the contribution of human communities to the management and conservation of ecosystems.

## MAIN PUBLICATIONS

Araujo LG, Dias ACE, Prado DS, De Freitas RR, Seixas CS. 2017 (orgs.). *Caiçaras e caipiras: uma prosa sobre natureza, desenvolvimento e cultura*. CGCommons & PREAC/UNICAMP, Campinas.

### CRISTIANA SIMÃO SEIXAS

Núcleo de Estudos e Pesquisas Ambientais (NEPAM)  
Universidade Estadual de Campinas (UNICAMP)  
Rua dos Flamboyants, 155 – Cidade Universitária  
CEP 13083-867 – Campinas, SP – Brasil

+55-19-3521-5165  
csseixas@unicamp.br  
<http://cg-commons.wixsite.com/commons>