



# *Project Brief*

---

## **Small Grants Program:**

*The role of ecosystem services  
in adaptation to global  
change for human wellbeing  
(SGP-HW)*

## *[SGP-HW 090] Socio-ecological resilience in the face of global environmental change in heterogeneous landscapes - building a common platform for understanding and action*

### *A Pathway to Understand Socio-Ecological Resilience and Adaptive Capacity*

SDG: Goal 13 (Climate action)

Seasonally dry tropical forests in South America are experiencing unprecedented climatic and socio-ecological changes. Besides their ecological vulnerability to climate drivers, chronic problems of governance and enforcement add to their vulnerability.

The literature is characterized by a piecemeal approach focusing on adaptation or vulnerability, with solutions applying to either natural or social sciences. There is a lack of empirical work on the links between social and ecological resilience, vulnerability and adaptive capacity, and their meaning for environmentally and socially heterogeneous territories undergoing rapid transformations and conflict.

A scientific project supported by the Inter-American Institute for Global Change Research (IAI) has been working on the construction of a shared platform to understand socio-ecological resilience and adaptive capacity in the face of rapid large-scale environmental change. Researchers have investigated four different seasonally dry forest locations: Chancaní and Copo in Argentina, Pontal do Paranapanema in Brazil and Montes de María in Columbia. Specifically, the project strongly focuses on the process of co-design of research questions by different stakeholders.

To build a network of stakeholders ranging from civil society to the national government, and involve them in research co-design and co-production from the start, the project carried out multi-stakeholder workshops in each of the four regions. These meetings provided a venue to discuss and identify common interests and associated problems, based on which the research team produced summary documents tackling questions that arose in the discussions. The first workshops were in person, while the second workshops held in virtual format, in adaptation to the COVID-19 pandemic and associated restrictions to gatherings and travel. As a result, the researchers have identified a set of core questions to serve as seed for potential new large-scale interdisciplinary initiatives.

In parallel to the co-design process, the project has been making conceptual developments. One of them involves a review of the concepts of ecological and social resilience in the literature and how they relate to each other. They have selected and filtered publications and elaborated a list of variables of interest. They are currently in the phase of analyzing results to establish commonalities and divergences in definitions while examining the semantic change of “resilience”. Preliminary findings suggest a lack of clear definition and links between the two concepts in literature, especially in empirically based papers.

Based on the synthesized ecological information of the study regions, the project also produced a comparative territory baseline. It gives a full description of each region using economic, social, and geographical variables, which stakeholders can use to understand similarities and heterogeneities among territories. In addition, the research team finalized the climate report of Chancaní and Copo in Argentina and will ask stakeholders for feedback.

Contact information:

Flavia Mazzini e-mail: [mazflavia@gmail.com](mailto:mazflavia@gmail.com)

Project and group web site: <https://nucleodiversus.org/>

Sandra Diaz (PI) twitter : [@sdiazecology](https://twitter.com/sdiazecology)



# SOCIO-ECOLOGICAL RESILIENCE IN THE FACE OF GLOBAL ENVIRONMENTAL CHANGE IN HETEROGENEOUS LANDSCAPES

New Insights for Nature's Contributions to People and Transdisciplinary Collaborations

Unprecedented Climatic  
and Socio-Ecological Changes

## We need more than Adaptation and Vulnerability

The majority of the ecological and sustainability-science literature is characterized by an approach focusing on these concepts with solutions applying either natural or social sciences.

There is a lack of empirical work on the links between

“ Social and ecological resilience  
Vulnerability  
Adaptive capacity ”

and their meaning for environmentally and socially heterogeneous territories undergoing rapid transformations and conflict



## Constructed a shared platform to understand socio-ecological resilience and adaptive capacity



## Investigated four different seasonally dry forest locations

### Carried Out Multi-Stakeholder Workshops

Build a network of stakeholders  
ranging from civil society  
to the national government



In each of the four regions,  
they discussed and identified common  
interests and associated problems

### Reviewed the Concepts of Ecological and Social Resilience

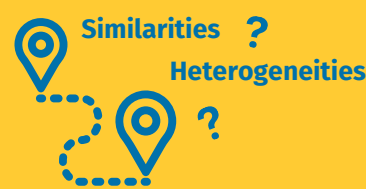
Co-design process and  
conceptual developments



They have selected and filtered publications  
and elaborated a list of variables of interest

### Produced a Comparative Territory Baseline

Synthesize ecological  
information of the study regions



It gives a full description of each region using  
economic, social, and geographical variables