

Governance, policies and institutions for water conservation: The case of the Tempisque Basin in Costa Rica

Tropical Conservation and Development (TCD)

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Introduction

The Inducing Resilience for Water-Subsidized Systems project is an interdisciplinary effort to strengthen existing connections between the social and natural sciences. Along these lines, this research project intends to promote innovative strategies for water conservation and social-ecological systems resilience. A team of interdisciplinary researches spanning agricultural and biological engineering, geography, ecology and anthropology traveled this past summer to Costa Rica to conduct preliminary field research. In my case, funding for this exploratory research was provided by the UF Tropical Conservation and Development Program (TCD), Anthropology Department (Polly and Paul Doughty Research Award), and the UF-Water Institute.

What I did and why

I conducted exploratory research about water law and policy and the institutional (governance) arrangements that govern water in the Tempisque-Bebedero watershed. This is the first step to generating a better understanding of the water sector in Costa Rica and the research priorities according local stakeholders. I accomplished this through the following activities:

International and Comparative Environmental Law class

This course was taught by the Conservation Clinic-University of Florida in coordination with the Organization for Tropical Studies (OET) San Jose, Costa Rica. In this class, students conducted a review of Costa Rican law, institutions and governance structures that facilitate and constrain water management, wetlands preservation, and sustainable development. The course had a strong focus on environmental issues in the Tempisque-Bebedero watershed. Students also participated in field trips to the watershed and other important areas for environmental conservation to meet directly with local stakeholders. At the end of the course, each Water Institute Graduate Fellow worked with two law students to develop a paper related with the study area. Our team developed a paper called *“Mi cuenca es tu cuenca: A comparative Analysis of watershed-based governance within and outside Costa Rica.”*



Scenario Analysis Workshop

OTS and UF sponsored a scenario workshop on the future of the wider Tempisque-Bedero watershed. The workshop took place on the 7th and 8th of June (2018) in EARTH's university Hacienda La Flor, Liberia, Costa Rica. The workshop was organized in collaboration with the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS) and the University for International Cooperation (UCI).

The aim of the workshop was to explore the uncertainties related to water resources, environments, agriculture and livelihoods in the Tempisque, considering changes in climate and extreme weather events. Stakeholders of multiple groups and disciplines with a profound knowledge of the region created the scenarios. The scenarios covered plausible socioeconomic, environmental, political and climate changes up to the year 2050. The analysis of these possible future worlds could be the start of a new research agenda and hopefully guide local and national decision-making about policies and investments that affect the Tempisque watershed.



Interviews

Stakeholders (15) from government (national and local level), non-governmental organizations, universities, private sector and the congress were interviewed. They were asked about water-related issues and challenges in the Tempisque-Bedero watershed. Semi-structured interviews were used to gather information about:

- General perceptions about the challenges of water management
- Advantages and limitations of the institutions working in the system
- Work relations with the different stakeholders working in the basin
- Internal processes in watershed management (decision-making processes)
- The roles that participants play in watershed management
- Recommendations to improve governance, policies and institutions to promote water conservation in the Tempisque basin.
- The primary social, political and economic aspects that constrain or promote water conservation in the basin.
- Research gaps concerning basin management

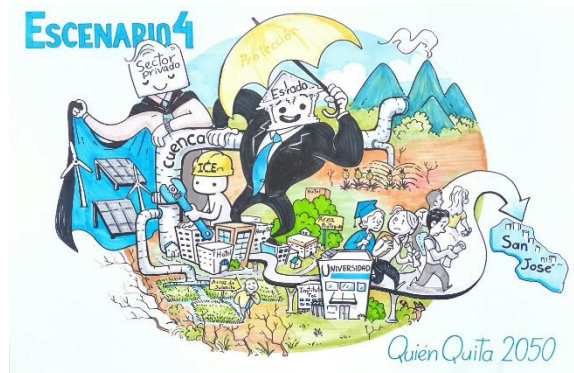
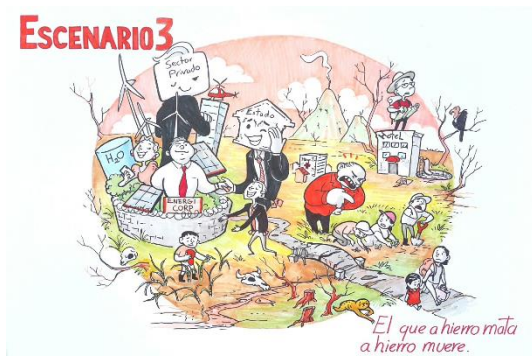
- Future expectations concerning basin management



What were the outcomes?

Feedback from Scenario Analysis workshop

Participants discussed and analyzed factors that they considered will drive changes in water resources and the environment in the Tempisque-Bebedero watershed. Four future scenarios were created as a guideline to two main areas: governance and economic development. The different scenarios and drivers discussed in the workshop support Water Institute Graduate Fellows' research proposals. A full report of the workshop is being prepared. Please see annexes I and II for a full list of the drivers (and their categorization) and the four scenarios produced by the workshop participants.



Preliminary findings for the interviews

Characteristics of governance: Water in the Tempisque-Bebedero watershed is centralized with powerful actors such ICE, SENARA and MINAE (government organizations) in charge of water management decisions. Jurisdictional overlap and lack of coordination create contention and ambiguity among of the organizations that work in water management in the area. Social and local organizations are not actively participating in decision-making processes and, while several coordination platforms had been created, there is significant lack of legally enforced procedures. Governance was considered one of the main challenges in the area across participants.

Characteristics of policy: Costa Rican water law has not been updated since 1942. There have been several attempts to approve a new law, however several factors and group of interest have blocked the law. Water legislation is fragmented in 20 different legal bodies. Nineteen percent of the interviewees agreed in the necessity of a new water law. National court plays an important role in policy decisions in Costa Rica.

Characteristics of institutions: Fragmented governance structures. Perceptions about water conservation and water use in the area differs among stakeholders. Hydrological data and information is minimal and fragmented among institutions. There is a lack of the definitions of the specific roles or the institutions in water management related issues. Even though the MINAE has the leading role in water issues, other institutions such as ICE and SENARA have their own, separate agenda. There is a plan for building a new dam in the area, a project led by SENARA.

Questions for further reflection

For the purpose of this research, what is going to be the unit of analysis? Multilevel governance structures?

What challenges being faced in the system can be addressed by academic research? What is the best way to design an interdisciplinary research? How can we make our research relevant for policy makers?

Are stakeholders are aware of what they are governing? What are the principal water uses in the area and the relationship between them? Are stakeholders aware of the policy and management networks that govern water in the area? What is the best approach to study cooperation?

Difficulties

Gaining rapport and stablish good relationships with stakeholders at different levels.

Annexes

Annex 1. - Full list of drivers (scenario analysis)

- Cambio climático,
- Gobernanza y políticas,
- Disponibilidad de agua,
- Mercados y economía global,
- Infraestructura,
- Impacto en ecología y vida silvestre,
- Manejo de recursos naturales,
- Calidad del agua,
- Población y migración,
- Urbanización,
- Prácticas agrícolas,
- Cambios en medios de vida,
- Acuíferos,
- Cambio de uso de suelo,
- Turismo,
- Expansión agrícola,
- Tecnología e innovación,
- Educación e investigación,
- Conciencia ambiental,
- Energía,
- Diversificación agrícola,
- Demanda o preferencia de los consumidores,
- Pobreza.

Annex 2.- Driver's categorization

