Watersheds and fisheries as social-ecological systems

Complexity & uncertainty

Laguna del Cisne basin (Credit: Intendencia de Canelones)

Piriápolis harbour during the croaker season

(Nested Social Systems) (Governance Filter) (Nested Ecosystems)

(Berkes 2010)
Transdisciplinarity (TD) & Sustainability Science

- Action-oriented: looks for solutions to real-world problems
- Integration of multiple sources of knowledge
- Knowledge co-production
- Stakeholder involvement ("science with the people")
- Participation throughout an adaptive process

TD RESEARCH
Increasingly found in environmental contexts

(Lang et al. 2012, Trimble & Plummer 2019, Vinke-de Kruijf et al. 2022)
Objective

To share lessons learnt from two transdisciplinary research projects, involving watersheds and small-scale fisheries, at multiple scales (local, national, international) in South America.

Transforming water governance in South America

Fishing Transformations
GovernAgua Project (2019-2022)

Transforming water governance in South America: from reaction to adaptation and anticipation

Analysis of water crises and water governance in six watersheds (Argentina, Brazil and Uruguay), understanding them as windows of opportunity for governance transformations.

Interdisciplinary and transdisciplinary approach seeking to improve adaptation and anticipation capacities in water governance.

Around 40 researchers and students involved + over 100 non-academic actors.
**TD approach**

- Research oriented to real-world problems (e.g., crises involving water quality and quantity, difficulties in basin committees).

- Integration of different sources of knowledge: interactions between disciplines (e.g. natural, social, political sciences), and between researchers and multiple stakeholders.
Diversity of actors involved

- Government (local, subnational, national)
- Non-government: cooperatives, social organizations, agriculture sector, academia, etc.

Basin Committees:
Advisory boards for water management (composed of government and non-government actors)
Water crises

Climate change

Land use

Water governance and management

PCJ, SP, Brazil

Laguna del Sauce, Uruguay

Chubut, Argentina

San Luis, Argentina
Main research methods

- Document analysis
- Interviews
- Participatory workshops (virtual & face-to-face)
Field examples – Local scale (Laguna del Sauce, Uruguay)

• Workshops with non-governmental organizations and social groups to: (i) improve linkages between them, (ii) strengthen social participation in water management, (iii) provide inputs for an environmental education strategy in the watershed.

• Formation of “Red Activa Cuenca Laguna del Sauce”
International scale - Cross-sites learning through virtual workshops

Topics of discussion were selected by participants (e.g. adaptation in contexts of crises; challenges to interinstitutional coordination; access to information; social participation)
Transformando la gobernanza del agua en América del Sur: de la reacción a la adaptación y la anticipación

**Outputs**

**Reports (with summary versions)**

**Overview of each publication** *(digest)*

**Policy Brief** *(Spanish/Portuguese)*

**Recordings of webinars + Video of the project**

**BLOG:** [http://governagua.org/](http://governagua.org/)
Envisioning desirable futures in small-scale fisheries: a transdisciplinary co-creation process in Uruguay

- SSF as food system (initial workshop in Dec. 2019)
- 11 innovative initiatives from the food system around SSF (fishers, chefs, environmental entrepreneurs, researchers, among others)

(Gianelli, Trimble, et al. 2022)
The project team (in addition to members of the initiatives)

- Project leader: Researcher, Fisheries
- Project co-leader: Researcher, Public participation
- Researcher/Writer: Environ. humanities
- Researcher: Coastal Management
- Researcher: Economics

- Researcher: Arts/Design
- Communication: Comm. sciences
- Visual artist: Arts
- Film-maker: Arts
- Journalist: Journalism
Visioning workshop - Arts-based methods (May 2022)

Collaging Futures
Outputs (in addition to peer-reviewed publications)
Lessons learnt from the two cases
Some ingredients for TD projects

- Problems addressed of key interest to stakeholders
- Involvement of academic & non-academic actors throughout the project
- Multiple means of communication and appropriate information management
- Sufficient time for discussion among team members from different disciplines / backgrounds
- Facilitation and collective decision making through deliberation
- Flexibility, adaptability and creativity!
Lessons learnt - Outcomes

✓ Social learning
✓ Knowledge co-production
✓ Strengthened social networks
✓ Empowerment of local actors
✓ Transformative change

“Through the project we learned that transformative change can only be reached through the convergence of multiple actors and institutions. It’s necessary to meet each other, know their views, and propose transformations that fulfill communities’ concerns and needs.”

(GovernAgua, non-academic participant, Oct.2021)
Conclusions

❖ Transdisciplinary and participatory processes involving multiple actors can be powerful and transformative... They can contribute to moving towards more sustainable trajectories!

❖ TD projects can involve multiple scales (e.g. local, subnational, national, international).

❖ Communication platforms are key tools for TD projects.

❖ Early involvement of the different actors (academic + non-academic) is highly recommended.

❖ Arts-based methods foster creativity, participants’ engagement and collaboration.

❖ There is room for further involvement of the Humanities in TD projects on social-ecological systems.
Thank you!
¡Gracias!

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