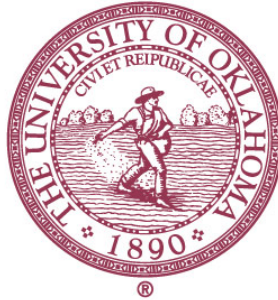


Session II:

Scarcity and Abundance of Biotic and Cultural Resources

Discussion openers



Jad Ziolkowska

Dept. of Geography and Environmental Sustainability

jziolkowska@ou.edu

Advancing Sustainability of US – Mexico Transboundary Drylands: A Binational Workshop 2018

San Luis Potosí, Mexico

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Transboundary natural resource/ ecosystem/ social issues

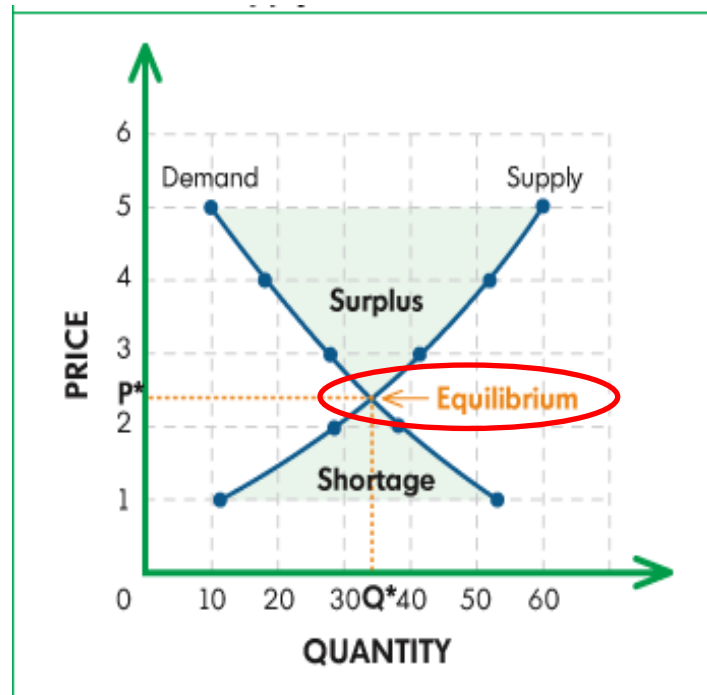
- a) **Commons** (common resources) – outside of jurisdiction, but valuable for societies regardless of country boundaries
(e.g., clean air, ozone layer, healthy oceans)
- b) **Shared natural resources** – across jurisdictions of society members/ groups
(e.g., rivers, migratory bird population, complex ecosystems)
- c) **Transboundary externalities** (positive and negative)
(e.g., CO₂ emissions, river pollution and implications)
- d) **Linked issues** – unintended consequences of social institutions regarding environmental problems
(e.g., international trade, invasive species) (Young, 1994)



Major resource issue - Example Rio Grande

Drivers of resource problems in the US RG Basin:

1. Growing population
2. Frequent (and long-term droughts)
3. Sectoral resource, i.e., water (over)use (agricultural production, industry)





Resource **management** questions

- Is the *management* of natural resources across international borders similar to/ different from cases with domestic ecosystem management?
- Does the physical/ legal presence of an international border impact coordinated stewardship of shared natural systems?
- How is sustainability being approached?



Major **collaboration** questions

- Is *collaboration* on sustainability issues across international borders different from/ similar to collaboration within a single nation?
- What are the barriers present with transboundary sustainability collaboration?
- What are the facilitating factors leading to international cooperation (past/ present/ future)?
- What could be an effective structure to facilitate transboundary cooperation?
- Importance of “institutionalization” – What treaties/ agreements between the federal/ local governments are needed to make progress in sustainable resource management / foster transboundary research collaborations?

Sustainability impact factors & mitigation of transboundary issues



- 'Tragedy of the commons'?
(relevance of research and stakeholder discussions → interactive decision-making)
- Institutional frameworks
(land ownership/ water rights/ zoning for animals and plants)
- Differences in government structures, cultures, languages, and economic situations, uncertainty about future resource availability
- How can cultural diversity be utilized with better understanding and solving ecosystem issues?



Possible approaches for collaborative sustainability research

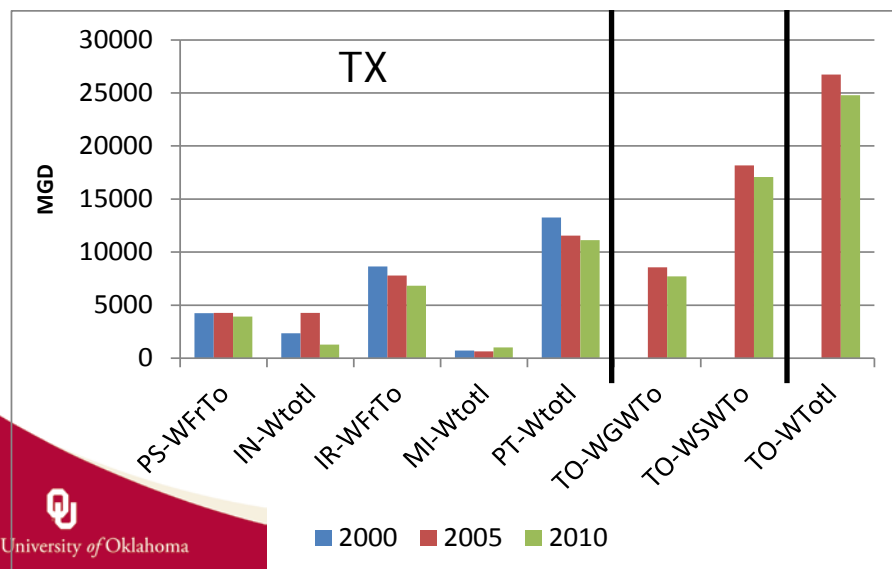
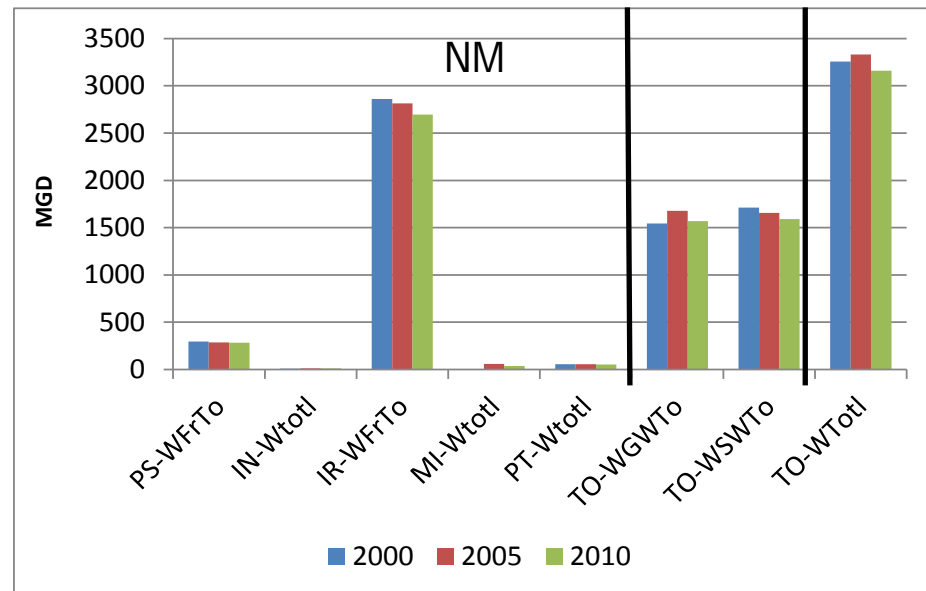
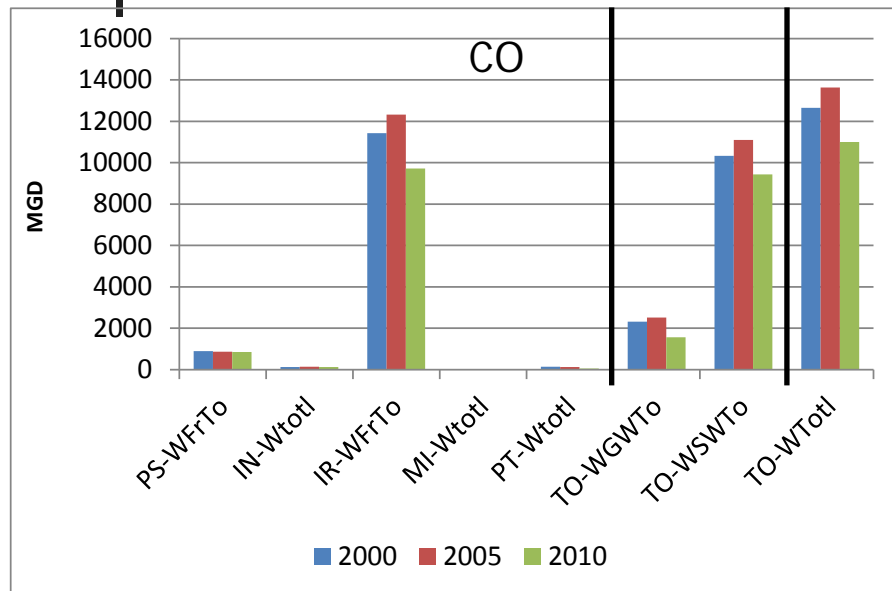
- Literature review
- Case-study examples along the US-MX border
- Primary data collection: interviews/ surveys
- Secondary data
- Cross-sectional data analysis
- Comparison analysis

Research needs:

- Regional and sectoral differentiation
- Temporal analyses
- Improve consistency of water use monitoring along the border over time

Example: RG – Need for regional, temporal, and sectoral analyses

Water withdrawals by users, source & totals – all counties



Sector specific measures needed
→ irrigation vs. other sectors

State specific measures needed
→ water consumption volumes

Temporal success (2000-2010)
→ impacts of conservation measures?



Questions to answer during the session

Scarcity and Abundance of Biotic and Cultural Resources in the US-Mexico Transboundary Drylands

- What are the key sustainability challenges related to this paradox?
- What interventions, if any, have been put in place to address these issues?
- Are there processes in place that are no longer relevant?
- What strategies have yet to be implemented (successfully)?