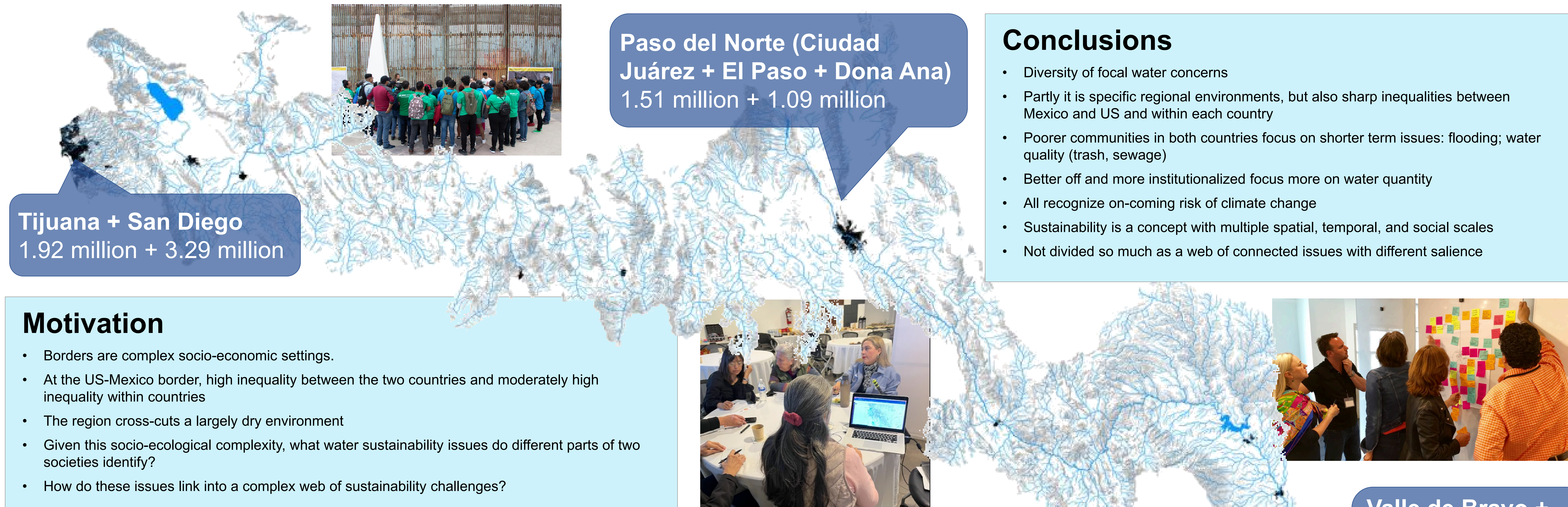


Water Sustainability at the U.S.-Mexico Border: Multiple Spatial, Temporal, and Social Scales

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Paso del Norte (Ciudad Juárez + El Paso + Dona Ana)
1.51 million + 1.09 million

Tijuana + San Diego
1.92 million + 3.29 million

- ### Conclusions
- Diversity of focal water concerns
 - Partly it is specific regional environments, but also sharp inequalities between Mexico and US and within each country
 - Poorer communities in both countries focus on shorter term issues: flooding; water quality (trash, sewage)
 - Better off and more institutionalized focus more on water quantity
 - All recognize on-coming risk of climate change
 - Sustainability is a concept with multiple spatial, temporal, and social scales
 - Not divided so much as a web of connected issues with different salience

- ### Motivation
- Borders are complex socio-economic settings.
 - At the US-Mexico border, high inequality between the two countries and moderately high inequality within countries
 - The region cross-cuts a largely dry environment
 - Given this socio-ecological complexity, what water sustainability issues do different parts of two societies identify?
 - How do these issues link into a complex web of sustainability challenges?

- ### Process
- We focus on the three largest population centers along border.
 - On-line survey of diverse social and political actors across both countries.
 - Respondents tended to be in formal organizational roles e.g., agencies, politics, academia
 - Invited workshops in TJ/SD, PdN, LRGV
 - Diverse participants, methods; captured wider public than the survey.
 - Annotated bibliography of “grey literature” and academic literature on water from the region (not reported here).

- ### Survey Results
- Most important primary issue: Water scarcity n=24 (50%); flooding/stormwater n=7 (14.6%); Climate change n= 6 (12.5%)
- Most important secondary issues:
 - Water scarcity (primary) + Quality of life, n=28; Other water quantity n=19, Climate change n=9
 - Climate change (primary) + Water scarcity n=6, Quality of life n=5
 - Quality of life (primary) + Other quality of life n=15, Water scarcity n=5
 - **Synthesis: Overall recognition of a web of issues, though some division and differentiation**

- ### Workshop Results
- | Tijuana + San Diego | Paso del Norte |
|---|---|
| <ul style="list-style-type: none"> • One workshop • in an already established UCSD community center in poor area of TJ. • Methods more visual and active, less purely verbal. • Issues receiving most discussion: • Poor water quality (trash, sewage), stormwater risks. • Also recognized: climate change, unequal risk, infrastructure . • Captures the very high US/MX inequality in life conditions in this region. | <ul style="list-style-type: none"> • Two workshops, both binational, one virtual and one in El Paso. • Participants more educated and verbal. • First workshop focused on water futures. • Discussion focused on water quantity, nested in contexts of climate change and urban/ag water “rivalry.” Characteristic of very dry, river and aquifer stressed region. • Second workshop more open ended, creative: Not water per se, but what is sustainability? • Key topics: basic needs/well-being of human community; long term trajectory/relation with nature. • Culture of sustainability (current mismatch in arid region). |

- ### Valle de Bravo + Rio Grande Valley
- One workshop in US, lack Mexican participation; formal orgs. representing a wide social range.
 - Issues: droughts, floods, access to water and wastewater treatment, surface water quality.
 - Lower per-capita incomes more affected by flooding and water quality issues.
 - Disparities along the U.S.-Mexico border.: In Mexico flooding directly impacts a family’s ability to make a living.
 - In U.S. surface water contamination impacts on ecosystem and recreation.
 - Climate change was recognized from a perspective of extreme flooding and extreme droughts.

Valle de Bravo + Rio Grande Valley
1.50 million + 1.39 million

Acknowledgments

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A rendering by Estudio Teddy Cruz + Fonna Forman — which they’ve dubbed “the monster” — depicts the eight watersheds that straddle the U.S.-Mexico border. (Estudio Teddy Cruz + Fonna Forman)