



The Santiago River:

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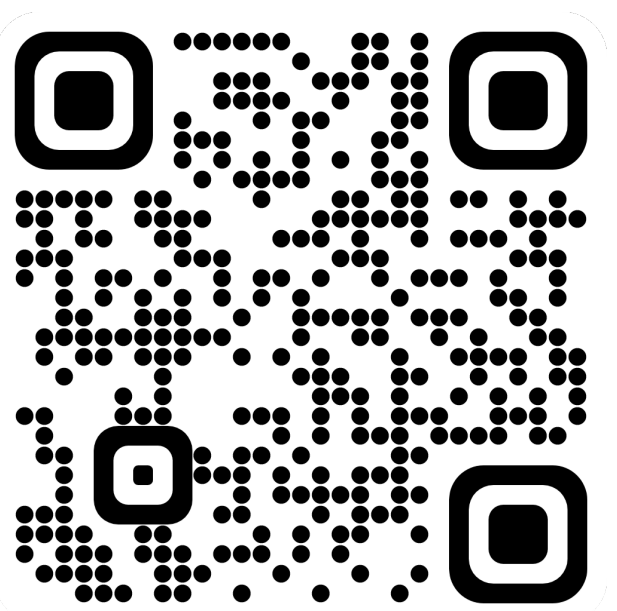
The Tyler Center for Global Studies Undergraduate Research Award



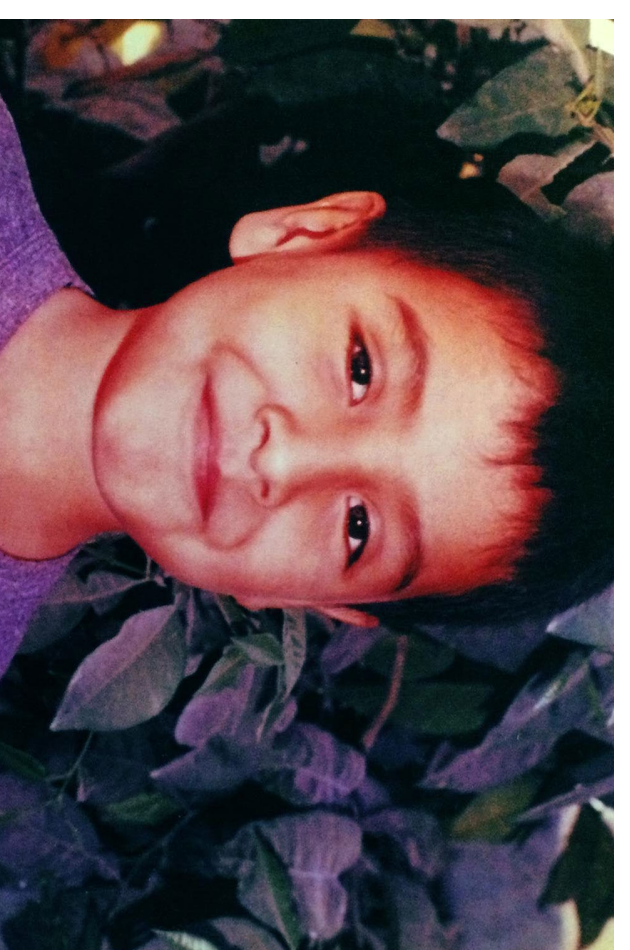
Background

The Santiago River flows through the municipalities of El Salto and Juanacatlan in Guadalajara, Jalisco. Between the two municipalities is Juanacatlan Falls, a once-popular waterfall (note figure 1). Of 280 industrial wastewater discharges in the area, 266 go to the Santiago river (McCulligh et al., 2007, p.12).

- Sulfuric smell from river, can permeate closed doors
- Mosquitoes that are active 24/7
- The water has elevated levels of lead, mercury, chromium, cobalt, arsenic, fecal coliform, and other carcinogens (Gonzalez et al., 2009, p.714).
- The waterfall creates neurotoxin hydrogen sulfide, which can cause fatigue, headaches, declined memory, irritability, and poor motor function, as well as irritating the eyes, nose, and throat (McCulligh et al., 2007, p.28).



QR Code to video of mosquito swarm



Eight-year-old Miguel Angel Lopez Rocha, Courtesy of Type Investigations.



Postal Stamp of Juanacatlan Fall, Date Unknown, Courtesy of Arquimides Flores

Methodology

The application of environmental justice concepts can expand understanding of circumstances on the Santiago River.

- Environmental justice refers to the processes and procedures used to ensure the fair distribution of environmental issues and burdens (Zimmerman 1993, p. 633).
 - Distribution refers to differences between who bears the costs and experiences the benefits (Martin et al., 2016, p. 254).
 - Procedural justice refers to who is able to participate in environmental decisions-making (Lake, 1996, p. 164).
 - Recognition refers to the consideration and respect of different identities and
- Document analysis and semi-structured interviews were conducted based on these concepts.

Discussion

The interview questions were divided into 5 different categories:

1. Information about resident, how they interpret their environment, and their experiences with activism
 2. How the Santiago river was used and the relationship between the river and the community, in the past and present, and how use and the relationship has changed over time.
 3. How residents interpret the government's (federal, state, and municipal) efforts and governance of the Santiago River and improving it
 4. Distribution of impact and benefits from the river's pollution
 5. Who they believe is responsible for the pollution and how they should be held responsible
- 20 Interviews were conducted amongst residents of El Salto and Juanacatlan, with some being activists in the local non-profit organization, Un Salto de Vida.

General themes from interviews included:

1. Santiago River Sanctuary - numerous residents responded said it was a paradise with much flora, fauna, and clean water for the community to live off.

One resident recalled when he could swim in the river and the various animals that lived there:

“No, pues imagínate, yo crecí en el río Santiago por como quien dice, porque yo ya lo iba a bañarme, allá me enseñó a nadar como a los 7 años. Y yo nadaba en el río porque el agua iba limpia, podíamos tomar agua del río. Salvaería agua del río si podíamos en ese tiempo. Y este había mucha fauna. Mucha flora, o sea que. Había patos, tortugas, ranas, carpas, bagres. . . culebras. . . chacales. Pues sí, millones de patos que había, **millones** que llegaban a la orilla del río”.

“No, well imagine, I grew up in the Santiago River because I used to go there to bathe, he taught me to swim there when I was 7 years old. And I swam in the river because the water was clean, we could drink water from the river. We could take water from the river if we could at that time. And this one had a lot of wildlife. A lot of flora, I mean. There were ducks, turtles, frogs, carp, catfish . . . snakes . . . jackals. Well yes, millions of ducks there were, **millions** that came to the riverbank.” Interviewee 3

2. Similar observations about the Santiago river today, that it is a place of pain and suffering for the community, as one resident states:

“**Sufridos como es él son los lugares de sufrimiento, pues no por el progreso de la zona metropolitana del país. No, no puede ser de Santiago, hoy es todo lo contrario, es muerte, es tristeza, es dolor, es frustraciones, coraje, rabia.**”

“**Suffered as he is the places of suffering, not because of the progress of the metropolitan area of the country.**

No, it cannot be from Santiago, today it is the opposite, it is death, it is sadness, it is pain, it is frustrations, anger, rage.” Interviewee 13

3. Distrust in government action and a lack of government action, from the federal, state, and municipal.

“**El Gobierno no ha podido con este río. ¿Dime, podrá por tanta corrupción?**”

“**The government has not been able to handle this river. Tell me, will it be able to because of so much corruption?**” Interviewee 1



Figure 1 - Stereo card of 'Majestic Juanacatlan Falls - The Pride of Mexico' Courtesy of Arquimides Flores



Photo of Juanacatlan Falls, Date Unknown, Courtesy of Keystone-Mast Collection, UCR/California Museum of Photography, University of California at Riverside

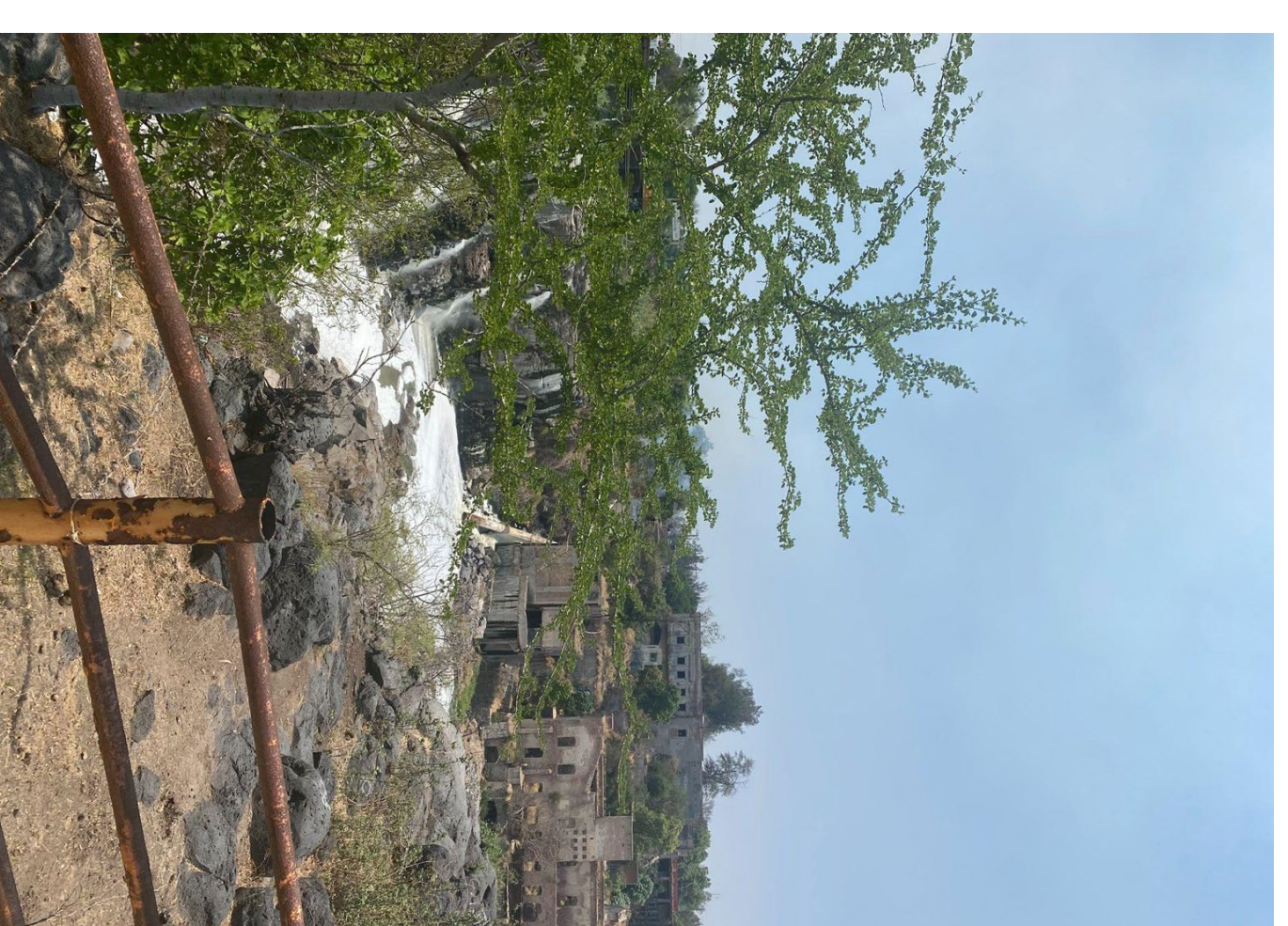


Photo of Juanacatlan Falls from May 21, 2022. The rail in the image is about 10 years old.



Postcards Juanacatlan Falls, Date Unknown, Courtesy of Arquimides Flores



Results

Overall, the interviews revealed a common understanding of the river's history, presence, and governance within the towns of El Salto and Juanacatlan. Many of the interviewees revealed similar ideas across the 5 different categories:

1. Their current environment is not ideal and cannot support life of anything.
 2. The relationship between the community and the river in the past was supportive and mutually beneficial, while today, there is a negative relationship
 3. There is a lack of trust in government actions, government officials, and promises about improving the Santiago River.
 4. Children and the elderly are the most impacted by the river's pollution.
 5. Industries, the government, and even the community (El Salto and Juanacatlan) is responsible for the pollution. Some ideas for justice include fines, jail, and seeking legal action on an international scale.
- More work needs to be done on transcribing, and then connecting interview content to documents.

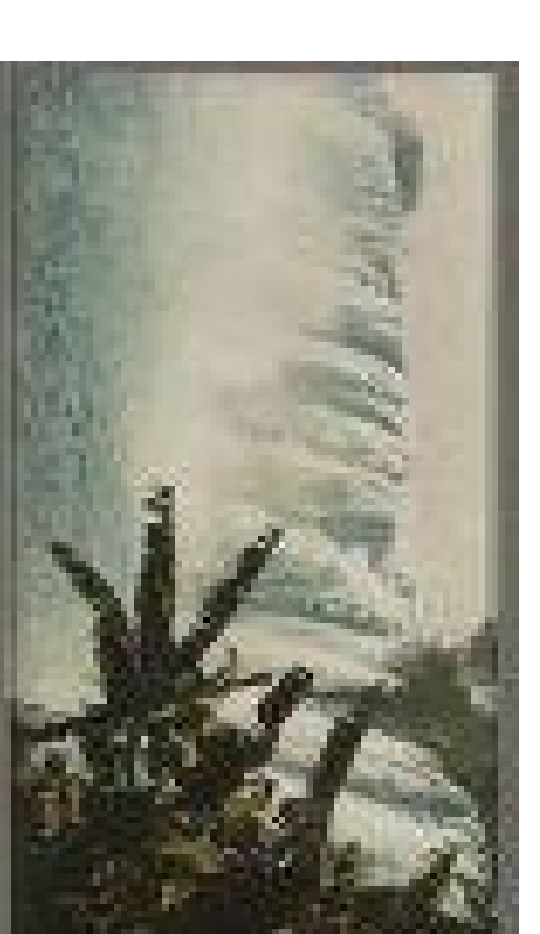


Photo of Juanacatlan Falls, Courtesy of Jackson, William Henry, 1843-1942, photographer, Detroit Publishing Co., publisher

Aknowledgements

I would like to thank the organization Un Salto de Vida for aiding me during my time in Mexico for connecting me with interviewees, remaining patient, and making me feel welcomed. I would like to thank the entire organization but specifically Sofi, Gabriela, Enrique, Alan, Arquimides, and Thib. I would like to thank the Social Science Scholars program and IDEA Grant for providing me the funding to be able to go to Mexico this summer to conduct my research to further my academic career. I would like to thank my research mentors and thesis committee for supporting me throughout this process.

Finally, I would like to thank my family and friends throughout this life-changing journey.

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