Isla Vista; The Community's Perception on Water Quality and Water Management

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Qualitative Methods for Environmental Studies

I. INTRODUCTION

Water is one of the world's most abundant natural resources, though this view is a very long-term perspective of the system. Every day, humans use gallons of potable water. From hygiene to cooking, drinking, farming, and more, water is incorporated into our everyday routines. Acknowledging and thinking about the cycle of this water, however, is not as common for the average household. Everyone has the right to clean, safe, reliable water making the conversation regarding what defines water quality and how our supply should be regulated extremely important. This central discussion inspired the purpose of my project, to conduct an in-depth study, an exploration of community perception surrounding water quality and the management of water resources, seeking to uncover how individuals within the community assess the quality of their water and what factors, experiences, and cultural or social influences have shaped these assessments over time.

As highlighted by many previous studies, water quality and its management play a large role in the livelihoods of the general public. Contamination of groundwater or mismanagement of its allocation can pose serious threats to public health which has been explored in documents like those by the International Journal of Environmental Research and Public Health (San Joaquin Valley Case Study), and the State Water Resources Control Board (AB 2222 report). Research in California's San Joaquin Valley underscores how socio-economic barriers, language accessibility, and mistrust in water systems shape perceptions of water quality and management (Boyden et al, 2023). Similarly, the AB 2222 report highlights systemic contamination challenges, such as arsenic and nitrates, with smaller systems disproportionately impacted due to financial and infrastructural limitations (State Water Resources Control Board, 2020). While these two documents delve into the conversation regarding the impacts of water management in

California, they don’t look at the unique social challenges faced by urban-suburban areas like Isla Vista, California. My research builds on these foundations, challenging conventional wisdom that urban areas face fewer water-related challenges due to greater access to infrastructure and education by exploring how a transient, college-town population perceives water quality and management, focusing on the factors that shape these perceptions.

This research is helpful for approaching public involvement in equitable water management and local water quality by addressing gaps in understanding how semi-urban communities experience and engage with water systems. Doing so furthers an understanding of the proposed research question regarding regional and statewide differences in perspectives about water as a resource. Insights from this research can work to bridge the disconnect between citizens, particularly a college-age community, and decisions made regarding our water supply. Conducting this study to understand the feelings of a young and diverse community in California will contribute to the already present conversation regarding the importance of people's involvement in water quality and what we stand to lose when we don't protect the safety of those depending on accessible drinking water. With more comprehensive knowledge about this topic, there is then the opportunity to address the gaps in communication that may lead to low civic engagement in certain populations. Acknowledging this can lead to more inclusive outreach and education programs or promote communication between local water districts and residents who are first hand affected by decisions that they make. Ultimately, this work aims to contribute to a more inspiring approach to engaging in water resource management regardless of location or demographics.

The questions used to conduct each interview are as follows:

1. How often do you use water each day, and what do you typically use it for?

2. In what ways do you think the quality of water affects how much water you use each day
3. How often do you think people should use water, and for what purposes?
4. What were people's attitudes or beliefs about water and how it should be used where you grew up?
5. What comes to mind when you think about water quality?
6. How does the water quality here compare to where you grew up or previously lived?
7. What do you know about factors that can reduce water quality?
8. What are your thoughts on water policies and how water is shared in California?
9. Which water management methods do you think work best for keeping water safe and available?
10. What steps do you think we should take to prevent the reduction of water quality?

II. METHODS

The approach that was used to conduct this research project is a narrative analysis, which was implemented through a series of interviews from a diverse group of participants. Narrative analyses focus on interpreting personal stories and experiences to understand how individuals make sense of their lives and social contexts. I found this choice of qualitative methodology both useful for the research question and suitable for the short time frame in which research had to be conducted. Narrative analysis offers the opportunity for additional interpretation through noticing recurring themes and a meaning shared across multiple perspectives, providing a deeper connection between individual stories and a broader picture of the social and political contexts.

These factors make it especially effective for exploring subjective and thoroughly debated topics like water management and help to include a range of voices in a sizable college town like Isla Vista with diverse environmental, cultural, and socioeconomic dynamics. Identifying how residents' personal interactions with water resources reveal not only what they think about water quality and management but *why* they think that way and what influences may impact these perceptions. This approach ensures that the research not only considers the individuality of interviewees but also builds a comprehensive understanding of how people's experiences contribute to the greater community's perception of water issues.

The sampling strategy that was most efficient in this research was a typical sample with an element of maximum variation sampling. To compile a comprehensive narrative of the community's experience with water quality and management in Isla Vista, I wanted to gather a wide range of community members with different regional experiences and environmental education. To achieve this sample I reached out to residents in the community from Northern, Central, and Southern California as well as an out-of-state student new to California and its policies. Through studying shared or unique experiences between participants and drawing connections from lifestyle choices, their formative years, these subjects provide the best opportunity to answer the question proposed and understand what factors may be contributing to the community's perceptions regarding water resources. Not only did these participants come from varying regional backgrounds but they also chose to study different uniquely valuable subjects offering perspectives from individuals oriented on the environment, human society, the economy, and intricate water systems. With this mix of points of view, perspectives can be gathered that comprehensively represent the Isla Vista community as a whole with those who

lead a more everyday lifestyle, who may not typically think about water, and those whose life choices revolve around environmental and water-related concerns.

Beginning the data collection portion of the research project I used an assortment of primary sources including primary documents to provide historical context to water issues in California, a series of interviews with my sample population, and observations I gathered from an event in the field. To build context on water quality and management practices in California I searched through several digital research databases looking for other documents or similar research conducted to get an idea of what my question needed to begin to answer. I analyzed two main sources, one case study that examines the impacts of water mismanagement in Central California. The second was a report made by the State Water Resources Control Board for the California Legislature concerning a contaminated source of groundwater that communities heavily relied on for drinking. These documents then provided me with both political and social contexts to carry on to my study of current water opinions in Isla Vista. After reaching out to my participants, I conducted four systematic interviews to gather information regarding the participants' behavior and experience with water in Isla Vista and across California on a broader scale. Each interview lasted around ten to fifteen minutes and consisted of a range of questions on topics of water quality, daily usage of water, opinions on water regulation and allocation, and regional differences in experience with water resources. To provide a broader context to the public's engagement with water management and resource allocation, I attended a Goleta Water District Board meeting on the topic of Water Management and Long Range Planning. I listened to the meeting for around an hour and a half, as an outside observer, in which the committee discussed important projects such as the 2025-2030 Infrastructure Improvement Plan, the

design-build of microturbines for renewable energy generation, safe water allocation, as well as many more sustainable equipment updates.

After the conduction of several interviews and the collection of audio files from each respective participant, each interview was transcribed and organized by minute and speaker to ensure accuracy. To establish connections and discontinuities between participants' opinions, each transcript was inspected and then evaluated line by line through the use of qualitative coding. To achieve the identification of patterns the coding methods used were a mix between Value Code and Invivo Code. I used value codes to infer the overarching messages in the interviewees' answers to each question and Invivo codes, in which I took direct phrases used by participants in the interviews, to preserve the authenticity of their voices and highlight key terms that communicated their unique opinions. After creating codes from each section of the interview relevant to the research question, codes were systematically grouped into categories that reflected the qualitative measure that was gathered. For example, codes related to personal and social experiences with water resources or opinions on local water policies were clustered together to form distinct categories on the topics of regulation, education, social influence, and patterns of usage/ behavioral changes. Each of these categories was then further synthesized into overarching themes. This provided a comprehensive understanding of how differences in topics and each perspective surrounding the perception of water quality and management, could be influenced by various factors. Organizing the data in this way, rendered it an easier time to make sense of each perspective and also identify larger trends or points of divergence across the community. This organization of coding and themes provided a thorough and grounded understanding of the voices of the participants.

III. FINDINGS

Through conducting several interviews, ties were made from the perspectives of each interviewee. The first main theme that presented itself was the community's awareness of water quality. To gauge an understanding of this, I asked several questions to assess their personal experiences with water quality. I began by asking questions regarding their perceptions of the water quality in Isla Vista and furthered this search for understanding by then asking for a comparison to the water quality in the participants' hometown. During my first interview with Maddi Conrad (Maddi), a fourth-year environmental studies student at UC Santa Barbara (UCSB), I learned that she grew up in San Diego and has lived in Southern California her whole life. To these questions about water quality Maddi offered “It’s probably about the same, San Diego water quality is not super great” (M. Conrad, personal communication, November, 2024). When asked if she's adapted to the quality of the water here she explained that “I feel like here I like to make more of an effort to use a Brita filter… my roommate and I have a water filter on our shower head” (M. Conrad, personal communication, November, 2024). I then reached out to Wyatt Erickson who, when asked the same question, replied, “I grew up in Oakley, so I've always had a refrigerator that filters the water for use, and I would rarely drink out of the tap” (W. Erickson, personal communication, November, 2024). Now, living in Isla Vista Wyatt “filter[s] all [his] water through a Brita… but it's just, it's kind of similar to home, where it just tastes better when it's filtered” (W. Erickson, personal communication, November, 2024). Both Maddi and Wyatt concurred that the taste of water in Isla Vista is similar to parts of Southern California and the Bay Area, and strange enough to choose to drink from filters. Maddi has even adapted beyond a regular filtration system to getting an additional filter for her shower as she's noticed a change in her skin and hair from the use of hard water here.

Although the participants in this study agreed upon a change in taste affecting how they prefer to use their water on a daily basis, I wondered if these changes would reflect a general understanding of water quality issues. Maddi explained that “minerals in the water, whether those be naturally found or inputted…, pathogens… or microplastics” (M. Conrad, personal communication, November, 2024), are all factors that contribute to her understanding of the quality of water. When asked this same question, third-year Hydrological Science and Policy student, Wyatt also understood that “the different amounts of minerals you have in the water, obviously are going to affect, you know, how it tastes” (W. Erickson, personal communication, November, 2024), he also stated “how far the water is maybe coming from the source…some houses with old, outdated infrastructure might just be having more kinds of contaminants”(W. Erickson, personal communication, November, 2024), could also interfere with the quality of water being produced and allocated for drinking and household uses. However these two participants are in the later half of their years of studying in the Environmental Studies department at UCSB, meaning their academic concentration could be influencing how they feel about water quality. When interviewing my third participant Ally Jobe, a second year Sociology student, her experience with water quality was minimal as she grew up in a more scattered suburban neighborhood in Texas. After being asked about factors she considered when thinking about the quality of drinking water she honestly admitted “I wish I was more educated on the subject” having provided earlier details from her water culture shock in California, “I hadn't really even heard about water quality until I came here in college” (A. Jobe, personal communication, November, 2024). Comparing these responses to those students who grew up in California and are pursuing environmental careers there is a clear gap in the awareness and understanding of water quality among these specific individuals.

From these interviews I found that social factors like the region someone grew up in, and the academic area of study chosen, can influence the way this diverse college community thinks about water quality here in Isla Vista. Furthering my exploration into the research question I wanted to understand the community's perceptions of water management practices. For my fourth participant, I reached out to Abby Garcia, a fourth-year Economics major who grew up in the Central Valley region of California. When asked about her experiences with water management and allocation issues Abby replied “It's like, I'm biased. I feel like they never have enough water towards Ag (agriculture)” (A. Garcia, personal communication, December, 2024). Having grown up in an area focused highly on agricultural production and its economy Abby offers a unique perspective and awareness beyond just the household perceptions of water management. She has noticed that “if you drive around in the valley, you just see all these giant signs about drought resistance and how the governor isn't doing anything to help the water supply”, and concludes that “having to balance between community and between Ag, the water supply is something that the valley struggles with a lot” (A. Garcia, personal communication, December, 2024). While Abby focuses on water management through an agricultural-based perspective I asked Maddi how she thought that previous regulations on drought in California have helped the state's water supply. She answered, “I think they probably helped us get to where we are now. It’s my opinion that they could have been stricter” (M. Conrad, personal communication, November, 2024). It is clear between these two perspectives that growing up in a region dependent on agricultural production has led Abby to be more concerned in the way water allocation or mismanagement impacts the industry, while Maddi who was raised in a coastal more progressive region of California prioritizes the environment and conservation of our water resources in her opinions of their management. In a state where water resources are so

widely varied in their use, my findings indicate that different communities across this region have different values and ideas regarding the management of water.

These Isla Vista residents have different opinions on the effectiveness of state water agencies. However, while they have strong views on how water should be kept safe and accessible for drinking as well as agriculture, I began to conclude that there is a disconnect between how water decisions are made and the engagement between the people affected by them. From my study it is understood that participants born and raised in California are generally aware of efforts needed to conserve our water supply. Growing up in the Bay Area Wyatt recalls "I can just remember, I mean, as far back, always being in, like, some sort of drought or something, so always needing to kind of, you know, conserve water, you know, getting yelled at for taking too long of a shower" (W. Erickson, personal communication, November, 2024). This pattern of having been raised in a drought leading to lifelong conservation efforts is very prominent among the rest of the Californian interviewees. Abby's earliest memories of the drought are "From probably Elementary School" she includes "with droughts and everything, we didn't get a lot of like, regular activities because of it, and also we're really conscious about it, because a lot of our jobs in the valley rely on Ag, and water is something that we do need for that" (A. Garcia, personal communication, December, 2024). While on the other hand growing up in Texas, a state with less emphasis on environmental conservation, Ally mentions "we stayed in an on-campus dorm last year, and they had a paper on our mirror that was talking about ways you could better conserve water... I had never seen that in my life, anywhere in Texas, especially in a school" (A. Jobe, personal communication, November, 2024). Ally's first perceptions of conservation efforts in California were essentially a culture shock, she admits "I'm more cognizant of my water usage here… I feel like I have a certain responsibility to the people

around me to try to, I guess, do my part in the water conservation effort" (A. Jobe, personal communication, November, 2024). The underlying theme from these responses was the apparent consciousness of Californian individuals surrounding water use, and the efforts that many employ to combat mismanagement in the state.

Evidently, the dynamics in early education in the state of California and other states like Texas, greatly impact how students think about and interact with conservation methods. Beyond regional education and looking at current educational choices, those like Maddi and Wyatt, pursuing careers in Environmental Studies tend to be more conscious of the environmental impact of their water usage. Maddi relays "I try my best to be mindful of the water that I'm using, especially for one big example, is when I make pasta I boil a big pot of water, I don't dump the water down the drain. I'll save it and then I'll use it to water my plants" (M. Conrad, personal communication, November, 2024). These habits ingrained in Maddi are due to her pursuit of an education in an environmentally conscious field but also because of her early educational experiences that have shaped her views of water resources. Maddi recalls "I remember water education being a big thing, like in elementary school, visiting your local water district… that was always a field trip we could do every year. You'd go to Helix Water District and listen to people talk about water quality" (M. Conrad, personal communication, November, 2024), but note that these trips were very uninteresting as a child. Water education in terms of conservation, seems to be a large part of early childhood experiences in California, contrary to Ally's perception of there being a lack of emphasis on these efforts in a state like Texas.

However while people in California may intentionally or inadvertently act in favor of water conservation more than someone in another state due to the historical drought, I also found that this is typically where engagement in our water resources ends. In a search of the wider

public's opinion on water quality and management, I attended an open Goleta Water District Board meeting conducted by the Infrastructure and Long Range Planning Committee. The meeting was held Thursday, November twenty-first at 10:00 a.m., where the committee went over funding debates for new infrastructure and initiatives that implement preventative measures to stop the long-term deterioration of services. The committee spoke on several fundamentally important topics that directly impact citizens of the county in terms of the sustainability of water resources in Goleta, maintaining water quality, maximizing efficient water use, and the resilience of water delivery systems. To my surprise I was the only community member attending to listen and through the welcoming behavior of Chair Hansen, this was likely a rare occurrence. From the data gathered among the interviewees and my observations of a lack of public engagement with local water agencies, although the community exhibits care for water conservation there is a general awareness gap in the importance of engagement in water quality and its management by these agencies. Each time a subject was presented on the agenda, the Chair would ask for any public comments on the matter, displaying that community participation and opinions are encouraged in this decision-making process. These water-related issues can impact the community firsthand, both financially and environmentally. The mismanagement of water resources is summarized by the State Water Resources Control Board report to the legislature in the AB2222 Report, examining how detrimental it is when there are pollution issues with the water supply, specifically how contaminants in groundwater sourced for drinking disproportionately affect smaller communities (State Water Resources Control Board, 2020). Although the water decisions being made in Goleta are not currently as pressing as finding sources of arsenic and various industrial contaminants in the groundwater, the California Department of Public Health (CDPH) estimates that “85% of California’s community public

water systems rely on groundwater" (State Water Resources Control Board, 2020), and so it is in the community's best interest to be personally invested in how the system works, and how these decisions will affect their daily lives directly.

The unawareness of interviewees on specific policies related to water quality and water management as well as the lack of public engagement in a forum setting are due to several concerns highlighted across these sources. Among interviewees, I believe there to be an implicit trust between the local water agencies and the general public. General complacency in policies in addition to a lack of attendance at the meeting that I observed, suggests that the community in Goleta, CA. trusts the board to handle these issues with complete competence and without necessary public involvement. Without the engagement of the community with decisions on the water supply, opportunities are missed to speak up for local priorities and this creates a lack of autonomy for shaping how funding is spent on projects that affect the community directly.

As previously mentioned through connections in the interview data, demographic or regional differences also affect how individuals in Isla Vista perceive water quality and water management. With this being said, a lack of engagement and knowledge of how these decisions are made, suggests that residents also might not view water management as a pressing issue that requires their input or attention. Since there are no visible problems in the local water systems or current problems affecting the drinking water quality in dangerous ways, there is almost a case of perceived irrelevance. Since this study is done in a relatively wealthy county in a college town, my participants and probably many others in the Isla Vista community have not experienced a drastic instance of water quality degradation, making it something that doesn't provide immediate concern. This is contrary to how the drought has inspired thoughts and methods of

conservation through early education in Californians as it was a commonly shared experience among residents statewide.

Well, a lack of investment or interest is ultimately true among individuals in this chosen community, there is much to be said about the clear broader disconnect on the end of these local water agencies. Most residents in Isla Vista know that the Goleta Water District is who sends their water bills, however, they may not know about the infrastructure planning, updates, and improvements the district makes to water sourcing every year. The district has an easily accessible website with a section on the agendas and minutes of their previous and upcoming committee meetings but on a much harder level to find is their educational resources page. This section is found underneath the conservation tab at the bottom of the dropdown list. On this page, I found a video series titled “Where Does Your Water Come From?” and “How It Works”, as well as a section titled “Conservation for Kids” with links to easily digestible information regarding water conservation and a few games related to the topic (Goleta Water District, n.d). The topic of water quality and water management may seem complex and the technical nature of these conversations is also a factor possibly inhibiting the participation of the public. Lastly, I believe the time that meetings take place prevents those who would like to participate from doing so as they are held in the mornings and afternoons of a standard work week which likely alienates communities who would consider attending.

IV. REFLECTION

Although I feel as though I conducted a fairly in-depth research project over the course, there were a significant amount of limitations that inhibited my process and prevented me from fully exploring my research question. One limitation was time, as the class lasted only over a

ten-week period and the conducting of interviews and observations of events in the field did not begin to occur until week six. I felt as though I was unable to collect perspectives from a sample population as widely as I would have preferred. Given the extra time, I would have chosen to interview more students at UCSB born and raised in other states, and other parts of California, specifically more up north. Originally I would have also liked to reach out to representatives of the local Chumash tribes and learn more about tribal water rights as well as community perceptions of splitting water governance between local systems and cultural ones. This was not plausible for my study due to my lack of connection to the tribe which is typically needed for an ethnographic study. Beyond sampling my population I also learned throughout the interview process that I was not entirely sure what I wanted to find out from my question until I started to analyze some participants' answers. I realized from answers during each interview that I wanted to know how the next interviewee also felt about that issue or topic, causing gaps in perceptions on certain themes between interview one through interview four.

I believe the standard message among my interviews, field experience, and primary sources is that education on our water systems is important not just to Isla Vista but to our entire state. Efforts implemented during the drought have stuck with those who grew up in California during that period. Those who were unacquainted with this lifestyle, like out-of-state students, reflect on their own conservation efforts. This message also highlights the lack of accessibility in forms of water education other than conservation, implementing more technical learning regarding policy and quality could allow communities to feel more empowered to become involved in decisions about their water supply. With a better understanding of how the quality of water can decline or what can happen when this does happen, individuals may not feel entirely unqualified on the topic or more inclined to stay up to date with infrastructure and regulations. I

would be interested to discover these implications more in-depth in future research. Given more time I would reach out to more communities and maybe even do a comparative study of those I interviewed and those who grew up directly affected by changes in their water quality or management. This analysis provides just a glimpse into the vast lattice of water issues, yet typifies the importance of involvement, education, and action that the community needs to address these problems throughout the world.

References

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*Some interview quotes remove filler words such as "like" and "um" for improved readability.