

Changing Perspectives on Lake Atitlán and its Environmental Importance in a
Highland Maya Community

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ABSTRACT

In the wake of the cyanobacteria outbreak in October 2009, the importance of the health of Lake Atitlán has become apparent to the Guatemalan government and communities that surround the lake. This paper presents the importance of Lake Atitlán in the four fields of British social anthropology—economic, social, political, and religious (spiritual) anthropology—in order to produce an integrated and holistic perspective of the lake. Furthermore, I explore differing viewpoints within Santa Catarina, looking at how religion, career, and age influence one's perceptions of Lake Atitlán. The economic, social, political, and spiritual realms of the indigenous lifestyle in Santa Catarina hinge on the environmental stability of the lake. Because the Guatemala government's response to the cyanobacteria outbreak has ignored the importance of the indigenous lifestyle, the culture of communities around the lake is threatened.

INTRODUCTION

Santa Catarina Palopó, located in the highlands of Guatemala, is a small town home to Kakchiquel-speaking Maya people and Lake Atitlán, once regarded as the most beautiful lake in the world. However, in March of 2009 after years of declining water quality (Hoy 1984: 170), this gem was given the new title of “Threatened Lake of the Year” by the World Water Forum. Just six months later, Santa Catarina residents witnessed as the surface of lake was coated with cyanobacteria. Besides being visually unpleasant and posing a definite health risk (Tyler 2009), the contaminated water put daily life on hold for Santa Catarina. Lake Atitlán serves as a constant resource for all residents. Now, almost half a year later, the lake is once again clear and seemingly healthy. As the Guatemalan government reacts to the cyanobacteria outbreak, it is increasingly important to understand how indigenous communities depend on and are defined by their interactions and history with the lake.

METHODOLOGY

During my three weeks of fieldwork, I employed a variety of research techniques including formal and informal interviews, observation, participant observation, and literary research. Because the goal of my research was primarily to present the personal beliefs and opinions of residents, the quality of my findings was dependent on trusting relationships with the people of Santa Catarina. I made an effort to gain a better understanding of all aspects of life and show an interest in local culture even when it did not involve my research. I also developed strong relationships with individuals by having multiple conversations with the same people.

I attempted to participate in the daily activities of the residents, especially those whose opinions were used in my research. Although my host family had running water, I often washed my clothes and bathed in the lake to better connect with locals. When the fishermen organized a cleanup of the beach, I helped rake reeds and pick up trash. My presence in daily activities helped residents open up to me because we could converse in an environment that was familiar and comfortable for them. I found that many of my informal conversations influenced my research just as much as planned interviews, and treated all of my interactions with residents as a learning opportunity.

Because my research aims to provide a holistic view of the lake, I talked to a wide variety of people. The majority of my findings are based on conversations with fishermen, farmers, restaurant and shop owners, vendors, religious leaders, FONAPAZ employees, and local environmentalists. My research was limited by the short amount time I spent in Santa Catarina. However, my findings could easily be expanded upon and given more depth if more time was available.

Before starting my research, I had the impression that the contamination of Lake Atitlán reflected a loss of cultural respect for the environment. My findings show that Lake Atitlán is integral to life in Santa Catarina and is valued by all residents as part of their identity and as a constant resource. The contamination this fall, therefore, does not represent a loss of respect for the environment, but rather the tragedy that the indigenous community experienced because of a lack of education and ability to make decisions to determine the sustainability of their lifestyles.

ECONOMIC IMPORTANCE

Lake Atitlán brings tourists to Santa Catarina every day, looking to observe life in an indigenous community where they can walk the streets with women in *traje* and return to their hotel swimming pool at night. Along the main street, over half of the stores are devoted to artisans selling souvenirs. Although restaurants, hotels, and vendors depend most on tourists to earn a living, the tourism industry is important for all people in Santa Catarina. According to farmers, mothers, teachers, children, fishermen, and religious leaders alike, the tourism industry contributes the most to the local economy and is the most important aspect of the lake.

Lake Atitlán also supports the local fishing industry. Today there are an estimated 90 fishermen in the village, a vocation that has been handed down father to son for generations. Fish are sold mainly in the Santa Catarina market, and occasionally in the surrounding towns of Panajachel or Sololá.

SOCIAL IMPORTANCE

Lake Atitlán has significant social importance for Santa Catarina in the past of residents as a shared historical identity and in the present as a gathering place for women and children. Walter E. Little, an anthropologist based in the Lake Atitlán region writes that for Santa Catarina, “place is central to the construction of their communit[y]; it is constantly reconstituted through daily existential practices (Little 2003: 212).”

In the stories told by grandfathers to small children, Lake Atitlán was created specifically for the people of Santa Catarina. The fact that residents claim ownership and

responsibility for the lake in their oral histories illustrates feelings of profound, age-old respect and loyalty. The version recorded here was told by a weaver. She spoke to me in Kakchiquel while her daughter, who was also familiar with the story, translated to Spanish. Most residents of Santa Catarina have knowledge of this myth, although it tends to vary between families.

Santa Catarina Myth of the Creation of Lake Atitlán:

The people here were once all farmers, working on the milpas dispersed through the forest. The land had only trees and there was no lake. One day, the men were very thirsty, so Santa Catarina walked to the top of the mountain to fill her gourd with water. When she returned, she sat down to weave and accidentally bumped her gourd. Water spilled out, settling at the bottom of the mountains to form a beautiful lake. The people built a town around the lake and lived there for the rest of their lives.

This story reveals Santa Catarina, the patron saint of the town, as the creator of Lake Atitlán. In addition, the creation of the town corresponds with the creation of the lake. These tied identities are also embodied in the modern *huipil* worn and woven by women of Santa Catarina. *Huipiles*, or blouses, are part of Maya traditional dress. They are intricately woven as a statement of identity to a specific town while also including designs that reflect the individuality of the weaver. Although the Santa Catarina *huipil* has transformed through generations, women's *huipiles* today are distinguished by their blue, teal, green, and purple shades. While every weaver has different explanations for her weaving, and some are simply following the fashion trend, many believe that the colors and designs in their *huipiles* embody the presence of Lake Atitlán. One woman explains that in her weaving, green represents the volcanoes, blue is the lake, light blue is the sky, and red is the blood and suffering of Santa Catarina. Between rows of colorful triangles and stripes are designs of blue waves, reeds, and combs used by those who bathe in the lake.

Lake Atitlán has been woven into the social identity of Santa Catarina for generations. Residents claim the lake as their own in both their creation story of Lake Atitlán and in their blue and teal *huipils*. Lake Atitlán plays a central role in the present-day social lives of Santa Catarina residents as well.

On any given day, women walk to the beach with carefully balanced tubs of laundry on their heads, children in tow, to claim a rock for washing. My host mom, Rosa, explains that many families don't have running water in their homes and wash in the lake out of necessity. When she jumps at the chance to accompany me, however, it is clear that an outing to the lake is an excuse to get out of the house and see the town. As we scrub our clothes, Rosa chatters with other women about the weather, her sister's visit, and my inability to keep my socks from floating away; switching easily from Spanish to Kaqchikel.

During my three-week stay, I noticed that certain women had claims to specific washing spots and some maintained a schedule coordinated with other women. As they became acclimated to my presence, I would join in conversations including town gossip, politics, and emotional support. I discovered that many women had the option of washing at home, but preferred spending time with others outside of their home.

After finishing their washing, the women take out their long braided hair and coral their children in the shallows to bathe. Other families take trips in the afternoons to the "*aguas calientes*," where the adults can bathe (women in one pool, men in another) while children swim and play with cousins and neighbors. The families who bathe in the lake often don't have access to running water and rely on the lake out of necessity.

RELIGIOUS/SPIRITUAL IMPORTANCE

In his article, “Evolutionary Roots of Our Environmental Problems,” Penn argues that indigenous people do not have an intrinsic respect for the environment, but rather have lived relatively in harmony with nature because of their small population densities and delay to join industrialized society (Penn 2003: 278). While these two factors certainly contribute to the conservation of natural resources, this explanation is flawed in several ways for the town of Santa Catarina. In my study of Maya cosmovision, I found spirituality in Santa Catarina to have a basis in reverence for the environment. This intrinsic respect, however, has not protected the environment in Santa Catarina from being polluted, as described here in the case of the cyanobacteria outbreak in Lake Atitlán.

Maya spirituality is the ritual practice of beliefs outlined in Maya cosmovision, or worldview. Mayan cosmovision illustrates three deities of the universe: *El padre cielo* (Father Sky), *la madre tierra* (Mother of Earth), and Ajow. Cosmovision is based on balance and complimentary forces in the universe. *El padre cielo* represents masculinity and grants rain and sun to the earth and crops. *La madre tierra* represents the female compliment and is the owner and essence of the earth. Ajow, Creator and Owner of all, moves between time and space to connect and encompass all aspects of the universe (Molesky-Poz 2006: 47). Alejandro, a local Ajq’ij or Maya religious leader, explains that in Santa Catarina, *la madre tierra* is also *la madre del lago* (Mother of the Lake). Fishermen, farmers, and Ajq’ij in Santa Catarina tell versions of a myth about *la madre del lago*.

“*El lago es una mujer, la Madre del Lago,*” Alejandro begins. The lake is a woman, the Mother of the Lake. She is the owner of the lake and everything that lives there. Her house is very deep in the middle of the lake.

“*Hay una iglesia muy grande,*” Lydia, a farmer’s daughter tells me. There is a very large church where the Mother of the Lake lives. I knew a fisherman who disappeared in the lake. His family found his boat wrecked against the rocks. Everyone thought he was dead. When he returned, he described “*el otro mundo,*” the other world under the lake. The church is made of gold and there are two dragons that protect it. An enormous sea serpent, Pedro the fisherman claims. And the biggest fish live here. Crabs as big as this, Lydia point to a pot of maize on the stove.

Our *madre tierra, madre del lago* rules over the lake. Every day, the fishermen must perform Maya ceremonies to ask for her help, Jose, a farmer explains to me. If the fishermen forget their *madre del lago* she becomes very sad, Pedro says. She takes all the fish in the lake and guards them in her house, like a treasure.

“*A veces, los pescadores se murio,*” Alejandro continues. Sometimes the fishermen die. No one finds their bodies because they are claimed by the lake. There is another world of people who live deep in the water. But there is no bottom.

This myth illustrates traditional Maya reverence for the environment and *la madre tierra*, who has power over the earth. Maya spirituality dictates that humans do not have possession of their earth. *La madre del lago* is the owner of the lake. Jean Molesky-Poz, scholar of Maya spirituality, writes about the Maya relationship to the environment, “For the Maya, the basis of this relationship lies in the transitory nature of all creatures, and the conviction that we are not owners, but *renters* of this earth, and part of a larger cosmos (Molesky-Paz 2006: 107).”

POLITICAL IMPORTANCE

The environmental movement in Guatemala emerged in the late 1970s as a response to the technocentric practices employed by the government. In the mid twentieth century, this mindset of human power over the environment resulted in the exploitation of resources for export and pollution of countless ecological niches from pesticide use, toxic waste, and contamination from the oil industry (Berger 1997: 99). As the environment in

Guatemala became increasingly degraded, the environmental movement emerged backed by young, upper class Ladinos. As a result, the movement lacks a grass-roots foundation meaning indigenous communities are often uneducated and unaware of their environmental rights and responsibilities (Berger 1997: 101).

Due to the ongoing apathy of the government and political instability that accompanied a 30-year civil war, environmentalism took a backseat on the political agenda in the 1980s and 90s. Even today, almost 15 years after the signing of the Peace Accords to end the war in 1996, the Guatemalan government allocates only a small budget to environmental projects because short term economic gain is often more important than environmental conservation (Hoy 1984: 161). However, as natural resources become increasingly valuable on the global stage, the Guatemalan government has growing incentive to invest in conservation. As a result, the environmental movement relies heavily on international funding and the work of NGOs, non-governmental organizations (Berger 1997: 104).

Lake Atitlán, as a major tourist attraction, is of vital economic importance both locally and nationally. The lake, which provides drinking water to many of its surrounding communities, also appeals to international organizations that donate funding for environmental organizations whose work focuses on the lake. The cyanobacteria outbreak this fall has increased government's attention to the lake and its surrounding communities. Now, after years of indifferent government, Guatemala is feeling the impact of environmental degradation. After the cyanobacteria bloom this October, the government released a Comprehensive Action Plan for the Recovery of Lake Atitlán and its

Environment. This plan outlines proposed actions to restore the health of the lake through agricultural, sanitation, infrastructure, tourist, social, and institutional changes. The government states that implementation of this plan will rely on both national and international funding (<http://www.lakeatitlanhealth.com/factslinks>).

During my stay in Santa Catarina, I attended the talks of two national politicians: Otto Perez Molina, candidate for President in 2012, and Sandra Torres, the first lady of Guatemala. As he addressed Santa Catarina, Mr. Molina stressed the importance of development, especially of water treatment plants. A conversation with a campaign worker revealed that Mr. Molina's interest in the lake stems from a concern for economic gain from tourism. Similarly, Ms. Torres, in a ceremony to announce the construction of a water-treatment plant in Santa Catarina, emphasized the importance of a "*lago lindo*," or "beautiful lake." She alluded to a correlation between an aesthetically appealing lake and economic prosperity for the community.

In a statement released by the Guatemalan government after the cyanobacteria outbreak, Dr. Rafael Espada, Vice President of Guatemala, is quoted saying, "The government of Alvaro Colom is confident and willing to rescue this Lake . . . and reduce negative impacts on tourism, environment and livelihoods of people living in the Lake Atitlán and its surroundings. (<http://www.vicepresidencia.gob>)." The Guatemalan government has acknowledged both the environmental and economic importance of Lake Atitlán. However, despite the government's claim to have an interest in the lake's impact on the livelihoods of the Santa Catarina community, spiritual ecology, the connection between environmentalism and cultural or spiritual beliefs, has been slow to develop in

Guatemala due to the absence of indigenous voices in the environmental movement (Berger 1997: 107).

CYANOBACTERIA OUTBREAK 2009

Lake Atitlán is an integral part of many aspects of life in Santa Catarina. For some, it is "*la madre tierra, la madre del lago*," and for others it brings the tourists whose souvenir splurges pay for another week's worth of tortillas. For everyone though, the lake is a steady landmark in his or her life, home, and history. In the fall of 2009, when Lake Atitlán was engulfed in cyanobacteria, everyone in Santa Catarina was affected.

Scientists and environmentalists debate over what exactly caused the cyanobacteria outbreak this October, believing that the bloom was a result of a variety of factors. Cyanobacteria are a blue-green bacteria typically found in marine environments (Tyler 2009). About half of cyanobacteria blooms contain toxins that could result in skin rashes, liver damage, and certain cancers with prolonged exposure. The bacteria have a life cycle depending on the amount of nutrients in the body of water. Because Lake Atitlán is an enclosed lake, nutrients build up over time as soils and waste flow into the lake basin. An excess of phosphorous, which is found in human waste and certain fertilizers, contributes to ideal conditions for a cyanobacteria bloom.

COMMUNITY REACTIONS

When Santa Catarina woke to find their beloved lake engulfed in cyanobacteria, residents were stunned. On the morning of October 26th, the press warned residents to refrain from swimming or fishing in the lake because of potential health risks

("Cianobacteria en Atitlán" 2009: 14). The mayor of Santa Catarina announced to the public that the lake was dirty and residents needed to work together to clean their portion. Residents came to the beach with tubs, washbasins, and boats to collect armfuls of the stringy green substance. Although valiant in their attempts, the efforts were futile as more and more cyanobacteria washed ashore. Because the cyanobacteria lifecycle is dependent on the nutrients in the water, no amount of physical cleanup would resolve the problem. Furthermore, residents were putting their own health at risk through physical contact with the bacteria.

In the next month, locals remained adamant in their attempts to save the lake. Fishermen and local Ajq'ij performed Maya ceremonies along the shore, asking *la madre tierra* for forgiveness. The Catholic and Evangelical churches organized special services and prayers as well. Despite community efforts and concern about the state of the lake, a lack of explanation of the problem and government communication with Santa Catarina led to many different opinions of the problem.

DIFFERING OPINIONS ON CAUSES OF CONTAMINATION

Because the environmental movement in Guatemala has traditionally excluded indigenous people, the thoughts of many Maya are disregarded, ignored, or unknown by the government. The symbiotic relationship between the lake and the communities that surround it is in danger as Guatemala reacts in the aftermath of an environmental crisis. My research presents the conflicting opinions of the people most directly affected by the ecology of Lake Atitlán. My research revealed that perceptions of the lake were influenced

by a combination of three factors: religion, career, and age. Although this paper presents each category separately, all three influences help to form each individual's opinions.

INFLUENCE OF RELIGION

Residents of Santa Catarina practice Catholicism, Evangelism, and Maya spirituality.

Catholics claim to have the first established religion in Santa Catarina (disregarding Maya spirituality as an established religion). When the Evangelical church was formed, residents were split and disagreements were often public. Certain Catholics claim that the tension between the two religions is long gone. However, many of the Catholics I interviewed attributed the contamination of the lake to the sins of Evangelicals. The contamination was a punishment for the sins of a few residents that was felt by all. It is common in indigenous communities to blame environmental problems on religious sins (Hoy 1984: 163). Catholics explained that they needed to ask for God's help after the cyanobacteria outbreak, to change the lifestyle of the Evangelicals. Catholicism views God as separate but also in control of the environment. By asking for help (as opposed to forgiveness), Catholics are placing blame on an outsider—in this case, Evangelicals.

Maya spirituality, as delineated above, includes an intrinsic respect for the environment. Local Ajq'ij, Santiago, explains that *la madre tierra* is sick because the people are forgetting her. Another practitioner tells me that the lake is mourning. These descriptions imply that the lake is reacting to the faults of the people. Like the Catholics, practitioners of Maya spirituality often blame Evangelicals. Perhaps this targeting is a result of the connection between Maya spirituality and Catholicism through religious syncretism. Furthermore, while Ajq'ij acknowledged more practical causes such as littering, they

believed that an absence of the practice of Maya spirituality was the most noteworthy cause of the contamination. In the wake of the cyanobacteria outbreak, Ajq'ij in Santa Catarina performed ceremonies along the beach to ask *la madre tierra* for forgiveness. In contrast with Catholic prayers for help, this discourse implies that that Ajq'ij are taking at least some responsibility for the contamination.

The Evangelicals in Santa Catarina, who seem to be taking the blame from the other two religious groups, have more practical opinions about the causes of contamination. Pedro Kiche, the pastor of Rey de Reyes Iglesia, informed me that the sins of everyone have caused the pollution of the lake. He explains that while all sins are to blame, pollution and poor waste management, which can also be categorized as sins, are the greatest causes. The congregation members that I interviewed shared similar views. They believed that all the people of Santa Catarina are responsible for what happened and must work together to put aside their differences to care for the lake.

INFLUENCE OF CAREER

A person's exposure to the lake is largely determined by their career. This paper focuses on fishermen, farmers, and individuals whose income depends on tourism.

FISHERMEN

In Santa Catarina, fishermen work directly with the lake on a daily basis, some of them fishing from as young as age 8. Because of their constant contact with the lake, fishermen claim to be the most perceptive of changes in its health and ecological balance. Every few weeks, the fishermen meet to clean up trash and reeds along the beach. Many

fishermen informed me that the lake annually experiences slight pollution. The contamination this October, however, was unexpectedly sizable. After the cyanobacteria outbreak, some fishermen received food from the government since they weren't able to fish. Luis, fisherman for 37 years, commented that the problem was not that the fish were unhealthy, but that the fishermen couldn't put their nets in the water.

In monthly meetings, the men discussed possible causes and solutions. Pedro, my host father, informed me that many men believe the cyanobacteria is always present in the lake, but sits on the bottom until provoked. In my interviews, the fishermen listed possible causes such as pollution from untreated wastewater and trash along the beach, but the majority told me that the contamination is caused by others' mistreatment of the earth and lack of respect for the lake. They also attributed agency to the lake, saying that the actions of the people must have upset the lake, causing the contamination. They did not however, did not view the farmer's use of pesticides as a potential cause.

Alejandro, a local Ajq'ij, informed me that the majority of Santa Catarina fishermen practice Maya spirituality. In my initial interactions with the fishermen, this was not apparent. When I stumbled across my host father's Maya altar, however, he confessed the same thing. Each night before he leaves to fish, Pedro performs a ceremony for *la madre del lago* asking for her help and guidance. If he forgets, he says, the lake is sad and he won't be able to fish.

Although few fishermen admitted to practicing spirituality when directly questioned, many men's beliefs were apparent in their discourse of the lake. For example, when talking about the lake, fishermen used the pronoun "*ella*" or "she." This feminine

pronoun corresponds with the Maya belief that the lake is a woman. Fishermen also personified the lake in their conversations, saying the lake was sad, mourning, or content.

FARMERS

Farmers in Guatemala have a long history of working with respect to the land. Maya spirituality teaches a farmer to ask the Earth's permission before planting. My research revealed an intrinsic respect for the earth, though the men I interviewed did not claim to practice Maya spirituality. However, farmers blamed the contamination of the lake on a lack of respect for the earth. In their discourse, it was common for farmers to refer to the lake and earth in conjunction under one label. While the fishermen in Santa Catarina talked specifically about the lake, farmers were more concerned with the broader classification using the labels "*el medio ambiente*," (environment) and, more often, "*la tierra*" (the earth).

Guatemalan farmers have traditionally employed a slash-and-burn technique which allows them to alternate patches of land, using the same plots for years. In the 1970s, however, pesticide and fertilizer use increased significantly (Berger 1997: 100). Farmers in Santa Catarina today use a variety of methods, but many have turned to chemicals in order to meet demands to make a profit. José, who comes from a family line of farmers, tells me that many farmers are worried about how fertilizers affect the earth, but in order to produce enough crops, they have no choice but to use chemicals. The erosion of soils into the lake has introduced these fertilizers and chemicals to its already delicate ecological balance. Many environmentalists speculate that this practice was a contributing factor to the cyanobacteria outbreak.

About half of the farmers interviewed expressed a concern for the use of fertilizers and pesticides, but none believed that these practices were the cause of the contamination of the lake. Rather, the men interviewed listed littering, water contamination from sewage, and the lack of development due to little government attention. Farmers expressed a desire for water treatment plants, a more efficient waste management system, and potable water. Quick to identify the needs of their town, farmers were reluctant to take responsibility for the contamination of the lake, placing blame on the government or the lack of respect for the earth in the mindset of Santa Catarina.

TOURISM

Individuals whose work relies on tourism are also very dependent on interactions with the lake. I interviewed restaurant and hotel workers, shopkeepers, and vendors and weavers along the beach. I found that many of these people blamed the contamination on trash from the community or unsanitary living conditions of residents of lower socio-economic status. One hotel worker informed me that if the community were cleaner, the lake would be cleaner and all of Santa Catarina would be more appealing to tourists. Knowledge of Maya spirituality is beneficial for those working in tourism. Although many of these individuals were familiar with the myths about the lake, none of them seemed to believe that Maya beliefs explain the contamination.

INFLUENCE OF AGE

The oldest residents of Santa Catarina, who have spent the most time living with the lake, talk about the Maya traditions and culture, often expressing nostalgia for a simpler way of life. Many believe that the contamination of the lake was due to modern

development. Residents often felt that flushing toilets and running water were unnecessary amenities that have resulted in a lifestyle that focuses on living around the environment instead of in harmony. Even if they did not practice Maya spirituality, older residents often personified the lake in their discourse.

In contrast, middle-aged residents and young adults in the community believe that more development is necessary for a healthy lake. They talk less about respecting the environment and more about using the resources it provides. Younger generations view the lake as a commodity, not a being. Children talked about the lake in purely aesthetic terms. They would joke about the Maya myths and often made up stories of their own. Children did not share the idea that respect for the environment correlates with a healthy environment.

CONCLUSION AND FUTURE THOUGHTS

As the residents of Santa Catarina recover from the effects of the contamination of Lake Atitlán, their opinions remain divided but they share a common concern for the health of their lake. Although the contamination this fall was a warning sign for the community, the residents of Santa Catarina believe the lake to be restored to a healthy ecological balance. Despite their place in the community or ideas about the problem, residents agree that maintaining a lakefront free of trash is crucial to maintaining a clean lake. Unfortunately, aesthetic appeal is the only way residents know to gauge the ecologic stability of the lake. If residents are not educated about the environmental health of the lake, they cannot take responsibility for its ecology.

Although the Guatemalan Comprehensive Action Plan for the Recovery of Lake Atitlán and its Environment states that it will provide education to the communities about the contamination, Santa Catarina residents are unaware of any such programs (<http://www.lakeatitlanhealth.com/factslink.htm>). Because indigenous people have been excluded from the environmental movement in Guatemala, the residents of Santa Catarina are at the mercy of those with more political power. A lack of education and political agency prohibits Santa Catarina from making decisions on how to best protect their lake and preserve their lifestyle.

Juan Carlos Lehnhoff, technical director of FONAPAZ, a government organization working to provide basic infrastructure to developing communities, stated that indigenous people don't choose to destroy the environment, but their lifestyle often leaves them no choice. FONAPAZ engineers, who have recently completed a water treatment plant in Santa Catarina, informed me that indigenous people cannot be expected to understand how to best protect the environment in which they live and it is the government's job to provide for these communities. FONAPAZ is currently constructing public sinks for washing clothes and hoping to pass a law to prohibit washing in the lake. Lehnhoff also mentioned in conversation that he hopes to see legislation to limit the amount of fishing in the area.

These plans for development disregard the indigenous lifestyle of Santa Catarina. Juan Skinner, a local environmentalist, believes that maintaining contact with the lake is a crucial component to maintaining its health. Individuals who interact directly with the lake are more conscious of changes in its ecology. Lake Atitlán has only recently been valued for its environmental importance. Guatemala has adopted an outlook that management of

Lake Atitlán is the work of the national government and should be divorced from the indigenous lifestyle.

In the aftermath of the cyanobacteria outbreak, it is apparent that the environmental stability of the lake supports the economic, social, political, and spiritual realms of indigenous communities including Santa Catarina. An understanding of the indigenous way of life is imperative to understanding the integral importance of Lake Atitlán. "Spirituality and questions of (human/social) ecology go hand in hand. Land as a place of abode transcends the physical with the metaphysical realm. Knowing about one's land needs to be about the spiritual and material connections between society, culture, and nature (Dei 2002: 343)." The tied fates of Santa Catarina and Lake Atitlán depend on a future that protects the lake by taking into account the indigenous lifestyle in environmental policy and implementation regarding Lake Atitlán.

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