

The Effect of Mining on the Community of Las Juntas, Costa Rica

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For my research project in Costa Rica, I evaluated the affect that mining has had on the community of Las Juntas de Abangares. Initially, my main focus was the affect that mining has on the quality of the watershed of Las Juntas de Abangares. This was a concern of mine throughout the project. However, as I spoke to more people and gathered information, I found that Las Juntas de Abangares is a community that has a cultural tradition that is based around its mining. This is evident by certain features in the community, such as the statue of the miners that is located near the center of the community if you head towards the Gold Mine de los Tres Hermanos. Hence, my project was a sociological study of a community that has been affected by mining practices, environmental education, and tradition.

In order to analyze the effects of gold mining on Las Juntas de Abangares, as well as the changing image of conservation that has taken place in Costa Rica over the last fifty years, I had to talk to several experts in the field of environmental issues. Since I was studying in Costa Rica at the end of May into June, I was there during the winter season, and also at the beginning of the wet season. “Wet season” is a term that can be used loosely because of all the rain that occurs, especially in areas where there is an abundance of forest and watershed:

The watershed region has no real seasons – unless wet, wetter, and wettest qualify. Wettest occurs from January through March when the polar winds reach Costa Rica, as close to the equator as they get. Wet occurs from June to October when the doldrums move north and weaken the rain – bearing trade winds. Wetter occurs during the rest of the year (Colesberry and McLean 18).

I spoke to Jose Francisco (Kiko) Bogantez, a high school science teacher in Las Juntas, about environmental education within the community. Dee, our tour guide on the trip, helped to translate the interview for me. Kiko mentioned that in order to work as a

miner in Las Juntas de Abangares, one only needs to acquire the rudiments of reading, writing, addition, and subtraction that is taught in schools (Bogantez, Jose. Personal Communication). Thus, a boy who has a father that is a miner puts a limitation on his future and potential because he is only able to go by the model that he sees. The mining tradition has been important to the people of Las Juntas because it has created more jobs and opportunity for economic benefits. In addition, it has given the people a sense of pride and independence, stemming from the fact that the mines are owned independently by the workers, and thus no longer controlled by North American companies. The North American companies controlled the mines fifty plus years ago.

On the other hand, there are dangers involved when gold is removed from the rocks. For instance, when gold is removed from the rocks, mercury becomes water vapor, and is then condensed and gets recycled again for further use. Mercury is the main concern now in Las Juntas de Abangares, whereas several years ago it was cyanide. In an article written by Ana Isla, PhD entitled “A Struggle for Clean Water and Livelihood: Canadian Mining in Costa Rica in the Era of Globalization,” there is a quote from Ofelia Gamboa that concerns water pollution and the affects of cyanide. This quote is from 1998. Gamboa is the mother of Elliete who works for Mina Tours in Las Juntas with her husband, Carlos. According to Ofelia Gamboa, “Water pollution and mines treated with cyanide have also been deadly for fauna and flora, and for mangrove swamps, essential to maintain biological diversity. The worst effects can be seen in the water of the Agua Caliente river which is now yellow and fetid with the odours of chemicals used in mining” (Gamboa 1998). Hence, there have been problems with the water quality in this

area over the last several years, in regards to cyanide, and more recently, mercury. Cyanide is no longer used, because it is “too dangerous,” according to Joaquin Talvera (Talvera, Joaquin. Personal Communication). Isla’s article further discusses the impacts of mercury as well:

The Agua Caliente is a hot river due to geologic activity, and in the past it was used for recreation, therapeutic treatment and as a source of food. It is now terribly polluted. Local community members continued to use the waters because they didn’t know about the mine discharges. As a result of the poison, aquatic life has been exterminated and community health has been undermined. According to Elizabeth Pizarro from the Ministry of Health of Abangares (2000), the local population has been experiencing rising illnesses such as asthma, allergies, skin irritation, gastritis, and neurological disorders. But the most affected have been women, who suffer a high rate of miscarriages. The contamination of the water and air in the area has created much grief for rural women, who have to cope with high levels of birth defects and child mortality. Abangares child mortality is higher (15.2 %) than in other parts of the country (12.5 %), and the number of children with Down Syndrome is double that in other areas (Isla 4-5).

I brought this quote and issue up during my interview with Kiko and it led to an intense dialogue between him and my translator, Dee. It was evident that this is a sensitive subject to both of these people, and they voiced a lot of anger because this is something that the people of Las Juntas de Abangares ignore, and pretend does not exist. Dee described it as being a reality that is kept as “top secret” (Dee, Costa Rican Tour Guide. Personal Communication). As a teacher, Kiko has seen the affects that mercury has had on some of his special education students, since it diminishes certain functions of the brain. For example, he mentioned a student who is able to raise his hand, but cannot write his name. This is obviously a deep concern that greatly affects the future of

these students. Kiko mentioned that more special education students are being integrated into the community of Las Juntas de Abangares and they are able to have jobs in which they are helping both themselves and others. However, the mercury levels are taking away these opportunities.

So, these high levels of mercury can be reduced in Las Juntas de Abangares if there is a cut back on the use of mining within the community. However, if there is a cut back on the use of mining practices, this will have adverse affects on the economy since there is such a strong dependence on mining. Therefore, the issue of mining in Las Juntas de Abangares is really a catch twenty-two. They do not want to hurt the environment and people's safety, but at the same time, they do not want to take away jobs and thus hurt the economy. This is why Las Juntas de Abangares needs to examine other alternatives in which their community can benefit economically. Otherwise, the community will be unable to sustain itself. As Dee put it, if there is going to be any change, it will be very gradual because the people of Las Juntas de Abangares have very close ties to tradition (Dee, Costa Rican Tour Guide. Personal Communication).

Mining affects the water quality in Las Juntas de Abangares because the mercury from the rock is recycled and available for further use. Essentially, one can say that there is a water crisis that is transpiring in Las Juntas de Abangares. In my opinion, what is occurring there is a microcosm of the water problem that exists all over the world. According to Mikhail Gorbachev, the President of Green Cross International, in an article entitled "The Global Water Crisis," "More people lack drinking water today than they did two decades ago. More and more freshwater sources are being used up and contaminated

.... We must remember that the value and the price of water are two very different things; it is a substance which must be used efficiently, but must be available for the sustenance of all – including natural ecosystems” (Gorbachev 1-2).

It is necessary to pose the following question: How do we as humans use nature? In Las Juntas de Abangares, I do not believe that the people are exploiting the land and have an anthropocentric worldview because their community lacks certain development, such as hotels, which will help to generate tourism, and thus help the economy. However, they are still hurting it and their people, and that is why education about mercury and its effect is central to this community if it is looking to develop in an environmentally sustainable way.

On the other hand, when I spoke to Joaquin Talvera, who taught at the University of Costa Rica for twenty-three years and is now retired, currently working as the Director of Regulations of Agriculture, he said that kids in Las Juntas de Abangares are becoming more educated about not throwing trash into the river, and they pass this information along to their parents (Talvera, Joaquin. Personal Communication). When I spoke to Joaquin, Sarah Harris translated for me. Joaquin believes that people in Las Juntas de Abangares want to help make their community and the environment better, but it is hard for them to give up tradition. The people there do not tend to follow the rules unless something goes wrong, even though there are certain laws in place. For example, the miners understand the effects of mercury, and know it is dangerous, but they still use it with their hands after it is stripped from the mines (Talvera, Joaquin. Personal Communication).

I knew that it was a sensitive subject, but during my interview with Joaquin, I wanted to find out more about the miner who died while working at the mines when our group was studying in Las Juntas de Abangares. Apparently, the miners in the community do not want to believe that he was intoxicated by the strong levels of Carbon Dioxide (CO₂), even though that is what is being reported. Instead, they are suggesting that he was old, and therefore died of a heart attack. The real truth will not be discovered until the autopsy of the body takes place in San Jose (Talvera, Joaquin. Personal Communication).

Joaquin also briefly mentioned mercury's effects on the environment, saying that after it is stripped from the mines, it "goes into rivers, lakes, and people consume the water" (Talvera, Joaquin). This explains why people are acquiring more illnesses, as touched on earlier, as well as the rising numbers of special education students in the Las Juntas de Abangares school system. After speaking to Joaquin, I also had the opportunity to interview Oscar Castillo, the Director of MINAE. Cristin and Lauren Teixeira helped to translate for me during this interview.

Castillo talked about how MINAE has been working to educate the people of Las Juntas de Abangares about watershed conservation, and why it needs to be conserved and to have itself free from pollution. He mentioned that Las Juntas de Abangares has been a mining community since the 1890s. Castillo also talked about how ecotourism should not have a bad effect on the environment so long as it is done efficiently. He believes

that Las Juntas de Abangares should build itself up and support its need for ecotourism because more money will help people economically, and if there is more money to help people economically, then there is ultimately more money available that can be used towards helping to better protect the land.

When I had the opportunity to speak with Ofelia Gamboa in person, who I quoted earlier from an article written by Ana Isla (PhD), Sarah Harris translated for me. Gamboa is a former kindergarten teacher who has had three books published in the last ten years that all relate to environmental education. She mentioned that from 1930 – 1950, when companies from North America controlled the mining practices of Las Juntas de Abangares they made contributions such as establishing schools. These schools, however, were unable to function, and thus placed into the hands of the government after the companies no longer owned them. She also touched on how people need to have hands on experience with the environment in order to better understand how to protect it and why it is important to do so. She stressed how this needs to start at a young age and parents need to be actively involved as well.

In my research I learned that there is a lot of mixed views that exist in Las Juntas de Abangares about mining, the environment and mercury. I worked with Abra Like to collect data from different water samples that she took in Las Juntas de Abangares. She is sending the samples to a lab and is testing the water from the different sites for its mercury content. Abra took water samples from the following sites: the high school bridge, the Aqua Caliente, the Gloria River, the Second Crossing at the Ecomuseo, and

La Toma which separates Las Claras from Boston. She tested the flow, temperature, conductivity, salinity, oxygen, Dioxide, pH, ORP, and the turbidity. She was also given the zone of each location, the altitude, and the UTM (Universal Trans Mercator). Surprisingly, a lot of the numbers and percentages that were generated from the sites suggest that the water quality of Las Juntas de Abangares is healthy. If this is true, then why are people sick from the mercury? Las Juntas de Abangares will only be able to sustain itself if it can find a balance between conservation and development, but this will not be an easy process.

Bibliography

Bogantez, Francisco, Jose. Personal Communication. High School Science Teacher in Las Juntas de Abangares, Costa Rica. Interview Translated by Dee, Costa Rican Tour Guide. Tuesday, May 31, 2005.

Castillo, Oscar. Personal Communication. Director of MINAE. Interview Translated by Cristin, Lauren Teixeira. Monday, May 30, 2005.

Colesberry, Adrian. McLean, Brass. Costa Rica: The Last Country the Gods Made. San Francisco: SkyHouse Publishers, 1993.

Gamboa, Ofelia. 1998. Quote from an Article by Ana Isla, PhD, University of Toronto. "A Struggle for Clean Water and Livelihood: Canadian Mining in Costa Rica in the Era of Globalization."

Gamboa, Ofelia. Personal Communication. Retired Kindergarten teacher and author. Interview Translated by Sarah Harris. Tuesday, May 31, 2005.

Gorbachev, Mikhail. President of Green Cross International, Introductory article for *Civilization, the magazine of the US Library of Congress, October – November 2000*.

Isla, Ana. PhD, University of Toronto. "A Struggle for Clean Water and Livelihood: Canadian Mining in Costa Rica in the Era of Globalization."

Talvera, Joaquin. Retired professor, Director of Regulations of Agriculture. Personal Communication. Interview Translated by Sarah Harris. May 30, 2005.