

Aline Vázquez Arellano
Colegio Williams
Mexico City, Mexico
Mexico, Factor 2: Water Scarcity

Water Scarcity can be an issue caused by plenty reasons, natural causes or human mistakes. If it's natural it may be because of a drought, but if it's caused by people, there could be diverse reasons. One of the most known is that people don't know how to control water consume, some people use more than they need, and other need more than what they get. These issues can be created between neighbors in a determined place, or in other cases by the government or some other authorities. In Mexico, the water scarcity has been caused by both reasons, because people waste a lot of water, and because the government has no awareness of what their choices for the cities cause to the population.

Usually the government has a responsibility for regulating the distribution of water to the houses in the communities. This job is taken by a federal organization called CONAGUA- which is the Ministry of Water in Mexico. This organization regulates the distribution of water in the municipal government or to a specific population. There's also a *Water Law* that says that the water is of the nation. Some people are responsible for giving it away to the dwellers but it's not private water, it is public to anyone that needs it. This law is also directly related to the 27th article in the Mexican Constitution (Cámara de Diputados del H. Congreso de la Unión, 1992). Regionally there are people in charge of making decisions about water.

The problem that I've been researching is based on a government-society issue, where the government is taking the water away from the communities near to the *Magdalena River*, located on the North of Oaxaca, Mexico. The one I chose is called *La Pluma Hidalgo* located 203 kilometers away from the city of Oaxaca. The *Magdalena River* crosses along the community, and goes up on the top of the *Sierra Madre of the South*. What the government is doing is that they are getting the river into tubes, in order to be used by the hotels, in a touristic zone of Oaxaca near to the coast called *Huatulco*, to have more water; so the water that the citizens in *La Pluma Hidalgo* used to take, has been taken away. This issue is totally a private decision from the state because the town doesn't have any voice in this decision.

The State of Oaxaca has a population of 3.801.962 inhabitants (INEGI, 2010). And the place is known for the commercialization of coffee and mole –which is a typical sauce from Mexico, but specially from the States of Oaxaca and Puebla-. Generally speaking, Oaxaca has a surface of 1.421.468 hectares for sowing, because it's their primary activity in the whole State. The complete State has a surface of 93.793,33 km² (INEGI, 2005). In this surface there's a total of 941.536 inhabited housings (INEGI, 2010). Oaxaca has a weather that is considered as warm sub-humid in 47% of the area, and 22% is warm with tendency for rainy conditions. Out of this State, I focused specifically in a place called *La Pluma Hidalgo*. This town had a population of 3060 inhabitants according to the INEGI-National Institute for Census and Population in 2010, and increased to around 5000 people, said the authorities from *La Pluma Hidalgo* to the *DESPERTAR* newspaper on May 2016. Approximately half of the population leaves town to go to other places in the country or to the USA along the year and comes back on November for the harvesting of coffee plant; they live a 100% from the sowing of coffee. This place in Oaxaca is considered to have a high level of marginalization (SEDESOL, -ministry of Social Development- 2012). The families that live in this rural zone in Oaxaca are poor. They don't have many resources and have to split the jobs in order to survive. An average family has two parents with two or three children. Also 45% of the housing has no drainage, and 32% doesn't have pavement floors. There are no hospitals in this zone, they have to leave town to the center of Oaxaca for medical support. Their primary products come from agriculture, coffee mostly, and secondary products are fishing and also animal breeding (INEGI, 2010). Talking about electricity, this place has 15% of places without electricity; and 24% without piped water (INEGI, 2010). The scholar level that they have access to in the municipality is from preschool up to high school.

The problem with water is that they can sow with natural water but they cannot consume any of it. They need drinkable water for the people and the animals that they raise, such as cows or sheep, so they can eat protein. They also use these animals for selling their leathers. No one can survive without water, and neither without healthy animals that can be consumed. They can only plant coffee because of the type of ground that surrounds this area. Not many trees can grow in *La Pluma Hidalgo*. People with a good job in agriculture sector earn approximately \$5 dollars a day, which they use to support their families, and themselves.

There are lots of places where people are dying because of diseases, like diabetes, parasitic intestinal problems, high fevers that are usually cured by getting a shower, or other medical conditions, and this is just going to get worst if people don't have access to water. With the government redirecting the river, people from the mountains are not getting anything, and they are not a big population for fighting over it against the government; also, the municipal government isn't doing anything productive, the governor is just letting things happen.

La Pluma Hidalgo is becoming a touristic zone because they are selling a road tour from *Huatulco* to *la Pluma Hidalgo*, and the destination are some waterfalls in the middle of the forest. This way people are getting money and also are helping the tourism to know the town. Because the government considers the place as useless, they are taking essential things away from the citizens.

What has been happening for the last few years is that some municipalities on the North mountain range on the outside of Oaxaca, such as *Candelaria Loxicha* or *San Pedro el Alto* (INEGI, 2008), are getting underpopulated, and the people from these municipalities are migrating to *la Pluma Hidalgo* because the problem with water has been extending. This is making things worse, because the more people that are received in *Huatulco*, is the more water that is needed, because it is the one that government takes away. Right now they're surviving with the water that is left but sooner or later the water is not going to be enough. This problem is affecting the whole community. The community lives from coffee production, but this has not been affected except for the fact that they are also having financial issues for all of the problems with the Oaxacan community.

The problem is clear: either they have water or they don't. It doesn't matter how many people there are in your family, or how much money you make a week, or for a year, you still don't have water, except for the one that comes from the rain; drinking water is not enough.

My proposal is to make a deal with the government, in order to reestablish water conditions for *La Pluma Hidalgo*. There are some areas in the same part of the *Sierra Madre* in Oaxaca where the population from *La Pluma Hidalgo* could use the land to plant more coffee in order to make an exchange with the government. The coffee may be sold with the endorsement of the government of Oaxaca, and what the government could retrieve to the municipality will be access to the water that they're taking away. The idea is that the government takes a branch out of the pipeline that goes directly to the scarcity zone in *La Pluma Hidalgo*, and as an exchange the citizens would print the labels from the coffee that makes clear that the government supported the production. This way the government earns some from the selling of the coffee and the population in *La Pluma Hidalgo* gets their water back, at least some that they can use for their living needs. Also this way, citizens can receive more people from the ecotourism, and it could receive the actual title of *Magic Town* –as its called to the most important and visited towns in Mexico-, because they wouldn't have problems with the needs of the people for hygiene or consuming water and food.

It could be a great deal because in *La Pluma Hidalgo* Oaxaca they can produce around 280.000 kg of coffee per coffee farm, if the population could double the places for planting, they would double the incomes of it (Mexico travel club, 2015). The government could totally receive their part, so they won't

say no. With the government having a benefit, it would only be a matter of time for them to give the lands and the water to the people. Government is of course corrupted, but maybe that's the way for a dealing with them: by giving them something that they could take advantage of, and that they they won't be actually able of denying the need of the people, maybe not because they actually care, but because they earn something, and their image would be seen as if they actually were taking care of the people who live in the marginalized zones, and that's of course something that matters to them, because their corruption is actually what they're trying to cover with something else.

If this solution actually succeeds, the water would return to the community, and the people would stay in their municipality, because they could get healthy nourishments and keep on moving to get their community bigger, with the tourism and good conditions, *La Pluma Hidalgo* could be ecologically sustained. Also, this place would really grow economically speaking, because they now have tourism, and if they had tourism plus good living conditions to afford food, the population may increase and the place wouldn't be so lonely as the places that people are migrating from. If tourism and agriculture increase, the number of earnings in the town will do as well, and many individuals' life may stop from being in danger.

Other issues need to be kept in mind for decades ahead because climate change is something real, and for now the people in *La Pluma Hidalgo* have the chance to exploit their opportunities with coffee plantation, because the rainy conditions do not depend on humans, because they actually don't know what they have ahead, so if they can make a huge area of plantation around *Sierra Madre* they can have great living conditions for now, and thinking about the future they will have tourism, because maybe they won't have coffee forever but at least they would have ecotourism and they might improve their economy by taking good care of the environment.

Conclusion

Water matters. According to Dr. Timothy Moynihan from the Mayo Clinic, one person can generally survive without water around 2 to 3 weeks before they start presenting symptoms of diseases, which is acceptable in some places because they can receive attention, but in the case of *La Pluma Hidalgo* it's a big problem because they don't have any hospitals, so if they don't have access to a minimum quantity of water, people could actually start dying and leave the place. People leave to another town, where they'll sooner or later have the same problems.

I wish this was just a Mexican problem that could be eradicated, but it's not. These problems are happening all around the world, and that's why I think this factor is getting worse in every city of many countries, and that's because the companies are transforming the free and abundant water into something private and they're charging the people in need. They are making of every living need, a business, and that's not going to end, even when water is available for everyone, the government and some other enterprises find a way for privatizing it so they can make more money which they don't actually need. People in the world are starting to survive, instead of living, and that's something that matters and that has to change. Even if the change means for the government to earn something, like the coffee label and credit, but at least people would be able to live in a healthy way; because everyone has the right of the water, legally speaking, but people sometimes don't have the means to face the government and demand what belongs to them. That's the reason why people in *La Pluma Hidalgo* need help and they cannot actually stand by themselves, because they are not being listened This will change until somebody stands by their side instead of being with the government, that's why I think my proposal can help them.

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