"The real consequences of the drought in California are under our feet."

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Changing the Way We Live

The real consequences of the drought in California are under our feet.

BY VANESSA PARRA

THE UNITED STATES IS SEEN AROUND THE WORLD as the land of opportunities. Many people move to the U.S. for a better life for themselves and their families, to improve their economic means and to make a name for themselves. Others see the U.S. mistakenly as a gold mine, a way to escape all negativity and challenges faced in their own countries. However, as Latinos in the U.S., we have to work hard to stand out and overcome language and cultural barriers. We do not always get the respect or credit that we deserve. We are usually stereotyped: working in certain jobs, uneducated and lacking leadership. One man by the name of Samuel Sandoval came to the U.S. for the opportunity to receive his graduate education and change these stereotypes. Samuel shares his expertise and passion for water resource management with a nation where Latinos are the main group that operate, distribute and use water for bringing food to everyone's table.

While pursuing his bachelor's degree, Samuel was fortunate enough to be part of many jobs and internships where he explored many areas of Civil Engineering. In one of these internships he was exposed to water supply systems by his college professor Carlos Maipica. This particular focus really excited Samuel, for this would enable him the opportunity to learn and grow in his career while helping rural communities acquire running water and helping them create job opportunities among themselves. This type of work was really fulfilling.

Once Samuel graduated – like many newly graduated college students – he felt ready to get a job but insecure of his abilities. Samuel kept helping his father with his family business; however, Samuel felt like he wasn't on the right path to success. At that time, Samuel met the owner of a consulting firm that was looking to hire a potential candidate to engage community development in a rural community of 300. Samuel gave advice on skill sets and qualifications to look for when hiring this ideal person, and without realizing it, he was interviewing for the job that would ultimately mark his career. At first, Samuel was shocked but excited about working in water resource management, helping a community to manage their water and creating jobs. Like many new graduates, however, especially those who may be the first in their families to ever be put in a position like this one, Samuel doubted his
abilities. Up to now, he had only learned about theory of water supply systems; now, he would test his knowledge to actual life experiences. However, like many hardworking Latinos, Samuel put his fear and doubts to the side, and decided to pursue this great opportunity. This prospect made Samuel see all the good he would be able to do with his career. Luckily, for him it was the best decision he could have made.

After gaining experience and receiving his Master's, Samuel decided to apply to graduate school in Texas. Although Samuel was real bright and had much experience, he struggled with the English language. Samuel's language barrier caused him to take an English test three times. Many first generation Latinos can relate with this experience. English may not be their first language and if they are not around people who can speak English eloquently, it can be a disadvantage for them. Samuel also had to learn about the Geography of the United States. He was very knowledgeable with water systems in Mexico, but in the U.S. it was very different. The way a water system may work in a rural community in Mexico would be completely different than a city like Fresno or Monterey, California. Samuel also found difficulty interacting with people from different nationalities, personalities and backgrounds. Samuel realized that communication is key for success. Many times he expected certain behavior of people because that was the norm in Mexico and he was disappointed because people do not operate the same here in the United States. Very soon he understood that clear communication makes a huge difference.

Even after being a respected expert in water resources management, Samuel still experienced additional
challenges. He did his research in the Rio Grande a shared river between the U.S. and Mexico. "I was under friendly fire from people of both nations. Because I was doing my research in the Rio Grande/Bravo while living in Texas, people from the U.S. thought that I was a spy and people from Mexico thought that I was a traitor," he said. He had to be knowledgeable of both countries and had to represent them both in a very professional matter. It's not good enough being ordinary in either country. You have to be extraordinary to succeed in this business.

After all his graduate education, Master's degree in Hydraulics and Ph.D. in Environmental and Water Resources Engineering, and after many fulfilling internships, Samuel still did not feel satisfied in his career. Financially, he and his wife were not content, and Samuel knew it was time for something bigger. He yearned for a position that challenged him to become extraordinary. He wanted to change lives and improve society. All of his drive could be attributed to mentors he had throughout his life: his college professor, Carlos Malpica Flores; his Master's advisor, Dr. Juan Manuel Navaro Pineda; and his Ph.D. advisor, Dr. Daene C. McKinney – who all influenced his career.

After graduate school, Samuel had the tools, resources and skill set to become a successful professional, yet his own insecurities and fears held him back. Samuel learned that one can be their very own worst enemy. He learned this when he applied for a position at the "Young Professionals Program" in the World Bank. Samuel interviewed against 5,000 candidates. He then made the cut to 100 and then he was down to the top five. Samuel was really nervous but excited for the opportunity in front of him. He felt like finally he was going to be a given a chance to really be part of
something big. Reflecting on his interview he remembers being interviewed by a panel of five. Samuel remembers being so nervous and over excited that his mind went blank and was unable to answer many questions he knew very well because of his former experience in previous jobs and internships. However, he allowed his insecurities, fear and anxiety take over. Unfortunately, he did not receive the position and was devastated. He blamed himself for this failure. Samuel felt like his career was over. All of his hard work would go unnoticed and he would not get the chance to really help others the way he knew best.

However, “when one door closes a window opens,” Samuel thought. Immediately after, he was given the opportunity to interview with University of California Davis for a faculty member position. Even though this seemed like a great opportunity, Samuel was not completely sure if it was the right job for him. He only liked doing research. Sometimes in life, people should take chances and explore different alternatives. Samuel believed that teaching was not for him; life, however, has a funny way of making us do things we had no idea we were good at. This position not only allowed him to keep doing research – like he originally wanted – but it enabled him to pass along his knowledge and expertise to others as well.

Moreover, the language and culture barrier he once perceived as negative made him a very resourceful tool and asset for UC Davis and his colleagues. Samuel’s Spanish speaking abilities enabled him to speak to farmers on a more personal level. With this powerful skill he was able to acquire unknown knowledge from farmers. In the past, no one was able to communicate with these farmers, nor were they seen as a valuable resource. Samuel feels very proud and honored to work side by side with other Latinos who are water resources managers and farmers throughout California, “We are taking good care of the two most precious resources of the state: people and water.” As a smart business person, Samuel knew that people on the frontline are probably the most knowledgeable about the business. All this was useful information that Samuel was able to use in the issue of our current water drought.

“WHEN PEOPLE ASK ME, ‘HOW BAD IS THE DROUGHT?’”
I tell them, The drought in California is very bad, SEVERE! And the problem with the drought is that the real consequences are under our feet and not all of us have seen it. We are tapping on our groundwater resources (aquifers) and it seems they are showing signs of being affected (there is a large land subsidence throughout California) while there is no large increase in many of the produce we buy or eat (the reason for this is globalization). This is a silent/unseen problem it is very alarming because we have limited water resources, and the trajectory of the recent past has been to use these resources as much as possible. This is a wake-up call: Don’t wait for someone else to change, start the
change with yourself. This will make things happen. This is
the tipping point to change the way we see and use water.
The decision is within us," said Samuel.

Samuel is using his expertise to help individuals, irrigation
district and water management agencies to optimize the
use of water in the complex California water landscape.
He takes a holistic approach, balancing human and
environmental needs. California is currently in a severe
drought and has been enduring it for the past four years.
Not only is it affecting communities by forcing them to
reduce water consumption, but is also hurting many
farmers in their agricultural businesses.

Samuel's research group focuses on water planning and
management. "We develop methods for finding strategies
to better distribute water, ensuring adequate quality
and the right timing. We consider the scientific, social,
environmental, and economic aspects of basins. Our
goal is to improve California's water management through
cooperation, shared vision, and science-based solutions."

Current projects:
- Integrated water supply and flood control
management in the Russian River
- California river classification to support
environmental flows
- Economic feasibility of groundwater banking in
California
- Irrigation efficiency for the state of California
- Potential water savings on the California
central coast
- Resilience for water systems
- Hydrology and climate change 101

Finally, only use the amount of water you really need and
not a drop more. If we all do our part to reduce water
consumption as a whole it will make a difference and it will
benefit our communities and daily lives.

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Overall, besides water management and conservation
Samuel's key point is to share his story and to teach
Latinos to "First, find your passion. You will not find it in the
first trial (perhaps) but eventually you will find it, and the
best thing of this is that sometimes you may get paid for
doing what you love. Second, never give up. There may
be times when you simply cannot move ahead, but just do
it, find a way. Third, learn from your mistakes. I've learned
much more from my mistakes than from my successes, so
do not think too much of your successes, but spend some
time asking yourself what went wrong when you make a
mistake. Finally, BE HAPPY. That is the main objective of
this life. I've found it with my wife, family and a fulfilling job;
share your happiness with your family and friends."

As Latinos and professionals it is our duty to make a name
for our people and disprove any negative stereotypes.
Overcome obstacles that we most likely will encounter
while keeping our integrity and giving back to the
community. Sometimes we have a bad habit of second
guessing our abilities and allow fear to take over. Fear of
the unknown is normal but we have to let our passion for a
better life to kick in so we can push that fear to the side in
order to take a risk and see how far we can go. It is better
to try and fail than to fail to try.