

TCEQ EMPLOYEE

SPOTLIGHT

DR. MICHAEL REDDA: FROM ETHIOPIA TO TEXAS

Watermaster Liaison Lends Agency Expertise on Droughts



“Working on any water issue is a big deal,” he says. “It is necessary for life.”

The ten-year TCEQ veteran earned his doctorate in environmental science and engineering from the University of Texas at Arlington in 2008. In his spare time, he participates in a nonprofit technical-assistance program for the Ethiopian government, which includes reviewing teaching curriculums, environmental laws and policies, and environmental project documents. One of these projects is the massive Grand Ethiopian Renaissance Dam, which the government hopes will improve the food security and quality of life of its people.

The TCEQ Watermaster Section

Redda’s current job in the [TCEQ’s Watermaster Section](#) involves helping Texas with its water issues and making sure it has the water it needs, even in droughts as bad as the one the state endured in 2011. Redda helps to coordinate the state’s watermaster programs for the Rio Grande, South Texas, Concho, and Brazos offices (the latter being the newest one).

Part of Redda’s duties is to assist with the legislatively mandated studies of the major river basins in the state (required at least once every five years) to determine whether they have a need for a watermaster program. The results of the studies are reviewed by the TCEQ commissioners, who decide whether more action is needed.

In 2012, the Watermaster Section studied the Brazos and Colorado river basins and determined that neither was in need of a watermaster program. However, a stakeholder-led effort resulted in a watermaster program being added for the [Brazos](#). It started operations on June 1.

Creating a new watermaster program was challenging, Redda says, because it involved careful planning, logistical issues, hiring competent staff, and enforcing a new set of rules for areas used to less-stringent standards.

Even more difficult for his section was dealing with the worst one-year drought in more than a century of recordkeeping for the state: 2011.

“We had to come up with solutions,” Redda says.

Michael Redda knows a thing or two about how severe the consequences of a drought can be.

The immigrant from Ethiopia, now a U.S. citizen, lived through several harsh droughts in the 1970s and 1980s that ravaged his country of birth. In the famine that gripped Ethiopia from 1984 to 1985, as many as 1 million people perished, according to the United Nations.

Needless to say, water has been an issue dear to Redda, who works as a watermaster liaison in the TCEQ’s Office of Water.



Michael Redda

Children: daughters Rowina, 18, and Miraf, 10; son Emmaus, 9

Hobbies: Training homing pigeons (picked up from his widely traveled father, Abraha, who was a lawyer), travelling (having visited 30 states and several foreign countries), and making the fieriest hot sauce in Central Texas

Education: Ph.D., Environmental Science and Engineering, University of Texas at Arlington, 2008

Dissertation: [*Studies of the Performance, Stability and Reliability of Various Configurations of the Activated Sludge Process at Full-Scale Municipal Wastewater Treatment Plants*](#)

(Pictured above) Redda raises and trains homing pigeons in his spare time. He learned about homing pigeons from his father and hopes to share his passion with his son, Emmaus, who has taken an interest in the hobby. Redda and his son once released a bird in Belton, and it found its way safely back to their house in North Austin.

Thankfully, the outlook for water conservation is much better today. “People are more aware,” he says. “They are not as wasteful as they used to be.”

In addition to improvements in conservation, Redda says that advances are also being made in the recycling and reusing of previously unusable water, including discharges from wastewater treatment plants and saltwater.

All of these strategies and more will be needed if Texas is to accommodate an anticipated doubling of its population by 2050.

Intimations of Texas

Long before coming to the United States, Redda already had some familiarity with Texas: Willie Nelson in the 1982 movie *Barbarosa*, a popular film in Ethiopia at the time, and Congressmen Mickey Leland, a Democrat from Houston, a humanitarian, and eventually the name-sake for an internship program at the TCEQ. Leland spent a lot of time helping to fight famine in Ethiopia.

“He was way ahead of his time,” says Redda, who was a 21-year-old natural-resources specialist in Western Ethiopia in 1989, the year that Leland died in a plane crash over the same area. “He was dedicating himself to rescue the life of the people. He was a broad-hearted guy.”

The rainy, foggy, and mountainous area of Western Ethiopia is thick with jungle and remote (a three-day journey by bus from his family’s home in the capital of Addis Ababa). As governmental workers, Redda and his staff were deployed to search for Leland’s crashed plane.

“On the second day, we heard what we were searching for,” he says. “People were very sad. He was considered the only man officially engaged in trying to improve the strained relationship between the United States and Ethiopia and the only hope to secure relief supplies to drought-affected

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parts of the country, including Sudanese refugees in Ethiopia.”

In Ethiopia, Mickey Leland is remembered—alongside the Irish singer Bob Geldof and the singers behind the “We Are the World” song, including Michael Jackson and Lionel Richie—because of his efforts to relieve and prevent famine.

Changing Course

After a few more years working for the Ethiopian Coffee Ministry following Leland’s death, Redda switched careers to disaster preparedness, helping to establish an early-warning system for future droughts, and then to environmental science, completing his first graduate degree in the subject in India in 2000.

“Because of the situation that was prevailing in the country, the drought, there was a need,” he says. “I knew most of the issues were environmental issues.”

Coming to Texas

Redda’s time in Texas began in 2003 when he entered the Ph.D. program in environmental science and engineering at UT-Arlington. After finishing his coursework in 2005, he applied for the [Mickey Leland Environmental Internship Program](#) at the TCEQ, but he did not land one of the positions.

Redda would not have much time to be disappointed about the rejection, because he instead got a better opportunity at the TCEQ as a full-time employee working in municipal wastewater permitting, a position he held for the first six years of his tenure at the agency.



In addition to holding his full-time job at the TCEQ, Redda was a single father, then raising his son and one of his two daughters by himself, and he was steadily working toward finishing his dissertation to complete the doctorate. He says he drove about 26,000 miles back and forth between Austin and Arlington to complete his studies, equal to rounding the equator once and a little more.

Asked how he found time to study, Redda says he spent a lot of time reading in bed late into the night after putting his children to sleep, one on either side of him. His dissertation adviser in Arlington, Andrew Krusic, also went out of his way to support Redda's academic efforts, spending his own money to travel to Austin to meet with Redda about his dissertation.

"He's like a father to me," Redda says. "I don't think I would have been able to finish without his help."

Redda became a naturalized citizen in 2008, the same year he graduated from UT-Arlington.

"For me, I accepted it with a full heart," he says of becoming a citizen. "I have been a victim in my own country. Few in the world are given better respect than in this country. We have better dignity."

History and Hope

Redda's Ethiopian childhood was afflicted by the unrest created by the overthrow of the monarchy and the subsequent Communist regime that followed in the mid-1970s. He says the government targeted his family, intimidating them, making their everyday lives a constant struggle.

The pain and trauma of his childhood scarred him to the point that once Redda experienced the freedoms the United States had to offer, he never felt the urge to visit Ethiopia again, even though the situation in that country is much improved.

Yet, he does care deeply for Ethiopians, and he wants to make sure he does his part to prevent another humanitarian

For More Information

TCEQ's Wastermaster Section
www.tceq.texas.gov/permitting/water_rights/wmaster

Brazos Watermaster Program
www.tceq.texas.gov/permitting/water_rights/wmaster/brazos-river-watermaster

Mickey Leland Environmental Internship Program
www.tceq.texas.gov/goto/mickeyleland/

Redda's Discertation: *Studies of the Performance, Stability and Reliability of Various Configurations of the Activated Sludge Process at Full-Scale Municipal Wastewater Treatment Plants*
<https://uta-ir.tdl.org/uta-ir/handle/10106/1207>

disaster created by another major drought. This is why he has given financial and professional support to Ethiopia's ambitious project to build a dam on the Blue Nile.

"As a person who has benefited from the country, I try to pay back," Redda says. "All Ethiopians living abroad feel that way. With Ethiopian people from all over the world helping, it is the least I can do." 🌱



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