



## A CURSE OR SAVIOR?

ADVANCEMENTS IN ENGINEERING  
CAN BRING PROSPERITY, BUT  
THERE ARE ALSO HUMAN COSTS  
H. Kit Miyamoto, Ph.D., S.E.

**SLICING THROUGH A WIDE RED RIVER**, our small boat approaches the muddy clay shore. A green crocodile startles and deep dives. At the sun-drenched landing spot, girls clad in royal blue blankets wave at us. As our party lands on the shore, they run toward us and stare with intense, magical gazes. Their eyes are pure deep black, and all their eyelashes have been removed. As we step onto the grass, they poke our skin and reach out to touch us and pull on our hair. They are as curious about us as we are about them. I notice the girls all have elongated earlobes, in which large plates are implanted. Women have large clay plates, as round and large as six inches, placed below their bottom lips. An incision is cut below their bottom lip when girls are young and ever-larger-sized plates are inserted as ornamentation – a sign of beauty for this remote African tribe. I am in Ethiopia, close to the South Sudanese border. Here in the Omo Valley, eight different indigenous tribes have lived for millennia, totaling about 200,000 people. This is where humankind originated. A two-million-year-old fossil of a humanoid was found here. We are visiting a tribe known as the Mursi. There are about 5,000 of them living in the jungle, grouped into small family bands. Their lifestyle is nomadic, but they rely on the Omo River to flood annually to irrigate their riverside crops – mostly sorghum, a type of grain. They have very little contact with the outside world. Our boat is the only motor-powered boat on the entire Omo tributary. Their language and customs are unique, and they are the only Mursi people in the world.

Our chief guide is Lale, who hails from a nearby tribe called Kara, an indigenous tribe of the Omo Valley. He is a 40-something, tall, muscular man with a determined face. His quick smile keeps things cheerful. He is one of very few in the region with a college education. Highly articulate and strategic, he has a warm personality and speaks several languages, including fluent English. Being a guide, he is conversant on current world affairs and he even cracks a few Trump jokes.

Lale translates as the Mursi chief, Weletula, talks.

“The annual flooding of the Oma River has been stopped for three years now,” he said. “Some old are starved and dead, and young families are scattered to the forest for food. I don’t know where they are now. I am losing our people and tradition. A large dam built upstream stopped all the annual flood water.”

He is talking about a massive hydro-electric dam, Gibe III, a \$1.6 billion, 1,870 megawatt, 240-meter-high concrete structure that doubled Ethiopia’s power output for its expanding agricultural business. This is the third largest dam in Africa. This great engineering achievement will help the country progress. But at the same time, marginalized indigenous communities are starving. And their culture and traditions, dating back thousands of years, are being lost.

The next day, Lale takes us to his Kara homeland downstream. It is a tribe of 3,000 people with a distinct language. Only one in the world. It is famous for its colorful body painting, elaborate clay-formed hairstyles, and trading skills. Kara is a farming tribe that also relies solely on the annual Oma River flooding. He leads us to their ceremony house, a one-story wooden construction about half the size of a football field. It is indeed a magnificent structure with a heavy timber roof and columns, and has a sacred feel.

Lale asks us to leave our Land Cruiser because it is forbidden to drive on the grounds here. As we approach the sacred structure, I see five ancient men sitting on small carved wooden chairs. They look very formidable with paint and tattoos covering their bodies, which are skinny but muscular. Lale explains that they are the Elders who lead his tribe. Elders are chosen, not by their blood, but by their abilities and wisdom. All ideas from anyone are considered and debated. Their political system is very democratic and advanced.





Kit Miyamoto visited ancient, indigenous tribes in the Omo Valley in Ethiopia. Miyamoto said the new Gibe III dam is endangering the tribes and is asking for donations to fund water systems to preserve their crops, which support the tribes' cultural traditions. *Photo: Kit Miyamoto*

"Our people and traditions are dying," Lale says. "For three years, Gibe Dam is built, no more flood. This means no more harvest. Without it, our tradition forbids a ceremony for young boys becoming men, the Bull Jumping Ceremony. This is the ancient custom – brave boys run and jump over several bulls and are recognized as men. Then they can be married. We haven't got any marriages for three years now. It is tradition. It must happen."

One of the ancient elders adds, "We are starving as our ancestral land is. Our young people are leaving for jobs in the sugarcane plantations to feed their families and get married. Our 1,000-year tradition is disappearing from us in front of our eyes."

Lale signals us to come down to the river. An array of new solar panels sits on the bank connected to a floating pumping system on the river. "We worked on politics for a while to release water for just two weeks during flood season in vain," he said. "Politics takes time. Technology is the only way out to save our people now. One solar-powered pump system can feed 25 acres of land, which can yield crops to feed 200 people. For our village of 800 people, we need three more like this."

"It cost \$100,000 per a pump, reservoir and irrigation system. I even made a trip to London to raise money. We raised \$60,000 so far and now you see the result of it. I am working to raise the rest before this summer's flood season to complete this for the first 25 acres. But I need to work on the next three irrigation systems to save our people."





The Gibe III Dam in Ethiopia. Photo: Mimi Abebayehu, Creative Commons, Wikipedia

I respect that he has come up with such an ingenious but simple engineering solution rather than hitting the wall on politics or blaming circumstances. He is already acting on the solution. It is the best practice of leadership at work. Now the Elders and his people are following his lead.

The Great Gibe dams, a cascade dam system that empowers cultivation of large, modern plantations, may help Ethiopian prosperity. But there are forgotten victims created by this great engineering achievement. A simple engineering solution can save a millennium of tradition, language and culture. This is not about Kara, Mursi or Lale. This is about us. This is about how we as humans can keep our diversity and culture.

We can do this one village at a time. The first one will need four solar-powered pumps at \$400,000. You can save the Omo Valley civilization and its last indigenous tribes. Please contribute any amount to Miyamoto Global Disaster Relief at [www.miyamotorelief.org/donate](http://www.miyamotorelief.org/donate). It is a U.S. nonprofit organization. We will make sure that donations go to constructing solar pumps and water systems for Lale and his tribe. You may affect a small chapter of human history.

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