Egypt's Water Is at Risk

The Grand Ethiopian Renaissance Dam is on track to be completed despite disagreements between countries

By Margaret Faust

Almost 5,000 years ago in ancient Egypt there was a devasting drought and famine that lasted 7 years. A different set of hieroglyphics show that there may have been another 200-year drought at the end of the Old Kingdom. The resulting famine may have contributed to the collapse of the Old Kingdom and the chaos that ensued.

A similar situation could be coming. Egypt is running out of water and the Grand Ethiopian Renaissance Dam (GERD) that is being filled right now could make the situation worse.

Egypt is a water poor country. It has almost half the water it needs to be self-sustaining. According to the world data atlas, the amount of water in Egypt has shrunk to a third of what it was 40 years ago. These measurements, along with other frightening statistics caused Egypt to be given a water risk score of 5, the worst possible score, in the 2021 Ecological Threat Report (ETR) published by the Institute for Economics & Peace.

Dr. Mark Smith is the director-general of the International Water Management Institute. He gave a talk about water scarcity hosted by the American University in Cairo a month ago. He warned of extreme floods, heat waves, and droughts. "I think it's fair to say that the Middle East and North Africa is really ground zero for those impacts. This is where they are being felt most strongly and are going to be felt most strongly," Smith said.

Before construction on the dam began, the Nile was already on track to have lower water levels by 2030 because of things like higher temperatures that increase evaporation rates.

Mohamed Kamal, an environmental activist who has his master's in water and sanitation, said that as a result, agriculture and ecosystems will be changed. This will trigger an increased risk of diseases like cholera.

"The dam comes in and exacerbates the problem massively," Kamal said. Once the dam starts filling, water flow in Egypt will be forever reduced Kamal added.

The GERD is a hydroelectric dam currently being built on the Nile in Ethiopia. It has been under construction since 2011. The purpose of the dam is to generate energy for Ethiopia and neighboring countries. Once the dam is complete, it will be the biggest dam in Africa and the seventh largest in the world.

The dam has plenty of benefits. Besides providing energy to the country, the dam could house fish and be a tourist attraction. Furthermore, dams prevent floods. According to the ETR, there have been more than 10,000 natural disasters in the last 30 years, 42% of which were floods.

But there are also concerns that the dam with threaten the environment and fuel tension in the region. There is a limited public information about the environmental impact of the GERD. Government persecution is possible for someone who asks questions about the project. Ethiopia's former prime minister Meles Zenawi called opponents of the project "hydropower extremists".

While not much is known about this dam, the environmental impacts of dams in general have been heavily researched. Hydropower is cleaner than fossil fuels, but it is still a dirty business. Dams emit greenhouse gasses, harm aquatic and riparian wildlife, and lower ground water supply in nearby land, drying up vegetation.

This project is also heightening tensions between Ethiopia, Sudan, and Egypt. This Nile flows through these three countries before emptying into the Mediterranean Sea. So, whatever happens upstream will affect the water coming into Egypt.

“Climate variability is increasing uncertainty about water resources and water flow in the Nile combined with infrastructure development. But without trans boundary cooperation that leads to political tensions and that what we see in the region today,” Smith said.

The GERD is an example of poor trans boundary cooperation. Sudan sent troops to its border with Ethiopia and there have been threats of using force to complete the dam. In 2019, Ethiopian’s Prime Minister said, “If there is a need to go to war, we could get millions readied. If some could fire a missile, others could use bombs.”

Dams are filled in stages and over the summer, Ethiopia finished phase two of filling, without Egypt’s consent. According to the Ethiopian Minister of Water and Irrigation, as off May 2021, the dam was 80% complete. So, time is off the essence to reach an agreement.

The three countries can’t agree on how quickly to fill the dam. Ethiopia is pushing for a quick fill time so the country can begin generating energy as soon as possible. Sudan and Egypt want a slow fill time which will make more manageable changes to its water supply.

Al Jazeera Labs found that the faster the dam is filled, the greater the threat to Sudan and Egypt. For example, if the dam is filled in 5 years, Egypt’s water supply would be cut by 36% and half of the country’s farmland would be destroyed.

In general, Egyptians support the dam, including Kamal. “I am Egyptian. I love this country, however, I’m also African.” Kamal said. “I'm in favor of the dam, but I'm in favor of a sensible construction of the dam that gives Egypt a room to mitigate this impact, not give us an impact that's too big for us to deal with.”

“If they fill up the reservoir in five to seven years, it will never be scalable. It'll be a massive impact that I don't think we have the facilities or infrastructure to deal with,” Kamal said.

Since 90% of Egypt’s fresh water comes from the Nile, agriculture is at risk. Smith’s research shows that 86% of water in the MENA region is used in agriculture which means that if fresh water dries up, farmers have good reason to worry.

One such farmer is Khanid Dawi, the man in charge of the Dawi Family farm in Fares, Kumombo. Dawi’s cousin Abdullah Dawi says the farm has existed for as long as he can remember, passed down from generation to generation. Tall palm trees line the riverbank, casting long shadows onto green crops and fields. Abdullah describes the farm as peaceful.

The family grows mangos, wheat, sugar cane, dates, and spices. The family members harvest enough for themselves and then sell the surplus to the Egyptian government.

These crops are almost entirely irrigated by the Nile. “It means the life for each and every one in Aswan,” Dawi said.

He knows that if the Nile dries up, his family’s way of life would be in jeopardy. “Imagine yourself living depend[ent] on this water, it’s everything. You drink from it. The animals that you [are] taking care of drink from it. You take this water and use it in farming. And one day you wake up and find that there is no water at all. Everything will die.”

But he is certain that won’t happen. “I don't believe that the water will run out from the Nile ever. Not ever. Okay? Like until the judgment day,” Dawi said.

Kamal said has heard lots of Egyptians say things like this. “As long as the danger seems far away, it’s very easy to say, ‘God willing things will be fine,’” Kamal said.

Kamal suggests that one solution is to educate people about water scarcity. “Awareness is so important and so undervalued in our society in Egypt and a lot of countries in the middle east because a lot of people say, ‘Oh we have bigger problems than the environment,’” Kamal said. “What they don’t realize is that these will eventually be the big problems that they see on a daily basis.”

Kamal and Smith said “eventually” may be coming sooner than expected. According to Smith, the projected warming of the MENA region is 4 degrees Celsius. A report conducted by the Intergovernmental Panel on Climate Change in 2018 says a planet that hot is uninhabitable. Smith added that drought days in Egypt could double. “Every increment of warming means more serve impacts. More dangerous impacts. So therefore, whatever we can do to limit warming will benefit us,” Smith said.

Egypt is taking measures right now to boost climate security. A few of the country’s projects include boosting wastewater treatment efforts, improving irrigation canal lining, building greenhouses, and ramping up desalinization programs.

Kamal is optimistic that in the next three years Egypt will shift from using surface water, like the Nile, to ground water, like aquifers, to irrigate farms. Kamal says this is not a sustainable solution, but it will do for now. In other words, a band aid on the situation.

“There are changes happening in the sector, but they are not fast enough,” Kamal said. “Mainly because we don’t see the urgency right in front of us. The only people that have the urgency are people who’ve seen the research.”

Ethiopia said it plans to finish the dam even though an agreement between the three countries has need been reached.