

## The Grand Ethiopian Renaissance Dam (GERD)

This document provides an analysis of the current situation and the implications for aid agencies.

### KEY IMPLICATIONS FOR AID AGENCIES

- Clashes between Sudanese troops and Ethiopian militias linked to the tensions over the GERD may well continue in the al-Fashaga triangle, undermining the security situation in the area and further heightening insecurity for aid operations in the area. These could increase if downstream water levels drop as a result of the GERD's filling.
- Sudan and Egypt may continue to provide covert support to insurgent groups in Ethiopia in order to undermine the Ethiopian government's legitimacy and ability to dictate events on the ground around the GERD site, again undermining the security situation in the area. This could affect aid supplies moving into Tigray from Sudan, however it is also possible that the Sudanese government views aid to Tigray as another mechanism to undermine the Ethiopian government's position and so increases support for such efforts.
- There is little sign that the Ethiopian government will bow to international pressure and accede to proposed UN mediation over the filling of the GERD.



### SUMMARY OF SECURITY IMPLICATIONS

- Sudan may provide covert support to the TDF (or other insurgent groups in Ethiopia) in order to undermine the Ethiopian government's legitimacy and ability to dictate events on the ground around the GERD site.
- Egypt and Sudan continue to press for a diplomatic rather than a military solution proposing mediation by the United Nations, the European Union, the United States and the African Union. The US administration has used aid in the past to exert pressure on the Ethiopian government in the negotiations related to the GERD.
- Egypt is **UNLIKELY** to resort to overt military action but covert Egyptian military action to delay work is still possible. Egypt may possibly also provide support to the TDF (and other insurgent groups in Ethiopia) that have the capability to undermine security and thus Ethiopia's power exports as the dam threatens Egypt's near monopoly on energy exports in the region.
- Ethiopia has installed modern air defences at the site. Flooding from any major damage to the dam would have catastrophic consequences downstream meaning that military action against the dam is **HIGHLY UNLIKELY**.

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## INTRODUCTION



The Grand Ethiopian Renaissance Dam (GERD) has been a controversial project since plans for its construction were first made public in March 2011, although the site was identified as far back as the United States Bureau of Reclamation's 1956-1964 Blue Nile Survey.

The dam is located in Ethiopia's Benishangul-Gumuz Region, 45 km east of the border with Sudan. It sits on the Blue Nile, which supplies 86% of the Nile River's streamflow.

Controversy over the project has increased further since construction began in 2011, with particular opposition from the downstream nations of Egypt, and more recently Sudan, both of which fear that the GERD will reduce the amount of water available to them from the Nile. The first phase of filling the reservoir began in July 2020, with a **second phase completed on 19 July 2021**.

As well as regulating water supplies, a key goal for the GERD is to provide hydroelectric power - it was estimated last year that **half of Ethiopia's population does not have access to electricity** - and there are also ambitious plans for power exports.

Power production should begin in **August 2021** and the **government has aggressive power generation and connections targets** which it hopes to meet in part through private investment – funded by exports from the GERD. That said, scaling up connectivity to get power to the nearly 14 million rural homes that are currently without any supply, many of which would be on long lines that carry very small loads, will be a **huge technical challenge**.



## TENSIONS WITH EGYPT

Egypt and Sudan's largest public complaint is over how quickly Ethiopia should be allowed to fill the GERD. They fear that rapid filling could reduce the amount of water that flows downstream, particularly during periods of extreme low rainfall. Consequently, Egypt demands that it be filled over no less than twelve years. Ethiopia says it will do so in half of that time, between five and seven years.

Egypt already faces wider issues of climate change which has seen hotter weather in late Winter/early Spring this year, having a catastrophic impact on young crops in the Nile River Delta (home to around 50% of Egypt's population and the centre of the nation's agricultural production). Any fall in water levels is **LIKELY** to be further compounded by a consequent rise in sea level which will increase salinity and, it is feared, could mean the loss of 15% of land in the Delta to agriculture.

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The GERD's reservoir, located in the temperate Ethiopian Highlands and up to 140m deep, will experience considerably less evaporation than downstream reservoirs in lower, hotter areas such as Lake Nasser in Egypt, which loses 12% of its volume due to evaporation as the water sits in the lake for 10 months.

Even the Egyptian media accepts that the controlled release of water from the GERD could **facilitate an increase of up to 5% in Egypt's water supply**, as well as a similar rise for Sudan. Furthermore, a **2010 US diplomatic assessment** noted that the GERD "will have no impact on the water shares of Egypt and Sudan since the waters that will be stored behind the dams for power generation will eventually be returned to the river".

Another less publicised factor for Egypt is its desire to remain the main exporter of electricity to its neighbours in the region. Ethiopia hopes to generate about 6,000 megawatts (MW) from the GERD, of which it **plans to export 5,000 MW to other African states within 10 years**. It already exports electricity to Kenya, Sudan and Djibouti and has agreed further deals with Tanzania, Rwanda, South Sudan, Yemen and most recently in June, Burundi, with exports set to begin in 2023.

Minister of Irrigation Seleshi Bagli announced in April that power production from the GERD "**will start in August, after the completion of the second filling of the GERD's reservoir.**" Cairo has responded by trying to make its own deals with Ethiopia's prospective customers, to either supply these countries with electricity or help them establish power plants of their own. Egyptian President Abdel Fattah al-Sisi met with Burundian President Evariste Ndayishimiye to discuss Burundi's electricity needs in March 2021. However, its **June agreement** to buy power from the GERD suggests that Burundi sees Ethiopia as a more viable supplier.



## TENSIONS WITH SUDAN

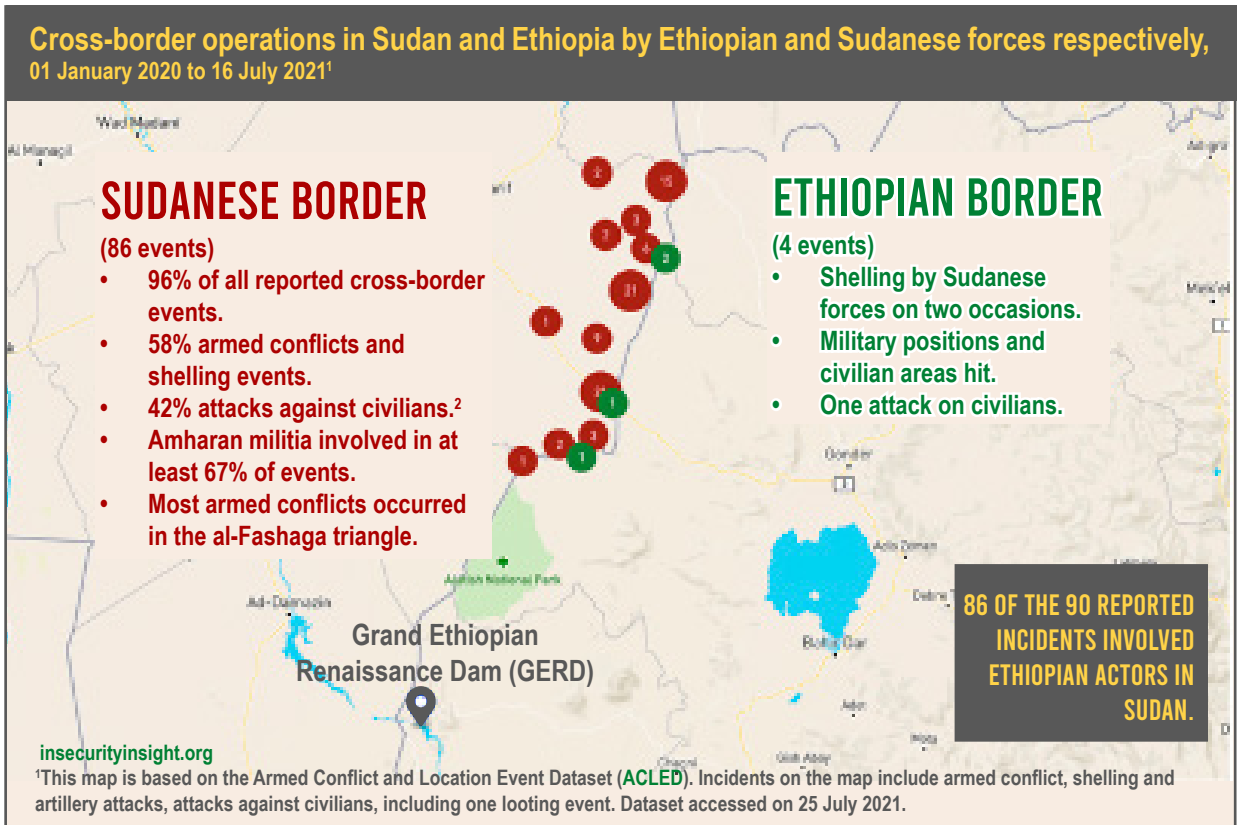
Last September Sudan declared a **three-month State of Emergency** after flooding triggered by heavy seasonal rains the previous month (mainly in Ethiopia) affected more than half a million people, killing at least a hundred. These saw the Nile to rise to its highest level in 100 years.

Despite this, Sudan also has concerns about the level of the Blue Nile dropping although this year's filling of the GERD has not led to a significant drop in water levels **according to the director of Sudan's al-Rusaires Dam**, some 100 km downstream from the GERD.

**Sudan has continued to object** to the second filling of the GERD, demanding continued talks on the issue. Indeed, according to the Egyptian media, Sudan's Minister for Water Resources contradicted the al-Rusaires Dam director, claiming that the water supply from the Blue Nile is **decreasing by half** as a result of the GERD's second filling.

In addition, Ethiopia has wider tensions with Sudan around border conflicts. In March, Sudan's Foreign Minister Mariam al-Mahdi's noted that "Sudan's army has been fighting Ethiopian militias backed by Addis Ababa" in the border area known as the al-Fashaga triangle (see map above).





- Cross-border incidents including armed conflicts, high-explosive shelling, and violence against civilians have been reported.
- Most have occurred on the Sudanese side of the border. However, Sudanese forces have also carried out small-scale operations within the disputed area and on the Ethiopian side of the border (see map above), increasing insecurity for aid agencies operating around these areas.
- Furthermore, cross-border conflicts between Sudanese and Ethiopian forces have seemingly increased since the start of the Tigrayan conflict.

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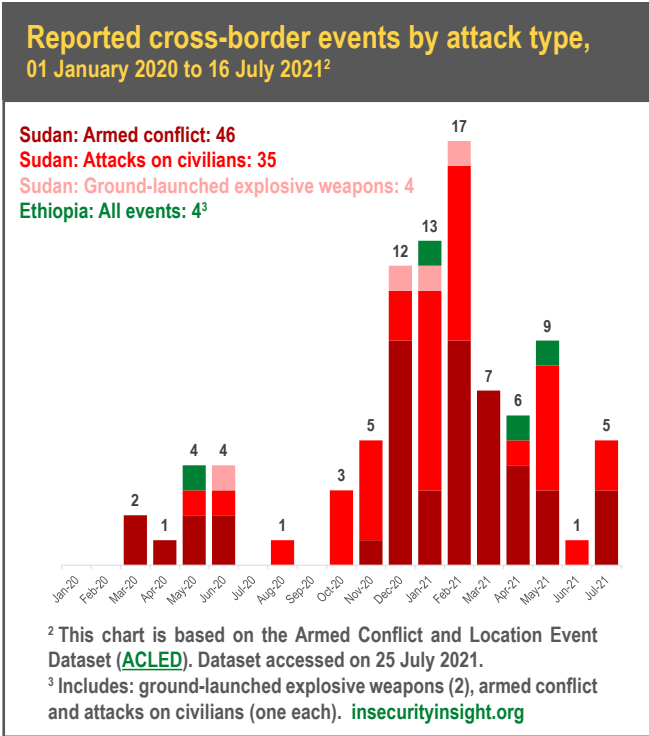
Data: Available on HDX

Social Media Monitoring: 25 June

Situation Report 4: 14 July

Information Alert: 16 July

Sexual Violence: 30 March



## IMPLICATIONS FOR WATER SUPPLY AND WATER ACCESS

Egyptian fears about reduced water supplies are understandable given the country's historic reliance on the Nile. However, a large part of the problem is that Egypt has become used to **receiving far more than the 55.5 billion cubic metres** that it was allocated under a 1959 bilateral agreement with Sudan. The country also **wastes vast amounts** of the fresh water it does have through poor irrigation systems and a failure to maintain deteriorating infrastructure. British academics put the **probability of a major drought during the GERD's filling as very low** - around seven percent - while US estimates were even lower. Furthermore, the GERD will have to maintain water flow in the event of a future drought as it will need to keep generating hydroelectric power to ensure project viability.

Nonetheless, any **significant reduction in flow**, even if only temporary, could have a major impact on Egyptian agriculture in the Nile Delta if lower water levels lead to an influx of seawater, contaminating the soil of the low-lying Delta. Egypt could compensate for a loss of water during the filling process by releasing more from the Aswan High Dam - **which is currently full** - to mitigate any shortfall in precipitation.

The limited impact on water levels in the Nile in Sudan despite this year's filling of the GERD ties with Ethiopian claims that the GERD may actually **serve to regulate the Nile**, reducing the likelihood of further catastrophic flooding. In the longer term, Sudan could well also benefit from expanded irrigation schemes facilitated by a more regulated supply of water. That said, it remains to be seen whether precipitation during the rest of the wet season is at the extreme levels seen last year - and if it is, whether the partially-completed GERD can still regulate water levels.

Furthermore, the contradictory statements by Sudan's Minister for Water Resources and the director of the country's al-Rusaires Dam highlight the continued problem of propaganda and 'fake news' originating from the various political interests involved. Indeed, there also has been a massive increase in social media posts focused on the GERD - mainly biased towards the Ethiopian position, using the hashtag #Itsmysdam (over 19,000 tweets since January).

## IMPLICATIONS FOR SECURITY IN THE BORDER REGION AS A CONSEQUENCE OF TENSIONS OVER THE GERD

Tensions over the real and feared implications of the GERD's construction and filling will continue to drive political rhetoric and decisions in Egypt and Sudan that will likely affect security in the border area for years to come as well as some donor relations with the involved countries.

Sudan continues to press for a diplomatic rather than a military solution proposing mediation by the United Nations, the European Union, the United States and the African Union. Due to the ongoing border conflict between Sudan and Ethiopia, Sudan may not be providing covert support to the TDF (or other insurgent groups in Ethiopia) in order to undermine the Ethiopian government's legitimacy and ability to dictate events on the ground around the GERD site. There have been no reported incidents involving Sudanese-affiliated forces in the Benishangul-Gumuz area since January 2020, reinforcing the assessment that any military manifestation of the tensions over the GERD will **LIKELY** remain focused around the al-Fashaga triangle, further increasing insecurity for aid agencies operating around these areas.

That said, TDF militia have used Sudan to regroup. In May, the Ethiopian military claimed that around 320 TDF-affiliated fighters returning from Sudan died as a result of clashes with Ethiopian troops, with another 35 captured. The supposed TDF fighters were likely some of the tens of thousands of Tigrayans, many of them civilians, who fled to Sudan as a result of the initial Ethiopian offensive in Tigray last November and many of them may actually have been returning civilians, not TDF members.

## Aid operations in the Benishangul-Gumuz region

Although the area around the GERD, the Benishangul-Gumuz region, has not been directly impacted by the border conflict between Sudanese and Ethiopian forces, regional violence could increase insecurity in the area around the GERD. Aid operations in the Benishangul-Gumuz region have been previously affected by ethnic violence and armed conflict in the region:

- In April 2020, INGO's relocated staff, carried out a security review and suspended travel following ethnic conflict in the region
- In July 2020, an INGO suspended travel following armed conflict
- In March 2021, an INGO vehicle was attacked and the driver was killed

**Data** available on the Humanitarian Data Exchange (HDX).

## CONCLUSION

There is little sign that the Ethiopian government will bow to pressure and accede to Sudan's proposed international mediation. Indeed, it has become even more intransigent since the start of the Tigray conflict, substantially weakening its standing with the international community. This may also however, in part, be due to the fact that rising water levels as a result of heavy seasonal rainfalls in July and August are a natural part of construction rather than a deliberate **process**, and so it is unable to do anything about water flows without halting construction entirely.

Egypt is equally **UNLIKELY** to resort to overt military action despite official media statements encouraging a bellicose populist nationalism that will be hard to calm and the **recent purchase of 30 more French-built Rafale multirole jets**. These do however go some way to explaining former US President Donald Trump's October 2020 claims that "**they [Egypt]'ll blow up that dam**" or the 2010 **WikiLeaks revelation** that that Hosni Mubarak's Egyptian government explored military action – supported by then Sudanese president Omar al-Bashir. That said, covert Egyptian military action to delay work is possible. A **1976 operation** blew up the equipment linked to dam construction while it was traveling by sea to Ethiopia while the **2018 death** of GERD's head of engineering, Simegnaw Bekele, although eventually recorded as suicide, remains controversial to this day with some describing it as an **assassination** linked to the TDF.

Ethiopia has also claimed that **Egyptian hackers** had launched **cyber-attacks** against a number of its government websites which would "halt filling of the dam" in June although, if true, these have clearly had little effect because the filling continued. Ultimately though, it is **LIKELY** too late for decisive military action against the GERD. Ethiopia has installed **modern air defences** at the site and, more importantly, the resultant flooding would have unthinkable consequences downstream. This would include the catastrophic **failure of Sudan and Egypt's own dams, starting with Sudan's al-Rusaires Dam**.

Finally, many countries will **LIKELY** buy electricity and associated infrastructure technology from both Egypt and Ethiopia – as Kenya and Djibouti already do. Nonetheless, the construction of the GERD will undermine Egypt's near monopoly over power exports and thus both its foreign revenue earning potential and soft-power capabilities. Although this is almost inevitable, it could further encourage Cairo to provide support to the TDF (and other insurgent groups in Ethiopia) and so have the capability to undermine security and thus Ethiopia's power exports.

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