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# The GERD Strife: Antagonistic Relationship Among Ethiopia, Sudan, and Egypt

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**Abstract**

The aim of this article is to scrutinize the ramifications of Ethiopia's Grand Ethiopian Renaissance Dam on Egypt and Sudan. By setting forth the causes and repercussions, the article is bestowing the tactics to the friction. What is more, the article is dissects under the lens of Functionalism theory by David Mitrany, practiced in Liberalism under the sub category of Institutionalism. The study has been carried out by both qualitative and quantitative research methods, by using scholarly articles of well-known pioneers and reports from the authentic journals. In addition to that, the theory advocates that cooperation on one conflict, between the countries, open up multiple incentives to cooperate on other issues between the same countries as well. By following the findings and below mentioned results of cooperation, countries like Ethiopia, Sudan, and Egypt can overcome on the multiple scarcities and disparities that are arising due to GERD dam construction.

**Key words;** Nile River, GERD Dam, Water Scarcity, Lack of Cooperation, Hydropower Generation, Agriculture, Economy,

## Introduction

Where, from centuries, Nile River is the biggest source of economic support, there, as the world industrialized, it has become the biggest threat for the Nile Basin countries. Nile River is dated back, even before, to the Biblical time(Matthews and Vivoda 2023), and since then it has been serving as the linchpin factor for economic vitality, maritime transport, agriculture, and principal source of water. The Nile River is stretches across the eleven countries(Heggy et al. 2024), and among them, Egypt, Ethiopia and Sudan are also included. These countries, because of the bilateral construction of the GERD by means of Ethiopia, are caught in a deadlock, Moreover, the Nile River is followed by the two tributaries named: the White Nile and the Blue Nile (Hijazi 2020a). The White Nile is jointly possessed by three countries named; Uganda, Tanzania, and Kenya. In opposition to the White Nile, Blue Nile is only flowed through Ethiopia and due to its location on Nile River, it is known as the upstream country. Both tributaries meet at the Khartoum City, which is the capital city of Sudan. Following by that single flow of Nile River (confluence), Egypt is located on the Delta of the Nile (the mouth of the Nile River and after that the river gets enter into the Mediterranean Sea), and due to its location, it is known as the downstream country. The cause of friction between these upstream and downstream countries is the construction of the Grand Ethiopian Renaissance Dam (GERD). In the region of Benishangul Gumuz, (You 2023), the dam is constructed on the upstream river and are minimizing the consumption of water to the

downstream countries. Egypt claims that the construction of the GERD would destroy its economic vitality as Nile water serves as the backbone for Egypt livelihood and it measures up the 95% of water's need for Egypt. Moreover, by following the previous mentioned scarcities in progression of favorable outcome, both Egypt and Sudan rejected the Cooperative Framework Agreement (CFA) (Akamo 2022). On the other hand, the construction of GERD is the cornerstone for the Ethiopian economy, sovereignty, infrastructure, and the survival of Ethiopians. The government of Ethiopia claims that GERD would sort out the regional problems faced by the Ethiopian and would double the acceleration of growth. Moreover, it has 74bcm reservoir capacity. in addition to that, the conflict between Ethiopia and Egypt is highly effecting Sudan both on economical and geographical level as it is situated in between of these two giants.

**Policies by Egypt, Ethiopia and Sudan over GERD**

It is obvious that the progression of GERD could not stop so, the countries who are under the threat are in progress to make such policies so that they could minimize the adverse effects, both economically and politically.

**Egypt policy over GERD**

Egypt's yearly consumption of water is 55.5 million cubic meters (Mohy and Deen, n.d.), which includes domestic use, agricultural use, irrigation process, power production, transportation, or to make a long story short, Egypt is entirely depending on the water of Nile River. Under the given circumstances, although the Dam is already constructed and have completed its impoundment process, in future whenever it will be needed to fill it again, due to rain scarcity or any other climate change, it would inflict a blow in Egypt. Not to pose a threat in future, Egypt made multiple policies to come through unscathed from the trials and tribulations. Though there are bundles of policies but the research paper will prefer to discuss just those who are still ongoing. The very first is **Desalination of water** in which the Mediterranean Sea and Red Sea water get purified from the salt and the impurities in it. Although, in Egypt, the water scarcity is already happening due to draught, unclean water, shortage of rain, and high population growth which embarks Egypt to come up with some other beneficial alternatives, among which, desalination is one, which has been increased in numbers of plants after the construction of GERD. It has been started from back 100 years to compete the water scarcity in the remote areas (Yasser Elsaie a 13 October 2022) Now it has been reached to 82 plants on different places which are expected to produce 1.3 million cubic meter water per day and in coming 2 to 3 years it would increase in 3.35 million cubic meters. Furthermore, till 2050, they are expecting to increase it to 8.85 million cubic meters.

**The policy of Ethiopia over GERD dam**

As the GERD in is the backbone for Ethiopians, it is giving support to multiple aspects of matters which could gleam the progress not only throughout the Africa but the entire world. The very first is ideology of the Ethiopians (ASSEFA and GEDIFEW 2021) which was fragile due to the pitiful economy in the previous years. They were not as accessed to the share of Nile River water as the Egypt was, which could not make the Ethiopians to sense the fully independence and being advanced to the higher stages because a country whose population is starving for the resources such as electricity and other economic scarcities for so long, cannot stay as ideologically strong until they have something to feed or boost it. After the construction of GERD, Ethiopia became able to generate 6000 GW electricity, become seventh largest hydropower project launching country, increased its GDP from 8% to 11% annually, gave jobs to 8750 nationals and 250 international people, and become rapidly growing country among the 188 countries of (IMF)(Noreuil and Ashley M 2018), until 2017. The second point is Ethiopian nationalism (Akamo

2022). GERD gave a self-recognition mechanism to the boiling events of ethnicity and identity politics in the Ethiopia (ASSEFA and GEDIFEW 2021). although they were at boiling arguments with each other but GERD gave them unification in ideology and the shared fundamental values. Hence, GERD not only entertaining nationally but internationally too which is not only shaping it from congested ethnic centered framework to broad civic nationalistic framework(ASSEFA and GEDIFEW 2021), but also setting a hegemonic transition among the hegemons such as Egypt.

**Policy of Sudan over GERD**

Like the vocal announcements of Egypt and Ethiopia about GERD dam, Sudan is not much clear about its policies. it is vacillated about making the final decision and act on it. It is not like he never made policies and took decisions but it could not remain steadfast on its proclamations and commitments. With the passage of time, Sudan was the only downstream country which was having its varying viewpoint. The fact is, Sudan has benefits of interests on both Ethiopia and Egypt side, when it finds out more common interest towards anyone one of each, it changes its alignments with the other one. For instance, in the beginning of the project Sudan opposed the GERD project but after that it realizes the diplomatic importance of the that it is beneficial for the electricity supply, to manage flood, and to generate powers(Eldeeb et al. 2023). The visual representation of it is December 2013's official declaration of Sudan's president that the GERD dam is crucial project, not only for Ethiopia but for the Sudan too. Moreover, in the IPoE (International Panel of Experts) report in 2013, the same thing was also mentioned ("FULLTEXT02," n.d.). Moreover, in 2014, Sudan's focus became more concerned towards GERD dam matter. With political lens, the Sudan's Government, ministry of irrigation, approach was more towards appeasement. Those bodies who opposed the dam construction were either got retired or terminated from their jobs. Only those people were included who were focusing on maximizing the benefits of GERD towards Sudan and minimizing the side effects to ensure survival ("FULLTEXT02," n.d.). In addition to that, Sudan's concern towards GERD could be proved the door to phase out itself from the national and international isolations. For instance; it was sanctioned by US on champion the terrorism. On the other hand, it was accused by Egypt of helping the group that assassinated the political figure president Hosni Mubarak in Ethiopia in 1995 ("FULLTEXT02," n.d.). all these aspects originated a strong coordination among both countries. In addition to that, in 2015 an agreement called declaration of principle (DoP) has been signed among Sudan, egypt, and Ethiopia, for the development purposes of GERD dam. Later, the opponents in Sudan, declared that the DoP is only considering the concerns of Ethiopia and not Sudan which could result as lose in aggrement ("FULLTEXT02," n.d.). in addition to that, in 2018, these three countries created another National Independent Research Study Group NIRSG, whose was to talk about the filling process of GERD, which could not not reach at an end and escalated the clashes again between them. After these clashes escalated, Sudan took a visible shift towards Egypt again and opposed Ethiopia's GERD with the aspect of filling the dam. Despite of these criticism, Ethiopia started the filling of the dam in July 2020. In July 2021, despite of the Egyptian foreign minister severe opposition in UNSC, ethiopiat kept continues the second filling, on which, Sudan stated that ***"clear violation of international law and the Declaration of Principles."*** *(Almesafri et al. 2024)*

**Impacts on Sudan**

As it is previously discussed that Sudan is located on the northeast Africa, around the point where both blue and White Nile join each other, in the capital of Sudan named Khartoum city. With concern to the GERD, Sudan has both positive and negative effects on it and accordingly it has framed its policies which could benefit it in the most strategic and effective way. Moreover, if

we look back in the history from 2000 to 2024, Sudan's alliances are modifying on the bases of its interests. Multiple agreements he has signed with Egypt and Ethiopia but with the requirements of time and events the agreements get denied strategically. Following are the discussion of those aspects in which Sudan is getting benefits and detriments, also its making and breaking of policies and agreements with Egypt and Ethiopia.

**Table 1.** Changes in hydropower generation, irrigation water supply, brick production, and flood inundation due to the operation of the Grand Ethiopian Renaissance Dam (GERD) in high, median, and low GERD outflow years.

| | High (Trace-31 Year-32) | | | Median (Trace-28 Year-4) | | | Low (Trace-7 Year-30) | | |
|---|---|---|---|---|---|---|---|---|---|
| Metric | No GERD | With GERD | Change (%) | No GERD | With GERD | Change (%) | No GERD | With GERD | Change (%) |
| Hydropower (TWh/year) | 11.3 | 12.6 | 11.6 | 10.6 | 12.5 | 17.4 | 9.0 | 9.3 | 3.6 |
| Existing irrigation (bcm/year) | 17.7 | 17.7 | 0.0 | 17.7 | 17.6 | 0.4 | 16.9 | 16.7 | 1.4 |
| Brick production (billion/year) | 2.8 | 0.2 | −92.0 | 2.8 | 0.2 | −92.0 | 2.8 | 0.2 | −92.0 |
| Non-inundated built-up area ($km^2$) | 2086.1 | 2105.4 | 0.9 | 2093.3 | 2129.8 | 1.7 | 2088.9 | 2132.2 | 2.1 |

(Basheer et al. 2024)

With the aspect of hydropower, the above pasted image is clearly demonstrating the increase between high, median, and low flows in Sudan. It increased from 11.3 to 11.6 TWh per year in high flow, from 10.6 to 17.4 in median flow, and from 9.0 to 3.6 in low flow.(Basheer et al. 2024). The main purpose of GERD is to produce the electricity for which it controls the flow of water on the Blue Nile during the flood season to the dry season. It reduces the flow of water in the flood season between June to November("Impacts of GERD on Sudan Elfatih A B Eltahir" 2019), which could help to save Sudan from flood and increase the flow of water during the dry season between December to may, which could save Sudan from the scarcity of water. This ultimately helps Sudan to produces more energy("Impacts of GERD on Sudan Elfatih A B Eltahir" 2019). The question could arise that was Sudan not producing the electricity in the same way in dry and flood season before the GERD? The answer would be NO. Let me explain. During the flood season, the reservoir gets filled up to the mouth and increase the capacity of turbines to produce electricity. Now the huge quantity of water gets wasted through the spillways without even producing electricity. Similarly in the dry season the level of water is enough low which could not reach the turbines to generate electricity. Similar to hydrological benefits, GERD proved as support system to the irrigation as well during the dry winter season. Historically, before the GERD, Sudan was unable to get required quantity of water for the irrigation process from the Blue Nile as during the dry season it was not possible, but after the GERD during the dry season, the flow of water released by Ethiopia proves helpful for Sudan to complete its process of irrigation during winter ("Impacts of GERD on Sudan Elfatih A B Eltahir" 2019). Where there is growing benefits for sudan by GERD, there it has negative effects as well. The very first negative effect belongs to irrigation. Before the GERD, During the wet season or summer season or rainy season, farmers use the natural flood for irrigation purpose but after the GERD, the flow was controlled by Ethiopia and natural flood irrigation become limited which resulted in shorted of water for irrigation("Impacts of GERD

on Sudan Elfatih A B Eltahir" 2019). But to sort out this problem, Sudan can use the modern equipment such as titan supply group, agricultural irrigation pipes, irrigation pumps and irrigation robots. Another negative effect is on ecological system ("Impacts of GERD on Sudan Elfatih A B Eltahir" 2019). It is natural that when water flows down it carry big number of sediments with it which included rocks, stones, and mud. Before the GERD, these sediments flowing through the Blue Nile water, were important for downstream countries such as Sudan and Egypt to nourish the soil of their lands along the riverside ("Impacts of GERD on Sudan Elfatih A B Eltahir" 2019). After the construction of GERD, it becomes like placing a bowl between the flow of water which is flowing down from a waterslide. Construction of GERD on the Blue Nile stops the flow of sediments to reach the lands of Sudan which proved disadvantageous not only to Sudan but to Ethiopia its self as well. For instance, the sediments that are blocked now adding into the reservoir of GERD and filling it which is in future danger for GERD. But in this way the other dams such as AHD in Egypt has become safe and long staying because it is safe from the reaching of sediments in it("Impacts of GERD on Sudan Elfatih A B Eltahir" 2019).

**Research Questions:**

1) Would the cooperation between Ethiopia and Egypt, and Ethiopia and Sudan, over the Grand Ethiopian Renaissance dam (GERD), create incentives to cooperate on other areas of conflict?
2) Is it the existential threat which Egypt is sensing with the GERD project in Ethiopia or the transitional threat from hegemonic stability in Africa?

**Theoretical framework**

The article is under the practices of functionalism theory -advocated in the field of sociology- which is mainly outlined by an American theorist named Talcott parsons, Emile Durkheim, Herbert Spenser, Robert Merton(Merskin 2020), Brownislaw Malinowski, and A.R Redcliff Brown, in the early mid period of 20$^{th}$ century. It is more influenced by the enlightenment period and theorists found it a straight forward path to decipher the obstacles in human lives, and working mechanism in their societies (Milton 2007). Moreover, functionalism, by adopting a systematic or structural strategy, advocates that society is organized in a system which is interrelated such as institutions. Furthermore, they were of the opinion that the positivist scientist framework would remain reliable to insure the suave unfolding of society as a whole. In addition to that, they prefer the cooperation and unity among the structure which the functionalist, particularly Emile Durkheim, called *collective consciousness*. On the other hand, Talcott Parsons coined it as *value consensus*, which, by complementing Pluralism and New Right concepts, advocates for society to have a common set of beliefs and ideas to work smooth and together (Milton 2007). Functionalism among structures is necessary to constraints individuals and institutions to behave beyond chasing the personal interests which would conclude in conflicts and the ultimate call for disastrous results. The article has been scrutinized under the lens of Functionalism, which is given by, a liberalist, David Mitrany. It is a sub-theory of liberal institutionalism which is further, one of a strands if Liberalism. Functionalism advocates that when two states establish a cooperation on any conflict, they, in the course of time, opens up multiple incentives to cooperate on other conflicts as well.

**Discussion and findings**

Initiate proceedings for cooperation on GERD can spawn multiple other cooperation over conflicts. Followings are the initiate proceedings over GERD and doors opening over other areas of conflicts. Before the construction of GERD, Ethiopia's only 45% of population were accessed to electricity while after the construction, the electricity production will elevate from 197GWh/y to 1752GWh/y, (Heggy et al. 2024), which could not only the 100% access to the entire Ethiopia

but could also be supplied to other countries as well. Moreover, it will generate illimitable economic growth including job opportunities in the country. On the other hand, after the construction of GERD, the hydroelectricity production in Egypt's Aswan High Dam has been scale down from 8293GWh/y to 7720GWh/y during the reservoir filling periods. (Heggy et al. 2024). Above mentioned disparity has laid the foundation for multiple other adverse outcomes. For instance, electricity production has been at a reduced level, jobs opportunity became subdued, economic level has been at a lower ebb. Now amidst of all these divergences, war would not give a helping hand rather, it will go from bad to worse of the socio-political climate. Now the negotiation and cooperation are the sole avenue to sort out the humanitarian crises, environmental degradation and political instability in the country. If Egypt and Ethiopia, agree upon channeling the electricity supply from Ethiopia, it will not only sort out the national challenges but also leave no stone unturned in other areas of conflict. Furthermore, hiring Egyptian people for job in Ethiopia will not only give a chance to demolish unemployment but also built pluralism through functionalism, between these two rivalry states. Cooperation among Ethiopia and Egypt, and Ethiopia and Sudan, can elevate the chance to have enhanced trade among these bilateral countries. All these countries are enriched in substantial labor force and diverse natural resources which they used for imports and exports in each other's countries(Ebaidalla 2023). However, in few past years, these relations among Ethiopia and Sudan, and Ethiopia and Egypt have become weaker due to the construction of GERD dam in Ethiopia. Moreover, the aim of the research paper is to evinces that the cooperation over the project of GERD among Ethiopia, Egypt, and Sudan, can open incentives for these countries to cooperate on other issues as well. Below is the Ethiopia-Egypt and Ethiopian-Sudan, trade relations before the GERD and after GERD. Trade between Ethiopia and Egypt increased strikingly, in the first decade of 21$^{st}$ century. In 1993, An organization named Common Market for Eastern and Southern Africa (COMESA),(Ebaidalla 2023) , established to build a cooperation for the good of people among multiple countries. Similar to others, Ethiopia and Egypt were also the part of COMESA treaty and, on the bases of their interest, they had bundles of benefits from each other. But after 2015, these benefits became less than before as both were on the conflictual term due to GERD dam construction. the exports, before 2000, were of only USD 6 million which its clearly visible in the below table that they increased to USD 26 million in 2012(Ebaidalla 2023). Moreover, Egyptian imports from Ethiopia, increased from USD 15 million to USD 115 million from 2000 to 2018(Ebaidalla 2023). Moreover, on the other hand Sudan and Ethiopia signed the treaty in 2002 and lifted their trade ratio to the unexpected level till 2018(Ebaidalla 2023). The value of exports between these countries started from USE 1 million to 74 in 2009, and then dropped again to 9 USD millions in 2012(Ebaidalla 2023). Similarly, the imports between them started from USD 1 million and lifted till 207 in 2012(Ebaidalla 2023).

**Imports and exports rate among Egypt and Ethiopia**

| years | USD Million, Ethiopia's exports in Egypt | USD millions Imports from Egypt |
|---|---|---|
| 2000 | 10 | 5 |
| 2001 | 5 | 5 |
| 2002 | 15 | 7 |
| 2003 | 5 | 8 |
| 2004 | 5 | 12 |
| 2005 | 15 | 20 |
| 2006 | 20 | 10 |
| 2007 | 18 | 18 |

| | | |
|---|---|---|
| 2008 | 19 | 70 |
| 2009 | 18 | 40 |
| 2010 | 16 | 50 |
| 2011 | 26 | 50 |
| 2012 | 30 | 40 |
| 2013 | 40 | 80 |
| 2014 | 50 **high** | 90 |
| 2015 | 40 | 115 **high** |
| 2016 | 10 | 105 |
| 2017 | 5 | 60 |
| 2018 | 5 | 45 |

**Imports and exports rate among Sudan and Ethiopia**

| Years | USD Million, Ethiopia exports in Sudan | USD millions imports from Sudan |
|---|---|---|
| 2000 | 0 | 0 |
| 2001 | 1 | 0 |
| 2002 | 1 | 4 |
| 2003 | 5 | 5 |
| 2004 | 8 | 5 |
| 2005 | 8 | 60 |
| 2006 | 19 | 50 |
| 2007 | 19 | 30 |
| 2008 | 20 | 0 |
| 2009 | 38 | 70 |
| 2010 | 20 | 160 |
| 2011 | 10 | 180 |
| 2012 | 18 | 180 |
| 2013 | 30 | 50 |
| 2014 | 30 | 120 |
| 2015 | 45 | **80** |
| 2016 | 40 | 70 |
| 2017 | 75 | 125 |
| 2018 | 80 | 80 |

Hence, it is clearly visible that the trade prosperity started decline after the construction period of GERD. The ratio kept fluctuate after the filling phase got started. If it declined because of the bad terms on GERD issue, it can prosper again if the cooperation has been signed among them.

**Existential threat OR transitional threat from Hegemony**

Following are the stages or aspects from where Egypt is stepping down due to the construction of GERD dam in Ethiopia. Moreover, these aspects are justifying that the opposition of Egypt towards GERD is not only due to the existential threat that is arising due to GERD but also, more than that, the threat of transition from hegemonic stability in Africa.

**Water share**

1. Water shares before the construction of GERD

In the past, with the assistance of colonial power treaties, Egypt has savored the hydro-hegemony in Nile Basin River (NBR) (Pemunta et al. 2021). It was given the exclusive rights by the British colonial powers. In the 1959 agreement, between Egypt and Sudan, Egypt was given the 55.5 km3/ year water share of Nile River(Hefny & El-Din Amer, 2005).

2. Water shares after the construction of GERD

With the passage of time, the colonial agreement such as NRA became the reason of contention among the Nile Basins, most particularly, between the upstream and downstream countries. The upstream countries rejected the agreements by saying them as anachronistic and only beneficial to certain bodies (Tadese, Salomon, and Berlin 2020). After the construction of GERD, the EGYPT water share has become decreased to 20.5 billion cubic meter in every year (20.5 bcm) (Hijazi 2020b). This reduction would effect the navigation in Egypt. Moreover, this would be the cause of reduction in water supply for drinking, industrial use and for aggregation process (Omran & Negm, 2019).

**Hydropower generation**

The above-mentioned heading will describe the impacts of hydropower production in Aswan High Dam (AHD), operating in Egypt, before the construction of Grand Ethiopian Renaissance Dam and after the construction of Grand Ethiopian Renaissance Dam. Before dive into the Critical details, the paragraph would discuss the brief overview of AHD and GERD.

**I.Aswan high dam**

Aswan high dam is situated in the Aswan city of Egypt. It was constructed in 1968 and got completed in 1972. The major purpose of constructing the dam was to maximize the industrial power demand with other minor purpose such as control flood, develop a nurtured agricultural plane and to improve navigation. Its height is 111m with hydropower generation capacity of 109 kWh/y MENDELEY CITATION PLACEHOLDER 0. Furthermore, the Aswan Lake is the source of fresh water to approximately 85% of the population. Following are the positive impacts of the AHDL before the construction of GERD in Ethiopia.

- It brings vivid changes in the level of water and in the discharge of the flow of water
- Brings rehabilitation in the soil salinity
- Betterment in the relation of flora and fauna
- Production of hydropower
- Availability of electricity causing progression in the industrial activities and industrial heterogeneity.
- Crop amplification
- Augment in agricultural land
- Industrialization, specifically of brick making
- Developments of peace and security due to the refinements of economy
- Controlling floods (Negm, Elsahabi, and Tayie 2018)

## II. Grand Ethiopian Renaissance Dam (GERD)

GERD is situated in the city Addis Ababa, Benishangul- Gumaz on Blue Nile. Construction started in 2011, whose cost was 80 billion Ethiopian birr which is equal to 5$ billion US dollars, and concluded in 2017 under the supervision of Ethiopian METEC (Nasr & Neef, 2016). The reservoir of the dam is has the the capacity of 63 billion cubic meter and considered the biggest reservoir of the continent. Moreover, it created more than 12000 jobs for the people during the construction period (Soliman, n.d.). In addition to that, it is considered as the biggest dam in Africa and 7$^{th}$ biggest dam in the world (Soliman, n.d.). In this way the GERD is not only getting the acknowledgement and hegemony in its own continent but also in the whole world. Moreover, the hydropower capacity of GERD is 6000 MW(Negm, Elsahabi, and Tayie 2018), which is 3 times more then the energy supply which was before the construction of GERD(Nasr and Neef 2016). The dam is still under the filling process but when it will be fully operated it would generate 15700 GWh electricity.

### How GERD dam in Ethiopia is challenging the water hegemony of Egypt in multiple aspects:

### Water

GERD dam construction has been sensed disastrous for the Egypt on multiple levels such as water, economy, politics, agriculture, hydropower, and environment(Negm, Elsahabi, and Tayie 2019). The ratio of destruction would elevate speedily during the filling period of GERD dam. It is audit that the ratio of water share deficit in Egypt is 34% which is approximately 19 billion cubic meters. Now among this 34% deficit, 20% is happening during the filling period which is approximately 11 billion cubic meters. On the top of that, if the filling period of reservoir and the flood period would be together and the climate changes increases more than usual, it could be disastrous beyond measure (Negm, Elsahabi, and Tayie 2019). Moreover, no matter, if the filling period years get reduced or increased, it would ultimately role the Egypt into it. For instance, with five years, Egypt would lose its 15 million cubic meter of water and with 3 years, it would lose its 25 billion cubic meter of water which is calamitous for its existence and maintenance of it water Hegemony in Africa (Negm, Elsahabi, and Tayie 2019) .

### Agriculture;

Inadequacy of water in Egypt, due to the GERD dam construction in Ethiopia, is causing detriments regarding to the agriculture as well. Following are the loses that are on the agricultural level;

- Major lose is that GERD dam would destruct the 3.5 billion feddans of agriculture(Negm, Elsahabi, and Tayie 2019).
- Constrict the area of water for the crops that use water in excessive amount. That crop is sugarcane and cotton crops which, utilize up to ten thousand (10,000) to fifteen thousand (15,000) of water, increases the cultivation gap up to 32% and reduces the sugar production up to 30%(Negm, Elsahabi, and Tayie 2019).
- The reduction of water would increase the food gap in Egypt. Egypt is a country who, before the construction of GERD dam was importing 55% of food and the rest 45% were producing within the country. Now after the construction of GERD dam, the ration of the food production within the country. gets lessen up to 25% and imports get increased up to 75%(Negm, Elsahabi, and Tayie 2019).
- It is causing pollution in the area of water flowing within the Egypt(Negm, Elsahabi, and Tayie 2019).

- To fulfil the water scarcity, Egypt is planting more desalination plants to ensure the survival. This is requiring more efforts to purify the water to make it useable for the drinking, agriculture, and for multiple other uses(Negm, Elsahabi, and Tayie 2019).
- Not only effecting the navigation but also the tourism(Negm, Elsahabi, and Tayie 2019).
- Water scarcity effecting the biodiversity system(Negm, Elsahabi, and Tayie 2019).

**Electricity generation;**

In addition to water and agriculture destruction, the hydropower generation in Aswan High Dam is decreasing 40%(Negm et al., 2019). The Aswan High dam is followed by the Lake Nassar which is having water deficit and unable to fulfil the Aswan High Dam reservoir(Negm, Elsahabi, and Tayie 2019).

## Conclusion

Where the Nile River is the source of life, there it has been the bone of contention as well. Countries, beside whom it flows, are fighting for the share of Nile River Water. The very present issue which, could not reached at any solution yet, is the conflict of the GERD dam construction on the Blue Nile in Ethiopia, among Ethiopia, Egypt and Sudan. Egypt and Sudan greatly depends on the Nile Water and to eliminate the water scarcity threat both are adopting such policies which could help them in long run. To fulfil the needs of water, Egypt is planting the water salination plants in which it will remove salt from the water and will make it drinkable. On the other hand Sudan is adopting cooperation policies with Ethiopia as the dam is giving it a fruitful results as well if it stopes opposing it and has cooperative policies with Ethiopia. Moreover, the paper is scrutinized under the lens of functionalism which advocates that if two countries are on conflict and they start sort it out through cooperation, this opens up multiple other doors or incentives for them to have cooperation on other issues as well. Apart from this the research article is revolving around two questions. The first is answering that cooperation opens up doors to have cooperation on other issues and seconds question advocates that if Egypt is opposing GERD dam construction due to the existential threat or it is fearing of hegemonic transition. The paper states examples to justify the research questions. It explains the decline in trade between Egypt and Ethiopia and Sudan and Ethiopia after the construction of the dam started. The trade rate, after signing the COMESA treaty in 2000 and 2002, was prospering till 2011 but after the construction had been started, it is fluctuating since then. In addition to that, in the second question, it is also explained that Egypt opposition is not only due to having existential threats because of GERD but, more to that, it is the fear of losing hegemony on multiples levels. For instance, Egypt is losing its water share which was given to it by colonial powers. Moreover, it is lacking in hydropower, agriculture, jobs provision, clean water availability to its people, economy and, in short, in everything. The conflict is still going on, political talks and meeting are still going on but no one is reaching on any end results because no one is ready to have cooperation. This is only possible when both countries will sit on a table for the benefits of mutual interests. Also this initiate will open the multiple other incentives to having cooperation on past conflict that are still not sorted out and with every new conflict arising, they fire and grudge of the old ones lift its head again.

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