

# Dredging of the River Nile is Suicide in Environmental Science

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**Abstract:** *This research article is an attempt to highlight the environmental impact of post-implementation of dredging if any, in the same token, it is counted as an awareness of environmental impact to institutions on one hand and citizens on the other. The matters related to water solely fall under the jurisdiction of the national government, especially the matters related to tributaries of the Nile. Dredging of Naam River would not resolve to flood as misunderstood by the state government. Hence, dredging is amount to suicide in environmental science. The elements of suicide in dredging are that it will cause loss to grounds of fish in addition to the loss of some species. Another environmental impact is the loss of habitats of rivers for instance loss of biodiversity. In brief, dredging is drainage, therefore, the national administrative concern of the Nile should take necessary steps in regulating water sources all over the country.*

**Keywords:** Conservation of Biodiversity, Environmental Assessment, Flooding, River Nile.

## 1. Introduction

The grounds for dredging of Naam River in Bantiu, Unity State are not enough to justify the implementation of such kind of project, however, is the project base on the grounds in the past as understood in corresponding from state government and the ministry of water irrigation and water resources. Flooding is not a seasonal disaster nor a biennial, it may take decades to repeat itself. The 2020 and 2021 flood was recorded in 1920 (one hundred years) according to the ministry of irrigation and water resources of Sudan<sup>1</sup>.

The impact of dredging of Naam River would not be exclusive to Unity State, it will affect the national economy as well through loss of biodiversity. South Sudan is committed to the implementation of the United Nations Convention on Biological Diversity (CBD) 1992. The South Sudan National Biodiversity Strategy and Action Plan (2018 – 2027) enumerated the importance and the value of the conservation of biodiversity<sup>2</sup>.

It is unrealistic to prepare for a century phenomenon as in the case of dredging of Naam River to prevent unforeseen flooding in the next one hundred years. Another thing to be considered is that dredging is drainage, which means that, there will be severe environmental degradation if dredging is conducted as planned.

Understanding environmental elements of suicide in dredging projects and the call for resumption of Jonglei Canal is a challenge facing concerned institutions at the national level on one hand, and citizens at state levels on the other. The ongoing debate over the dredging of Naam River and the resumption of Jonglei Canal is to come out with a unified national policy on water.

## 2. Definition of Dredging:

Dredging in environmental science means removing unwanted objects from the bottom of the river<sup>3</sup>. However, in the Cambridge dictionary, it means “to search an area of water by dredging”. The latter implies the intention of parties to dredge the water in lakes into the river Nile subsequently northwards.

## 3. Parties' intention of Dredging the River Nile

Parties to the dredging of the River Nile are Unity State and Egypt. In examining the intention of each contracting party to the dredging of the Nile. Of course, Egypt's intention is far from its contractual commitment. However, the intention of the state

<sup>1</sup> 'Record Flooding in Sudan' <<https://earthobservatory.nasa.gov/images/147288/record-flooding-in-sudan>> accessed 18 June 2022.

<sup>2</sup> National Biodiversity and Action Plan, 'Republic of South Sudan National Biodiversity' [2018] United Nations Environment Programme.

<sup>3</sup> 'Dredging Rivers Won't Stop Floods. It Will Make Them Worse | George Monbiot | The Guardian' <[https://www.theguardian.com/commentisfree/2014/jan/30/dredging-rivers-floods-somerset-levels-david-cameron-farmers?CMP=share\\_btn\\_fb](https://www.theguardian.com/commentisfree/2014/jan/30/dredging-rivers-floods-somerset-levels-david-cameron-farmers?CMP=share_btn_fb)> accessed 13 June 2022.

government (Unity State) with the support of youth from Jikany is to resolve the flooding crisis they had in the last two years, but they should not be aware of future environmental impact<sup>4</sup>.

Involving in such a kind of project means a lot to the entire people of the Nile Basin countries particularly upstream and corridors countries namely South Sudan, Ethiopia, and Ethiop. Water is a national matter and should be dealt with at the state level as the Unity State government with the support of the youth claim to be<sup>5</sup>. Of course, flooding in the Unity State and others was severe enough for humans and wildlife all over the country.

The flooding did not affect Unity State alone but all states in Bhr el Ghazal and Upper Nile Regions in addition to some the parts in the Equatoria region<sup>6</sup>. Therefore, the flooding was a national disaster, it starts in Boma and Jonglei in 2019 until late 2021. No state in South Sudan was affected by flooding more than Boma and Jonglei states<sup>7</sup>.

Flooding is a national disaster, and the entire people of South Sudan understand the suffering of their fellows in Unity and other states nationwide. To resolve the issue of floods there are other alternative means to deal with, more importantly, agricultural projects along the rivers in addition to landscaping along the river. There are other ways to control the river rather than dredging<sup>8</sup>.

The request of the Jikany Youth Association to the national government especially the Ministry of Environment should come before taking step toward the implementation of the project, however, the Ministry shall have the final word concerning the impact of any project on the environment through a feasibility study normally conducted by a committee of academia and independent renown specialist on the environmental science.

Hence, concerning dredging of the river, there are stakeholders to be consulted in addition to the Ministry of Environment such as the Ministry of Irrigation and Water Resources, the Ministry of Fisheries, and the Ministry of Wildlife and Tourism.

Of course, Naam River is full of resources, notably fisheries and wildlife. In addition, the state authorities did not pay much attention to other related matters such as the importance of the conservation of biodiversity in Naam River<sup>9</sup>.

I think that the Directorate of Wetlands and Biodiversity of the Ministry of Environment will conduct an awareness campaign to state authorities and the youth about the importance of biodiversity that will be lost upon implementation of the dredging project of Naam River<sup>10</sup>.

The public reaction to the dredging of Naam River and the resumption of Jonglei Canal are two faces of one coin. Be mindful that, the two projects are to be implemented by the same proposed contractor (Arab Republic of Egypt) the mastermind of dredging projects in upstream and corridor countries of the Nile Basin<sup>11</sup>.

The dredging of Naam River was not politicised, but the project is likely to be implemented in isolation from scientific facts. Let us arguably suppose that, dredging may or will resolve the flooding problem (one problem) and come up with many problems.

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<sup>4</sup> Abadir M Ibrahim, 'The Nile Basin Cooperative Framework Agreement the Beginning of the End of Egyptian Hydro-Political Hegemony' (2013) 18 SSRN Electronic Journal.

<sup>5</sup> 'The Transitional Constitution of the Republic of South Sudan , 2011 THE TRANSITIONAL CONSTITUTION OF THE REPUBLIC OF SOUTH'.

<sup>6</sup> USAID, 'Southern Sudan Environmental Threats and Opportunities Assessment' (2007) 202 The United States Agency for development 39.

<sup>7</sup> 'One Government, Two Statements on Dredging of Jonglei Canal - South Sudan' <<https://www.africa-press.net/south-sudan/all-news/one-government-two-statements-on-dredging-of-jonglei-canal>> accessed 15 June 2022.

<sup>8</sup> Melody Ocloo and Noeline Raondry Rakotoarisoa, 'Sustaining the Sudd through the Man and the Biosphere ( MAB ) Concept' (2015) 5 Unesco 1.

<sup>9</sup> 'South Sudan: An Unexplored Eden of Biodiversity - France 24' <<https://www.france24.com/en/20200526-south-sudan-an-unexplored-eden-of-biodiversity>> accessed 18 April 2022.

<sup>10</sup> 'Dredging River Naam without Environmental Impact Assessment "Illegal": Minister - Sudan Tribune' <<https://sudantribune.com/article260020/>> accessed 15 June 2022.

<sup>11</sup> 'Dredging Rivers Pose Danger to Aquatic Life, Warns Lawmaker – The City Review South Sudan' <<https://cityreviewss.com/dredging-rivers-pose-danger-to-aquatic-life-warns-lawmaker/>> accessed 15 June 2022.

In comparison, if the outcome of a feasibility study indicates that, the negatives are more than the positives then the project will not be implemented as in this case, if resolving flooding will result in loss of biodiversity and create another related environmental impact on flora and fauna then that project will not be implemented base on the scientific facts<sup>12</sup>.

#### 4. The source of floods

Floods have nothing to do with rivers and the related tributaries. However, rainfall is the source of floods for example, according to the Ministry of Humanitarian Affairs and Disaster Management (MHADM) in 2019 highlight that the source of floods in Jonglei and Boma states are attributed to heavy rainfall, which means flooding will occur in an area without lakes<sup>13</sup>.

It is more important to highlight that, the floods of 2019 to 2021 were not only in South Sudan, but it was also a regional disaster, and neighbouring Sudan suffered as well, especially in Khartoum. According to the ministry of irrigation, the like of such a flood was registered one hundred years back, which means it occurred every one hundred years<sup>14</sup>.

I visited Upper Nile in November 2021 where the said flood was all over, I witnessed the impact of floods on humans, animals, and forestry, and I describe the impact of the flood on forestry as a distinction warning. Such a description comes after assessment of the soapberry tree (balanitaceae) in addition to acacia which is common in many counties in Upper Nile, these trees and the like were likely to dry up and could not survive for two years in the water.

Currently, the country is facing another environmental problem which is the drought due to the lack of rain after two years of water. Therefore, environmental cycling is real, which means that, as we were complaining of flooding, subsequently we will be complaining of drought.

Thus, Unity state and those advocating for the resumption of Jonglei Canal should wait a bit to assess how the environment cycling over decades. The very people that complained of water, surprisingly, will complain of drought in a dramatic change of views.

#### 5. Flooding as the justification factor for dredging

As mentioned within the context of this research article, predicting rainfall in a season is an easy matter simply through the application of technology (early warning). In other words, meteorologists may predict rainfall data per season and advice authorities to take necessary steps toward the prevention or mitigation of upcoming disasters<sup>15</sup>.

The lack of use of modern technology in forecasting environmental risks helped create risks for both humans and animals. I think once the technology is introduced in forecasting environmental risks, especially concerning rainfall per cent per season it will help in preparation to avoid the severe impact of floods.

There are a good number of meteorologists in the country, but need to be equipped with modern high-tech forecasting systems to monitor environmental change. The conflict over Nile waters is real, therefore, having tributaries that are not linked with the Nile such as SUDD and the like is a blessing, which falls under solely domestic rule.

It is worth mentioning that, the Nile is governed by international law, once linked tributaries with the Nile it amounts to authorizing international law to take advantage of domestic law over Nile waters. The usage of Nile water is governed Entebbe Agreement on the Nile River Basin Cooperative Framework 2010.

Further, in thinking of conducting such a kind of project, it is important to consult specialists in the field, notably, institutions at all levels of economic clusters in general. The institutions concerned with the Nile are the Ministry of Environment, Irrigation and Water Resources, Fisheries, and Wildlife in addition to other relevant commissions and committees of August House.

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<sup>12</sup> 'Why Dredging of Rivers Should Not Start until Feasibility Study Is Done! - South Sudan' <<https://www.africa-press.net/south-sudan/all-news/why-dredging-of-rivers-should-not-start-until-feasibility-study-is-done>> accessed 15 June 2022.

<sup>13</sup> Yassin Z Osman and Asaad Y Shamseldin, 'QUALITATIVE RAINFALL PREDICTION MODELS FOR CENTRAL AND SOUTHERN SUDAN USING EL NIÑO/NONI~ NIÑO-SOUTHERN OSCILLATION AND INDIAN OCEAN SEA SURFACE TEMPERATURE INDICES' (2002) 22 INTERNATIONAL JOURNAL OF CLIMATOLOGY Int. J. Climatol 1861 <[www.interscience.wiley.com](http://www.interscience.wiley.com)> accessed 19 June 2022.

<sup>14</sup> Lisa-Maria Rebelo and others, 'Flood Pulsing in the Sudd Wetland: Analysis of Seasonal Variations in Inundation and Evaporation in South Sudan Article in Earth Interactions -' (2012) 16 Earth Interactions d <<http://earthinteractions.org>> accessed 19 June 2022.

<sup>15</sup> Osman and Shamseldin (n 13).

It is important to conclude that, floods come from heavy rainfall and not from the Nile, the example is the flooding of the last two years which covers many countries in Bhr el Ghazal and Upper Nile regions<sup>16</sup>.

#### 6. Potential conflict over the Nile water

It is obvious that dredging is a step into national policies concerning water resources, the great regret is await if such a kind of project is implemented without a feasibility study<sup>17</sup>. Hence, water is the source of renewable resources, the water is food, therefore, dealing with a matter involving water should be conducted upon recommendation of the National Security Council base on scientific recommendations of a feasibility study carried out by renowned specialists in the relevant fields.

The impact of the Nile on interstate politics is very significant, therefore, interfering with the ecosystems of the Nile is another change<sup>18</sup>.

#### 7. Why does Egypt support dredging and reject the construction of dams in Nile Basin Countries?

Egyptian intention to drainage Nile tributaries in South Sudan can be traced to the condominium era<sup>19</sup>. The proposal of taking water from tributaries into the main Nile is a generational debate. The proposal was initiated by (Sir William Garstin, 1904 Inspector General of Irrigation at the Egyptian Ministry of Public Works, who proposed what became known as the "Garstin Cut")<sup>20</sup>.

History proved beyond reasonable doubt that Egyptian ambition on Nile water is annoying. It seems like it owned the Nile from upstream to downstream. The rest of the Nile basin countries are to seek approval from Egypt as per the so-called agreement on the Nile River in 1929 and 1959 respectively<sup>21</sup>.

Egypt is still supporting the completion of Jonglei Canal (Jonglei Project Area) and the dredging of Naam River is another way around to resumption of Jonglei Canal<sup>22</sup>.

Egyptian intervention in Nile water takes different aspects including dredging as another step toward completion of Jonglei Canal in persuading some officials that, dredging will help in mitigating flooding impact. Flooding would have been managed if dredging was the only solution in hand (which is the intention for dredging).

Egypt and Sudan should have opened their dams to take water northwards but opted to keep quiet while South Sudan was suffering.

Egyptian policy on the water is that it does not help when facing severe flooding while persuading dredging to help in increasing the flow of water from tributaries to the Nile in years where rainfall is limited as it's the case in 2022.

The press lease from the Ministry of Water and Irrigation on June 8<sup>th</sup>, 2022 is refutable for many reasons notably for its acceptance for the resumption of Jonglei Canal in December 2021.

#### 8. Dredging is a land drainage

Dredging of rivers would not have prevented the recent or future flooding whatsoever, therefore, authorities at the ministry of water and irrigation should take into account that, a flood is a natural disaster it comes from time to time. Hence, to prepare is to install rainfall forecasting to predict the data of rainfall in a season, subsequently to prepare for mitigating the impact of the flood.

All parties to the dredging processes should seek scientific advice from relevant institutions and specialists in environmental science before the implementation of the project. Public objection to dredging processes is in line with the public interest.

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<sup>16</sup> 'Dredging Will Not Stop Floods, Move to Higher Grounds - Gov't - The Insider South Sudan' <<https://www.theinsider-ss.com/dredging-will-not-stop-floods-move-to-higher-grounds-govt/>> accessed 15 June 2022.

<sup>17</sup> Ibrahim (n 4).

<sup>18</sup> Republic of South Sudan, 'South Sudan National Adaptation Programmes of Action (NAPA) to Climate Change' <[http://postconflict.unep.ch/publications/South Sudan/SouthSudan\\_NAPA\\_Nov2016.pdf](http://postconflict.unep.ch/publications/South%20Sudan/SouthSudan_NAPA_Nov2016.pdf)>.

<sup>19</sup> Abdel Magid, 'The Jonglei' (1995) 22 38.

<sup>20</sup> *ibid*.

<sup>21</sup> Ibrahim (n 4).

<sup>22</sup> 'VP Taban Calls for Resumption of Jonglei Canal to Prevent Flood Disaster - Eye Radio' <<https://www.eyeradio.org/vp-taban-calls-for-resumption-of-jonglei-canal-to-prevent-flood-disaster/>> accessed 15 June 2022.

Hence, the parties to the dredging should provide comparative projects concerning dredging within the region or elsewhere. However, the dredging of Naam River seems to be the first of its kind in the region.

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