

# Hydro-politics in the Sudd Wetland:

## The implications of past and current water development projects for South Sudan and the Nile Basin

Ranga Gworo & Fynn Kaltenpoth, Conflict Sensitivity Resource Facility (CSRF)

### Introduction

Wetlands are under threat globally, declining at a rate three times higher than natural forests. This is reason for concern because healthy wetlands offer a variety of essential services to humans and are critical ecosystems in the fight against climate change.<sup>1</sup> Yet, the governance of wetlands often falls through the cracks of water governance approaches and institutions in charge of managing rivers, lakes or aquifers.<sup>2</sup> Emblematic of this is the Sudd Wetlands [Sudd] in South Sudan. Little is known about the environmental and social dynamics in the Sudd. Yet, initiatives and plans for water development projects which would affect the ecological stability of the Sudd, are increasing throughout the region. Recently, the South Sudanese government announced plans to proceed with river dredging to control unprecedented floods – a move that triggered fierce debates in the war-torn nation.

This analysis seeks to create awareness around the sensitivity of the dredging debate in relation to water management projects in the Sudd Wetland, people's mixed livelihoods, natural resource management and seasonal flooding.<sup>3</sup> Based on this, a number of conflict sensitivity considerations for aid actors working in South Sudan are outlined.<sup>4</sup>

Sudd communities, state institutions, conservationists and neighboring states, amongst others, have diverging views on how development should take shape in the wetlands.<sup>5</sup> Particularly contentious are oil production and exploration and hydro-politics. With vast oil reservoirs underneath and near the Sudd, environmental degradation from contamination has been prevalent for decades. After an eight-year production stop, mainly due to the civil war, several oil fields and refineries restarted production in 2021. This resumption comes without improvements in the maintenance, management and legal oversight of operations. There is also growing interest in building new pipelines through the wetlands. All this together could "see oil dominate the Sudd landscape for decades to come"<sup>6</sup>. Another more existential threat to the ecological integrity of the Sudd is (regional) hydro-politics, which builds on a history of contestation most famously illustrated by the Jonglei Canal project<sup>7</sup>.

Recent, consecutive and unprecedented floods in the Greater Upper Nile region have triggered a new wave of discussions. In 2021, the South Sudanese government announced plans to construct a dam on the White Nile and signed a memorandum of understanding with Egypt for engineering works to reduce flood risks in the Sudd. There are also news dams under construction or constructed by upstream countries, for example, the Isimba and Karuma hydroelectric dams in Uganda. The risk here is that uncoordinated water management interventions destabilise the equilibrium of the Sudd. In April 2022, there was a heated debate in South Sudan between the government and experts [activists] over the dredging of the River Naam and an alleged resumption of the Jonglei Canal construction.<sup>8</sup>

---

<sup>1</sup> Ramsar, 2018

<sup>2</sup> Rosenblum & Schmeier, 2022

<sup>3</sup> MoEF, 2022

<sup>4</sup> However, in relation to specific 'dredging projects' in the Sudd [if implemented], CSRF recommends a tailored context/conflict analysis focused on conflict sensitivity recommendations for aid actors to navigate.

<sup>5</sup> Conflict and Environment Observatory, 2021

<sup>6</sup> Ibid

<sup>7</sup> a colonial-era project to divert the flow of the White Nile to bypass the Sudd, in order to channel more water into downstream agricultural irrigation.

<sup>8</sup> Catholic Radio Network, 2022

Despite being two separate ‘projects’, these are often conflated, which is partly due to the historic legacy of hydro-politics in the context of the Sudd (explored further below). The debate came at a critical time. The extension of the Revitalised Agreement on the Resolution of the Conflict in the Republic of South Sudan (R-ARCSS) was fiercely debated, a flaring up of subnational violence occurred and challenges associated with the high cost of living and environmental shocks, such as floods and droughts linked to climate change, affected large parts of South Sudan.

**Box 1: The Sudd Wetlands:** The Sudd, a vast swamp and one of the world’s largest freshwater ecosystems, covers an area of approximately 57,000 km.<sup>9</sup> The designated Ramsar site<sup>10</sup> is of immense environmental, social and economic importance for the area, the country and the Nile Basin as a whole. Approximately one million people inhabit the Sudd and depend on its natural resources. As communities adapted to the conditions, unique and irreplaceable cultures have evolved.<sup>11</sup>

Mixed livelihood strategies employed in this zone include cropping, livestock pastoralism, farming, fishing, other river-related activities, harvesting of wild foods and natural resources, including papyrus grass, water lilies, gum arabic, doum, wood, crustaceans and birds. Agricultural practices incorporate rain-fed land, either tilled by hand, simple ploughs or machines for growing cowpeas, groundnuts, okra, pumpkins, sorghum and other vegetables. The pastoral livestock sector (cows, goats, sheep), a major contributor to the South Sudanese economy, navigates the Sudano-Sahel eco-regions with seasonal cattle migration into the Sudd in search of pasture.<sup>12</sup>

While some of its value can be expressed in monetary terms [estimated at USD 3.3billion], some features of the Sudd are not so easily quantified.<sup>13</sup> Patched between arid Sahelian landscapes, the Sudd serves as a critical refuge for migratory animals and regulates hydro-ecological flows in the entire Nile Basin, for example, downstream discharge rates of the river Nile as well as regional precipitation patterns. Moreover, the Sudd is nested in, and stabilises, adjacent ecosystems and stores vast amounts of Green House Gases (GHGs).<sup>14</sup> The wetlands are sustained by the White Nile originating from Lake Victoria and from surface runoff. A key outflow is the Lower Nile flowing on to Sudan and Egypt.

Communities and species inhabiting the Sudd are, in principle, well-adapted to the varying surface size of the wetlands. Data shows that the Sudd expands from 42,000km<sup>2</sup> during the dry season to 90,000km<sup>2</sup> during the wet season.<sup>15</sup> Recent flooding, linked to climate change, points towards two important changes. Firstly, floods are becoming more dispersed, reaching areas which had been traditionally unaffected. Secondly, floods are lasting longer. Affected communities and some state institutions have therefore aimed to create firm policy responses. To some, these are perceived as being to the detriment of ecosystem conservation.

<sup>9</sup> MoEF, 2022

<sup>10</sup> Ramsar Sites are wetlands of international importance designated under the Ramsar Convention, which was adopted in the Iranian city of Ramsar in 1971 and came into effect in 1975. See <https://rsis.ramsar.org/ris/1622>

<sup>11</sup> MoEF, 2022

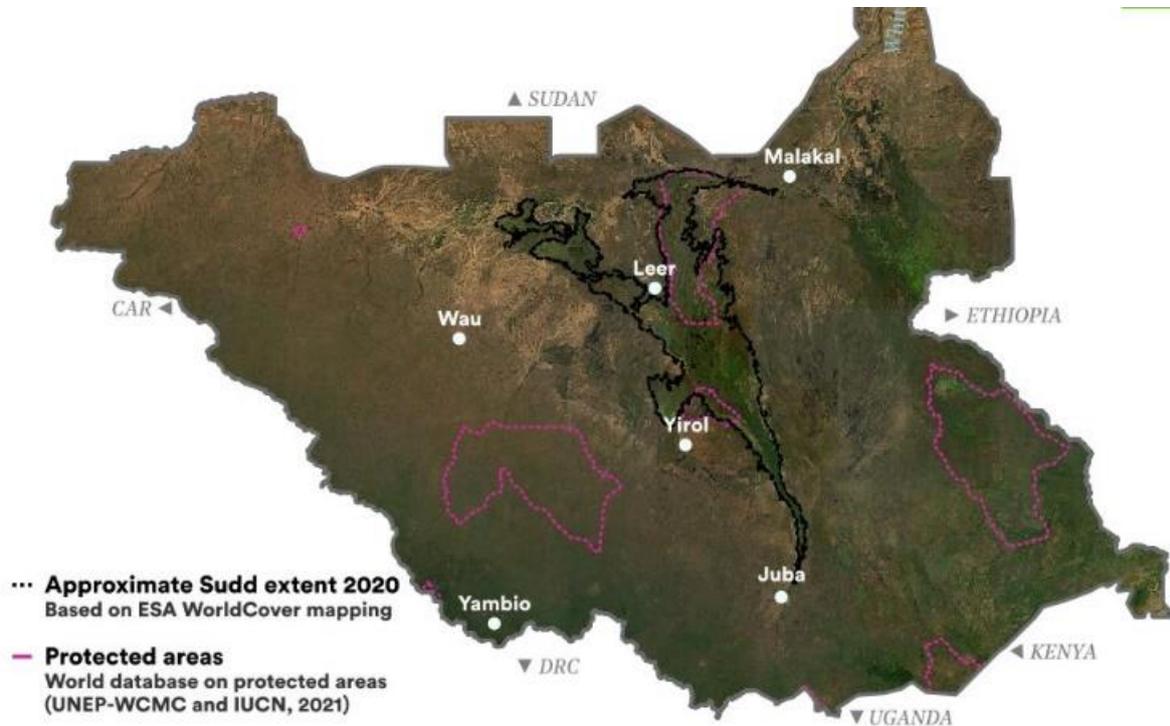
<sup>12</sup> Ibid

<sup>13</sup> Ibid

<sup>14</sup> Ibid

<sup>15</sup> Ibid

Image 1) Geography of the Sudd Wetlands<sup>16</sup>



## Looking back to look ahead: Hydro-politics in the Sudd Wetlands

Claims over the Nile waters, and therefore indirectly also the Sudd, have been the subject of contention between the Nile Basin countries for decades. The Nile Basin subsumes Burundi, the Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, South Sudan, Tanzania, and Uganda. Historically, upstream countries receive high volumes of annual precipitation thus relying to a lesser extent on the Nile directly, whereas downstream nations such as Sudan and Egypt are heavily dependent on the river's resources.<sup>17</sup> The 1929 Nile Waters Agreement and 1959 Agreement for the full utilisation of the Nile Waters are the only legal frameworks concerned with allocating the Nile's water resources. The former was negotiated between Egypt and Great Britain, at the time the colonial power of many Nile territories, and entrenched Egypt's historical hegemony concerning the utilisation of the Nile waters. After Sudan's independence in 1956, a new agreement was forged between Sudan and Egypt in 1959 allocating Sudan a total water share of 18.5 billion m<sup>3</sup> annually leaving the remaining 55.5 billion m<sup>3</sup> for Egypt, while 10 billion m<sup>3</sup> was left for evaporation.<sup>18</sup> The other riparian states were not consulted (and they were not yet independent states at the time of these negotiations) and so the legal status of the document remains unclear. However, it still functions as an important reference point, especially for Egypt.<sup>19</sup>

To facilitate integrated water cooperation between the riparian states, the Nile Basin Initiative (NBI) was established in 1999. As well as serving as an information-sharing platform, the NBI was tasked to negotiate the Cooperative Framework Agreement (CFA), which, if adopted, would have established the

<sup>16</sup> Conflict and Environment Observatory, 2021

<sup>17</sup> Martinon, 2010

<sup>18</sup> Ibid

<sup>19</sup> Okoth-Owiro, 2004

successor Nile Basin Commission.<sup>2021</sup> Rather than quantifying ‘equitable rights’ or water use allocations, the CFA intends to establish a framework to “promote integrated management, sustainable development, and harmonious utilisation of the water resources of the Nile Basin, as well as their conservation and protection for the benefit of present and future generations”. It outlines the principles, rights and obligations for cooperative management and development of the Nile Basin’s water resources. All provisions of the agreement were agreed by the Nile Basin countries except for Article 14(b), which states the following: “Nile Basin States therefore agree, in a spirit of cooperation: . . . (b) not to significantly affect the water security of any other Nile Basin State”.<sup>22</sup> Given Sudan’s and Egypt’s historical reliance on the Nile waters, the two states requested an alternative phrasing, namely “(b) not to adversely affect the water security and current uses and rights of any other Nile Basin State”.<sup>23</sup> Their proposal was rejected by upstream countries, which leaves the Basin without any comprehensive, fully institutional governing entity as the Agreement is subject to ratification.

Since March 2011, six upstream countries have signed the Agreement, which has no legal implications for States that do not sign or ratify the document. South Sudan is yet to sign the CFA. One reason for this reticence may be fears over antagonising Sudan and Egypt. Yet, the CFA could play a key role in catalysing economic growth, reducing poverty, facilitating integration and promoting internal and regional peace and stability. If South Sudan and other non-signatories, were able to sign their commitments to cooperate in the development of the utilisation of their shared water resources, financial assistance provided by other private or public development partnerships could follow.<sup>24</sup>

Upstream nations increasingly demanded a greater share of water resources to accelerate their development, which has implications for the stability of the Sudd. Uganda and Ethiopia both have plans to construct large-scale hydro-power dams. At the same time, climate change projections estimate a reduction in the river’s discharge volume. This mix of upstream development and climate change will likely diminish the volume and quality of water for downstream nations, such as Sudan and Egypt.<sup>2526</sup> Even in the past, a number of strategies and approaches were proposed by downstream countries to increase water use efficiency, for example, by improving irrigation practices and by minimising upstream water loss through evaporation. In 1904, a British hydrologist suggested an idea of building a canal that would (partially) drain the Sudd Swamp, thereby increasing the volume of water flow to Egypt and Sudan (see Box 2).

**Box 2: The Jonglei Canal:** The Jonglei Canal was a 360-kilometre-long canal project proposed by a British hydrogeologist to divert water from above the Sudd to maximise downstream discharge and minimise water loss through evapotranspiration. The idea first emerged in 1904, however, it took until 1974 for Sudan and Egypt to renew their interest in building the Jonglei Canal. Initially the proposal was not approved until the 1950’s, then in 1959 the civil war broke out in Southern Sudan, suspending construction until the Addis Ababa Agreement was signed in 1972<sup>27</sup>. As a result, both countries tabled the proposal for approval at the High Executive Council (HEC), the regional government of Southern Sudan. Sudan then established a National Council for the Development of the Jonglei Canal Area in 1974. Joined by academics, civil society and some government officials, the protesters argued that the partial draining of the Sudd served foreign interests and would erode people’s livelihoods and destroy critical habitats. The HEC responded with a police deployment to

<sup>20</sup> Alebel et al., 2010

<sup>21</sup> Cascão & Nicol, 2016

<sup>22</sup> Alebachew, 2014

<sup>23</sup> Ibid

<sup>24</sup> Cooperative Framework of the Nile Basin Initiative, 2017

<sup>25</sup> Cascão & Nicol, 2016

<sup>26</sup> Coffel et al., 2019

<sup>27</sup> Salman, 2011

crush the protests.<sup>28</sup> In the end, the HEC government decided to suspend the project after mounting public pressure.

In 1978, four years after its suspension, the project resumed. A French Company constructed nearly 260 kilometers, around two-thirds of the canal. Although there were no visible protests, communities were not consulted and had deep-rooted grievances against the project. Apart from environmental concerns, the project fell short of fulfilling its promises to communities within the Sudd, including the building of roads, hospitals and schools. Exploiting the public discontent, the Sudan's People's Liberation Army (SPLA) attacked the excavator and halted the project in 1984. Following twenty-one years of war, and the negotiation that culminated in the Comprehensive Peace Agreement (CPA), the management of the Nile was left out of the talks. The SPLA/M negotiation team felt that it would complicate the talks.<sup>29</sup> Even though the project was never completed, it remains a relevant reference point. Rumors and statements by state officials about a possible resumption have been mounting since 2021, reigniting past divisions and fears.<sup>30</sup>

### Implications of the Past for current policy debates: to dredge or not to dredge?

Discussions about how water management should take place in the Sudd are therefore situated in a complex landscape, with different interests at different levels, as well as historical legacies which influence perceptions towards policy responses. On the one hand, there is a clear understanding that policy responses are needed given the unprecedented scale and impact of floods in South Sudan and the likelihood that this will continue given climate change projections. On the other hand, the historical legacies such as those surrounding the Jonglei Canal project, the lack of scientific data, and the different actors and their interests are clearly interlinked and impede straightforward policy-making.<sup>31</sup> One further complication centres around the communication of water management interventions. All too often, interventions are communicated publicly without completing Environmental Impact Assessments (EIAs) or are communicated in such a way that they are blurred with past proposals.<sup>32</sup> For example, a policy discussion that has received wide public attention and scrutiny is river dredging (see Box 3 for an explanation on dredging).

**Box 3: River dredging** is the process of excavating surface material from the riverbed. The process usually consists of four phases: loosening the material, bringing the material to the surface, transportation and disposal. The effects of the 'intervention' depend upon the procedures in each of these phases and a rough distinction can be made between suction and mechanical dredging machines. River dredging can serve multiple purposes, including to harvest materials, deepen or maintain waterways, alter drainage, and widen channels as a flood prevention mechanism.

### Dredging in the Sudd Wetlands

In April 2022, the Minister of Water and Irrigation, Hon. Manawa Peter Gatkuoth [who passed away in June 2022], revealed that South Sudan and Egypt had signed a cooperation agreement on dredging the River Naam. An activist group led by Prof. John Akec, the Vice Chancellor of the University of Juba, responded with a social media campaign against the plans citing harmful environmental impacts.<sup>33</sup> The debate intensified following the arrival of 21 dredging machines in Unity state from Egypt in June.<sup>34</sup>

<sup>28</sup> Ibid

<sup>29</sup> Ibid

<sup>30</sup> Radio Tamazuj, 6<sup>th</sup> July 2022

<sup>31</sup> Conflict and Environment Observatory, 2021

<sup>32</sup> Personal observation

<sup>33</sup> Radio Tamzuj, 19<sup>th</sup> June 2022

<sup>34</sup> Juba post, June 2022

Subsequently, the president decided to suspend the dredging until an EIA was conducted,<sup>35</sup> a move that led to protests by flood-affected communities in Unity state who saw the dredging as a means to reduce flood risks.<sup>36</sup> Determined to achieve their goal, some residents of Bentiu resorted to removing weeds by hand on the River Naam.<sup>37</sup> To increase awareness, face-to-face public consultations were held in Juba from 11<sup>th</sup> to 14<sup>th</sup> of July 2022 in which national and international experts were invited to share their concerns about the possible impact of the dredging on the environment, livelihoods and national interest in South Sudan.<sup>38</sup>

The consultations ended with 14 recommendations, one of which called for EIAs before dredging could be initiated.<sup>39</sup> This was never followed-up as the cabinet later secretly approved the proposal labelling it as ‘cleaning’ rather than dredging.<sup>40</sup> The wider public reaction to this move was largely muted. It was later cited that the Hon. Minister Manawa Peter Gatkuoth’s Jonglei Canal Development Plan had been leaked to the media and public. The leak went on to fuel public debates including further media reports<sup>42</sup>, where dredging was frequently equated with the resumption of the Jonglei Canal project, in turn conflating different options, introducing past concerns into the policy debate, and fuelling further divisions.<sup>43</sup>

## Possible Implications of water management interventions in the Sudd and ways forward

While this analysis focuses on river dredging and the legacies from the Jonglei Canal project, the lessons from these interventions are relevant for other future water management interventions in the Sudd. Accordingly, the aid sector and private sector would benefit from a deeper conflict-sensitive understanding of the context and conflict dynamics, including the historical narratives around hydro-politics in the Sudd and making the connection of how policy and practice interacts with these. It is critical that aid agencies, donors and private sector actors understand the interactions between such interventions and their own programmes/projects and operations, so they can make adjustments where necessary to avoid fuelling divisions and maximise positive impacts.

### Marginalisation of critical voices

Public policy-making, especially around water management issues, continues to show a lack of inclusion and meaningful communication in South Sudan. The 2021 cooperation agreement with Egypt, for example, has been criticised for its opacity in a similar manner to the proposal for the 1970’s Jonglei Canal and recent plans to reinvigorate it.<sup>44</sup> Similarly, the dredging proposal, even though it is a significantly smaller project, was not backed up by wider community consultations. Although the President’s office initiated public consultations at Juba-level involving a selected group of representatives from civil society and academia, they excluded directly and indirectly affected communities.<sup>45</sup> By not giving sufficient space for exchanges between critical stakeholders, this top-down policy approach risks undermining policy effectiveness and legitimacy. Critically, opportunities for public consultations do not just serve to voice concerns, but pose an opportunity to listen,

---

<sup>35</sup> The East Africa, 7<sup>th</sup> July 2022

<sup>36</sup> Radio Tamzuj, 14<sup>th</sup> July 2022

<sup>37</sup> Eye Radio, 15<sup>th</sup> July 2022

<sup>38</sup> Sudans post, 4<sup>th</sup> July 2022

<sup>39</sup> Eye Radio, 15<sup>th</sup> July 2022

<sup>40</sup> Radio Tamzuj, 18<sup>th</sup> October 2022

<sup>41</sup> Eye Radio, 18<sup>th</sup> October 2022

<sup>42</sup> Radio Tamzuj, 19<sup>th</sup> June 2022

<sup>43</sup> Tiitmamer, 2022

<sup>44</sup> Johnson, 2011, p. 47

<sup>45</sup> Sudans post, 4<sup>th</sup> July 2022

understand each other's standpoints and possibly generate support for the project or intervention in order to find common ground.

Donors and aid agencies must leverage their advocacy channels to ensure that critical stakeholders are meaningfully included in the national policy-design cycle and need to continue to track this to make sure it continues beyond a one-off process. By understanding the livelihood positions, especially of communities living within or adjacent to the Sudd, aid agencies and donors can ensure that they are not reinforcing the same divisions and further ensure that project design takes grievances into account and possibly offsets them.

### **Furthering divisions amongst communities**

The dredging proposal and the insufficient consultation and communication that preceded it seems to have hardened divisions between communities and levels of government. Many people from Unity state appear to favour dredging, seeing it as a means of addressing devastating floods, but communities from Jonglei and other states are more concerned about the possible long-term environmental and social impacts, including on the Sudd's overall stability and the livelihoods of communities.<sup>46</sup> In contexts such as the Sudd where incomplete evidence and available data impedes the ability to make fully informed decisions, it is likely that water management interventions will have an unequal distribution of effects. It is thus even more important to closely monitor how these effects interact with existing grievances and conflict risks at intra- and inter-community levels and to consult communities to understand the different perspectives and impacts and, if possible, facilitate dialogue between them.

### **Politicisation of grievances**

Discontent over hydro-politics has also historically provided armed groups in South Sudan with an additional platform for recruitment and with grounds to broaden their popular support. Prior to independence, the SPLA aligned its objective of fighting against marginalisation by the Sudanese government with, amongst other things, public grievance against the Jonglei Canal.<sup>47</sup> More recently, the National Salvation Front (NAS) publicly condemned any rumours around restarting the Jonglei Canal project due to its potential impacts on the Sudd and its long-term implications.<sup>48</sup> Therefore, it is useful to monitor how armed groups are positioning themselves in relation to policy options and how these feed into public support strategies and conflict dynamics. There is a need to monitor the potential exploitation of public grievances by specific political and armed faction and to encourage thorough community engagement.

### **Exacerbating livelihoods and environmental risks**

A particularly prominent concern about most water management interventions in the Sudd, and thus also dredging, is the possible impact on the environment and therefore also the livelihoods of adjacent communities.<sup>49</sup> Uncertainty over environmental impact was the primary reason that prompted the Ministry of Environment to issue a warning that it would not approve the dredging project for fear of its impact on the environment, including livelihoods, and a similar call was echoed in the presidential decree that temporarily suspended the project. The strong opposition to the Jonglei Canal, and concerns over its resumption, are in part due to the anticipated environmental impacts on the Sudd. While this analysis shows the complexity of the current state of the Sudd, with unprecedented floods, complex historical narratives, and diverging interests at different levels of governance, what is currently missing is an integrated development plan for the Sudd as a whole.<sup>50</sup> Such a plan, especially if

---

<sup>46</sup> Radio Tamazuj, 16<sup>th</sup> July 2022

<sup>47</sup> Salman, 2011

<sup>48</sup> National Salvation Front/Army, 2022

<sup>49</sup> Yale Environment 360, 2022

<sup>50</sup> MoEF, 2022

formulated in an inclusive and holistic manner, would take into account diverse social interests as well as the Sudd's importance for local and regional climates, hydrological flows and its role in combating climate change. In the absence of a broader framework, donors and aid agencies need to critically assess the implications of piecemeal interventions, whilst using available resources to advocate for an inclusive and integrated resource management approach towards the Sudd.

### **Support to scientific research on the Sudd**

Surprisingly, and despite the Sudd's global importance, it has not yet attracted the attention of the international research community. Critical ecosystem services and characteristics of the Sudd remain understudied and therefore widely unknown. This includes precise evapotranspiration rates, the Sudd's role in regulating regional climate and its carbon sequestration potential.<sup>51</sup> Wetlands, such as the Sudd, can act as a net sink or source of Greenhouse Gas (GHG) emissions depending on the underlying natural processes. Theoretically, either the drainage of wetlands or anaerobic conditions lead to wetlands being net sources of GHGs. In this context, around 37% of the entire carbon stock of the Nile Basin is stored within the Sudd's peatland – a soil composed of partially decayed plant materials under waterlogged conditions.<sup>52</sup> Interventions, such as the Jonglei Canal or river dredging, which divert water away from the Sudd, are likely to have implications for the Sudd's GHG balance, though the precise extent of this remains unclear. In the absence of such data and/or poor data quality, discussions around possible ways for development in the Sudd lack the necessary science-policy foundation.<sup>53</sup>

Donors and aid agencies should consider playing a more active role in strengthening the science-policy nexus, supporting better information-sharing and collaboration with environmentalists, and facilitating evidence-based policy-making for the Sudd – especially as these dynamics also have implications for project design and longer-term planning around aid responses. This could include facilitating primary research, sharing best-practices and ways of how scientific findings can be integrated into policy-development, as well as sharing frameworks for decision-making in uncertain environments.

Alongside environmental knowledge gaps<sup>54</sup>, there is a need to better understand the social dimensions of the Sudd. In public debates, much emphasis is placed on conducting EIAs with less focus on Social Impact Assessments (SIAs).<sup>55</sup> Aside from considering how changes in environmental stocks and flows affect communities and individuals, one also has to assess the relative economic and political value of the respective resource. It is thus pivotal to understand narratives around the Sudd, the meaning that is prescribed to ecosystem services and how they sustain communities within and adjacent to the Sudd to avoid negative impacts. Crucially, this opens the possibility of conflict without changes in stocks or flows, due to the rise of new ideologies which deem a certain resource more valuable.<sup>56</sup> Donors and aid agencies should ideally ensure that both environmental and social dimensions of the Sudd receive the necessary attention and are examined in conjunction with each other.

### **Citizen-state interactions**

Water management interventions, such as dredging and experience from the Jonglei Canal project, also lie at the heart of citizen-state interactions. Many South Sudanese are dissatisfied with the way such interventions were proposed and decided. They fear that the authorities or those in positions of power are focused on exploiting and selling the resources of South Sudan, such as oil revenues, taxes, and Nile water, without doing full due diligence and prioritising the interests and concerns of citizens

---

<sup>51</sup> Ibid

<sup>52</sup> Ibid

<sup>53</sup> Conflict and Environment Observatory, 2021

<sup>54</sup> A more comprehensive list of research gaps is listed in MoEF, 2022, p. 33.

<sup>55</sup> Eye Radio, 15<sup>th</sup> July 2022

<sup>56</sup> Selby & Hoffmann, 2014, p. 362

in the short- and long-term. Thus, there is considerable public interest in seeing that water management interventions benefit people and bring about much needed development.

Moreover, the remote and dynamic landscapes of the Sudd are an important ‘buffer zone’<sup>57</sup>, against state-building processes. The British already attempted to define the Sudd into clearly bounded territorial administrative units and ethnically distinct communities, which “went against the grain of vernacular conceptions of spatiality and mobility”<sup>58</sup> of communities living in the Sudd. In this respect, the communities’ well-adapted lifestyles to the seasonal fluctuations of the Sudd’s floodplains, for example, by mixing transhumant pastoralism (especially during the dry season) with agriculture during the rainy season, may also be viewed as a form of resilience against power projections or state-level decisions that negatively impact local realities.<sup>59</sup> Donors and aid agencies therefore need to critically examine how water management interventions can also serve as a cloak for state-level power dynamics and need to be mindful in adopting positions on these issues, including the implications for funding or implementing projects.

## Conclusion

This analysis outlines the historic narratives around water management projects in the Sudd. It summarises the historic context for the debate around dredging and explores some wider potential implications, linking this with considerations for future water management interventions, the complexities around water management and infrastructure investments in the Sudd, and how this is relevant for donors, aid actors and the private sector from a conflict sensitivity perspective. The situation is dynamic, and if specific ‘dredging projects’ in the Sudd were to go ahead, the CSRF would further recommend a targeted analysis of the location to understand the specific conflict sensitivity risks. Finally, the analysis highlights five conflict sensitivity considerations for aid actors to critically assess new proposals: 1) Marginalisation of critical voices; 2) Furthering divisions amongst communities; 3) Politicisation of grievances; 4) Exacerbating livelihoods and environmental risks, and; 5) Citizen-state interactions.

*This analysis was produced by the Conflict Sensitivity Resource Facility (CSRF) based on desk research and consultations carried out between October 2022 and March 2023. The CSRF is implemented by a consortium of Saferworld and swisspeace and supports conflict-sensitive aid programming in South Sudan. The United Kingdom, Switzerland, Canada and the Netherlands have joined forces to develop shared resources through the Conflict Sensitivity Resource Facility in South Sudan.*

*Feedback, comments or suggestions are welcomed as part of ongoing dialogue and learning around conflict sensitivity and should be sent to [info@csrf-southsudan.org](mailto:info@csrf-southsudan.org).*

<sup>57</sup> A buffer zone is an area that usually holds physical features that make it difficult to govern (such as rough terrain), as well as social characteristics that are actively employed to manufacture distance. In the case of the Sudd, it includes both the vast swamps and a historical resistance of Sudd residents against state-making attempts.

<sup>58</sup> Schouten & Bachmann, 2020, p. 7

<sup>59</sup> Ibid

## References

- Alebachew, H., (2014), 'Chapter 3: International legal perspectives on the utilization of trans-boundary rivers: the case of the Ethiopian Renaissance (Nile) Dam'. In *Water and the Law*. Cheltenham, UK: Edward Elgar Publishing. Retrieved from <https://www.elgaronline.com/view/edcoll/9781783479603/9781783479603.00010.xml>
- Alebel A.B., Semakula, H.M., Wambura, G.J. & Labohy, J., (2010), 'SWOT Analysis and Challenges of Nile Basin Initiative: An Integrated Water Resource Management Perspective'. *Chinese Journal of Population Resources and Environment*, 8(1), pp. 8-17. DOI: 10.1080/10042857.2010.10684960
- AWim news, (12<sup>th</sup> July 2022), 'Of Jonglei Canal project and South Sudan women,' Retrieved from <https://awimnews.com/of-jonglei-canal-project-and-south-sudan-women/>
- Catholic Radio Network, (8<sup>th</sup> July, 2022), 'Experts criticised gov't for dredging project and asks to stop it'. Retrieved from <https://catholicradionetwork.org/2022/07/08/experts-criticised-govt-for-dredging-project-and-asks-to-stop-it/>
- Cascão, A.E. & Nicol, A., (2016), 'GERD: New norms of cooperation in the Nile Basin?'. *Water International*, 41(4), pp. 550-573. DOI: 10.1080/02508060.2016.1180763
- Coffel, E. D., Keith, B., Lesk, C., Horton, R. M., Bower, E., Lee, J. & Mankin, J. S., (2019), 'Future hot and dry years worsen Nile Basin water scarcity despite projected precipitation increases'. *Earth's Future*, 7(8), pp. 967– 977. Retrieved from <https://doi.org/10.1029/2019EF001247>
- Conflict and Environment Observatory, (2021), 'Is South Sudan's Sudd wetland at a fork in the road?' Retrieved from <https://ceobs.org/report-is-south-sudans-sudd-wetland-at-a-fork-in-the-road/>
- De Coning, C.H., Tchie, A.E.Y., Rosvold, E.L., Funnemark, A., Krampe, F., Tarif, K., Kim, K. & Seyuba, K., (2022), 'Climate, Peace and Security Factsheet: South Sudan', Norwegian Peace Institute & Stockholm International Peace Research Institute. Retrieved from <https://www.nupi.no/en/news/climate-peace-and-security-fact-sheet-south-sudan2>
- Eye Radio, (15<sup>th</sup> July 2022), 'Naam river hand clearing poses some Bentiu locals risk of snake bites,' Retrieved from <https://www.eyeradio.org/naam-river-hand-clearing-poses-bentiu-locals-risks-of-snake-bites/>
- Eye Radio, (15<sup>th</sup> July 2022), 'Public consultation calls for credible feasibility studies before river dredging'. Retrieved from (<https://www.eyeradio.org/public-consultation-calls-for-credible-feasibility-studies-before-dredging/>
- Eye Radio, (15<sup>th</sup> June 2022), 'Govt to 'put to rest' controversies over Nile dredging shortly', Retrieved from <https://www.eyeradio.org/govt-to-put-to-rest-controversies-over-nile-dredging-shortly/>
- Eye Radio, (18<sup>th</sup> October 2022), 'Prof. Tag welcomes cabinet decision that excludes dredging,' Retrieved from <https://www.eyeradio.org/prof-tag-welcomes-cabinet-decision-that-excludes-dredging/>
- Johnson, D. H., (2016), 'The Root Causes of Sudan's Civil Wars: Old Wars and New Wars (Expanded 3rd Edition)'. Boydell & Brewer. Retrieved from <http://www.jstor.org/stable/10.7722/j.ctt1h64pck>
- Juba Post, (June 2022), 'Unity state government starts assembling of river dredging machines. Retrieved from <https://www.sudanspost.com/unity-state-government-starts-assembling-of-river-dredging-machines/>
- Jubaechoe, (June 2022), 'IOM denies Funding Dredging Activities Along the Nile in Unity State'. Retrieved from (<https://jubaecho.com/iom-denies-funding-dredging-activities-along-the-nile-in-unity-state/>)

- Martinon, C.A., (2010), 'Nile Basin Initiative: A Possibility of Turning Conflicts into Opportunities', In Calas, B., & Martinon, C. A. M. (Eds.), *Shared waters, shared opportunities: Hydropolitics in East Africa* (pp. 53-64). Nairobi, Kenya: French Institute for Research in Africa.
- Martinon, C.A., (2010), Water and Life, In Calas, B., & Martinon, C. A. M. (Eds.), *Shared waters, shared opportunities: Hydropolitics in East Africa* (pp. 1-3). Nairobi, Kenya: French Institute for Research in Africa.
- MoEF, (2022), 'A rapid environmental assessment of Sudd wetland ecosystem in South Sudan', Ministry of Environment and Forestry: Government of South Sudan.
- National Salvation Front/Army, (2022), '20220510 NAS Position on the resumption of the Jonglei Canal Project. Retrieved from <https://www.nassouthsudan.com/reports/>
- Nile Basin Initiative, (2022), 'Cooperative Framework Agreement'
- Okoth-Owiro, A., (2004), *The Nile treaty: State succession and international treaty commitments: a case study of the Nile water treaties*. Nairobi: Konrad Adenauer Foundation. Retrieved from [https://www.kas.de/c/document\\_library/get\\_file?uuid=03f3b3a7-47bc-a01d-0e28-300afddd3939&groupId=252038](https://www.kas.de/c/document_library/get_file?uuid=03f3b3a7-47bc-a01d-0e28-300afddd3939&groupId=252038)
- Radio Tamazuj, (6<sup>th</sup> July 2022), 'Opinion: Politics vs Science: The Saga of Jonglei Canal', Retrieved from <https://radiotamazuj.org/en/news/article/opinion-i-politics-vs-science-the-saga-of-jonglei-canal>
- Radio Tamzuj, (14<sup>th</sup> July, 2022), 'Unity State: Suspension of Naam River dredging sparks protest'. Retrieved from <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiU5YKwLT6AhWRjKQKHf9FctUQFnoECAYQAQ&url=https%3A%2F%2Fradiotamazuj.org%2Fen%2Fnews%2Farticle%2Funity-state-suspension-of-naam-river-dredging-sparks-protest&usg=AOvVaw0lavAI1nVHdHWAIVjnyKHI>
- Radio Tamzuj, (18<sup>th</sup> October, 2022), 'South Sudan approves clearing of rivers to mitigate flooding'. Retrieved from <https://radiotamazuj.org/en/news/article/south-sudan-approves-clearing-of-rivers-to-mitigate-flooding>
- Radio Tamzuj, (19<sup>th</sup> June 2022), 'South Sudan campaigners demand halt to Nile dredging deal'. Retrieved from <https://radiotamazuj.org/en/news/article/south-sudan-campaigners-demand-halt-to-nile-dredging-deal>
- Ramsar, (2018), 'Wetland Restoration for Climate Resilience', Retrieved from <https://www.ramsar.org/document/briefing-note-10-wetland-restoration-for-climate-change-resilience>
- Rosenblum, Z.H. & Schmeier, S., (2022), 'Global Wetlands Governance: Introducing the Transboundary Wetlands Database', *Water*, 14(19). Retrieved from <https://doi.org/10.3390/w14193077>
- Salman, M.A., (2011), 'The new state of South Sudan and the hydro-politics of the Nile Basin'. *Water International*, 36(2), pp. 154 – 166. DOI: [10.1080/02508060.2011.557997](https://doi.org/10.1080/02508060.2011.557997)
- Selby, J. & Hoffmann, C., (2014), 'Beyond scarcity: Rethinking water, climate change and conflict in the Sudans', *Global Environmental Change*, pp. 360-370, 29, DOI: [10.1016/j.gloenvcha.2014.01.008](https://doi.org/10.1016/j.gloenvcha.2014.01.008)
- Schouten, P. & Bachmann, J. (2020), 'Buffering State-making: Geopolitics in the Sudd Marshlands of South Sudan', *Geopolitics*, DOI: 10.1080/14650045.2020.1858283
- Sudanspost, (4<sup>th</sup> July 2022), 'Kiir launches public consultations on river dredging project'. Retrieved from <https://www.sudanspost.com/kiir-launches-public-consultations-on-river-dredging-project/>

The East Africa, (7<sup>th</sup> July 2022), 'South Sudan suspends dredging of Nile tributaries. Retrieved from (<https://www.theeastafrican.co.ke/tea/news/east-africa/south-sudan-suspends-dredging-of-nile-tributaries-3877532>)

Tiitmamer, N., (2022), 'To dredge or not to dredge the White Nile's tributaries: is the cart before the horse?', The Sudd Institute. Retrieved from [https://suddinstitute.org/assets/Publications/62ac0191bac2f\\_ToDredgeOrNotToDredgeTheWhite\\_Full.pdf](https://suddinstitute.org/assets/Publications/62ac0191bac2f_ToDredgeOrNotToDredgeTheWhite_Full.pdf)

UNEP, (24<sup>th</sup> August 2016). 'Are South Sudan's wetlands in danger of drying up?'. Retrieved from <https://www.unep.org/news-and-stories/story/are-south-sudans-wetlands-danger-drying>

Yale Environment 360, (2022), 'Will a Nile Canal Project Dry Up Africa's Largest Wetland?'. Retrieved from <https://e360.yale.edu/features/will-a-nile-canal-project-dry-up-africas-largest-wetland>