

The Influence of Collaboration and Cooperation among Nile Basin Countries in the Management of Shared Water Resources on Security in the Horn of Africa

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Abstract:

The Nile River Basin, a critical transboundary water resource for Nile riparian countries, presents a complex landscape of water allocation, usage, and infrastructure development that has historically fueled tensions and impacted regional security in the Horn of Africa. This study investigates the influence of collaboration and cooperation among Nile Basin countries in managing shared water resources on security dynamics in the Horn of Africa. Employing both primary data (via questionnaires and interviews) and secondary data (from online and print sources), the findings underscore the significance of effective collaboration and cooperation in promoting sustainable water management practices and addressing shared challenges. Diplomatic dialogues, joint planning, and cooperative agreements are essential for fostering mutual understanding and trust, thereby mitigating conflict risks over water allocation and usage. These collaborative efforts contribute to resilient water governance frameworks that prioritize equitable distribution and sustainable utilization of water resources, enhancing regional security by addressing interconnected issues such as food security, livelihoods, and environmental sustainability. Effective collaboration can bolster agricultural productivity, improve food security, and promote socio-economic development, reducing vulnerabilities that could escalate into conflicts. Additionally, strengthened diplomatic relations through multilateral platforms and negotiations foster peaceful coexistence and conflict resolution mechanisms, building a stable environment for regional peace and security. Drawing on existing literature and empirical findings, the research identifies gaps in understanding the socio-economic implications, role of regional actors, integration of traditional knowledge, environmental sustainability, and intersectionality with broader security challenges. Findings indicate a high level of agreement on the positive impact of enhanced cooperation on regional security. Recommendations include prioritizing inclusive approaches, strengthening institutional frameworks, integrating climate change adaptation, promoting non-state actors' involvement, mainstreaming socio-economic considerations, and fostering regional dialogue. These recommendations aim to enhance collaborative water governance and contribute to regional stability, prosperity, and resilience in the Horn of Africa.

1.0 Introduction

The Nile River system, the world's longest, has acted as the lifeblood of Northeastern Africa for millennia. The basin spans 11 countries, who collectively rely on its waters for agriculture, industries, ecosystems, and human consumption needs. Yet the absence of a mutually ratified legal framework for managing and allocating this vital transboundary resource has become a pressure point imperiling regional stability. Upstream states are accelerating unilateral infrastructure projects focused on power generation and irrigation objectives without fully considering downstream environmental and water access impacts. This article investigates the complex interplay the influence of collaboration and cooperation among Nile Basin countries in the management of shared water resources on security in the Horn of Africa (Monem, K, 2021). The Nile Basin is a critical area for international cooperation due to its significance as a transboundary river system affecting multiple countries. Effective management of the Nile's water resources is not only important for the socio-economic development of the basin countries, but also has broader implications for global water governance and conflict prevention. The Nile River basin is one of the world's most important transboundary river basins, and its sustainable management is crucial for achieving global water security and stability.

At the regional level, cooperation among Nile Basin countries is essential for fostering peace and stability in the Horn of Africa. The region has been historically characterized by conflicts over resources, including water (Malone, P., & Millar, M. 2020). The equitable sharing and efficient management of Nile waters can contribute significantly to regional integration, economic development, and conflict prevention. Moreover, enhanced cooperation can help build trust and foster diplomatic relations among countries in the region, which are vital for addressing broader security challenges. Locally, collaboration in managing shared water resources can directly impact the livelihoods and well-being of communities along the Nile River and its tributaries. Access to water for agriculture, drinking, and sanitation is fundamental for local populations, particularly in rural areas. Effective cooperation can lead to more sustainable use of water resources, improved irrigation systems, and enhanced resilience to climate change impacts, thereby promoting local development and reducing tensions over water scarcity. However, challenges persist in achieving effective collaboration and cooperation among Nile Basin countries. Historical and political factors, differing national priorities, and power dynamics among riparian states have often complicated efforts to reach consensus on water management issues. Furthermore, external influences and competing interests from non-basin countries or international actors also impact regional dynamics (Ali, M., Helmi, A., Ghaith, M., & Wagdy, A. 2019). Therefore efforts to promote sustainable water management and foster cooperation among Nile Basin countries are essential for promoting stability, peace, and development in the Horn of Africa and beyond.

1.1 Statement of the Problem

The Nile River Basin countries are deeply interdependent when it comes to this shared transboundary water resource, yet profound discord persists over the principles, usages and infrastructure developments governing Nile waters. At the crux of the problem lies disagreement over water allocation legal doctrines, the unilateral pursuit of intrabank dam and irrigation infrastructure projects with regional implications, and the lack of an effective cooperative apparatus to resolve emerging disputes. This has entrenched a hydro-political tension that profoundly risks overflowing into broader socio-economic, political, and even violent conflict within and between the riparian states.

This complex interplay underpins the paper's core argument that existing legal frameworks, infrastructure expansion plans and stagnating cooperation efforts collectively exacerbate insecurity for

communities depending on the Nile for survival. The article posits that the current trajectory of disagreement over whether principles like absolute territorial sovereignty or equitable utilization ought to dictate water shares does not bode well for basin stability. Similarly, the proliferation of dams without coordination or impact mitigation mechanisms in place, skewed to maximize national or localized benefits, imperils populations facing reduced water access or energy security downstream. And overcoming these disputes has been hamstrung by inadequate Nile cooperation architectures lacking binding enforcement provisions, monitoring capacities or meaningful participation of sub-national stakeholders (Yasser, 2023). Therefore, this analysis argues that wholly transforming the legal, infrastructure and cooperation dimensions represents an urgent hydro-political security imperative for the region. The journal article seeks to constructively interrogate the gaps underpinning persisting non-cooperation patterns and surface actionable solutions that could de-escalate tensions. Fundamentally re-envisioning the architecture for managing competition over Nile Basin water resources before unilateralism festers further grudges represents a pivotal opportunity to bolster interdependencies and contribute to the emergence of a sustainable, equitable and cooperative framework governing use of this singular transboundary river.

2.0 Conceptual Framework

This framework underscores the interconnectedness between water resource management, collaboration among countries, and broader security outcomes in the Horn of Africa region. Effective cooperation and joint efforts in managing shared water resources can significantly enhance regional security, stability, and development.

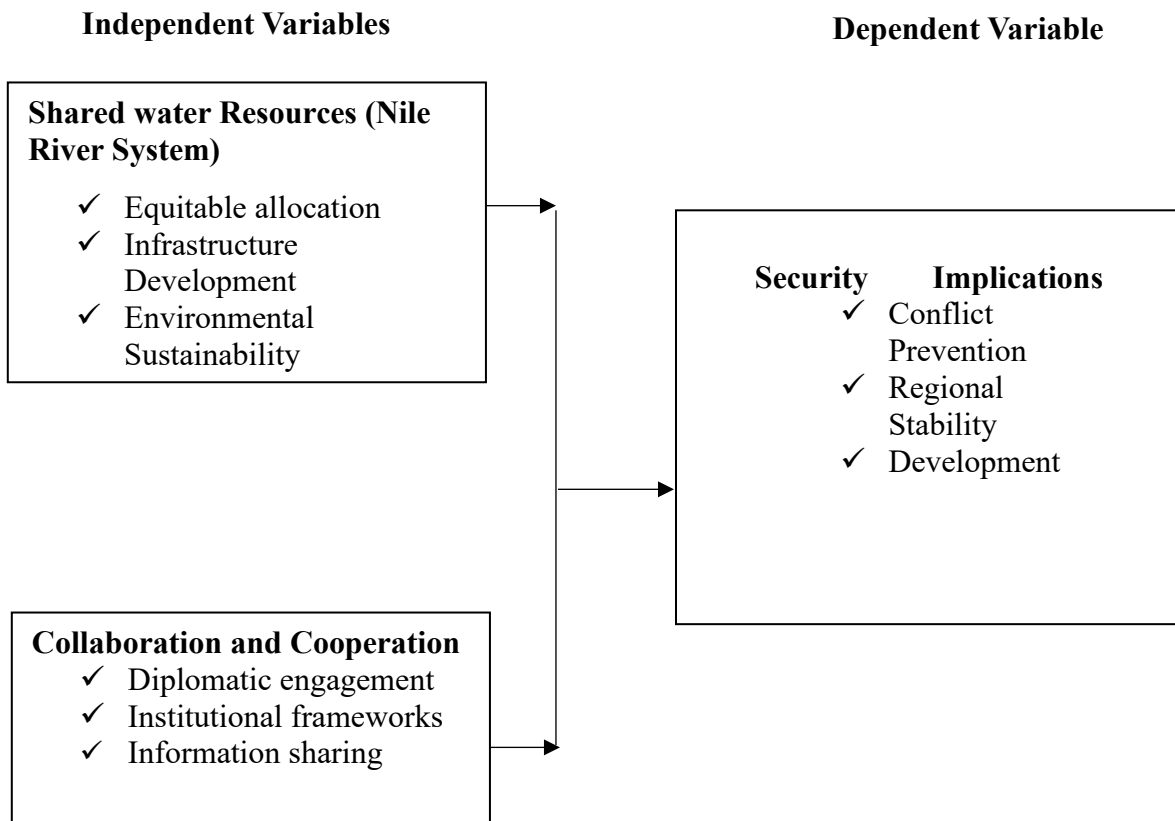


Figure 2:1 Conceptual Framework
Source; Study, 2024

2.1 Theoretical Framework

Institutional theory was introduced in the late 1970s by John Meyer and Brian Rowan as a means to explore further how organizations fit with, are related to, and were shaped by their societal, state, national, and global environments (Meyer & Rowan, 1977). This theory focuses on the role of institutions, formal and informal rules, norms, and organizations in shaping behavior and facilitating or hindering cooperation among actors. At the heart of institutional theory is the recognition that effective cooperation among countries in managing shared resources like water depends on the establishment of robust institutional frameworks. In the case of the Nile Basin, this entails the development of agreements, treaties, and joint institutions that govern water allocation, usage, and dispute resolution. Institutions can provide the necessary structure and rules to guide interactions among riparian states, thereby fostering trust and collaboration (Ostrom, 2005).

This theory also emphasizes the importance of norms and shared expectations among stakeholders. In the context of the Nile Basin, cultivating norms of cooperation and mutual benefit is crucial for overcoming historical grievances and addressing disparities in water access. Establishing norms that prioritize equitable and sustainable water management can shift behaviors and attitudes toward greater collaboration, reducing the potential for conflicts over scarce water resources. Institutional theory also highlights the role of external actors, such as international organizations and donor agencies, in shaping institutional development and cooperation among Nile Basin countries (Scott, 2014). These external actors can provide technical expertise, financial support, and diplomatic mediation to strengthen institutional capacity and promote inclusive decision-making processes. By leveraging external resources and expertise, local institutions can become more effective in addressing complex water management challenges and enhancing regional security.

However, institutional theory also acknowledges the complexities and challenges associated with institutional development in multi-country contexts like the Nile Basin. Historical power dynamics, asymmetries in resources and capabilities, and divergent national interests can impede the establishment of inclusive and effective institutions for water governance (March & Olsen, 1984). Overcoming these challenges requires sustained political will, dialogue, and capacity-building efforts to strengthen local institutions and foster collaborative decision-making.

2.2 Literature Review

2.2.1 Collaboration and Cooperation among Nile Basin Countries in the Management of Shared Water Resources and Security in the Horn of Africa

Given the reciprocal dependence of governments in river basins, collaboration over shared watersheds is primarily regarded as best practice worldwide. The UN Watercourses Convention acknowledges that cooperation is essential to meeting requirements in countries in river basins concurrently with the least amount of conflict or stress. Basin organizations made up of inclusive permanent commissions have shown to be successful globally; for example, the Mekong River Commission promotes codependency in development, and the SADC Water Division has unified policy amongst the nations of southern Africa (Bulgamaa, 2019).

In addition, bilateral agreements between participating countries often strengthen collaboration at the project level by forming combined technical committees to evaluate the effects on shared infrastructure. Regular fact-finding trips, lab tests, and water accounting facilitate consensus-building and information sharing. Scholars claim that key elements supporting mutually beneficial solutions across transboundary

waterways include information openness, power-equalizing decision frameworks, collaborative fact-finding, and agreed-upon norms/principles of equitable utilization. While negotiated results invest in countries in river basins in collective governance regime stability, dialogue venues aid in understanding. Connecting energy and food security objectives via hydro-schemes optimized across jurisdictions creates positive interdependence supported by treaties (Ashour & Abueleyon, 2019). The benefits of institutionalizing cooperation in the environment, socioeconomics, and regional diplomacy are mutually reinforcing and exceed the strategic advantages of unilateral options that inflame tensions.

Though the benefits of cooperation have been well documented, quantitative evaluation of its precise causal effects on variables such as trade flows, access levels to renewable resources, democratization indices, and composite metrics of intrastate/interstate stability in divided basins globally is still lacking. For many years, there were no official cooperation structures among Nile basin countries at the regional level. Hydro-political imbalances and legal fragmentation hindered basin-wide strategic development planning and investment coordination. The Nile Basin Initiative (NBI), founded in 1999 to promote communication and cooperative hydro projects, was prompted by the increasing disenfranchisement of upstream governments. Meanwhile, Egypt was able to maintain control thanks to previous agreements with its neighbors downriver (Wehling & Wehling, 2020). The NBI must have the teeth to make policies outside formal information sharing. The goal of the proposals for a cooperative framework agreement was to address imbalances by using the concepts of subsidiarity and fair voting power.

However, more than ten years later, the Co-operative Framework Agreement (CFA) remains unratified as Egypt defends its dominant, entrenched interests protected by the status quo. To facilitate cooperation and goodwill across sub-basin parties, issue-specific bilateral and trilateral forums have multiplied in the absence of the CFA. Initiatives to foster trust include irrigation networks that link Ethiopia and Sudan and collaborative Ethiopian-Egyptian oversight of dam safety standards. For the first time, a regular flow of information and expertise was needed to estimate the effects of coordinated infrastructure operating models, such as the GERD - Eastern Nile dams' system. Results show that collaboration may maximize shared hydrological risks and benefits (Zhu, 2022). The 2015 Declaration of Principles on the GERD helped restore geopolitical stability. However, institutionalized cooperation and legislative framework improvements are still needed to establish a mutually dependent and sustainable basin-wide system. Renegotiated roles and allocations need full consent.

There is a study vacuum in experimentally comparing the perpetuation of fragmented ties to the benefits of honest, collaborative endeavors on socioeconomic advancement. Although qualitative research offers valuable perspectives, quantifiable comparative evaluations of development results, such as production levels, infrastructure access, and living standards, that can be linked to institutionalized collaboration across the basin in contrast to the status quo still need to be improved.

After early concerns, cooperation for the Grand Ethiopian Renaissance Dam has significantly improved Ethiopia-Egypt collaboration on infrastructure administration. Frequent ministerial meetings and fact-finding expeditions fostered an environment of open communication that allowed for scientific studies that allayed downstream fears. The potential of the GERD-Aswan High Dam system to optimize electricity outputs, river management services, and irrigated agriculture yields when managed collaboratively and according to established procedures was furthered by joint experimental reservoir filling investigations (Soliev & Theesfeld, 2020). Utilizing hydrologic forecasting technologies, coordinated dam operation simulations showed that minimal hydropower penalties may be used to design reservoir composition agreements to minimize irrigation supply interruptions.

This illustrated how collaboration may balance various purposes across political boundaries. Frequent interchange of hydro-meteorological data via the Eastern Nile Technical Regional Office of the Nile Basin Initiative also promoted mutual faith in controlling weather shocks through forecast-based basin planning. Interconnections now envision megawatt-scale power trading between Ethiopia and Sudan synchronized by GERD hydropower generation. Such issue-based cooperation has tangibly reduced insecurities surrounding the GERD's impacts while cultivating soft interdependencies conducive to durable collaboration (Mohammed, 2021). However, there remains to be more analysis tracking evolving perspectives and risk perceptions of countries in river basins and civil society over time as cooperation deepens. However, causal links between collaborative management at various levels and measurable shifts across political, migration, and security indicators still need to be explored empirically in the Nile hydro-region. Objective quantification of cooperation's impacts on destabilizing forces needs to be improved.

2.2.2 Literature gaps

Based on the above literature one prominent gap that emerges is the limited attention given to the socio-economic implications of water cooperation in the Horn of Africa. While the existing studies often focus on political and security aspects, more research is needed to understand how collaborative water management efforts impact livelihoods, poverty alleviation, and economic development in the region. Exploring these socio-economic dimensions can provide insights into the tangible benefits of cooperation and inform policy interventions that promote inclusive and sustainable growth. Another significant literature gap relates to the role of regional and international actors in facilitating or obstructing collaboration among Nile Basin countries. While local dynamics and bilateral relations are often emphasized, the influence of external stakeholders, such as donor agencies, multilateral organizations, and neighboring regions, remains underexplored. Investigating the motivations, strategies, and impact of external actors on water governance and security in the Horn of Africa can offer valuable insights into the broader geopolitical context shaping collaborative efforts.

Additionally, there is a need for more research on the integration of traditional knowledge and indigenous practices into modern water management approaches in the Nile Basin. Indigenous communities possess valuable insights and adaptive strategies for sustainable resource use, yet their perspectives are often marginalized in formal governance structures. Bridging this gap requires engaging with local knowledge systems and incorporating traditional wisdom into policy frameworks to enhance the effectiveness and legitimacy of collaborative water management initiatives. Furthermore, the literature lacks comprehensive studies on the long-term environmental sustainability of water cooperation in the Nile Basin. While short-term agreements and projects are essential, understanding the ecological impacts and resilience of shared water resources over time is crucial for ensuring enduring security and stability. Research focusing on ecosystem health, biodiversity conservation, and climate resilience within the context of collaborative water governance can inform strategies that prioritize environmental sustainability alongside political and economic goals.

Lastly, there is a dearth of research that examines the intersectionality of water cooperation with broader regional security challenges in the Horn of Africa. Conflicts, displacement, and humanitarian crises in the region are often interconnected with water scarcity and competition. Addressing this gap requires interdisciplinary studies that analyze the complex linkages between water management, conflict prevention, and human security, thereby offering holistic approaches to promoting peace and stability in the Nile Basin.

3.0 Methodology

The study adopted a mixed methods approach; and was based on descriptive research design. The study focused on the countries in the HOA which share the transboundary water resources in the Nile Basin. It focused on a diverse range of stakeholders, including Officials and head of CSO’s, diplomats, international organizations, INGO, s and academia from whom primary data was collected using questionnaires and interviews as well as secondary data. The total target population was 120 persons. Quantitative data arising from the questionnaires was analysed using the Statistical Package for Social Sciences (SPSS) software, while the qualitative data sets were analysed by establishing the content in terms of key themes and discourse analysis. This involved coding of the data, identifying patterns and interpreting their meaning. The qualitative data that was analysed in various themes was presented in textual methods. Quantitative data from questionnaires was presented through charts, graphs, and tables as necessary.

4.0 Findings and Discussions

4.1 Response Rate

The sample for the study was 92 out of which 81 responded. This made a response rate of 88.0%. This was considered sufficient for analysis. The researcher thus proceeded with analysis.

Table 1 Response Rate

Sample	Responded	Response Rate
92	81	88.0

Source; Field Data, 2024

4.2 Demographic Data

The study sought to examine selected demographic information related to the respondents. The findings as presented in Table 2 show that officials and heads from Civil Society Organizations (CSOs) and participants from Relevant Government Ministries for the Respective Countries were the majority each at 21 (25.9%) of the respondents. These were followed closely by Academician or Scholars at 20 (24.7%) and distantly by officials from Inter-Governmental Organizations (IGO’s) at 11(13.6%). Conversely, diplomats accounted for the remaining 8 (9.9%) of the respondents. These findings show that all the various categories of respondents were well represented in the study.

Table 2 Institutions of Respondents

Institution	Frequency	Percent
Officials and heads from Civil Society Organizations (CSO’s)	21	25.9
Inter-Governmental Organizations (IGO’s)	11	13.6
Diplomats	8	9.9
Relevant Government Ministries for the Respective Countries.	21	25.9
Academician or Scholars	20	24.7
Total	81	100.0

Source; Field Data, 2024

The study examined the working experiences of the respondents. The findings show that most of the respondents, 34 (42%) had worked 6 to 10 years. These were followed closely by 22 (27.2%) of the

respondents who had 1-5 years of experience. Another 20 (24.7%) of the respondents had more than 10 years of working experience. Those who had less than 1 years working experience were the minority at 5 (6.2%). These findings show the diversity of working experience among the respondents which could enrich the variety and indepthness of the findings.

Table 3 Years Working with the Organization

Working Experience	Frequency	Percent
Less than 1 year	5	6.2
1-5 years	22	27.2
6-10 years	34	42.0
More than 10 years	20	24.7
Total	81	100.0

Source; Field Data, 2024

4.3 Influence of Collaboration and Cooperation among Nile Basin Countries on Security in the Horn of Africa

The respondents were asked to rate their agreement with the following statements on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The findings were presented in Table 4.

Table 4 Influence of Collaboration and Cooperation among Nile Basin Countries on Security in the Horn of Africa

No.	Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Total	Mean
1	The current level of collaboration among Nile Basin countries in managing shared water resources negatively impacts security in the Horn of Africa.	0	0	0	24	57	81	4.70
2	Enhanced cooperation in the management of shared water resources can significantly contribute to preventing conflicts and improving security in the Horn of Africa.	0	0	1	19	61	81	4.74
3	The current level of collaboration among Nile Basin countries is insufficient for ensuring the overall security of the Horn of Africa.	0	3	23	9	46	81	4.21
4	Cooperation among Nile Basin countries is crucial for effectively addressing water-related challenges and ensuring security in the	1	1	3	44	32	81	4.30

	region.							
5	The current collaboration in managing shared water resources is highly effective in preventing disputes and tensions, positively impacting security in the Horn of Africa.	14	22	9	22	14	81	3.00
6	Enhanced cooperation in managing shared water resources is of low importance in addressing security concerns in the Horn of Africa.	54	23	4	0	0	81	1.38
7	Regional cooperation in managing shared water resources is a key factor in fostering lasting peace and security in the Horn of Africa.	0	0	0	4	77	81	4.95
8	Adequate consideration of the needs and concerns of all Nile Basin countries in the current management of shared resources positively contributes to security in the Horn of Africa.	0	0	0	4	77	81	4.95

Source; Field Data, 2024

As significant majority, comprising 81 respondents, strongly agrees (Mean = 4.70) that the existing level of collaboration in managing shared water resources has a negative impact on security in the region. Additionally, participants express agreement (Mean = 4.74) on the positive contribution of enhanced cooperation in the management of shared water resources to conflict prevention and improved security in the Horn of Africa.

While not unanimously, a substantial number (46 respondents) agree (Mean = 4.21) that the current collaboration level is insufficient for ensuring the overall security of the Horn of Africa. The survey indicates a broad consensus (Mean = 4.30) among respondents that, cooperation among Nile Basin countries is deemed crucial for effectively addressing water-related challenges and ensuring security in the region.

Opinions were diverse regarding the effectiveness of current collaboration in preventing disputes and tensions, resulting in a neutral mean score (Mean = 3.00). However, a significant majority (54 respondents) strongly disagrees (Mean = 1.38) that enhanced cooperation in managing shared water resources is of low importance in addressing security concerns in the Horn of Africa.

The importance of regional cooperation in fostering lasting peace and security was strongly endorsed by a vast majority of participants (77 respondents), as reflected in a mean score of 4.95. Similarly, there was robust agreement (Mean = 4.95) that, adequate consideration of the needs and concerns of all Nile

Basin countries in the current management of shared resources positively contributes to security in the Horn of Africa. The findings show high level of agreement on the positive impact of enhanced cooperation and collaboration among Nile Basin countries on security in the Horn of Africa.

Responses to the open-ended topic regarding regional cooperation included a variety of perspectives. Interviewees underscored the significance of diplomatic endeavors, highlighting the necessity for open and clear communication and diplomatic measures to promote cooperation. They also shared accounts of successful collaborative endeavors and the favorable results achieved in tackling water-related difficulties. In addition, interviewees observed that the involvement of regional organizations calls for inclusive decision-making processes in guaranteeing efficient collaboration.

Regarding the interview questions, participants offered nuanced evaluations of the degree of collaboration among countries in the Nile Basin. They shared instances of effective collaboration, referencing cases where the collaborative administration of shared water resources resulted in favorable results. Furthermore, they recounted instances where the absence of collaboration led to challenges, such as conflicts over resources or destruction of the environment. In addition, the interviewees highlighted the significance of information dissemination and data openness in promoting the sustainable exploitation of transboundary water resources, guaranteeing fair access, and reducing security threats.

Given the reciprocal dependence of governments of countries in river basins, collaboration over shared watersheds is primarily regarded as best practice worldwide. The UN Watercourses Convention acknowledges that cooperation is essential to meeting requirements of countries in river basins concurrently with the least amount of conflict or stress. Basin organizations made up of inclusive permanent commissions have shown to be successful globally (Bulgamaa, 2019).

4.4 Security in the Horn of Africa

The dependent variable of the study was security in the Horn of Africa. The findings from Likert scale were presented in the table below.

Table 5 Security in the Horn of Africa

No.	Statement	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Total	Mean
Physical Security								
1	Sustainable utilization of shared transboundary water resources of the Nile Basin has enhanced physical security in the Horn of Africa	0	0	2	18	61	81	4.73
Food Security								
2	Sustainable utilization of shared transboundary water resources of the Nile Basin has enhanced food security in the Horn of Africa	0	0	3	11	67	81	4.79
Human Security								
3	Sustainable utilization of shared transboundary water resources of the Nile Basin has enhanced human security in the Horn of Africa	0	0	1	21	59	81	4.72

Environmental Security:								
4	Sustainable utilization of shared transboundary water resources of the Nile Basin has enhanced environmental security in the Horn of Africa	0	0	1	24	56	81	4.68

The findings from the Likert scale ratings show that the respondents agreed closely on the positive impact of sustainable utilization of shared transboundary water resources in the Nile Basin on security in the Horn of Africa. In this study, means that ranged from 4.68 to 4.79 9 (strongly agree) were obtained. This show that the respondents agreed that effective governance of shared water resources enhances physical, food, human, and environmental security. The findings underline the key role that shared management of water resources enhances stability, prosperity as well as resilience in the Horn of Africa.

5.0 Summary and Conclusion

In conclusion, the influence of collaboration and cooperation among Nile Basin countries in the management of shared water resources on security in the Horn of Africa is a multifaceted and crucial issue with far-reaching implications. Effective collaboration and cooperation among Nile Basin countries are essential for ensuring water security and stability in the Horn of Africa. The Nile River is a vital resource for multiple countries in the region, and equitable management of its waters is critical for addressing water scarcity, supporting agriculture, and fostering economic development. By working together, riparian states can reduce the risk of conflicts over water and promote mutual benefit through sustainable water management practices. Collaborative water governance requires robust institutional frameworks and diplomatic engagement. Formal agreements, treaties, and joint institutions play a crucial role in facilitating dialogue, resolving disputes, and establishing mechanisms for equitable water allocation. Strengthening these institutions and enhancing diplomatic relations are key to building trust and fostering long-term cooperation among Nile Basin countries.

In theory, the Nile Basin Initiative (NBI) offers a ready-made intergovernmental apparatus for mediating water disputes through its ministerial council, technical advisory bodies and subsidiary action programs integrating research and investment across Nile Basin Countries. However, operational deficiencies and structural imbalances rooted in asymmetrical influence between major players has hampered its integrative potential.

Its data analysis and usage allocation recommendations are perceived by some like Ethiopia as reflecting Egyptian priorities rather than emerging developmental realities and urgent needs of growing upstream populations. Requirements like rotational leadership and hosting foster erratic participation when agreements like CFA clash with claimed national water privileges (Sharif & Golpîra, 2020). Secretariat effectiveness also suffers from unreliable budget allocation, scalability limits and uneven power dynamics enabling external donors to influence supposedly independent policy advice. However, the deeper obstacle for maximizing NBI's cooperation potential is innate asymmetry stemming from Egypt's regional clout and hydro-political linkages with countries hosting Nile tributaries. Its past dominance checking counter-hegemonic collective action through military partnerships deters concessions from upstream states. Hyper-nationalist domestic politics during recent leadership transitions also narrows flexibility space even as climatic pressures grow. Zero-sum perspectives rule over reconciling positions and enabling disputes to incrementally be arbitrated and resolved before escalating.

Nonetheless, structured opportunities exist through the NBI for transforming these zero-sum tensions. Joint technical committees on flooding forecasting or water quality already foster some confidence building; expanding specialized nitty-gritty exchanges can socialize security policymakers to appreciate common vulnerabilities and interdependencies. Simultaneously strengthening Secretariat autonomy and permanent staff plus member commitment and representation can overcome decision-making manipulation risks and build legitimacy for advice (Mason et al., 2020). Moreover modalities ensuring civil society and local stakeholders have channels to articulate grievances around large infrastructure schemes offers additional safeguard. Overall, positioning the NBI as a truly inclusive and sustainable development-oriented commission through multilayered participation and enforceable coordination authority can constructively improve disjointed Nile water governance - provided political leverage by lead nations empowers rather than weakens the architecture.

Inclusive participation and stakeholder engagement are essential for successful collaboration in water management. By engaging local communities, civil society organizations, and indigenous groups in decision-making processes ensures that diverse perspectives are considered and that the needs of vulnerable populations are addressed. Inclusive approaches promote social equity and enhance the legitimacy and effectiveness of collaborative water governance initiatives. Additionally, addressing the identified gaps in the literature, such as the integration of climate change adaptation strategies, consideration of socio-economic impacts, and the role of non-state actors, is critical for advancing knowledge and policy in this area. Future research should focus on exploring innovative solutions and best practices that promote resilience, sustainability, and peacebuilding through water cooperation in the Nile Basin.

6.0 Recommendations

Based on the analysis of collaboration and cooperation among Nile Basin countries in the management of shared water resources and its impact on security in the Horn of Africa, this journal proposes comprehensive recommendations that can be made to promote sustainable water governance and enhance regional stability:

Firstly, there is need to prioritize inclusive and participatory approaches to water management by actively engaging all stakeholders, including governments, local communities, civil society organizations, and indigenous groups. Encouraging dialogue and collaboration among diverse actors can foster mutual understanding, build trust, and promote consensus on equitable water allocation and usage. Secondly, strengthen institutional frameworks and diplomatic mechanisms for cooperative water governance. Nile Basin countries should prioritize the development and implementation of robust agreements, treaties, and joint institutions that facilitate effective management, conflict resolution, and information-sharing related to shared water resources. Enhancing institutional capacity and promoting transparent governance processes are essential for sustaining collaborative efforts.

Thirdly, integrate climate change adaptation strategies into collaborative water management initiatives. Given the increasing impacts of climate variability on water availability and quality, it is imperative to prioritize resilience-building measures such as sustainable infrastructure development, water conservation practices, and ecosystem-based approaches. Nile Basin countries should invest in research and technology to anticipate and respond to climate-related challenges in water management.

Fourthly, promote the role of non-state actors, including academia, research institutions, and private sector entities, in supporting collaborative water governance efforts. By leveraging expertise and

resources from diverse stakeholders, innovative solutions can be developed to address complex water challenges and promote sustainable development in the Horn of Africa region.

Fifthly, there is need to mainstream socio-economic considerations into water cooperation strategies. Understanding the impacts of water management decisions on livelihoods, poverty alleviation, and economic development is crucial for designing inclusive policies that benefit all segments of society. Nile Basin countries should prioritize investments in water-related infrastructure and agricultural development to enhance food security and economic resilience.

Lastly, foster regional dialogue and cooperation beyond water issues to address broader security challenges in the Horn of Africa. By promoting cross-sectoral collaboration and addressing underlying political, social, and economic drivers of instability, stakeholders can create an enabling environment for sustainable water governance and peacebuilding.

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