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Ripples of Conflict: Drivers and Resolutions of Water Resource Disputes - A Case Study of Lake Turkana Basin of Kenya

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ABSTRACT

Historically, the semi-arid and dry regions of the Kenyan borders have experienced perennial conflicts that revolve around the scarce water-related resources both on land and in water but spread around Lake Turkana, the largest desert lake in Africa. Lake Turkana, located in the Turkana Basin of Kenya, is a critical resource for the region. Covering an area of approximately 6,405 square kilometres, it is the largest permanent desert lake in the world. Besides, with its unique ecological and socio-economic implications, Lake Turkana has become a central point for studying the dynamics of conflicts resulting from water-related resource scarcity. The study sought to identify specific drivers of water use related resource conflicts in Lake Turkana basin of Kenya. Through a descriptive study design, the research applied a convenience sampling method targeting 90 respondents across all three sites, seeking about 30 participants per region. The study findings demonstrate that drivers of conflicts within the Lake Turkana Basin are not just locally domesticated, but also have external factors and influences including dynamics associated with inflammatory political speeches, economic, as well as environmental factors resulting in harsh climate. This is in addition to water management issues, high illiteracy and cultural pressures, ethnic tensions, historical grievances, scarce critical resources which are only concentrated in few locations, and geopolitical interests of neighbouring countries which contribute to conflicts in the region. The management of these conflicts therefore are best solved if these drivers of conflict are carefully understood as was the case for this study.

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INTRODUCTION

Water resources are essential for human survival, economic development, and environmental sustainability.[1] However, the uneven distribution and variability of freshwater resources due to the hydrological cycle often result in significant social, political, and tactical challenges. Access to and control over water have become major social and political objectives, particularly in arid and semi-arid regions where water scarcity is prevalent.[2] Consequently, water resource-related conflicts are a persistent global issue, affecting regions at international, regional, and local levels.

Lake Turkana is an alkaline water body but a significant water source in Turkana County as it supports thousands of livelihoods.[3] Turkana County is located in the northern arid region of Kenya. The ethnic groups in Turkana County are primarily nomadic pastoralists, moving their herds freely across the international boundaries of Kenya, Ethiopia, Sudan and Uganda.[4]

This region is heavily prone to perennial water resources related conflicts which have resulted into perennial unplanned displacement of human beings and animals.[5] The main drivers of conflict globally are highlighted as communities with different values, needs that are incompatible over scarce resource or even a resource that is abundant and more so, the distribution or access to a resource that is either scarce or economically rewarding and lucrative for example oil and minerals like gold as well as water or vegetation.

The question for scholars on drivers and resolutions of water resource disputes then is how to clearly identify the different issues[6] that drive conflicts among the various parties with some pointing towards corruption in trying to control that very scarce or special resource.[7] Specifically, when corruption merge with political influence, the conflicts drivers even become more complicated and elusive to stop or control.

To an extent, extreme climate changes can also drive conflicts in areas with scarce environmental resources[8] and may lead to excessive lack of rainfall or changes in the soils that deplete the scarce resource sustenance.[9] An example includes locusts

1 Samuel Asumadu Sarkodie, 'The Invisible Hand and EKC Hypothesis: What are the Drivers of Environmental Degradation and Pollution in Africa?' (2018) 25(22) Environmental Science and Pollution Research 21993.

2 Mohammad Al-Saidi, 'Conflicts and Security in Integrated Water Resources Management' (2017) 73 Environmental Science & Policy 38.

3 James Kiprop Chelang'a and Michael Chesire, 'Analysis of Conflict Resolution Strategies among Pastoralist Communities of Kenya' (2020) 4(4) Journal of African Interdisciplinary Studies 4.

4 Caleb Maikuma Wafula, 'Does Community Saving Foster Conflict Transformation? The Debate and Evidence from Kenya's ASAL Counties of West Pokot and Turkana' (International Development Research Centre (IDRC) 2020) 2019 Research Award Recipient (RAR) <https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/145ec945-e2fb-4800-873f-687af82eaf4c/content>.

5 Samuel Derbyshire, 'Trade, Development and Destitution: A Material Culture History of Fishing on the Western Shore of Lake Turkana, Northern Kenya' (2018) 78 African Studies 1.

6 Tarila Marclint Ebiede, 'Conflict Drivers: Environmental Degradation and Corruption in the Niger Delta Region' (2011) 1 African Conflict & Peacebuilding Review 139.

7 ibid.

8 Environmental Management and Coordination Act, No.8 of 1999, Laws of Kenya.

9 Nina Tura and others, 'Unlocking Circular Business: A Framework of Barriers and Drivers' (2019) 212 Journal of Cleaner Production 90.

wiping up the scarce resource that could lead animals to invade human settlements while the farming community may attack the pastoralist community when their climate affected scarce resource is wiped out.[10] The current study thus takes the form of reporting field study that was carried out in Lake Turkana basin guided by negotiation theory and focusing on locations that had previously been affected by such water related resource conflicts.

Water resource-related conflicts are a pervasive and persistent issue in many regions around the world, and the Lake Turkana Basin is no exception.[11] These conflicts arise from the competing demands for limited water resources among various stakeholders, including pastoralists, agriculturalists, and industrial developers. The Omo River, which feeds into Lake Turkana, is a particular flashpoint due to Ethiopia's extensive damming projects, which threaten the livelihoods of downstream communities in Kenya.[12] Despite numerous mediation efforts, these conflicts remain unresolved, often exacerbated by perceived biases and the lack of effective, long-term solutions.[13] This study seeks to understand the underlying drivers of these conflicts and explore potential resolutions that could bring lasting peace and sustainable resource management to the Lake Turkana Basin. The study objective was to investigate the socio-economic, political, and environmental factors contributing to the ongoing disputes over water resources in lake Turkana Basin of Kenya.

I. THE CONTEXT AND DYNAMICS OF CONFLICT OVER RESOURCES IN THE LAKE TURKANA REGION

The globe's biggest permanent desert lake, Lake Turkana, is located inside the multifaceted Karamoja conflict zone. According to Muntet,[14] there is an excessive amount of conflict and disorder in Turkana, involving intercommunal clashes, especially at the frontiers between Samburu and Baringo and Turkana and West Pokot. The majority of Turkana County's indigenous clans are pastoralists who live constantly roaming, moving their herds haphazardly across the borders of Kenya and its neighbouring countries.[15] However, disputes involving several interests over perennial water resources are quite common in this area.

Around the world, natural assets give rise to conflict between communities, between people and animals, between communities and governments, and between businesses and communities or even between countries. Global legislation or agreements become crucial in managing such conflicts

10 Sarkodie (n 1) 2.

11 Derbyshire (n 5) 2.

12 Martin Nie, 'Drivers of Natural Resource-based Political Conflict' (2003) 36(3) Policy Sciences 307.

13 Mark Zeitoun, Naho Mirumachi and and Jeroen Warner, *Water Conflicts: Analysis for Transformation* (Oxford University Press 2020).

14 Stephen Kermut Muntet, 'The Silent War: Pokot and Turkana Conflict' (MSc Thesis, University of Oregon 2016).

15 Vincent K Cheruiyot, 'Post Graduate in Security and Strategic Studies Water Resource Conservation and Conflicts Prevention in Embobut Forest Elgeyo Marakwet County, Kenya' (Post Graduate Thesis, University of Nairobi 2019) <http://erepository.uonbi.ac.ke/handle/11295/108138>.

when they take on an international or cross-border dimension.[16] Nevertheless, as the aforementioned international treaties are still largely a gentleman's agreement, enforcing or executing them continues to be a trust issue.[17]

In Africa, water resource-related conflicts are prevalent in regions where communities rely heavily on natural resources for their livelihoods. For example, the conflict over the Omo River involves both Kenya and Ethiopia. Ethiopia's damming projects on the Omo River aim to industrialise its waters, while Kenya seeks to preserve the river as a vital distributary of Lake Turkana.[18] Similarly, the Nile River conflict, involving several countries, continues to attract regional and international mediation. Disputes over the usage of River Juba's tributaries between Ethiopia and Somalia also highlight the challenges of managing transboundary water resources.[19]

In the Kenyan context, the Mara Basin has presented one of the key locations where water use in the vast area presents an environment with communities in conflict against each other as well as against wildlife.[20] Through water resources management framework, there are efforts to recognise the local knowledge, activities of the people and their interactions with wildlife in order to reach negotiations that can avert conflicts even in the face of clear environmental laws by the government of Kenya. Additionally, in Kenya, several counties, including Baringo, Nandi, Kisumu, and Marakwet, experience conflicts over grazing land, water resources, and settlement areas.[21] The Lake Naivasha basin, involving Maasai pastoralists and farming communities, is another hotspot for water-related disputes. Mediation by community elders and county administrations has been employed, but these efforts often provide only temporary relief.[22]

16 Jacob D Petersen-Perlman, Jennifer C Veilleux and Aaron T Wolf, 'International Water Conflict and Cooperation: Challenges and Opportunities' (2017) 42(2) Water International 105.

17 JR Allan and others, 'Navigating the Complexities of Coordinated Conservation along the River Nile' (2019) 5(4) Science Advances eaau 7668; Yunus Turhan, 'The Hydro-Political Dilemma in Africa Water Geopolitics: The Case of the Nile River Basin' (2020) 30(1) African Security Review 66.

18 Jared Agano, 'Persisting Transboundary Resource Conflicts in Africa: A Case Study of River Omo Delta' (MA Research Thesis Report, University of Nairobi 2020) <https://erepository.uonbi.ac.ke/bitstream/handle/11295/154000/Agano%20J_Persisting%20Transboundary%20Resource%20Conflicts%20in%20Africa-%20a%20Case%20Study%20of%20River%20Omo%20Delta.pdf?sequence=1&isAllowed=y>.

19 José Antonio Peña-Ramos and others, 'Water Conflicts in Sub-Saharan Africa' (2022) 10 Frontiers in Environmental Science 863903.

20 Nathalie Richards and Dorothy Syallow, 'Water Resources Users Associations in the Mara Basin, Kenya: Pitfalls and Opportunities for Community Based Natural Resources Management' (2018) 6 Frontiers in Environmental Science <https://www.frontiersin.org/articles/10.3389/fenvs.2018.00138>.

21 Chelang'a and Chesire (n 3) 3.

22 Patrick Thuo Mugo, 'The Influence of Conflict Resolution Mechanism in the Natural Resource Management in East Africa Region: A Case Study of Mwea Settlement Scheme in Kenya' (MA Research Thesis Report, University of Nairobi 2021) <https://erepository.uonbi.ac.ke/bitstream/handle/11295/161071/Mugo_The%20Influence%20of%20Conflict%20Resolution%20Mechanism%20in%20the%20Natural%20Resource%20Management%20in%20East%20Africa%20Region%3B%20a%20Case%20Study%20of%20Mwea%20Settlement%20Scheme%20in%20Kenya.pdf?sequence=1&isAllowed=y>.

Specifically, in the Lake Turkana basin, conflicts are driven by competition for scarce water resources, grazing land, and fishing rights. Pastoralist communities, such as the Turkana and Pokot, frequently clash over access to these resources, exacerbated by environmental changes and climate variability.[23] Local conflict resolution efforts have included community and county administration meetings, as well as alternative dispute resolution (ADR) methods like mediation, negotiation, and arbitration.

Conflict resolutions in the Turkana basin often take different routes that are driven by negotiation. First, there are traditional conflict resolution methods. Among them is elders' councils where elders play a crucial role in mediating conflicts.[24] They use customary laws and practices to resolve disputes. However, in their endeavour, they face challenges that include generational gaps where the younger generations may not always respect or adhere to decisions made by elders. Further, there is a challenging changing context where traditional methods may not be well-suited to contemporary issues, especially those involving external stakeholders. Secondly, there have been government led interventions. For example, local government mediation calls for involvement of local government officials in mediating conflicts. The method faces challenges ranging from perceived bias where government officials may be perceived as biased or ineffective to resource limitations where lack of adequate resources and personnel to effectively mediate conflicts are recorded. The other method the government sometimes uses to solve these conflicts is through security interventions; whereby the police or military is deployed to quell violence. This type of intervention faces challenges of escalation as security interventions can sometimes escalate conflicts rather than resolve them. Further this type of intervention offers temporary solutions as they often provide short-term relief without addressing underlying issues.

In Botswana, access to water use resources also poses a problem that has required land use policy reforms. Due to the dry nature of some of the regions in Botswana,[25] the need to replace communal customary land tenure systems has come into light with realisation that environmental sustainability cannot be achieved without new land use frameworks. The disruption of land to sustain pastoral livelihoods has brought a conflict with modern development which seeks to develop the land resources to sustain all that live on it. The Ngami region specifically in Botswana presents a pastoral tenure traditional system in conflict with modern land management. To protect the pastoral areas while indulging in modern land development with scarce water requires negotiation to avoid conflicts. Negotiated

[23] Lisa Michelle Adiedo, 'The Impact of Socio-Economic Activities on Communal Security: A Case Study of Turkana Fishermen and Lower Omo Agropastoralists on Lake Turkana' (Doctoral Dissertation, University of Nairobi 2021) <https://erepository.uonbi.ac.ke/bitstream/handle/11295/157280/Adiedo_The%20Impact%20of%20Socio-economic%20Activities%20on%20Communal%20Security%20-%20%20a%20Case%20Study%20of%20Turkana%20Fishermen%20and%20Lower%20Omo%20Agropastoralists%20on%20Lake%20Turkana..pdf?sequence=1>.

[24] Veronica Ogot, Samuel Nyanchoga and Francis Muchoki, 'Indigenous Mechanism of Conflict Management and Resolution From 1850 To 1963 among the Pokot and Turkana Communities in Kenya' (2023) 10 African Rsearch Journal of Education and Social Sciences 84.

[25] Lenyeletse V Basupi, Claire H Quinn and Andrew J Dougill, 'Pastoralism and Land Tenure Transformation in Sub-Saharan Africa: Conflicting Policies and Priorities in Ngamiland, Botswana' (2017) 6 Land 89.

land management policies have worked to avoid perennial conflicts by maintaining rivalries to remain peaceful.

Regionally, the Tanzania water use conflicts found in the South of the country have been well resolved through negotiations. In the Southern Agricultural Corridor of Tanzania termed SAGCOT,[26] the green economy in the face of environmental conservation efforts brings a conflict that could have escalated into serious clash of the government and investors on one side and the local residents on the other. Specifically, the Kilombero valley where small-scale farmers had to be displaced to give way to large-scale farmers presented a hot spot for conflicts. Moreover, the pastoralists, often blamed for causing greater environmental destruction, resisted their eviction causing a conflict.

The water-related violence that has consistently led to the use of firearms in the water-scarce parts of the African Mediterranean zone was examined by Doring.[27] The researcher uses theme analysis on a dataset of water-related conflict cases from 1997 to 2009 to find trends in the conflicts over time and in particular Mediterranean North African regions. The study also found that the likelihood of a water resource being utilised more as a unifying rather than a competing component increased with its scarcity. Additionally, Doring suggests that both state and non-state actors should be included in conflict resolution.[28]

The evictions from the valley meant that herdsmen had to move into zones that were predominantly farming areas leading to yet more conflicts. The Tanzanian government had to use negotiations to avoid further conflicts and help resettle some of the displaced farmers and also coming up with a policy on how to share land in the rich Kilombero valley in the South of Tanzania.[29] Elsewhere in West Africa, the Fulani community's cross-boundary movements in search of greener pastures along the Niger River frequently clash with farming communities, necessitating both political and cultural mediation.[30]

A. Insights and Challenges of Applying Negotiation Theory in Conflict Resolution

According to the negotiation theory, which served as the foundation for this investigation, a strategic dialogue must result in a mutually agreeable solution that will always make one or more parties feel as though they have won while others have lost.[31] Proposed by Druckman,[32] this

[26] Mikael Bergius and others, 'Green Economy, Degradation Narratives, and Land-Use Conflicts in Tanzania' (2020) 129 World Development 104850.

[27] Stefan Döring, 'From Bullets to Boreholes: A Disaggregated Analysis of Domestic Water Cooperation in Drought-Prone Regions' (2020) 65 Global Environmental Change 102147.

[28] ibid.

[29] Bergius and others (n 26) 6.

[30] Willie Iniobong Umoh, Iniobong Ekong Nkang and Ime Etim Akpan, 'Conflict Management for Peace and Sustainable Development in Niger Delta, Nigeria: Alternative Dispute Resolution Perspective' (2024) 13(1) African Education Indices <https://acjol.org/index.php/indices/article/view/4941>.

[31] Jeanne M Brett and Michele J Gelfand, 'A Cultural Analysis of the Underlying Assumptions of Negotiation Theory' in Leigh L Thompson (ed), *Negotiation Theory and Research* (Psychosocial Press 2006) 173.

[32] Daniel Druckman, 'Stages, Turning Points, and Crises: Negotiating Military Base Rights, Spain and the United States' (1986) 30(2) Journal of Conflict Resolution 327.

theory was further enhanced to align with management theories such as decision analysis, game theory, behavioural decision, and negotiation analysis. Negotiation theory holds that the key point of teaming up is the interests and not the positions of the people involved in a negotiation. Furthermore, this theory proposes that there ought to be clear commitment separate from invention to build on nearly self-enforcing agreements.[33]

Negotiation theory, in the context of water resource conflicts, provides a significant lens for acknowledging and learning how various stakeholders affirm their entitlements and explore competing interests. The resource-based conflicts and the solicitation of this theory to environmental disputes emphasises the significance of ever-changing focus from inflexible positions to collective benefits, resulting in increased sustainable agreements.

According to negotiation theory, the key principle is to reach a strategic discussion that results in an amicable solution by all parties involved, often requiring a certain degree of compromise. However, this process may result in some parties feeling more empowered, while others may feel disappointed.[34] Universally, negotiation takes on the conflicting positions of the parties in conflict and brings them into a common position that ensures that there is unanimity in the long run. Generally speaking, negotiation is viewed as a process when parties attempt to resolve their divergent interests.[35] Negotiation is seen as a set of collaborative judgments about each subject's relationship to the bargained resources.[36] This classic, subjective approach focuses on the interests-based relationship between subjects and the resources that are on the line during negotiations. In essence, the negotiation theory tries to bring together people that are reasonably bright without many emotions and with ability to make joint collaborative decisions.

From an analytical point of view, this framework is especially valuable in situations where water-related disputes arise particularly as a result of competing environmental and economic interests. This further underscores the need for win-win negotiation strategies that are responsive to both socio-economic development and resource sustainability.

A major criticism of the negotiation theory is that trust requires specialised skills especially from the conflicting parties yet it is difficult to have a team that has total trust in each other.[37] In essence, the difficulty in attaining trust among the three groups; conflicting teams and the negotiator team, renders negotiation theory weak in application. To some extent, it has been pointed out that cross border negotiations can be used to cover the continuing activities that cause the conflict which acts as a bad faith example.[38] This

33 Saeid Naghdi and others, 'Multi-Objective Optimization for Allocation of Surface Water and Groundwater Resources' (2021) 776 Science of The Total Environment 146026.

34 ibid 7.

35 Alexios Arvanitis and Antonis Karampatzos, 'Negotiation and Aristotle's Rhetoric: Truth over Interests?' (2011) 24(6) Philosophical Psychology 845.

36 Alexios Arvanitis and Antonis Karampatzos, 'Negotiation as an Intersubjective Process: Creating and Validating Claim-Rights' (2013) 26(1) Philosophical Psychology 89.

37 William Ross and Jessica LaCroix, 'Multiple Meanings of Trust in Negotiation Theory and Research: A Literature Review and Integrative Model' (1996) 7(4) International Journal of Conflict Management 314.

38 David Katz, 'Desalination and Hydrodiplomacy: Refreshening Transboundary Water Negotiations or Adding Salt to the Wounds?' (2021) 116 Environmental Science & Policy 171.

means that one party could hide behind negotiations to buy time in exploiting the water resources.

This criticism is specifically relevant in the transboundary water disputes management, where either party can engage in negotiations that does not reach a fair resolution, and only buy time while continuing unsustainable resource manipulation. This, therefore, presents a significant limitation in the practical application of environmental governance under negotiation theory. Furthermore, it highlights the risk of negotiations being influenced as opposed to serving as a genuine conflict resolution tool.

B. Understanding Conflict Dynamics in the Lake Turkana Basin: Research Approach and Scope

A positivist philosophy approach was adopted in the current study based on the assumption that the study sets to empirically and objectively analyse the relationships existing among the variables under the study on water resource related conflicts in the Lake Turkana basin of Kenya. Creating explanatory linkages or causal links that eventually result in the prediction and control of the phenomenon under investigation is one of the main objectives of positivist research.[39] Furthermore, the study applied a descriptive research design, described by Kothari[40] as a systematic research method for collecting data from a representative sample of individuals using instruments composed of closed-ended and/or open-ended questions, observations, and interviews in which convenience sampling was key in accessing the respondents.

A descriptive design's primary feature is its objective depiction of the events occurring on the ground, free from any manipulation that might change or affect the surroundings.[41] This approach is geared to enhance the likelihood of obtaining objective solutions to the phenomena being studied. This implies that descriptive design was suitable for this study since it enabled the researcher to explore the pervasiveness of the study variables in a cross-section of the study population at a given point in time without any manipulation.

Target Population: The study was conducted in Turkana County, focusing on the central sub-county of Lodwar, extending from Kalokol on the shores of Lake Turkana to the western regions near Uganda in Lorugum. Turkana County, located between coordinates 3'09N and 35'21E in the northwest of Kenya's Rift Valley, is the largest county in Kenya, covering 70,000 square kilometres with a low population density of 10 persons per square kilometre. The county borders Lake Turkana to the east, West Pokot to the southwest, and Baringo and Samburu counties to the south. Predominantly a pastoralist region, Turkana faces water scarcity due to its semi-arid climate, leading to frequent conflicts over water-related resources

The target population constituted stakeholders in the water resource-related conflict zone, including community

[39] Yoon Soo Park, Lars Konge and Anthony R Artino Jr, 'The Positivism Paradigm of Research' (2020) 95(5) Academic Medicine 690.

[40] CR Kothari, *Research Methodology: Methods and Techniques* (2nd edn, New Age International 2017).

[41] Sandra L Siedlecki, 'Understanding Descriptive Research Designs and Methods' (2020) 34(1) Clinical Nurse Specialist 8.

members, non-state actors, key informants in the basin, and experts who have previously participated in conflict management processes in Kalokol, Kainuk and Lodwar in Turkana County where conflicts with man and man as well as man and animal are frequent.

The study targeted 90 respondents across all three sites, seeking about 30 participants per region. Only adults of visibly mature age were sought to avoid any underage person under 20 from participating.

Sample and Data Collection: The study adopted a convenient sampling method due to the vast region of study having a low population density. Structured questionnaire was used as one of the triangulation instruments. This instrument was chosen as it offers efficient method of collecting information. Additionally, data was collected using scheduled interviews with key informants including 4 community leaders as well as 4 administrators from the conflict zones.

Data was collected using structured questionnaires, interviews with key informants, observation guidelines, and focus group discussions (FGDs). Questionnaires included closed-ended questions on a 5-point Likert scale to capture responses on the study variables. Interviews focused on community leaders and conflict management participants. The observation guide captured information not discussed or left out during other data collection methods. FGDs explored study objectives through group discussions with participants from Pokot and Turkana communities. The study instrument was a survey with a Likert scale of 1 to 5 (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, and 5 = *strongly agree*). The tests conducted were descriptive statistics and inferential statistics as well as qualitative analysis using thematic analysis.

II. LESSONS FROM THE FIELD

A. Demographic Insights and Participant Composition in the Study

The key characteristics captured included gender, age group, level of education and occupation of the respondents as shown in Table 1. There were 24 male and 12 female respondents with majority coming from the combined age group of 25 to 45 years of age. In terms of education, majority had attained primary as well as secondary school education level while pastoralism and farming as well as fishing formed the main occupation of the field respondents from the semi-structured question. This is a fair reflection of the regional demographics around Lake Turkana Basin of Kenya.

The study also applied two other instruments in the field in which respondents' demographics were not captured except for the gender since they involved in discussions in which it was important to put the respondents at ease without necessarily asking for too much into their demographic characteristics. The Focus Group Discussions (FGDs) had 3 groups with the first group having 8 composed of 5 males and 3 females, the second group with 11 had 7 males and 4 females while the third group had14 comprising of 8 males 6 females. Finally, there were 9 Key Informants out of the targeted 10 with 5 males and 4 females across the various sites of interview.

Table 1: Key Demographic Data

Characteristic	Characteristic Category	Male Frequency	Female Frequency
Age Group	Below 25	2	2
	25-35	7	4
	36-45	8	3
	46-55	4	2
	Over 55	3	1
Level of Education	Primary	12	5
	Secondary	5	3
	Post-secondary college	4	3
	Degree level	3	2
Occupation	House work	1	5
	Farming	5	2
	Pastoralism	11	4
	Community Leader	4	1
	Business/Consultancy	3	1

Source: Research Data (2022).

On the normality test as indicated in Table 2, the variables of conflict independent variables and conflict management was not significant ($p > .05$) indicating a different level of relationship of conflict variables as independent variable and conflict management as dependent variable hence the data was normally distributed ($p < .05$). This test was meant to prove that data collected could be subjected to regression analysis. In the test, the key aim was to demonstrate that the study variables were not giving similar returns therefore well distributed or normally spread.

Table 2: One-Sample KMO of Conflict Variables and Conflict Management

		Conflict Variables	Conflict Management
N		37	37
Normal Parameters[a,b]	Mean	3.8704	3.6543
	Std. Deviation	.32573	.41524
Most Extreme Differences	Absolute	.112	.082
	Positive	.064	.039
	Negative	-.112	-.082
Kolmogorov-Smirnov Z		1.761	1.297
Asymp. Sig. (2-tailed)		.054	.069
a. Test distribution is Normal.			
b. Calculated from data.			

Source: Research Data (2022)

Using a linear regression model of the form Y = a+bx +c the output indicates that the influence of conflict drivers on the management of conflicts was statistically significant, R2 = 0.260, F (1, 35) =52.32, p-value <.05 as indicated in Table 3. This shows that 26 percent of the conflict management in lake Turkana basin of Kenya is attributed to conflict drivers while the remaining 74 percent can be attributed to other factors not included in the study plus the error term.

Table 3: Model Summary of Conflict Drivers on Conflict Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.512[a]	.262	.260	.38845	.260	52.320	1	35	.000[b]
a. Predictors: (Constant), Conflict Driver Constructs									
b. Dependent Variable: Conflict Management									

Source: Research Data (2022)

B. Thematic Analysis of Conflict Drivers in the Lake Turkana Basin

From the qualitative themes identified through the responses on the question patterns for interviews on drivers of conflicts, focused group discussions revealed that political influences were one of the key drivers of perennial conflicts in the region. This was confirmed by key informants who pointed to meetings and funding to incite the conflicts by community leaders of influence whether resident or living far away from Lake Turkana basin of Kenya. Another driver of conflict that repeatedly came to the fore from the interviews was the harsh climate in the region that forces people to be extremely violent at the slightest provocation concerning water related resources. Another significant source of conflict was the local culture. Focus groups revealed that high bride prices, often involving a substantial number of cattle and goats compel young men to steal from neighbouring areas. In the words of one interviewee;

> When a man reaches marriage age and owns 20 heads of cattle, but needs 70 for the dowry, he is unlikely to gather the remaining 50 from within his own community. This situation often leads friends and community members to assist him in forcibly taking the additional 50 heads of cattle from neighbouring communities.[42]

A deeply ingrained cultural hierarchy, where neighbouring communities view each other as superior or inferior, often escalates minor disputes into full-blown conflicts. Additionally, the discrepancies in ownership of livestock also drive conflict among communities with one key interviewee especially from the Southern Lake Turkana basin town of Kainuk stating that;

> An individual owning 100 heads of livestock is expected to protect a water resource more diligently than someone with only 20 heads. However, the owner of 20 heads will not allow their livestock to perish if the resource is accessible, despite being guarded by the owner of 100 heads. This situation often leads to conflicts between livestock owners, regardless of whether they belong to the same community or not.[43]

According to some FGD observations, one key informant from Kalokol town on the Western shores of Lake Turkana pointed out that;

> Our people have on many occasions fought over water drawn from community boreholes some of us have never contributed to the development or maintenance of the water points. So, when we are restricted or strictly regulated in the use of the water resource, a conflict arises. In fact, cases of a woman taking up arms to fight for a water resource if that was the only source for their children are common. Such a woman is then regarded highly by the growing children and community members.[44]

[42] Personal Communication with Akuyot, village elder on Kainuk conflicts (17 June 2021).

[43] Personal Communication with Epessen, woman representative for Pokot people in Kainuk (17 June 2021).

[44] Personal Communication with Sampitit, head of fishing boats, Kalokol Empreza Beach (19 June 2021).

Another key informant noted that, the harsh climate in the Lake Turkana basin was another key driver of conflict since it causes extreme cases of environmental happenings. The informant observed that;

> the climate is so harsh that during the 3 to 5 days of rainfall in a year, the dry shallow river beds simply become muddy places resulting into flooded areas leading to migration to other areas where the high chances exist for conflict between different groups.[45]

Indeed, the harsh climate around the Lake Turkana basin has led to reduction of natural resources, resulting into residents' constant survival mode. The continued struggle for basic needs has contributed to increased poverty, which ultimately has become a major trigger for conflict within the region.

III. CONTEXTUALISING CONFLICT DYNAMICS: COMPARATIVE INSIGHTS AND THEORETICAL PERSPECTIVES

Various studies[46] from previous exploration of similar conflicts have supported the current study findings. In the Sub-Saharan region, the abundance of water related conflicts is attributed to the politics of the existing governments and interested parties that use the infrastructure of the state to frustrate specific groups or communities.[47] The conclusion from the Sub-Saharan study was that once the drivers are taken care of or brought to a round table meeting, the conflicts become manageable or contained.

The barriers and drivers of conflict require a framework for establishing a solution to the perennial conflicts. Accordingly, there is a way of escalating conflicts in any society and this at times takes the form of specific individuals or groups of people inciting others.[48] From that research, such a framework maps out the real drivers with negativity that inflames the conflicting parties or communities.

Similarly, in another study covering East and West Africa, the drivers of water related resource conflicts were strongly linked to the climatic conditions of the land. The study pointed to areas like Northern Kenya, Sudan, Ethiopia, Niger and Central Africa as those with adverse climatic conditions that drive people and animals into conflict with the final consequence that the governments of the day join in such conflicts. This is also comparable to a local study by Wafula in which findings indicated that community gatherings and people speeches are funning the perennial conflicts in the semi-arid regions of Kenya.[49]

On the contrary, there are studies that dispute the conclusion that conflict drivers affect the management of the said conflicts. From an earlier research based on negotiation theory,[50] evidence

[45] Personal Communication with Obadia, village elder in Lorgum (21 June 2021).

[46] Wafula (n 4) 11; Umoh, Nkang and Akpan (n 30) 6; Richards and Syallow (n 20) 4.

[47] Zeitoun, Mirumachi and Warner (n 13) 3.

[48] Tura and others (n 9) 3.

[49] Wafula (n 4) 11.

[50] Stella Ting-toomey and Atsuko Kurogi, 'Facework Competence in Intercultural Conflict: An Updated Face-Negotiation Theory' (1998) 22(2) International Journal of Intercultural Relations 187.

suggests that the best approach to conflict management would involve an approach with strong negotiators in various stakeholders including government officers, community leaders and both gender representation who can attain results by bringing up solutions that work without necessarily reigning in the drivers.

In other words, the study on negotiation theory established that the best form of management for such perennial conflicts was found in good negotiations regardless of what the sources and drivers of the conflict.

Sakordie's study also challenges the drivers' perspective by demonstrating that most of the time, the drivers even if well identified could disguise or change in a manner to render the conflict management efforts irrelevant.[51] This implies that there has to be something or a further step that enables the conflicting communities to meet without any finger-pointing.[52]

The harsh climate in the Lake Turkana basin is one of the key drivers of conflict since it causes extreme cases of environmental activities. For example, the climate is so harsh that during the few days of rainfall, the dry shallow river beds simply become flooded muddy dangerous places leading to migration to other areas where there are high chances of flared conflicts between different groups.[53] Additionally, from the harsh climate arises poverty as a key driver of conflicts in the Lake Turkana basin as the harsh climate decimates the scarce natural resources leaving the residents perennially planning on survival modes. This has been observed through previous studies with survival modes that include armed raids or any other forceful means to acquire some wealth.[54]

The kind of leadership in these communities is more of dictatorial than democratic or laissez faire approach. This is demonstrated through ruthless ostracising of any member of a community thought to side with another community in conflict.[55] In other regions of the world, previous studies indicate that the utterances of leaders can indeed drive communities into conflicts or even war. More so, there are leaders in community who talk ill of other gender from other communities thus impairing the thought process of the masses. An example is where one community have their women herding and tending to livestock while the other community women are confined to home activities and tending to crops.[56]

In Kenya, people have a strong interest in both local and national politics. Politics is deeply ingrained in Kenyan communities and individuals, with many citizens prioritising political engagement over development matters. Specifically, interviews in the Lake Turkana basin cited the electioneering period as key in the understanding of conflicts in the area. According to one such respondent:

> During election campaigns, political leaders often promise to prioritise their own community in resource allocation. To emphasise this point, they speak negatively about other communities, suggesting that

[51] Sarkodie (n 1) 1.

[52] ibid.

[53] Derbyshire (n 5) 2.

[54] Chelang'a and Chesire (n 3) 2.

[55] ibid.

[56] Liesbet Debecker, 'To What Extent is a Gender Bias in International Law Responsible for the Failure to Adequately Address Victims of Sexual Violence in Conflict?' Global Campus of Human Rights 2018-2019 < https://repository.gchumanrights.org/server/api/core/bitstreams/3e252fba-d2e7-4a2a-ae8e-5e567b63cc19/content>.

> resources should be exclusively theirs. Although the political language is usually veiled, the message is clear to their enthusiastic supporters.[57]

The same could be said of other conflict zones for example in global terms both Somalia[58] and Israeli/Palestinian,[59] water resource related conflicts are highly driven by political electioneering. The tensions always heighten during any political electioneering with the various players in the community taking election time as most appropriate time to rally their people hinged on the water resources.

As pointed out most of the conflicting communities within Lake Turkana basin around Uganda and Kenya have poor literacy levels making it difficult to even bring them together for resolutions. Additionally, Richards and Syallow noted that, such lowly-literate communities will always have misinformation resulting from lost or manipulated translations by parties with interests in their conflicts.[60] Evidently, misinformation has always played a key role in the escalation of conflicts, for example, interviewed residents of Kainuk on the southern regions of Lake Turkana basin where Turkana and Pokot communities live in hostility say that:

> When a member of a neighbouring community steals my goat, I exaggerate the theft to my people, claiming that 20 goats were stolen. Without verifying the actual number, my community begins hunting down herders from the neighbouring community to recover 20 goats instead of the single goat I lost. By the time the neighbouring community admits to taking just one goat, the conflict has already escalated, often resulting in lost lives.[61]

Misinformation is also rampant even in communities with high level of literacy, for example in the Israel/Palestinian water resource conflicts each side misinforms their people on the root cause of any conflict.[62] The same is witnessed in neighbouring Tanzania, West Africa, and Somalia where misinformation always fuels conflicts.[63]

CONCLUSION

According to the study, the key drivers of conflict within Lake Turkan basin are attributed to the extreme climate conditions that makes the communities extremely stressed looking for basics of life including water and green land for crop farming and herding of livestock. This is

[57] Personal Communication with Adentokin, Youth leader, Kanamkemer village, Lodwar (21 June 2021).

[58] Wonder Mafuta and others, 'Sustainable Conflict Resolution through Community Based Water, Sanitation and Hygiene (WASH) Planning in Fragile and Conflict Situations: The Case of Somalia' (2020) 56 Journal of Asian and African Studies 002190962092810.

[59] Patrick Huntjens, 'Mediation in the Israe-li-Palestinian Water Conflict: A Practition-er's View' in Shafiqul Islam and Kaveh Madani (eds), *Water Diplomacy in Action* (Anthem Press 2017).

[60] Richards and Syallow (n 20) 4.

[61] Personal Communication with Saybet, Woman representative for Turkana, Kainuk Villages (17 June 2021).

[62] Huntjens (n 59) 13.

[63] Madeline Kimei, 'Early Neutral Evaluation (ENE) and Its Importance for the Civil Justice System in Tanzania' (5 May 2020) <https://papers.ssrn.com/abstract=3593130>; Gabin Korbéogo, 'Framing the Fluidity of Water Management Conflicts in the Bagré Irrigation Scheme, Burkina Faso' (2020) 13(1) Water Alternatives 70; Mafuta and others (n 58).

because of changes in rainfall patterns straining water availability due to climate change which accelerates water resource scarcity leading to increased tensions and conflict. These conditions exert a lot of pressure and stressful moments on local communities as they struggle to meet their basic needs, including access to water and land for farming as well as livestock herding.

Another identified driver of conflict was the political class including members of parliament, state administration, and the legal fraternity. For instance, political speeches have been a catalyst of conflict. Through inflammatory language, political speeches have fuelled tensions, widened societal divisions, and contributed to an atmosphere of hostility and animosity, ultimately increasing conflict. In addition, the poor economic state of the Lake Turkana basin, characterised by poor and inaccessible roads has easily facilitated attacks by making it easy for one group to target another, pursue their interest and escape with the knowledge that help cannot quickly reach the affected community.

The economic challenges of the Lake Turkana Basin have also been a cause of conflict through intense competition over scarce but fundamental resources including water and land amongst others. This has led to tension and disputes as communities within the area struggle to meet their daily basic needs. In addition, lack of infrastructure in the region has hindered access to essential services, and contribute to grievances, further fuelling conflict.

Another driver of conflicts emanates from people's culture for instance the demand by families to donate large numbers of livestock say 50 to 100 goats for dowry at a short notice. The demand for the large numbers of livestock for dowry have led to theft and conflict within communities due to the economic strain and resource scarcity it imposes on families, thus, creating an appetite to steal to fulfil the cultural expectations.

In summary, the key drivers of conflict in Lake Turkana basin of Kenya include perceptions/sense of ownership of the water related resources where for example, the communities with larger populations or livestock feeling they have more rights on the scarce water resources than those neighbouring communities with lower populations and lesser herds of livestock; utterances by community leaders that are in position to influence larger community thinking, the high levels of poverty in the vast Lake Turkana basin, sparsely distributed infrastructure including schools and key infrastructure like hospitals and finally, the low literacy levels making it difficult to bring communities to a negotiation table with neutral observers of participants.

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