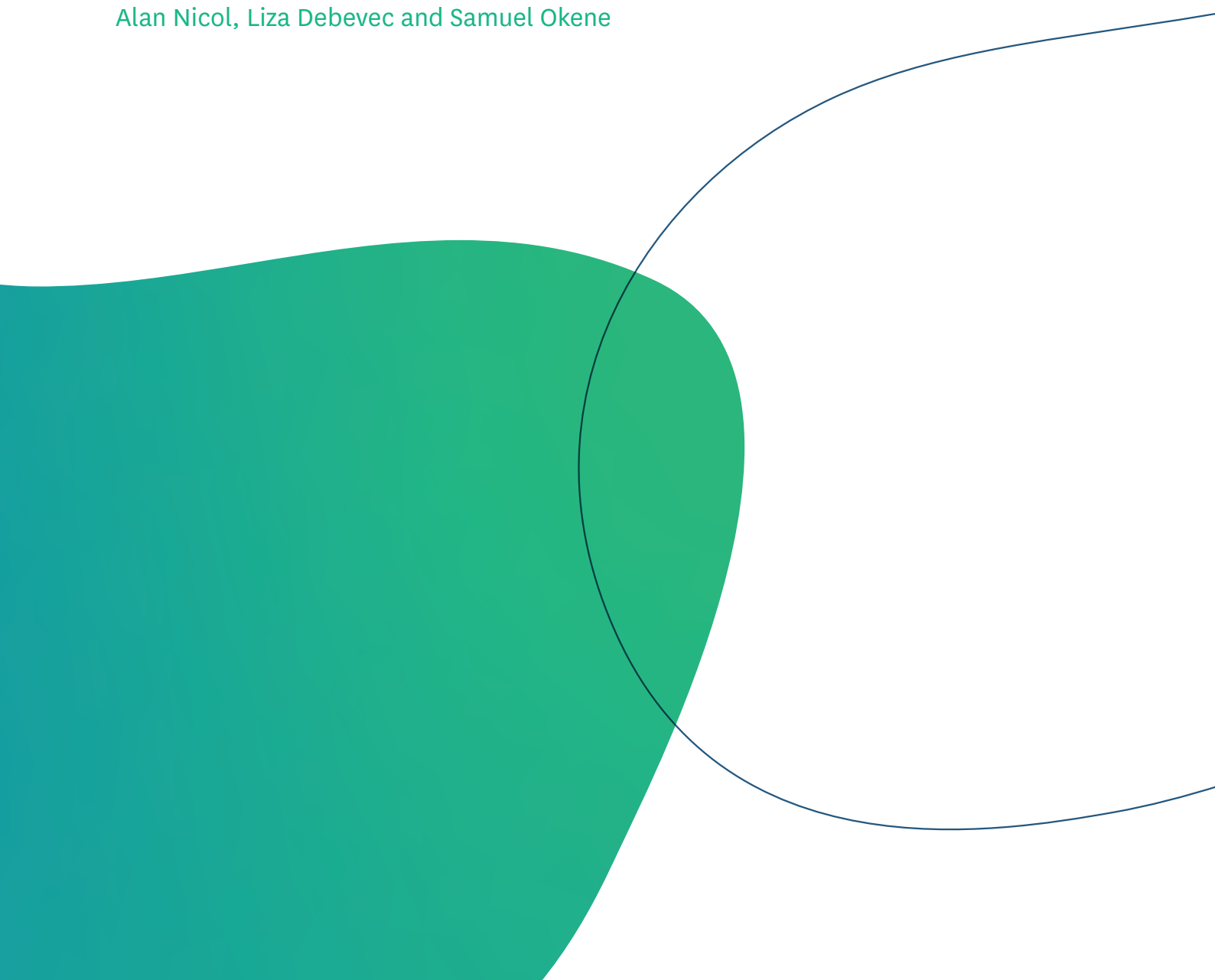


## Working Paper

# Chasing the Water: The Political Economy of Water Management and Catchment Development in the Karamoja-Turkana Complex (KTC), Uganda

Alan Nicol, Liza Debevec and Samuel Okene



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**IWMI Working Paper 198**

# **Chasing the Water: The Political Economy of Water Management and Catchment Development in the Karamoja-Turkana Complex (KTC), Uganda**

Alan Nicol, Liza Debevec and Samuel Okene

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## Acronyms and Abbreviations

CMC	Catchment Management Committee
CMO	Catchment Management Organization
CMP	Catchment Management Plan
CTC	Catchment Technical Committee
DFID	Department for International Development (now part of the Foreign, Commonwealth and Development Office [FCDO], United Kingdom)
DWRM	Directorate of Water Resources Management
FAO	Food and Agriculture Organization of the United Nations
FGD	Focus Group Discussion
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IUCN	International Union for Conservation of Nature
IWRM	Integrated Water Resources Management
KADEP	Karamoja Agro-pastoral Development Program
KIDDP	Karamoja Integrated Disarmament and Development Programme
KIDP	Karamoja Integrated Development Plan
KTC	Karamoja-Turkana Complex
KWMZ	Kyoga Water Management Zone
LAPSSSET	Lamu Port, South Sudan, Ethiopia Transport
LC1	Local Council
LC2	Local Council Committee (Parish Level)
LC3	Sub-County Council Government Chair
LC5	District Local Government Chair
MoU	Memorandum of Understanding
NGO	Nongovernmental Organization
NRM	National Resistance Movement
NUSAF	Northern Uganda Social Action Fund
OPM	Office of the Prime Minister
RPLRP	Regional Pastoral Livelihoods Resilience Project
SDG	Sustainable Development Goal
SF	Stakeholder forum
UGX	Ugandan Shilling
ULA	Uganda Land Alliance
USAID	United States Agency for International Development
USD	United States Dollar
VSLA	Village Savings and Loans Association
WMZ	Water Management Zone
WUA	Water Users' Association
WUC	Water Users Committee
YLP	Youth Livelihood Programme



## Executive Summary

*“Stop farming for the stomach, stop nomadism. I will start doing some farming here (in Karamoja) myself so that I challenge you.”*

President Yoweri Museveni of Uganda addressing an audience in Karamoja subregion, 2019.

In the speech quoted above, speaking after a decade of relative peace in the subregion, President Museveni emphasized the policy transition that the Government of Uganda was hoping to establish in Karamoja in the far northeast of the country. This broad contextual shift serves as our starting point to understand the complexities of political economy underlying the new forms of water management instituted in Karamoja in preceding years and after long periods of protracted conflict.

These complexities came into play during a period of rapid socioeconomic transition amidst growing climate uncertainty and rapid integration of Karamoja into the wider economy of Uganda, East Africa and beyond. For centuries, this subregion has been a remote area of agropastoralism situated on the sociological and ecological border between the Nile and Turkana basins. At the far eastern tip of the Nile Basin, a sweeping escarpment from Karamoja runs down into the Lake Turkana Basin with major temperature and rainfall gradients that result in significant patterns of transhumance, as the Turkana people to the east seek access to the more plentiful water and grazing resources in Karamoja to the west.

Survival in this environment requires that people and livestock move from drier to wetter areas according to patterns of rainfall. This determines both how people and livestock move and how they interact on the ground around key resources such as water structures and grazing areas. In this paper, we call this complex of relations and resources the ‘Karamoja-Turkana Complex’ (KTC) and examine the political-economy relationships therein. The complexity of these relationships arises from the sociological and ecological context, and also from the way power is exercised in and over the subregion and its resources. Within this ambit, we look at policy on water resources management and development including choices made on siting and developing water sources, the kinds of narratives employed by the government, and the underlying tensions and conflicts between the major social groups sharing these scarce resources.

In the past half century, these resource-use systems have come under increasing population- and climate-induced stress, with uncertainties over systems capacity to continue to provide for competing groups at a time of major change in livelihoods. In the post-conflict environment in Karamoja, there has been an inrush of donor aid programs, an important element of which aims to increase water security by adopting new catchment-based planning approaches. These new approaches encapsulate the Integrated Water Resources Management

(IWRM) paradigm in Uganda, but also pose a number of questions relating to power, political economy and the effectiveness of water resources development as a resilience-building strategy.

In examining this Karamoja-Turkana political-economy complex, we asked the following questions:

- What are the key power and political economy issues specific to water management challenges in the Karamoja context?
- How does IWRM catchment planning address these (power and political economy) processes?
- How can IWRM implementation be strengthened to more effectively respond to the political economy landscape of Karamoja?
- What specific instruments can assist IWRM implementation in achieving more sustainable development outcomes?
- What are the gender-specific implications of these relationships and challenges, and what are the outcomes for development and achievement of the United Nations Sustainable Development Goals (SDGs)?

We base our analysis of the situation on a wider assessment of the water management challenges combined with a detailed examination of two large dams – Arachek and Longoromit – recently constructed in the Karamoja subregion. Our key findings and recommendations are presented below.

## Key Findings

1. *Interlinked systems within the Karamoja-Turkana Complex can generate new disputes and pressures on resources.* The sedentarization narrative, poor design and siting of water management structures, and the wider pressures on resources within the KTC may lead to future problems, particularly in the face of growing land pressures and ‘individuation’ of land titles. More generally, the relationships between land and water and exploitation of environmental (and mineral) resources will grow in complexity and generate further potential for dispute. Because of conflicting power relations (including between traditional community and local and national governmental authority), future development projects and programs will need to follow a checklist approach to ensure optimal siting, size and management of water structures in the face of competing pressures.

2. *Competition for water is part of the wider context of KTC; therefore, water management within Karamoja (and also Turkana) requires a broader view that extends beyond the watershed and into 'problemshed' planning.*<sup>1</sup> This study identifies four specific areas of competition for water and related resources in Karamoja:

- a. Pressure on these resources due to intensifying development in the subregion, including road construction, agricultural development and mining.
- b. Indirect impacts of landscape changes taking place as a result of external market pressures (e.g., on biomass derived from the subregion in the form of fuelwood and charcoal production).
- c. Pressure to develop productive waters for agricultural use, including efforts to intensify production through irrigation construction linked to surface water.
- d. Pressures associated with human-wildlife interaction in the subregion, including due to tourism development and wildlife conservation.

We also identify a set of external regional political pressures generated by the displacement impacts of development and conflict in neighboring countries. These pressures include Ethiopia's hydropower development in the Omo Basin and the impact it has on the availability of water and food sources for humans and livestock in the lower reaches of the Omo River and around Lake Turkana; and the continued conflict in South Sudan, which affects the market for goods (including foodstuffs) produced in Karamoja.

3. *Power structures and processes are key.* These are associated with the development of water structures in Karamoja, but remain poorly understood in spite of continued resource allocation. Most seriously, these investments pay little regard to wider systemic issues, and may continue to establish substandard structures that fail to benefit Karamojong communities. In some cases, they may even exacerbate development challenges, including in areas where human-wildlife systems are coming into greater contact – and conflict.

## Key Recommendations

1. *Catchment management institutions need to take ownership of new developments.* Resource development should be overseen and 'owned' by the two respective catchment management agencies in Karamoja's Lokok and Lokere sub-basins. At present, although institutionalization of IWRM has moved forward, incorporation of catchment management

principles into development practices lags behind for several reasons, including the continued disjunction between water management needs, the need for decision-making powers to make robust development choices, and the financial resources necessary to build new – and rehabilitate existing – water management structures.

2. *To improve siting, design and management of water structures, implementers should have a comprehensive political-economy-social-environmental 'checklist'.* In order to generate more effective outcomes from the siting and design of water management structures, there should be a systems analysis toolkit and checklist that can ensure that key questions are asked at appropriate stages of the process, from consultation through to design and implementation. Karamoja receives the highest per capita aid among the regions within Uganda, of which a substantial part goes to improving livelihood security and agricultural development (and within that, a proportion goes toward increasing the availability of water in the dry season). However, our analysis suggests poor community engagement in the implementation process, leading to siting and design problems and, ultimately, structures that may generate future development problems.
3. *Improve management oversight after completion of projects.* The participation of grassroots-level users in the governance of water resources is crucial for future operation and sustainability. A bottom-up approach can help ensure better water development and management. However, there is little evidence of this in practice, including around major water structures. Much of the decision-making is centrally controlled (including the permit system), and there remains a prevailing assumption that irrigated agriculture can flourish alongside surface water sources, where competition for access to water and surrounding grazing resources during the dry season is likely to lead to conflict.
4. *Undertake water-pasture management consultations across the KTC.* Such consultations between the Karamoja and Turkana communities that share resources will bring together the communities, local government, civil society institutions and knowledge groups. The aim is to reassess the current situation, including the wider regional pressures, and help plan for future movements of people and livestock. This includes mitigating the negative impacts of peak resource demands, climate change, mining activities, and agricultural trends and processes across Karamoja and the wider KTC. This should be an integral part of catchment-based planning and investment and involve the lowest rung of local formal and informal authority, including a substantial engagement with elders, youth groups and gender-specific organizations.

<sup>1</sup> The concept of problemsheds is developed to help address the reality that "Water governance, management and use are embedded in processes and forces from outside the domain; therefore, both the causes and the solutions of water problems lie partly in other domains."

# Chasing the Water: The Political Economy of Water Management and Catchment Development in the Karamoja-Turkana Complex (KTC), Uganda

Alan Nicol, Liza Debevec and Samuel Okene

## Introduction: Rapid Change and Uncertainty

## Background

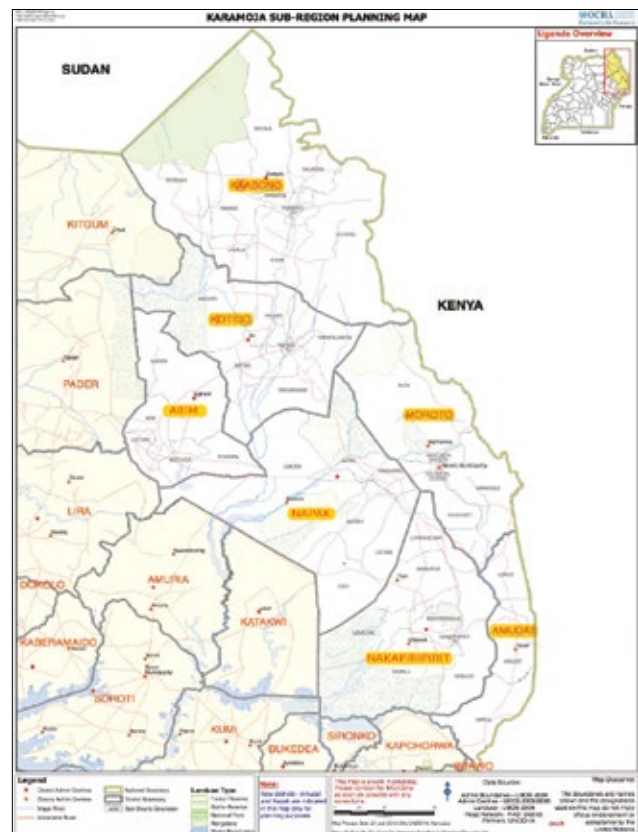
Karamoja's history is complex and scarred by conflict. During British colonial rule, the subregion was 'objectified' and separated from the wider geographical and political space in which it was situated. For the British, there were both sociological and economic reasons for doing this, and related to the specific 'wildlife reserves' and minerals that were known to be located in the area. After Uganda's Independence in 1962, Karamoja's exceptionality persisted in policy circles, in part due to the subregion's role in the wider national conflicts that marked the often violent government transitions — in particular, the conflict that gripped northern Uganda during the 1980s and 1990s. These civil conflicts led to an influx of small arms into the subregion, which was fuelled also by regional wars in Somalia and South Sudan. Ultimately, this led to rapid weaponizing of the competition among ethnic groups, including the Karamojong, for land and water in the subregion. From 1986 onward, efforts made by the National Resistance Movement (NRM) government to impose central government control over Karamoja, with sometimes severe consequences for human rights, left a legacy of abuse that is still felt today.

The wider development context of natural resource governance and livelihood security, therefore, needs to be understood within this dynamic. Our specific focus is on water resources development and management; we adopt a power and political economy lens, through which to assess the implications of changes that have been taking place in Karamoja in recent years and trends that look set to continue into the future, particularly in response to climate resilience-building approaches.

There have been two key processes in play in the subregion in recent years, one driven by the profusion of surface water structures, and the other by the implementation of Integrated Water Resources Management (IWRM) in the form of catchment-based planning. Both processes adopt a somewhat narrow approach that limits itself to water management and use within Karamoja, avoiding the wider political-economy pressures and challenges now being exerted on the subregion, both internally and externally due to geostrategic changes taking place in East Africa. The wider geoclimatic perspective we take in this paper recognizes the importance of a set of interlocking systems within the Karamoja-Turkana Complex (KTC) which, we argue, should be considered in future water resources planning and development.

## Geographical Context

Karamoja, a subregion of Uganda's Northern Region, is located in the far northeastern corner of the country (Figure 1). Covering just over 27,900 km<sup>2</sup> and hosting a population of 1.2-1.4 million people (about 3.4% of the national population), Karamoja borders Kenya to the east and South Sudan to the north. In 2019, the subregion comprised seven districts: Abim, Amudat, Kaabong, Kotido, Moroto, Nakapiripirit and Napak (UIA 2016; Avery 2014).



**Figure 1.** Map of Karamoja subregion, Uganda.

Source: United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA).

The physical geography of the subregion is defined by a complex hydrology, which is affected by the raised topography of the tilting plates on this western side of the East African Rift Valley (Figure 2). The higher altitudes in Karamoja drive a rainfall regime that supports two key river systems – Lokok and Lokere – running down to the south and west and into the Lake Kyoga Basin.

Water flow is concentrated during the March-October period,<sup>2</sup> supporting important wetland grazing areas in neighboring Katakwi and Amuria districts, both beyond the boundary of the Karamoja subregion.

The timing and movement of rainfall shapes the distribution and dynamics of livestock— and the associated communities—both within and beyond Karamoja. In the dry season and in exceptionally dry years, livestock congregate around the key surface water resources, whether naturally occurring – typically as wetland areas – or provided by constructed dams and valley tanks. All such sources perform an essential survival function during the critical dry season, but, as a result, also lead to rapid concentration of livestock and human populations in what are increasingly fragile and stressed environments.

In recent years, there has been a strong focus by government and development partners on water resources development in Karamoja. This has been driven by two prevailing narratives: the transformation of Karamojong livelihoods from pastoralism to more sedentary agriculture-based systems; and resilience building in the face of future climate uncertainty and rainfall variability. The prevailing securitization narrative underlying both these processes is the idea that by reducing movement of livestock and populations, clashes and conflicts over natural resources can also be reduced.

The challenges these contemporary policies pose are core to this paper while being interwoven with wider, imported narratives (Mehta and Movik 2014) on water resources development, specifically those involved in catchment planning and IWRM. The narrative of IWRM has, since the early 1990s, been the dominant one driving water resources development in sub-Saharan Africa and, at an early stage, in Uganda too (Mehta and Movik 2014; Nicol and Odinga 2016). This narrative has been embedded in processes of policy development, water sector management strategy and legislative provisions, with an accompanying piloting of catchment planning in different basins in the four water management zones into which the government subdivided Uganda in 2014. Most of Karamoja—with the exception of the far northern tip which lies in the Upper Nile region—falls within the Kyoga Water Management Zone (KWMZ).

In 2016, the catchment planning process was initiated in Karamoja, led by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) with financial support from the UK Department for International Development (DFID) under the Karamoja Agro-pastoral Development Program (KADEP). This led to the development of catchment management plans (CMPs) for Karamoja's two major river systems (Lokok and Lokere) in 2018 (Debevec et al. 2017). This process held out the prospect of more coordinated planning and implementation of water resources



**Figure 2.** The view from the escarpment in Kaabong district, Uganda, down into the Turkana Basin, Kenya.

*Photo: Alan Nicol/IWMI.*

development in Karamoja, including the establishment of consensus-based CMPs and implementation plans (MOWE and Cordaid 2017). Until that point, planning and development of water resources in the subregion had existed outside of wider resources management systems or approaches. Development interventions – particularly valley tanks, dams and other surface water structures – were simply site-specific projects largely aimed at reducing transhumance within and into Karamoja. This was mainly done by increasing water availability and reducing the concentration of people and livestock in particular areas, especially in low rainfall years. President Museveni summed up this thinking during a visit to the subregion in 2019 as reported in the Kampala Post (Kampala Post 2019):

*“After peace, our next priority is water. Am glad we have done some dams but they are not enough. I have come to check on what we can do to solve this problem completely. Part of the problem is touching many things at a go. In our estimation, big dams will cost about UGX 6 billion (about two million US dollars) each with enough water to support 1,200 heads of cattle for three months. It is not true that there is no water in Karamoja, it comes and goes and you follow it to Teso. This must stop. The water must stay here. We are going to build about 20 dams.”*

The desire for less movement is based on the premise that it will lead to less conflict by reducing inter-group interaction, including between neighboring regions. To attain that goal, additional surface water structures are encouraged, building on the work of successive programs by nongovernmental organizations (NGOs), the Office of the Prime Minister (OPM) and other actors, particularly under the Northern Uganda Social Action Fund (NUSAF).

Both water management approaches, establishment of catchment planning processes and development of new surface structures, represent the import of development

<sup>2</sup> However, there is increasing evidence of a late shift in the season (Chaplin et al. 2017).

concepts into the Karamoja environment. Yet, neither process has undertaken a substantial examination of the wider water management and use contexts in the KTC, including the challenges associated with water needs and demands changing as a structural shift in livelihood systems takes place across the subregion.

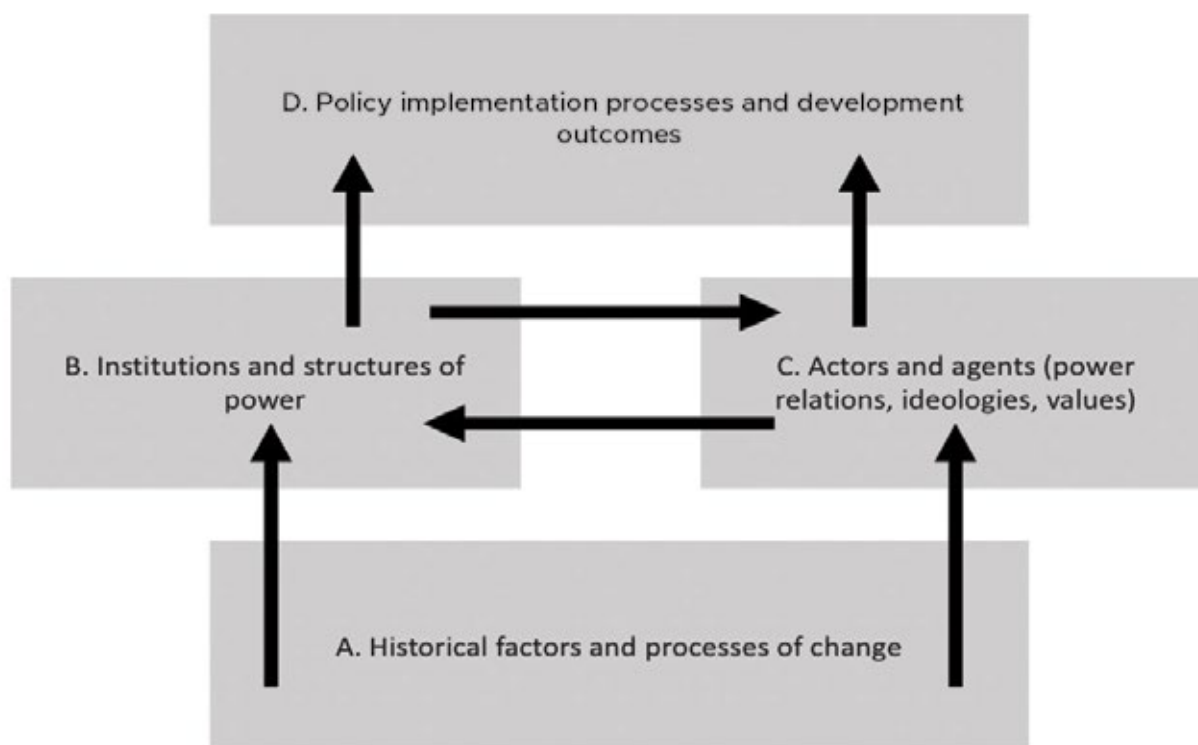
Our research sought to understand these trends and processes, viewing the power relationships and challenges through the prism of two substantial water and development projects undertaken in the upper and lower part of the Lokok catchment. We examined these complex relationships using a political-economy framework (Figure 3) building on earlier work undertaken by Overseas Development Institute under the Drivers of Change program, supported by DFID (Nash et al. 2006).

This more focused lens allowed us to move beyond secondary data and interrogate the primary experience of those engaged in developing and managing these surface water structures, helping us to understand their role in the wider social context and the consequences of and potential contradictions in their development. From this, we derived a checklist approach for future water resources development efforts in the subregion (see Appendixes 1 and 2).

Our approach to survey work was ethnographic, utilizing secondary source examination as well as structured and semi-structured interviews with key informants

and focus groups. These were conducted at the water management zone, district, and LC3 (sub-county) and LC1 (community) levels. During these discussions, we established key features of the political-economy framework depicted in Figure 3 and described these in more detail below:

- A. *Historical factors and processes of change.* What are the key contextual features in the subregion including legacies of violent conflict, the British colonial experience and more recent historical events in state development? How have these helped to shape modern Karamoja (and Uganda)? What are the key processes of climate change and other factors underway?
- B. *Institutions and structures of power.* What are the major features of institutions of water management, and those that shape water management decision-making and implementation? How do they relate to other resources affecting water management, including land management, mining and forestry?
- C. *Actors and agents (power relations, ideologies, values).* What are the value systems and rule-based structures of new water management approaches at the catchment level, and surrounding the development of new water storage dams and other structures?



**Figure 3.** The political-economy framework.

Source: Adapted from Nash et al. 2006.



D. *Policy implementation processes and development outcomes.* What policies and decision-making processes drive water management and development in the Karamoja subregion? Why are certain decisions taken? What are the frameworks followed under different development interventions? What do the results on the ground say about success or failure, benefits and costs under these approaches?

Since the period of disarmament culminated in 2011, change has come rapidly to Karamoja. The idea of ‘pastoralism in transition’ to a new system based on more sedentary settlement and agriculture has become a powerful motif in the subregion’s development policy, including among some (but not all) international NGOs. Some have even coined the term ‘de-pastoralization’ to encapsulate the changes taking place (Caravani 2019). The need for change is now a theme embedded in national policy focusing on the subregion, including during a period in which the Karamoja ministerial portfolio was held by Mrs. Janet Museveni, wife of the president. Karamoja’s engagement in the wider political economy of Uganda has proceeded rapidly with the expansion of road networks from Mbale and Soroti through to Moroto, extension of the telecommunications network to Karamoja—which is key not only for communications, but also for mobile banking and internet access—and extension of rural electrification into Karamoja. The imprint of foreign investment in the subregion has also grown, with substantial interest coming from Chinese companies in sectors ranging from mining and electrification to road construction.

Expanding road networks has opened up the subregion to an influx of consumer goods, while also enabling more extraction of resources from Karamoja, including charcoal and woody biomass. Improved road access has created new tourism opportunities, including within the world-famous Kidepo Valley National Park on the border with South Sudan.

In short, greater market penetration and incorporation of Karamoja into the wider Ugandan economy has a profound effect on development processes and societal transformation. While Uganda is still a predominantly rural society (rural to urban ratio is approximately 75:25), urbanization is increasing; in Karamoja, this is linked to the processes of sedentarization.

This paper is titled ‘*Chasing the Water*’ as an allusion to the movement of people and livestock within and to and from Karamoja in response to patterns of water availability and access. That includes groups reliant on the water and grazing resources of Karamoja who, following the flooding of the two main rivers (of which the Lokok is one [Figure 4]), move into neighboring wetland areas in the Teso subregion seeking the only water and grazing resources available. In a more abstract sense, we use the term ‘Chasing the Water’ as a signifier of the resource competition that is emerging as Karamoja is integrated into the wider political economy of Uganda and East Africa.



**Figure 4.** The Lokok River during floods in Uganda, 2018.  
*Photo: Alan Nicol/IWMI.*

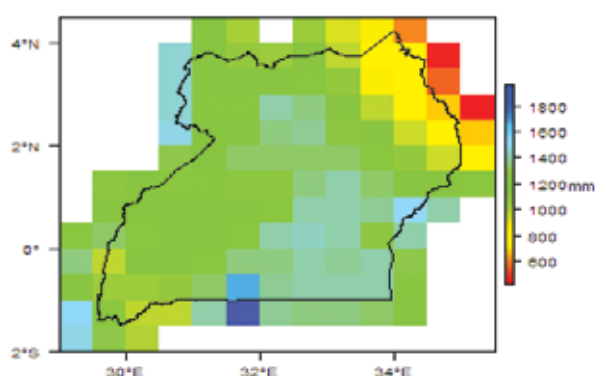
## Contextual Analysis: A Complex Hydro-social Challenge

### Livelihoods in Flux

The far northeastern corner of Uganda is the country’s driest part. To the east, it steeply descends to the lower altitude and lower rainfall region of Turkana County in Kenya. The demarcation of relative aridity between the two regions is starkly evident in the rainfall maps, and roughly delineates the watershed between the Nile and Turkana basins. It also serves as a geopolitical feature as

it follows the approximate border between Uganda and Kenya. The eastern rivers flow down and into Lake Turkana while to the west in Karamoja, the Lokok and Lokere rivers flow into Lake Kyoga and the Nile system. To the north of Karamoja, the Aswa River flows directly into South Sudan eventually joining the Nile system in the Sudd. This ‘edge of the Nile’ rainfall gradient/eco-hydrological boundary and political border are at the heart of the KTC system of transhumance.

In contrast with the rest of Uganda, much of Karamoja receives far less rainfall (Figure 5). Average annual rainfall varies in the range of 350–1,000 mm per year, with some higher levels in specific pockets. As the OPM described it, “There is no month in Karamoja when rainfall exceeds potential evaporation and permanent water features are scarce. As a result, agricultural production in the subregion is reliant upon and sensitive to rainfall, making agriculture-based livelihoods vulnerable to variations in rainfall” (Chaplin et al. 2017). Given the rapid runoff and high evapotranspiration rates, capture, storage and use of this water are regarded as high priority for development in Karamoja, particularly as a means of enabling the transition from predominantly pastoral livelihoods to more mixed farming, utilizing small-scale irrigation from surface structures.



**Figure 5.** Average annual rainfall in Uganda.

Source: Owor et al. 2018.

Karamoja is not uniform, however; separate agroecological zones exist within the subregion, depending upon rainfall availability, altitude and soil type. There is a distinctive ‘green belt’ to the west, neighboring the Lango subregion, where there is higher rainfall and more settled agriculture. Within Karamoja, these zones are important because they influence the direction and movement of livestock, wildlife and people within the subregion across seasons and years.

In spite of substantial aid, chronic poverty and food insecurity persist in Karamoja; nearly half the population is classed as food insecure. Most communities are increasingly engaged in sedentary forms of subsistence agriculture, and follow a unimodal rainfall season from March to October, with harvests—sorghum and maize being the dominant crops—collected between August and December (Chaplin et al. 2017). Growing climate uncertainties are arguably exacerbating food security risks for much of the population. Intermittent droughts in the subregion have had disastrous impacts, severely affecting agricultural yields and increasing pressure on resources by concentrating livestock around water points. Drought events in 1979–1981 and 1984–1985, the so-called ‘emblematic events’, triggered a common response among

NGOs and the international donor community, leading to the construction of surface water structures as part of major development interventions such as the Regional Pastoral Livelihoods Resilience Project (RPLRP).<sup>3</sup> Between 1991 and 2000, there were seven droughts recorded, and extended dry spells every second or third year (OPM 2014). The last substantial droughts were in 2016 and early 2019 (Ariong 2019). Of increasing concern are the extremes of floods and droughts, including the impact of the Indian Ocean Dipole extremes, the last of which occurred in 2019 when a 2 °C increase in surface ocean temperatures was recorded in the western part of the Indian Ocean (Johnson 2020).

For the Karamojong, these uncertainties, the shifting nature of their livelihood systems, and the loss of much of their livestock during the disarmament period—when the removal of their small arms deprived them of the capacity to protect their herds and communities—have led to increased levels of vulnerability (particularly for women) and food insecurity (Hopwood et al. 2015).

Overall, much of the transition to new crop-based livelihoods has been the result of necessity rather than choice, as well as the prevailing policy environment encouraging sedentarization. It is apparent, however, that younger Karamojong are shunning farming in favor of cash-based livelihood occupations, including artisanal gold mining and charcoal production<sup>4</sup> (Figure 6). This is part of a far wider development trend in Uganda and across sub-Saharan Africa.



**Figure 6.** Charcoal sellers on the Kotido-Moroto road, Uganda.

Photo: Alan Nicol/IWMI.

As mentioned above, the KTC includes a mosaic of social groups and intergroup dynamics. The Karamojong are the largest ethnic group in the subregion, followed by the Dodoth and the Jie people. Within these main groups, there are nine tribal subgroups, all of whom speak Ngakaramojong<sup>5</sup> (Adoch and Ssemakula 2011). There are six minority groups who speak their indigenous language - the Nyangia, Ngokutio, Katebong (Mening), Ik, Tepeth

<sup>3</sup> <http://rplrpuganda.org>.

<sup>4</sup> Interviews conducted with youth focus groups in Kaabong district, 2019.

<sup>5</sup> The Nilotic language spoken mainly in the Karamoja subregion.

and Ngiporein. The Karamojong, inhabiting the southern districts, consist of three clans: Matheniko in Moroto district, Bokora in Napak district and Pian in Nakapiripirit district (Czuba 2011).

The name Karamojong, while strictly belonging to these three clans, is often also applied to the Jie and the Dodoth further to the north due to similarities in language and culture. The Jie live in Kotido district, while the Dodoth live in Kaabong district, together with the few Ik (or Teuso<sup>6</sup>) people in isolated pockets. The Tepeth are found in Moroto district and in the Napak mountains. There are also said to be a few of the original inhabitants, the Oropom people, in the subregion. Most of the Pokot live in Amudat district, while some reside across the border in Kenya. Abim district is inhabited by the Ethur, comprising the Jabwor subgroup in the north and (a related group) the Nyakwai to the south.

Many researchers use the term Karamojong to refer, in a political sense, to the citizens of Karamoja (e.g., Scott-Villiers 2013; Caravani 2019). This masks heterogeneity within the population, which includes people originating from other parts of Uganda such as Acholi and the Central Region. This heterogeneity is important in terms of claims to land and access to resources, and to the history of intra-Karamoja disputes over access to land and water resources.

The absence of effective government and state authority, lack of a clear government policy on pastoralism, and the collapse of traditional authority alongside the failure of the Karamojong local political leadership represent challenges at the heart of past conflicts as well as contemporary development efforts in the subregion. Researchers have pointed to a correlation between constant conflict and insecurity, on the one hand, and environmental degradation and underdevelopment, on the other (Bainomugisha et al. 2007 in Adoch and Ssemakula 2011). They emphasize that conflict has reduced the capacity of communities and households to cope with adverse ecological phenomena.

The endemic conflict within Karamoja triggered a government response in 2002, and the Government of Uganda began disarming communities in the subregion over the next 10 years, leading up to 2011. During this process, there were allegations of serious human rights abuses by the army. The result of disarmament has been the opening up of development interventions and opportunities, but the fact remains that the population has emerged from a very low development base. Karamoja's poverty rate has been the highest in the country: in 2015, it stood at 74.5% of the population, compared to the national average of 19.2% (OPM 2014).

The subregion's history has been one of geographic, economic and political isolation. From colonial times,

the subregion and its people were treated differently and separately from the rest of Uganda due to their predominantly pastoralist lifestyle. Karamoja's isolation and marginalization were compounded by its distance from Kampala, the seat of political and administrative power, which lies some 600 km to the south (Adoch and Ssemakula 2011). Poor transport infrastructure amplified this isolation and hampered delivery of basic services, a challenge further exacerbated by Uganda's civil war from 1987 to 2006.

The Karamojong were treated primarily as a security challenge by successive governments. This was based on their tradition of cattle raiding, which they traditionally used to carry out using spears and sticks. The introduction of automatic weapons in the early 1980s turned the subregion into a conflict zone, and military expeditions were conducted to punish cattle raiders. The fall of the Idi Amin government and abandonment of an arsenal at the Moroto army barracks triggered the spread of small arms. Due to the instability and conflict this brought about, relief agencies could only intermittently supply food and other aid during frequent periods of drought and famine.

Until recently, conflict was manifest on three different levels: (i) interethnic strife within Karamoja; (ii) interregional conflicts between the Karamojong and communities from the neighboring regions, mainly Lango and Teso districts; and (iii) cross-border conflicts involving the Karamojong and communities living along Uganda's international borders, especially the Turkana and Pokot of Kenya (Adoch and Ssemakula 2011). Exacerbated by social and environmental factors, this led to great hardship for the Karamojong in common with other cattle herders in East Africa. According to Odhiambo (2003), conflict in Karamoja became a complex of pastoral competition for scarce resources, propelled by changing climate, cattle raiding and private ownership of firearms, combined with generalized poverty, and relative political and geographic isolation.

Hitherto there used to be strong gender-age distinctions in the division of labor, with women and elderly men remaining in fixed settlements while boys and younger men took herds to pasture. Such delineation of roles ensured a structured, hierarchical authority within Karamojong society. All communal decisions were discussed in meetings of elders, and deviant behavior was sanctioned. However, during the period of violent conflict, armed youth refused to abide by the edicts of the Council of Elders and often resorted to violence to avoid sanctions. In our discussions with elders for this research, they reported a loss of respect for older people among the younger generations. For example, they had lost their authority to punish youngsters for felling trees that were supposed to be protected. The youngsters see their parents as 'semi-literate', the elders said, and may even 'invoke child rights' against them.<sup>7</sup>

<sup>6</sup> Not to be confused with the Teso people.

<sup>7</sup> Discussion held with elders, Kaabong town, October 14, 2019.



Livestock remain central to the identity of the Karamojong, but arguably their contribution to livelihood security is diminishing. In some areas (e.g., Kaabong district), due to the abundance of available water, grazing and other resources, residents rarely move around or leave their district. In fact, such districts receive livestock and livestock keepers from neighboring districts and countries. Hitherto, Karamoja used to be home to about 20% of Uganda's total livestock population (UBOS 2009; OPM 2014) before declining significantly during the strife-torn years before disarmament. Current numbers and trends are uncertain. Some accounts say there has been a significant decline in livestock compared to earlier times, including the pre-disarmament era. Some informants we spoke to said households that used to have 30–100 heads of cattle in the past now only keep 3–4 and some 5–10 goats.<sup>8</sup> However, different sources make different claims. One researcher who undertook a study among the Bokora of Iriri district during 2012–2014 assessed that the heads of cattle *per person* dropped from 3.5 in 1959 to 0.5 in 2014 (Caravani 2019). A 'catastrophic decline' in livestock numbers caused by different diseases is further noted in a more recent resilience assessment (Mercy Corps 2016).

Our focus group discussions (FGDs) and key informant interviews yielded insights that prevalence of disease is a contributory factor to pastoral livelihood insecurity, and that the milk productivity of indigenous cattle remains low. Plans to introduce non-native and cross-bred cattle have had limited success due to the breeds' susceptibility to heat and livestock pests and diseases. One of the chief problems is tsetse fly infestation, which is linked to the presence of wildlife, particularly elephant herds. Elders also told us about the decline of national veterinary services, and the challenge of informal veterinary service provision, reinforcing evidence from other programming in the subregion (USAID-KRSU 2017). This again reflects the peripheralization of Karamoja by central government and the focus on encouraging non-pastoral livelihoods. Many of our informants complained specifically that the local government had done little to tackle serious diseases affecting their livestock.

Other key structural changes in livelihood systems emerged during our FGDs: increasing reliance on daily wage labor, focus on cash crops, and recourse to firewood selling, charcoal production and artisanal gold mining, the latter particularly by young men. In Kaabong district, most of the community members interviewed said they now practice mixed livelihoods with some subsistence farming of sorghum and maize intercropped with oil crops (groundnuts, sesame, sunflower) and vegetables (cucumber, pumpkins, cowpea and beans). In addition, households sell firewood in small urban centers; some of them undertake charcoal production, particularly in the eastern part of the district, where a large sack can sell for UGX 20,000, four times the daily wage rate. One household, or group, can produce about five sacks

of charcoal a month. In some districts, respondents ('including graduates') in our FGDs stated that they resort to charcoal production because of poverty and a lack of alternative income sources.<sup>9</sup>

By far, the most prevalent cash-based occupation reported was artisanal gold mining and panning. A large number of young men have taken to it, working in teams or groups after dropping out of school. Each gram mined is worth about UGX 150,000. People we spoke to in different subcounties of Kaabong district told us that individuals collect about a tenth of a gram a month (Figure 7), which is worth about UGX 10,000, nearly twice the daily wage rate paid at construction sites under government schemes. Some of the young men said they invest the money they make this way in livestock, or use it to pay school fees for other family members. Payments are made in cash or in kind (locally-brewed drinks). Cash earned is stored in the now virtually ubiquitous mobile phone. In spite of the risk of a mine collapse or a robbery, this is seen as an opportunity to earn an immediate cash income. The work is largely seasonal and limited in part by the availability of water for panning during the dry months. A considerable investment is required to purchase sufficient jerry cans of water during the dry season. Other livelihood demands, including herding during the dry season when cattle have to be taken to distant pastures, come in the way of young men engaging more in artisanal mining.



**Figure 7.** A gold miner's haul after a month's work in Kaabong district, Uganda.

Photo: Alan Nicol/IWMI.

<sup>8</sup> Key informant interview, Kotido district, September 2018.

<sup>9</sup> Discussion with elders, Kaabong Town, October 14, 2019.

The extension of mobile telephone services into the subregion has helped revolutionize earning cash-based income. Mobile herders now use small solar panels to directly charge their mobile phones. In one community we visited near Kaabong town, nearly all the men had mobile phones, which are used for banking and security purposes, including in and around mining areas. Gold and other minerals are present on a commercially-viable scale, hence the huge mining interest in the subregion. Future mining concessions have largely been mapped out and exploration licences granted in the last 2–3 years, some of them to international investors.<sup>10</sup> In some places, artisanal mines have been taken over by mining companies with exploration licences. This has rendered local miners vulnerable, including around Lopedo mine in Kaabong district. When miners are thus displaced, they move on to new sites where there tends to be little or no protection or security.

Local officials cite government interventions to support livelihoods in Karamoja. These include programs aimed at establishing small enterprises. As an example, the Youth Livelihood Programme (YLP)<sup>11</sup> operates a revolving fund from which loans are given to young women to set up business ventures such as grinding mills and bakeries. In some communities, Village Savings and Loans Associations (VSLAs) have been established at the community level to provide microfinance. While evaluating the success or failure of these initiatives is beyond the scope of this paper, there has been notable criticism of their effectiveness and impact in recent years.<sup>12</sup>

Other livelihood options for communities in Karamoja include gathering of wild fruits and forest products, particularly in higher altitude areas where there is thicker forest cover. Wage labor in towns, including collection of rock and hard-core material for construction, is another important option. The average daily wage rate for manual labor is around UGX 5,000 per person (about USD 1.3), if engaged for communal works under NUSAF III. However, demand is not high, and people in large numbers do not seem to find work. If harvest conditions are good, some people make an alcoholic beverage called 'kwete' for sale and barter—including as in-kind payment to labor groups producing charcoal.

With growing private land ownership leading to a rise in land prices, conflicts are increasing. In the past, land used to be communally held, with areas marked out for cropping, grazing and other activities. However, fragmentation of land is now becoming a major challenge. As some elders term it, those who have 'gone to school' understand the value of land—not least because of the potential mineral wealth underground—and seek to increase their individual ownership at the expense of the wider community, and thereby becoming members of the new Karamojong elite. Under pressure from the

Uganda Land Alliance (ULA) – a consortium of more than 60 national and international NGOs – and others, a process of Customary Land Certification has been initiated by the central government. This has both strengthened communal land ownership and also, to an extent at least, supported greater equality at a family level in accessing land (Achan 2020) (see Box 1 for further information on gender challenges).

## Fixed Borders, Fluid Relationships

The drawing of the border between Kenya and Uganda in 1919 under British colonial rule<sup>13</sup> used the edge of the Nile Basin and the northeast escarpment of Karamoja as an 'ecological-topographical' line of demarcation. This had the effect of dividing along political-administrative lines this key agroecological and sociological feature, effectively bisecting a major shared agropastoral system.

Given both altitude and topography, there is higher rainfall and greater pasture availability in Karamoja to the west, including exceptional grazing species for cattle and what the Karamojong refer to as 'salty grass' (halophytic) species. The result is that some Turkana have for centuries undertaken seasonal migration up and over the escarpment to wetter, more productive areas. Currently, an estimated 150,000 Turkana herders—representing about 10% of the Turkana population in Kenya—pass into Karamoja each year along six main migration routes. In 2017, according to an official in Kaabong (pers. comm. Chief Administrative Officer, Kaabong district, October 2017), this one district alone hosted about 50,000 heads of cattle and some 30,000 people from both Kenya and South Sudan, all entering primarily to seek water and grazing resources.

At the extremities of this system, changes in access to pasture and water in Karamoja can increase tensions between groups, particularly in drought years; and, in Kenya, changes in water and pasture availability can increase the propensity for more frequent and longer-term movement into Karamoja. This includes the impact of the Gibe III Dam in Ethiopia on the flow regime of the Omo River into Lake Turkana. One long-term effect of this change has been to reduce flows into wetlands at the entrance to the lake (Figure 8) which have key grazing areas during the dry season.

The impacts of these phenomena in South Omo are affecting the Nyangatom ethnic group from South Omo/Ethiopia who are considered to be related to the Karamojong as part of the Ateker (the Karamojong Cluster – see Figure 9) people. Impacts on their key dry-season grazing are pushing them into northern Turkana. The Turkana are further affected by oil exploration in southern Turkana and associated land enclosures in important

<sup>10</sup> Uganda mining cadastre portal - <http://portals.flexicadastre.com/uganda/>

<sup>11</sup> Youth Livelihoods Programme - <https://mglsd.go.ug/ylp/>

<sup>12</sup> <https://www.independent.co.ug/govt-accused-of-frustrating-youth-livelihood-programme/>

<sup>13</sup> The process started in 1901 (Ogalo and Ndeda 2016).



### Box 1. Gender, Karamoja and Social Change.

The political economy of water management and development is not gender neutral. The success and/or failure of new water points and structures can result in benefits for women and/or greater risks, as outlined in our FGDs with women. These developments can also alter the gender and power dynamics across and within communities. There are significant gendered factors surrounding access to land and other resources, including communications. Older women, in particular, may lack access to mobile phones compared to male members of a community. This has an impact on their capacity to manage mobile money, and to access and disseminate information. One woman in our FGDs stated, “We as women elders are only told of the existence of these dams and what we can do with them. We do not know how they are arrived at.” While there have been attempts at mainstreaming women’s participation in managing surface water structures—and in the wider catchment planning process—implementation of that idea by donors and national partners has only been partially successful, with participation limited and the actual agency of women curtailed by wider social structures.

Generally, the position of women in Karamoja society is described by some as being ‘more settled’ than that of men; hence, they benefit more from new fixed infrastructure, including water pumps located close to homesteads and dams close to settlements.<sup>15</sup> In interviews conducted with women in Rupa county, Moroto district, we learned that when water pumps broke down, women would be under greater pressure to contribute money for their repair. Even though the contribution may have seemed small, poverty is such that even minor contributions are not affordable in those communities. While men tend the cattle and are often away for long periods of time, women remain in their homestead, farming household gardens and engaging in charcoal production, which is an essential source of income for basic food needs during preharvest periods and droughts. According to our informants, women rarely involve themselves in artisanal gold mining.

In the post-disarmament period, most development projects have focused on the empowerment of women and girls, because traditional Karamojong culture is considered to have many ‘harmful cultural practices’, including child marriage and gender-based violence. Other interventions have focused solely on women in the context of a society where men are losing power and status due to losing cattle and having to give up weapons. This has created a context of ‘disempowered men’, leading to more gender-based violence and linked alcoholism.<sup>16</sup>

## A New ‘Institutionalization’ of the Catchment Management Paradigm

From the early 2000s onward, development of surface water structures in Karamoja grew alongside donor interest in the subregion. At a cost of some UGX 400 million each, valley tanks would provide a six-month supply of water for livestock and help to reduce movement between, and competition for, dry-season water sources. Recent programs in Karamoja to expand valley tank development aim to have one tank in each subcounty to supply water throughout the year. As noted above, however, their siting and design have been problematic in some districts.

In Kaabong district, there are 18 valley tanks. Although district officials suggest that about 70% are functioning, on visiting subcounties, it was identified that some of them do not fill sufficiently during the rainy season and therefore fail to provide water in the dry season. Local lack of consultation both at the design and siting stage was mentioned as a specific issue in FGDs.

Valley tank development has taken place largely outside of any wider water resources planning framework—as none existed until recently. While Uganda’s ambitious National Development Plan II 2015–2020 (Republic of Uganda 2015) envisaged a dam in almost every subcounty, partly to increase the quality of livestock production and meat (pers. comm. Water for Production Office head, Mbale), it was not until 2016 that the subregion became part of a government-led process of developing CMPs and institutions.

The institutionalization of catchment planning divided Uganda into four separate water management zones (Figure 10), under which specific catchments were delineated. By 2018, the government established catchment management committees/agencies operating under Catchment Planning Guidelines in Northern Uganda (the Upper Nile and Kyoga Water Management Zones [WMZs]), both of which laid down the ‘rules of the game’ for establishing catchment planning in their respective zones.

<sup>15</sup> This is the case of the Arachek and Longoromit dams. The Kobebe Dam is located far from the communities, and the only women who may come there are those from Turkana accompanying their men and cattle.

<sup>16</sup> For more information on masculinities and lived experiences of young men in Karamoja, see Huisman 2011 and Mosebo 2015.



Accordingly, both the Lokok and Lokere rivers form part of the KWMZ, which comprises a total of 11 catchments with five catchment management committees (CMCs).<sup>17</sup> The Mbale-headquartered KWMZ forms part of the institutionalization of water resources management across Uganda (Nicol and Odinga 2016).



**Figure 10.** Uganda's four water management zones.  
Source: MoWE.

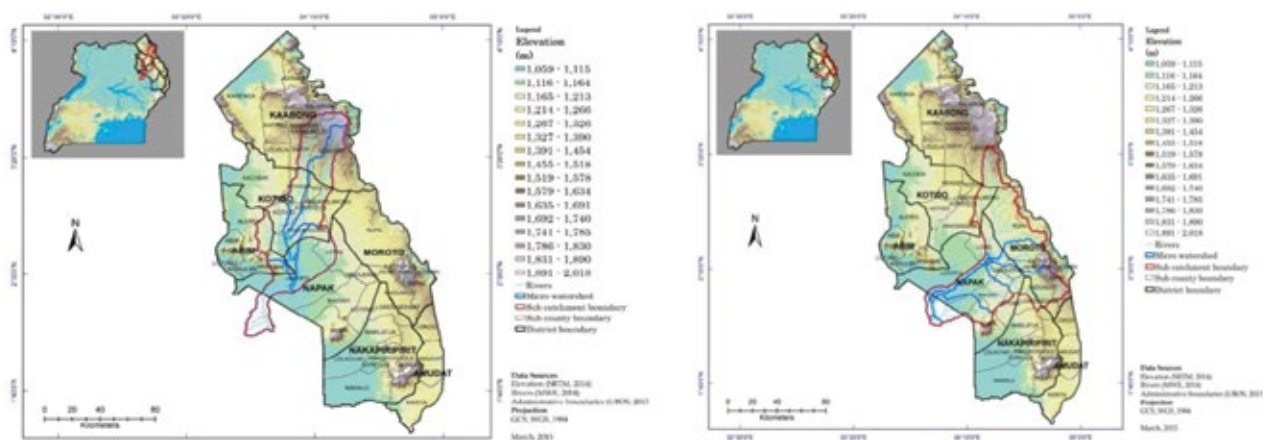
The role of the KWMZ office was to assist in the technical planning and development of the two Karamoja CMCs based on stakeholder-driven processes. An earlier study (Debevec et al. 2017) illustrated some of the complexities and challenges of such an approach, including the tenuous

connections between catchment planning and district planning processes in the respective catchments, without which moving from planning to actual development interventions would prove difficult. At the time of writing this paper, the KWMZ had plans to set up an office in Moroto, reflecting the intention to establish catchment-level institutionalization at lower levels, and to bring the new structures closer to the needs of water users and the programming of development planners at the district level.

Key informants at the district level (e.g., Napak district) stated that the issue of ownership over catchment planning remains a challenge. Many communities feel that surface water structures (once completed) are still government property and hence feel no real sense of ownership and commitment to their management.

Other key informants, who have been part of the catchment planning processes, described the use of technical language, and a lack of effective engagement with local populations. Participatory processes have indeed been undertaken, but the major driver of implementation has been external aid rather than financing from below or even central government investment in the process.

In 2017, both Lokok and Lokere concluded their catchment management planning processes (Figure 11). These laid out a broad strategy and structure on which to build more effective integrated resource management. Part of this planning process included the identification of sites for additional surface water structures to be built nearer to the edges of the escarpment in the eastern part of the Karamoja subregion. The idea underlying this strategy was to curtail Turkana migration deep into Karamoja and help reduce concentration around other structures, such as the Arachek and Kobebe dams, located further into the subregion.



**Figure 11.** The Lokok and Lokere catchments in Karamoja.  
Source: International Union for Conservation of Nature (IUCN).

<sup>17</sup> Catchment management organizations (CMOs) have yet to achieve legal status in Uganda. Furthermore, although their existence is recognized under the Water Act, they are not included under the Local Government Act. CMOs have three structures: a stakeholder forum (SF), a catchment management committee (CMC) and a catchment technical committee (CTC).

One of the major challenges of the CMP, as described by a key informant in 2017, was the ‘need for integration’, which was ‘imperative’ in order to achieve the objectives of catchment planning (pers. comm. WMZ official, Mbale, October 12, 2017). This means not just combining WRM planning with that of other sectors, ministries and agencies, but also integrating it within wider development processes and procedures, including District Development Planning. In Amuria district in the Eastern Region, which lies downstream in two catchment systems just outside Karamoja, there is a heightened sense of the need for integrated planning. Development pressures on the wetlands into which the Lokok and Lokere rivers discharge are combined with concerns about upstream demand, including potential impacts on downstream supplies if the rains fail and a district such as Amuria has to rely on static surface water structures (pers. comm. Amuria district official, Amuria town, October 12, 2017).

Historically, Amuria has been dominated by the Teso people. As the dry season progressed, the Karamojong traditionally would move south toward the wetter areas in Amuria for dry-season grazing – the ‘chasing the water’ motif. District officials in Amuria see the proposed construction of an upstream dam in a positive light, given that it could obviate movement into their region during the dry season<sup>18</sup> —in common with the thoughts expressed by President Museveni at the beginning of this paper. The proposed Lokichar Dam would be the largest in the Karamoja subregion.<sup>19</sup> The dam would regulate flows and establish a large rice scheme in Napak district, Lopei subcounty. Regulation of flows into the wetland areas downstream would also open up the possibility of more intensive rice farming in these areas. The District Vice Chair of Amuria described the extremes facing the district as very wet in the wet season (all the water flows down from Karamoja) and very dry in the dry season, but also cautioned that rice production is one of the pretexts being used for encroachment on the wetlands. A district ordinance currently prevents encroachment on wetlands, but there is pressure to convert more land for rice production, which is also due to market demand from Uganda’s Central Region and neighboring Kenya.

Institutionalization of catchment planning in Karamoja, therefore, faces three competing challenges: (i) to engage more effectively with communities and local institutions in order to embed decision-making in practical realities and local, indigenous knowledge; (ii) to tackle major upstream-downstream challenges related to the annual

flow and discharge of the two major catchments in Karamoja, in order to ensure that major livelihood needs are met and key ecosystems—namely, the substantial wetland areas in and neighboring Karamoja—are protected from over-encroachment (providing as they do critical flood management capabilities); and (iii) to ensure that future catchment planning and implementation takes a wider view of the ‘catchment’ as a unit and incorporates neighboring Turkana’s needs and priorities in addition, particularly given the substantial changes taking place in that region.

In relation to the first challenge, micro-catchment planning, involving village-level committees in the process to address the growing industry of charcoal burning (according to interviews conducted with elders in Kaabong district) is an important local concern, in order to manage the competing needs of protecting soils and diversity through encouraging multi-species forest cover and enabling communities to access energy sources for cooking. The change in structure of local government and financing systems, with funds directly apportioned to subcounty levels (LC3), bypassing district-level (LC5) scrutiny has large implications for districts that still rely on aid and conditional grants, and where financing for natural resource management may be very small (the Kaabong district budget for natural resource management, for instance, was just UGX 400,000 per quarter in 2017, according to the District Development Plan). Finally, communal land certification processes are critical to reducing conflict over land at a local level, as individuation of land continues apace. Already an issue, this will become more significant in future years as mining companies move from exploration to development of mining activities, including expansion into key grazing and cropping areas. These major sectoral processes will have profound impacts on the two catchments, and require that district- and subdistrict-level planning is connected to wider water management processes and national development strategies.

In light of these complex interlinked challenges in the KTC, we now examine two large dams built in the preceding 10 years. Both illustrate issues of power, management and development in the political economy of contemporary Karamoja based on the four elements identified in our political-economy framework: historical factors and processes of change; institutions and structures of power; actors and agents (power relations, ideologies, values); and policy implementation processes and development outcomes.

<sup>18</sup> <https://www.giz.de/en/worldwide/19258.html>

<sup>19</sup> Rumors of external funding for the dam circulate widely in the subregion, though the authors could not find any concrete evidence of this.

# The Story of Two Dams: Power and Development Complexity

The preceding sections of this paper identified the wider system dynamics of what we call the Karamoja-Turkana Complex (KTC). We also outlined some of the main challenges and pressures on this complex from both human action and movement, as well as changes in the natural environment and climate systems. In addition, we identified key water management issues in the subregion, including the institutionalization of water management as part of catchment planning processes since 2016. Within this wider context, we now introduce two case studies of large water management structures in Karamoja. This will enable a more detailed examination of the political-economy challenges involving the demand for and management of water resources in Karamoja.

A common narrative infusing the construction of large water structures in Karamoja is their achievement of multiple benefits. Government programs funded by external donors (European Union, World Bank, DFID, United Nations, Food and Agriculture Organization of the United Nations [FAO], etc.) continue to lead construction of water points and additional surface water structures. In 2017, a total of seven organizations supported seven projects implementing water for production activities, contrasting with 37 organizations supporting 54 projects on livelihoods. All donor interventions come under the Karamoja Integrated Development Plan (KIDP 2) 2015–2020, which states: “Due to the highly variable semi-arid climate, agropastoralism will remain the most realistic livelihood for many people for a long time to come, but this will not be enough to drive the economic development needed for the subregion as a whole” (OPM 2014).

KIDP was originally known as the Karamoja Integrated Disarmament and Development Programme (KIDDP). Commissioned by the OPM in January 2005, it was mandated to cover the period 2005–2008 and was designed to “clarify the conceptual linkages between small arms, human security and development” (OPM 2014). After failures in implementation, a reconceptualized program took shape in 2008–2009 with the “primary focus on peace building as a prerequisite for achieving development” (OPM 2014). A major narrative underlying KIDP 2 has been support to the livestock sector, but also strengthening of non-livestock-related livelihoods, including crop production. Water development seeks to provide water to cover dry-season requirements and reduce animal movement between sites, thereby reducing competition for specific water points and thus enhancing peace and security. It was against this backdrop that the Arachek Dam was constructed.

## Arachek Dam (Napak District): Whose Water Is It Anyway?

Located in Napak district of Karamoja, Arachek Dam is one of three large dams in the subregion (Kobebe and Longoromit being the other two). Turkana pastoralists travel from Kobebe to Arachek during the March–July period every year. Construction of a dam at this site originally took place during the colonial period. It was subsequently rehabilitated and reconstructed at a cost of UGX 6 billion. In addition to basic aquaculture activity,<sup>20</sup> the redevelopment was designed to provide water to an adjacent irrigation plot as well as livestock watering troughs (Figure 12) on the other side of a main road bisecting the site. There are an additional 18 village tanks in the district, but all are empty in the dry season.



**Figure 12.** Cattle at the troughs at Arachek Dam, Karamoja, Uganda.  
Photo: Alan Nicol/IWMI.

The dam at Arachek in Matany subcounty was built between 2009 and 2010<sup>21</sup> with an expected lifespan of 30 years. It was constructed largely for the purpose of providing water for livestock (of the Bokora, Jie and Matheniko people from Karamoja and also for visiting Turkana pastoralists). An FGD conducted with villagers in the area revealed that there used to be an older, much smaller dam known as ‘Natapar ka Emomwai’ (literally ‘the dam of the sorghum’) near this location. This old dam became silted and disappeared several decades ago. When active about 40 years ago, it was used mainly for livestock watering. Prior to construction of the new dam at Arachek, people used to move their livestock in search of water to neighboring regions and districts, including Teso, Katakwi and Amuria.

<sup>20</sup> Local key informants claim not to have benefited from the fish. They say the district officials take them and sell them.

<sup>21</sup> It was built by Pearl Engineering/BEK Consulting.

The new dam, constructed under the Directorate of Water for Production by the Ministry of Water and Environment, can store up to 5 million cubic meters (Mm<sup>3</sup>) of water (Figure 13). A domestic water point dispensing untreated groundwater was built next to the dam, but it subsequently failed and was rehabilitated in late 2017 by the Mbale Water for Production Office and their field representative in Nakichumet subcounty. Nakichumet Parish had no water supply other than the dam. After the dam was built, it has been attracting people from as far as Matany subcounty and Lotome county bordering Nakapiripirit.

Prior to construction, the Water for Production Office in Kampala commissioned a feasibility study, and a sociocultural impact and environmental assessment.<sup>22</sup> The dam is managed by a committee of nine people with a caretaker who used to be paid for by the district administration, but this changed when the responsibility was shifted to the subcounty under new arrangements for financing of local government. The management challenges reported by the committee include taking care of the cattle troughs, which come in for heavy use. It wished to charge large livestock users UGX 5,000 per month<sup>23</sup> for access to the troughs. There are eight cattle troughs linked to the dam through an underground piping system. Our informants stated that at least two of these troughs are not functional most of the time. In addition to the troughs, latrines were built nearby for cattle keepers to use. However, they are rarely used. Many of the men use the troughs for personal hygiene. Although cattle keepers come to the Arachek Dam from far places, most of the users are in fact Karamojong herders. The Turkana take their cattle to Kobebe Dam, which is closer to the Kenyan border and the Turkana corridors. The Water Users Committee (WUC) charges a small fee for domestic users of the existing tap for household uses. It also asks people to contribute when watering their cattle. However, according to local informants, during

the elections in 2016, the District Local Government Chair (LC5) urged people not to pay. The second core challenge relating to dam management is the claim of a landowner to compensation for lost land. According to local key informants, the largest portion of the land on which the dam was built belonged to a former British Colonial Agent's family.

In 2017, when the Soroti-Moroto road was being built, the foreign contractor requested water for construction and, according to community members, went ahead with the abstraction—deploying some 20 trucks per day (Figure 14)—before a permit had been issued. The local population saw the water level in the reservoir declining and the fish-farming cages exposed, and complained to councillors who referred it up. The contractor's application for water, submitted to the permit-issuing office in the Directorate of Water Resources Management (DWRM), was examined by officers of KWMZ in Mbale, who then approved a permit for no more than seven trucks carrying 25,000 liters per day. However, a subsequent field visit by the KWMZ water permit officer revealed that the contractor was drawing more water than permitted, and that the abstraction had begun even before the permit was issued. It appeared that they had made a 'deal' with the district water office and other district officials, and had bypassed the DWRM and KWMZ.

This pumping of water triggered a protest during the dry season of 2017 in Nakichumet subcounty. Local people blocked the road to prevent the contractor from pumping. The KWMZ office then informed the district officials that the contractor's permit had been rejected as the amount of water he had requested was not available, and so no abstraction could be allowed. The pumping was stopped and the contractor was told to find alternative solutions. This, however, resulted in another concern for the community: the contractor started pumping water at night.



**Figure 13.** Arachek Dam in Karamoja, Uganda, under construction, August 2012.

Source: Google Earth.

<sup>22</sup> Despite several attempts, we were unable to get the study documentation from the Water for Production Office staff.

<sup>23</sup> Other specific challenges faced include upstream catchment management around the dam, such as loss of trees in 2016, and grass burning in the dry season. In that year, grass burning damaged the plastic pipes that carried water from the reservoir to the small irrigated area.





**Figure 14.** Road construction workers using tankered water near Arachek Dam.

Photos: Alan Nicol/IWMI.

In October 2017, the contractor dug a series of ponds and tanks along the road and began pumping water again with the knowledge of district officials, under a memorandum of understanding (MoU) agreed upon that December. The pumping took place through valves and was no longer directly from the dam. There were no protests this time. One of the explanations given by the dam caretaker was that there was enough water. Another explanation was that since the water was being taken through a valve not linked to the cattle troughs, this was ‘not the same water’. Conversations with local officials indicated that fees were being collected at the district level this time and not at the DWRM level. Then, a second MoU with the district was signed in July 2018, which stipulated that the contractor should draw water only when rains failed, and the district would have to be paid UGX 3 million per month. As a result of this episode, the issue of jurisdiction over the dam became a point of conflict between the subcounty and the district, including the question of who should receive any fee income.

The caretaker of the dam was required to take notes each time the contractor’s tanker filled up. His notes for March 2018 showed that a total of 223 truckloads had been pumped up until then. The local population was not consulted on these arrangements and received no compensation. The caretaker was also responsible for turning on the taps of the cattle troughs and for preventing misuse of the reservoir, including bathing by local people. The domestic water supply tap is of major significance to the local communities. People living as far away as 10 km depend on this water. There is no sale of the water by volume, and livestock owners are yet to be charged for the water they use from the troughs. A flat rate of UGX 1,000 per household per month is charged for domestic supplies. However, payments are not fully enforced and few are paid.

According to the DWRM office in Entebbe, given the special status of Karamoja since disarmament—due to its underdevelopment compared to other parts of Uganda—it is possible that normal permit rules do not apply there. The suggestion was that in the case of the Arachek Dam, which was built to support subregional and district development,<sup>24</sup> permit fees do not need to be paid, although no official documentation testifying to such a special status was provided. The implication is that there is some flexibility in the application of water permit rules.

In a study on the practice of water permits in Kenya, Uganda and South Africa, one of our team members found that there is no permit system governing water for production in Karamoja, as none of the uses is motorized. Only motorized abstraction requires a permit; so, livestock drinking from troughs does not. All permit-related water revenues ‘go to the Treasury’, and are then reallocated to fund various activities, including DWRM. The permit-issuing office at KWMZ receives no direct funds and this, the staff there explained to us, reduces motivation to follow up on any breach of rules. Given that no official guidelines exist on local revenue use, this can possibly explain the district-level motivation to make direct agreements with contractors.

Another challenge relating to the Arachek Dam concerns the quality of drinking water. The tap drawing drinking water from the reservoir is located next to the irrigation scheme (Figure 15). This is the only tap in the subcounty and one of the few in the district. Water from the dam is not filtered and users complained about feeling sick after drinking the water (Figure 16). The members of the dam committee were under the incorrect impression that the water was filtered and safe. District officials confirmed to us that the water is not filtered, but given the lack of groundwater in the area, local people have to make do with it.

<sup>24</sup> An example of the water construction narrative on Karamoja related to Arachek Dam is available in this contemporary blog post: <https://msserwanga.blogspot.com/2012/>



**Figure 15.** Communal tap at Arachek, Karamoja, Uganda, August 2018.  
Photo: Alan Nicol/IWMI.



**Figure 16.** Consultations with elders near Arachek Dam, Uganda.  
Photo: Alan Nicol/IWMI.

Construction of large dams such as Arachek in Karamoja (see Figure 17) is based on a set of assumptions about water usage and livelihood changes in the subregion. One of the major narratives involves encouraging settled agriculture and reducing the movement of livestock, particularly during the dry season. Given the problems of groundwater access in many parts of the subregion – including in this part of Napak district – surface water structures are seen as the solution. However, the experience of actually developing and managing these structures, and establishing new forms of water use for irrigated agriculture reflects the physical and social complexity of irrigation as a production system.



**Figure 17.** Arachek Dam and reservoir, Karamoja, Uganda, October 2017.  
Photo: Alan Nicol/IWMI.

According to the Water for Production Office (pers. comm. Mr. Patrick Okotel, Water for Production Office, Mbale, 2018), construction of an irrigation scheme in Nakichumet (Napak district) next to the Arachek Dam was part of the process of reviving irrigation in the subregion, under a wider initiative by the government to establish 40 small-scale irrigation schemes in the Northern Region. Starting with small plots and trying to expand them to 10 acres (4 ha), it had faced several challenges: financial mismanagement and scheme abandonment, sharing of

benefits (but not the costs involved in keeping the scheme running), securing the site (and valuable produce) from theft, and local political interests recognizing the value of the land (after sale) and then claiming it back after having sold it for use by the scheme. The large number of people (30) involved in the irrigation water user group associated with the scheme had also been a challenge, leading to a lack of cohesion and a common buy-in coupled with a general lack of irrigation experience. As a result, the scheme came to be seen as a ‘rent extractor’ rather than an investment asset; money did not flow back into maintaining irrigation, only away from it to the users.

Having learned from these mistakes, the government is now ensuring that groups are no larger than 13 adequately trained individuals, and that they include ‘model farmers’ to help with technical expertise ranging from appropriate crop selection to effective banking arrangements. From the current size of 1 acre, they aim to expand to 5 acres (2 ha). However, the irrigation user group have no permit for water extraction—a grey area, given it is a gravity-fed scheme. The group were due to discuss this issue with KWMZ after the restart of the irrigation scheme, when it is anticipated that users will pay 10% of the operation and maintenance costs and a commercial officer will be assigned to train them. This will include helping to establish a banking system for the scheme. It is anticipated that the WUC for the dam will, in future, be involved in the irrigation scheme.

### Power and Political Economy Issues

The experience at Arachek identifies some of the complexities of investment in surface water structures under existing institutional arrangements in the Karamoja subregion and in Uganda more widely. In relation to historical factors and processes of change, the dam is a part of the wider water securitization approach to development in Karamoja, in which surface water structures are seen as a solution to the movement of cattle, and to the potential competition and conflict around water points. In this sense, the dam has



been constructed in consonance with the prevailing approaches to water management, including the notion of multipurpose projects and, eventually, using irrigation to encourage settled agriculture.

At the same time, however, the management of these structures and their inclusion within wider catchment-level planning is unclear. This includes the role played by community water users' associations (WUAs) vis-a-vis structures of the government amid competing demands—in this case, by communities reliant on the dam for livestock watering and contractors building an arterial road into Karamoja from the Eastern Subregion. The gap in formal rules related to permits has left uncertainty around the management of water structures, which could in future impede effective operation and maintenance, possibly rendering some of the dam's functionality obsolete, e.g., livestock watering troughs and adjoining irrigation.

The nature of power within the decentralized system in Uganda is also apparent, especially around the key roles of the national Department of Water Development, the subnational district authorities and, indeed, the wider catchment planning process. The complex of values accorded to water in a scarce environment such as Napak district has been highlighted in the community-contractor conflict that emerged in 2018. Although resolved locally, there are likely to be further examples of this type of local power dynamics playing out, particularly as mining intensifies in the subregion and surface water structures are required for mining activities. The roles of different county-, district- and WMZ-level actors in relation to different water values will become a core governance challenge in the future.

At a broader level, these conflicts also reflect on wider KTC challenges that are fundamental to effective catchment planning and development in the future. This includes the level of development outcomes that policy on IWRM seeks to achieve in a subregion such as Karamoja, and the wider objective of building resilience in an extremely poor part of the country. We further examine some of these issues in our second case study from Kaabong district.

## **Longoromit Dam (Kaabong District): A Structure in Need of Greater Management**

Longoromit Dam (Figure 18) in Kaabong district was constructed in 2012 at a cost of approximately UGX 6 billion (its storage is far larger than that of valley tanks). Commissioned under the donor-financed Regional Pastoral Livelihoods Resilience Project (RPLRP), the dam's objective was to be a permanent source of water for the 400,000 people of Kaabong district. It was envisaged to also serve the needs of pastoralists visiting from other areas, including Turkana in neighboring Kenya. The dam was designed to provide water for herds during the dry season with an associated groundwater-fed pump serving domestic uses as well. In common with Arachek, and reflecting the wider effort toward livelihood diversification, the district production department introduced fish into the reservoir in spite of the local communities shunning the consumption of fish.<sup>25</sup> As in Arachek, there is a small-scale irrigation plot to the west of the Longoromit Reservoir (Figure 19). A detachment of troops stationed adjacent to the reservoir uses its resources, including the fish and the water pump. Their primary role is to keep the peace between competing pastoral groups.



**Figure 18.** The Longoromit Dam, Kaabong district, Uganda, September 2018.  
*Photo: Alan Nicol/IWMI.*

<sup>25</sup> Some of the communities we spoke to in Kaabong district stated that eating fish was akin to consuming snakes.

While there is a management committee for the Longoromit Dam, its origin, governance and remit are unclear. At the time of our visit, the committee represented only one community (Lobonge) situated near the dam, with members chosen from among people in LC1s (community) and LC2s (parish level). According to the local stakeholders, their remit is mainly to safeguard the micro-catchment and prevent cultivation around the dam (beyond the small irrigated area) (Figure 19). The committee also manages access to the cattle troughs and seeks to prevent direct access to the reservoir by cattle, which would damage the reservoir and contaminate the water. The neighboring pastoralists from Jie (Kotido) or Turkana from Kenya seek permission from the hosting community through the dam management committee and subcounty officials. When there are clashes at the cattle watering points, the committee calls community meetings to resolve the dispute.

The Turkana ‘threat’, as some in Kaabong district describe it, includes their presence as a result of the dam discouraging artisanal gold mining activities, a key source of cash income for youth. In 2016, a year of lower than average rainfall in Karamoja, the Turkana used the dam for livestock watering for the whole year, with the locals resorting to the Kaabong River (the traditional water source for livestock) under an agreement reached with the Turkana. Local communities reported that flooding and erratic rainfall had subsequently affected the irrigation plot established by the Water for Production Department adjoining the dam.

The agreement with the Turkana follows a tradition of convening dialogue and discussion on water and pasture usage. Communities agree on penalties and codes of conduct at the respective grazing and water sources. However, in spite of these agreements, there were deaths

near the dam in 2017 as a result of clashes with Turkana pastoralists over disputed grazing areas. The local leaders we consulted during our research claimed that the dam was sited too close to Kaabong town against a suggested, more distant location, creating potential for such clashes.

In relation to wider catchment planning and construction of water management structures, the local officials we spoke to had knowledge of meetings that took place in Gulu and Kitgum towns under the aegis of the WMZ on catchment management planning for the Lokok catchment. They reported receiving requests to form WUAs. However, subsequently, nothing happened, and there remained only a tenuous sense of engagement in catchment planning processes. This lack of wider engagement in catchment-level governance of large water structures within districts is a serious gap in water resources planning in this subregion. It also points to a disjunction in power between the RPLRP, a structure developed under a centrally-driven program, and local authorities that are often at the sharp end of hostilities over management of water amid great demand between competing groups.

This reflects two major challenges: (i) a balance needs to be struck between the technical challenge of constructing large dams and their management thereafter given the acute competition for water during dry years; and (ii) a balance between the political challenge of donor-led programming based on policy developed nationally but driven by local political leaders and longer-term community-level management via WUAs. As one local key informant stated, “Sometimes politicians do not want things located technically, but for political reasons” (pers. comm. District Official, Kaabong town, September 2018). Construction, in this sense, acquires a political logic of its own, as a symbol of development progress



**Figure 19.** The small-scale irrigation plot located to the west of Longoromit Reservoir, Kaabong district, Uganda  
Photo: Alan Nicol/IWMI.



and promise of future benefits. This is essentially a localization of the wider national policy on investment in Karamoja's water resources, as exemplified in the quote by President Museveni at the beginning of this paper. In short, the missing link between catchment planning and development of large water structures is the engagement in, and the voice of, local communities—as beneficiaries and also as decision-makers before, during and after construction.

Elsewhere in Kaabong district, the challenge of smaller valley tank development is evident, the failure of which has a bearing on the use of Longoromit Dam, and underscores the point made above about local engagement. In Loyoro subcounty, a number of water structures we visited had little or no water in them, although the visit was made during the rainy season. According to the local communities, contractors ignored advice and refused to site structures on suitable ground. An additional challenge to the community has been the attraction of elephants to the area due to the scarcity of water at other sources during the dry season. Wildlife impacts, including herds destroying gardens, were mentioned as a serious challenge, and was associated with tsetse fly infestation. In our community consultation in Loyoro (Figure 20), we were told that contractors only extended discussions on siting and design down to the LC3 level, with siting based on calculations of streamflow alone rather than water access and use. Following an argument, in July 2017, the community sent a report to the district administration complaining about construction, but they had received no reply by late 2018. The district said they were only dealing with NUSAF and not OPM-constructed valley tanks. As a result of the lack of water in the tanks, the community said they had resorted to using wells dug in the dry riverbed. Only one structure, the Loregei Dam, had water all year round, according to the elders consulted.

Every valley tank is supposed to have a corresponding management committee. In Loyoro subcounty, community members said officials from the Water for Production Department in the Ministry of Water and Environment came to train them on guidelines and protection of the dam, and on establishing a WUA. They promised to provide the committee with bicycles to reach the structure, but this did not materialize. They also showed pictures of valley tanks—well-maintained as well as not so well-maintained—and explained to the locals their duties, including dam protection and good water use practices. They also stated that as this was water 'for production', people would have to pay a fee to use it. However, the amount was not specified; that would depend on an agreement between the WUA and the user communities.

These local experiences narrated to us underline the lack of clarity over water management and user charges at the local level. In some subcounties, there may be as many as five valley tanks (e.g., Kopoth subcounty), with a proliferation of management bodies largely responsible for controlling livestock access to the water.

Broadly speaking, the experiences of both Longoromit and Arachek dams as well as other valley tanks in Kaabong district indicate a lack of effective governance surrounding major structures, in spite of their critical importance to livelihood security. While the purpose behind construction is clear—above all to provide for dry-season watering of livestock—their siting and management systems suggest significant issues associated with a lack of effective oversight at the catchment level. Furthermore, the failure of these structures at the wider level of the KTC 'problemshed'<sup>26</sup> will become increasingly challenging in the future as climate-induced and other stresses affect grazing and watering patterns between Karamoja and its neighboring regions both within Uganda and in Turkana.



**Figure 20.** Consultations with young women in Loyoro near the Longoromit Dam, Kaabong district, Uganda, September 2018.  
Photo: Alan Nicol/IWMI.

<sup>26</sup> See Mollinga et al. (2007) where the concept of problemsheds is developed to help address the reality that "Water governance, management and use are embedded in processes and forces from outside the domain; therefore, both the causes and the solutions of water problems lie partly in other domains."

## Conclusions: Implications for Power and Development in the Karamoja-Turkana Complex

In this section, we assess how a political-economy framework applied to the challenge of water resources development within the Karamoja-Turkana Complex can assist in establishing more effective management and governance processes in the future. From the foregoing discussion, the need for a broader resource governance and development framework to assist in siting and managing large water infrastructure in Karamoja (and, by implication, neighboring regions) becomes critically important. There are two key questions related to this: (i) what are the power and political economy issues specific to challenges in water management in the Karamoja context, and how does the recently-introduced IWRM catchment planning process factor into these challenges and/or respond to them? and (ii) what are the potential ways of strengthening implementation to ensure that IWRM planning responds to the political-economy landscape more effectively, and enables more sustainable and pro-poor rural transformation in Karamoja?

First, we break down our analysis into the following components in relation to the core elements of the political-economy framework:

### A. Historical Factors and Processes of Change

*What are the key contextual features in the subregion including legacies of violent conflict, the British colonial experience and more recent historical events in state development? How have these helped to shape modern Karamoja (and Uganda)? What are the key processes of climate change and other factors underway?*

It is clear from the foregoing analysis that there are key historical and structural factors that help explain the current situation in Karamoja and suggest future pathways to improving the subregion's development and resilience.

The legacy of violent conflict over access to grazing and water resources, combined with cattle raiding and availability of small arms, has in part generated a policy of surface water resources development with a view to reducing the movement of people and livestock into and around Karamoja. These structures have been associated with largely top-down donor- and government-driven programs of infrastructure provision, many of which have not been shaped in a significant way by local community input. Linked to these processes are notions of multiple benefits from surface water development, including the presumption that surface water can support effective irrigation scheme development, catering for both livestock and irrigation needs—and other competing demands, e.g., road construction—even during the dry-

season months.

This is of a piece with the wider government interest in reducing movement through sedentarization of the pastoral population. However, associated with this challenging and contested policy are a number of issues related to land use and ownership. Combined with these issues—included within which is increasing individual land ownership—there are low levels of farming system capacity and technical knowledge, as well as the propensity of young people to seek nonfarm rural livelihoods, such as artisanal gold mining.

Historical factors, and more recent structural trends in climate, including uncertain rainfall patterns due to climate warming, are therefore driving a contemporary policy environment in which water structure development is prioritized. However, the *process* of doing so—and the longer-term implications of it—have not been sufficiently explored. This suggests that the power to formulate policy around certain key ideas and concepts rests largely outside of the local contexts, it is not responsive to these contexts, and that it may be importing approaches to development in Karamoja that could create (or exacerbate) longer-term problems. What is beginning to emerge is the importance of both catchment-level planning and the need for such planning to take place within a wider 'problemshed' understanding of the KTC.

A central conclusion of this study is that, based on our assessment, there needs to be a double axis approach to development within and beyond catchment management organizations (CMOs): (i) a vertical axis of integration with district and subdistrict power structures, in order to build catchment challenges into district planning; and (ii) a horizontal axis of broader non-watershed understanding of these pressures, demands and uses of resources within catchments based on a clearer analysis of the wider resource management context of the KTC.

### B. Institutions and Structures of Power

*What are the major features of institutions of water management, and those that shape water management decision-making and implementation? How do they relate to other resources affecting water management, including land management, mining and forestry?*

The structural features of the political economy of Karamoja's water resources are heavily shaped by the pattern of national and local government in Uganda, and the relationships that have emerged along with the subregion's nascent catchment planning under the IWRM rollout in the past five years.

Clearly, there are growing demands on water resources in Karamoja, but in many senses, supply-driven approaches to water provision are helping shape demand patterns rather than the other way round. In relation to wider issues relating to institutions of water governance—e.g., the establishment of management committees and WUAs—this is a considerable challenge as they seem to lack the skills and resources to manage competing demands, particularly where there is substantial contestation between competing groups. There is an additional, but no less important, nonhuman element in this equation relating to wildlife needs and how siting of new water structures can have critical impacts along wildlife migration routes.

The relationship of these patterns of water provision to intra-Karamoja social group violence and the competition between the Karamojong and Turkana needs more effective intervention based on a sounder understanding of patterns and trends in water demand and supply (which is linked closely to grazing resources in the subregion and the impacts of droughts both in Karamoja and neighboring regions, including Turkana in Kenya).

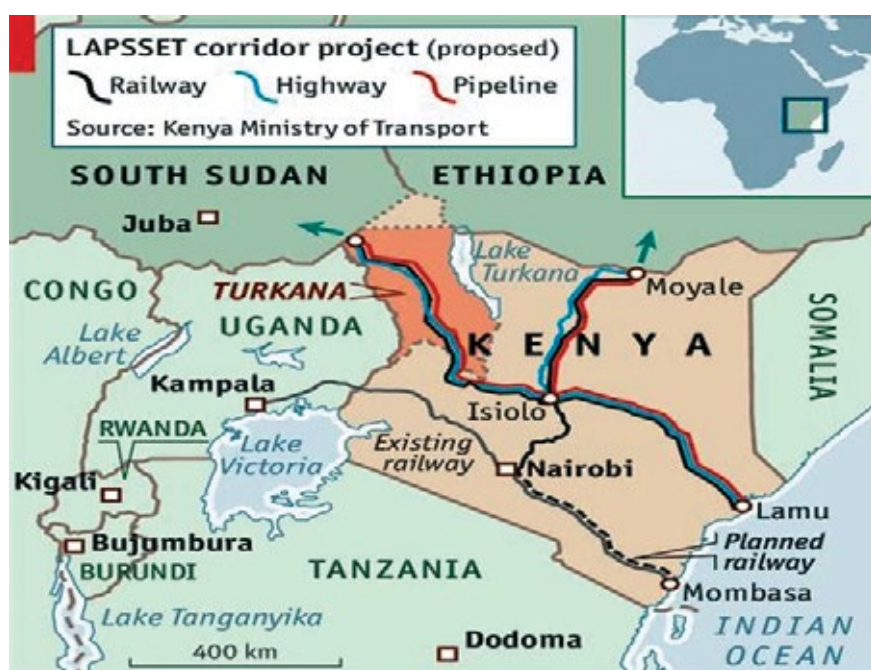
At present, catchment planning and catchment organizations exist largely on paper and lack the granularity necessary to reach down to the local (LC3, LC1) levels. One option to strengthen institutionalization of planning would be to develop more effective micro-catchment management processes that can then feed up and into higher-level catchment planning. While the establishment of WUAs is supposed to support this process, to date, this has been very patchy at best. Given the wider challenges in the subregion, it is not surprising that this has taken time. Nevertheless, one of the key learning points from our analysis is that district development planning and catchment planning have to be

more effectively combined. This would help draw together the needs and interests of national water management stakeholders and local-level development leaders and practitioners. To an extent, there is a need for national water management institutions and the WMZs to relinquish some of their power and authority over catchment planning to the districts or, at the very least, to rapidly improve the integration of the two levels of administration.

In the coming years, the availability of water in the subregion may be an important factor in another huge area of industrial development, namely, mining development. As is clear from Figure 21, Karamoja has both highly valuable mineral deposits and proximity to seaports via Kenya. Development of mining is, therefore, likely to be heavily influenced by the growth of the LAPSET corridor from the Indian Ocean port of Lamu in Kenya through Turkana to South Sudan. This will shape investment decisions in Karamoja in the coming years, including where and how surface water structures are sited and maintained.

Given the powerful influence of the Office of the Prime Minister (OPM) on decisions relating to Karamoja, including building and development of large dams in the subregion, the center of power in Uganda will remain extremely influential over development directions in the subregion. This includes influence exercised through the WMZ and other ministries (Finance, Local Government, Health, Agriculture and Livestock, etc.).

Mediating in this exercise of power through their financial inputs are the donors, represented through the Karamoja Development Partners Forum. Their capacity to shape change is limited by a lack of cohesiveness and common policy, however, with different development directions and priorities set by their respective governments.



**Figure 21.** The LAPSET corridor through to South Sudan.

Source: The Economist.

Other institutions of future importance, though arguably waning in power at the local level, are the Karamojong's traditional age-peer group structures and the role of 'elders' in decision-making directly, or via their role as LC1s. During our research, it became clear that their influence over the younger generations of Karamojong is in decline too.

### C. **Actors and Agents (Power Relations, Ideologies, Values)**

*What are the value systems and rule-based structures of new water management approaches at the catchment level, and surrounding the development of new water storage dams and other structures?*

New water management approaches and development of water storage structures are not closely aligned in Karamoja. The CMP approach has only recently been adopted in the subregion and succeeds processes of water supply development spearheaded by donors and the OPM that focus on supply augmentation in the dry season. In a broad sense, the 'ideology' of IWRM has been adopted on paper, but has yet to find traction within actual planning and development processes, not least because of the financial constraints surrounding its implementation. It is one thing to host training programs and meetings, but a lot more has to be done to turn plans into investments on the ground, whether in afforestation, micro-catchment protection, supply augmentation or permitting water use.

On one side of this process are the principal 'aid protagonists' via the OPM, the large NGO presence and multilateral agencies operating in the subregion. On the other are smaller community-based organizations and the communities themselves.

The notion of the need to adopt integrated management approaches including linking land, water and grazing areas together under coordinated planning at the district level is a value system embedded in catchment-level planning under government rollout at a national level. However, a less integrated vision has dominated development practice under successive KADEPs. These multi-institutional aid programs have had a clear development trajectory aimed at supporting the resilience of the Karamojong, but have (in relation to water) tended to overemphasize the hydraulic mission 'making water available' approach.

The focus has been driven by the combined narratives of conflict prevention and sedentarization, with a strong connection to resilience building. The argument is that reducing movement and competition for water will help reduce conflict between groups. At the same time, supporting more sedentary livelihoods will help build resilience through reducing drought-related risk.

This comes at a time of major livelihood transitions in Karamoja, including the shift from subsistence to cash-based economies.

This has brought with it significant challenges, both in the relationship to natural resources (including new and existing static water bodies) and the relationship of pastoralists to government and other institutions (including access to health, education and other services such as communications). The experience of the irrigation scheme at Arachek suggests that even when abundant water is available for irrigation, there are substantial management and governance challenges to overcome. The experience in Longoromit Dam is that siting is crucial in determining benefits, and local opinions are key in this matter.

The underlying narrative of irrigation as a solution to the challenges of dryland farming, including the use of relatively advanced (and expensive) drip irrigation techniques, is also questionable in relation to wider technical support available to farmers and, more widely, to the effective engagement of youth in this next generation of livelihoods. Both large dams (Arachek and Longoromit) have, under the Water for Production Department, attempted some irrigation, but neither has really succeeded nor illustrated how these approaches can be effectively scaled up. At the moment, they remain largely pilot exercises. The narrative of power surrounding the shift from pastoral to more sedentary crop production, as exemplified by the statements made by the Ugandan President, invites more questions than provide answers.

### D. **Policy Implementation Processes and Development Outcomes**

*What policies and decision-making processes drive water management and development in the Karamoja subregion? Why are certain decisions taken? What are the frameworks followed under different development interventions? What do the results on the ground say about success or failure, benefits and costs under these approaches?*

This paper has illustrated how Karamoja is a zone of complex competition for resources at both national and international levels. A major assumption of water development and management is that the Karamojong and their environment can be isolated from the surrounding systems and dealt with as a single, contained system in which development interventions are made. Our analysis focused on major water resources provision in dryland environments, and identified that the subregion provides a 'key resource' for surrounding pastoral populations both within Uganda and neighboring countries.

To that extent, it is part of a complex, shared system—one that we term the Karamoja-Turkana Complex (KTC) (as

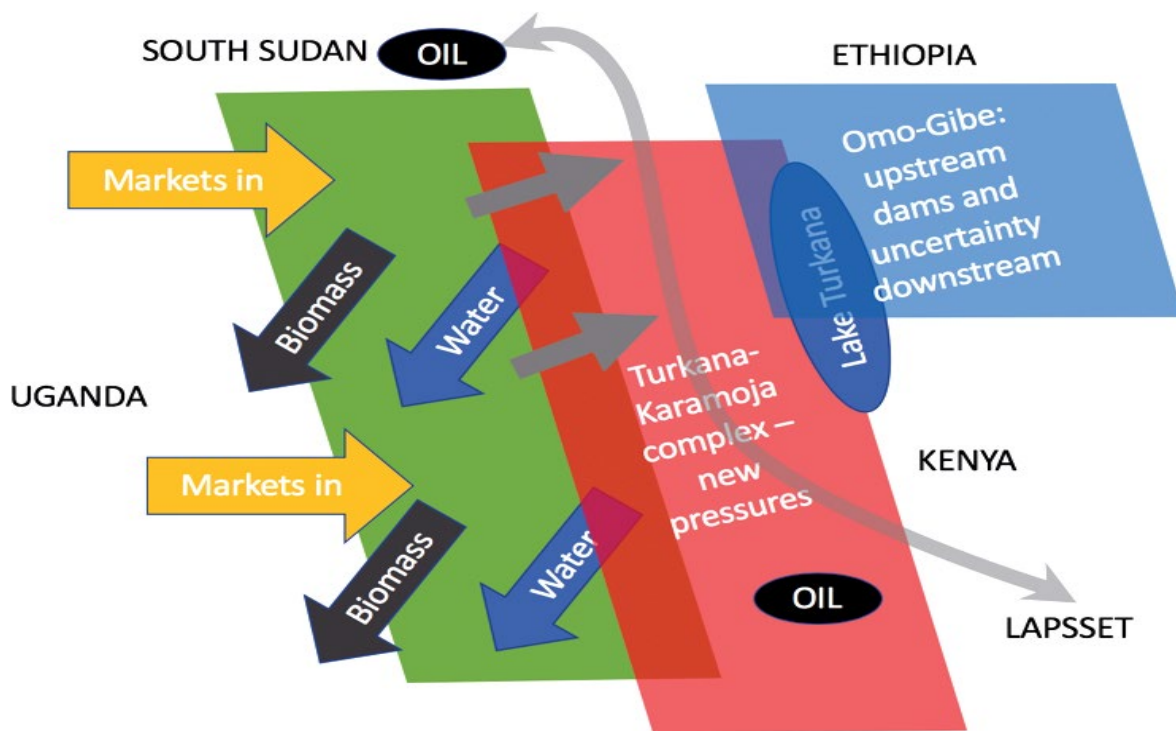


portrayed in Figure 22)—and in a system in which there are a variety of structural pressures on resources and populations, it is imperative that the shape and pattern of water resources availability are carefully managed. This implies not just in Karamoja, but also in surrounding regions and topographies, including the Turkana Basin and other areas forming part of the KTC. The diagram in Figure 22 illustrates some of these pressures and relationships that should bear on future policy making. The oil and mineral extraction economy within this complex is key, as it will drive infrastructure development and change land use relationships, including along the axis of the LAPSSET corridor. The relationships of biomass energy markets for fuelwood and charcoal from Karamoja will similarly affect the extraction and depletion of biomass resources in the subregion. Finally, market penetration into Karamoja will influence patterns of community behavior.

Catchment planning, inadvertently as may be, is drawn into this complex and should respond. Without

understanding the nature of these trends and challenges, water management interventions could be ill-advised and unsustainable. This will negate attempts at strengthening the resilience of people of the subregion against future external shocks, including but not limited to climate extremes— future floods and droughts, in particular.

There is also an important need to establish, alongside a macro-level understanding, a more micro-catchment-based planning approach. This could focus on critical areas (resource hot spots) and encourage the co-planning and co-management of water, land and forest resources in specific areas. The Karamoja Development Forum can play an important role in this regard, assisting more joined-up decision-making and planning on natural resource management, bringing in key political actors such as local MPs, and serving to strengthen the connection between national narratives on development and the regional specificities of Karamoja – including resource competition with neighboring communities.



**Figure 22.** Diagrammatic representation of the Karamoja-Turkana Complex.

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## **Appendix 1. Managing Water Wisely: A Checklist for Planners and Implementers of New Water Infrastructure in the Karamoja Subregion.**

In order to get more effective outcomes from the siting and design of surface water storage structures, a systems analysis checklist can help ensure that key questions are asked at appropriate stages from consultation through to design and implementation. Karamoja receives the highest per capita aid among the subregions of Uganda, of which a substantial part goes to improving livelihood security and agricultural development (and within that a proportion to increasing the availability of water in the dry season). However, this analysis suggests poor community engagement in the implementation process, leading to siting and design problems and, ultimately, water structures that may generate future development problems.

The following checklist is suggested to enable more effective water resources planning in the subregion under catchment-based planning processes.

### **What is the purpose of the construction?**

1. What is the primary purpose for dam construction?
2. Has demand been articulated for the construction and, if so, how?
3. Has this been established in agreement with local communities and authorities?
4. Have there been separate consultations with men and women in these communities?
5. Are there secondary and tertiary reasons for construction, beyond making water available to communities?
6. Who or what are the major beneficiaries expected to be, and how will they benefit?
7. Are any of these beneficiaries located outside the immediate district/region and, if so, where?

### **Where is the proposed siting and why?**

1. Where exactly is the structure to be located?
2. What is the rationale for the proposed siting?
3. How does it reconcile technical specifications with costs and community needs?
4. What criteria have been applied, if any?
5. How many similar structures already exist in the vicinity (district, parish, community)?
6. When were they built and by whom?
7. What is their current state of repair and how are they being used, if at all?
8. What is the expected added value of this new structure in addition to the existing structures?
9. How significant is the siting with respect to wildlife corridors, mining activities and other nonagricultural/pastoral uses?
10. Is there a history of conflict over water resource access in the area?
11. Are there any issues of gender-based violence associated with access to water in the area?

### **What was the consultation process?**

1. Who was consulted, where, how and why?
2. What were the results of the consultation?
3. Was there any specific engagement in gender-differentiated consultation—including by specific age groups?
4. Was there a specific consultation process with elders and, separately, with youth?
5. How were the results of different consultations recorded?
6. What changes were made to the design or siting, if at all, as a result of consultation?

### **How have local authorities been involved?**

1. What role have district authorities played in developing the structure at different levels?
2. Have the District Water Officer, Chief Administrative Officer and other officers played a role and, if so, how?
3. Who has provided technical oversight of construction?
4. How does the construction fit within the District Development Plan?
5. How have parish-level officers been involved?
6. What level of integration has there been with district development priorities across different sectors and in relation to other implementation projects in the area?
7. What does the district see as the major benefits of the project? How and where are these articulated?
8. How important has national government and/or external funder influence been on local decision-making?
9. Have local Members of Parliament been involved in the decision-making? If so, how?

### **How is the Catchment Management Organization involved?**

1. Have the respective catchment institutions been alerted to the project—Catchment Management Organization, Water Management Zone office, etc.?
2. How have they, if at all, intervened and advised the project?
3. Have they suggested ways of integrating the project within wider catchment management?
4. Is there a management organization or water users' association (WUA) established for the structure?
5. If so, how will it be/has it been constituted?
6. How will future operation and maintenance costs be covered?
7. Who will oversee the WUA?

### **What are the anticipated conflict and competition challenges?**

1. What are the potential areas of conflict over developing and managing the structure, and with whom or what?
2. How and by whom will any conflicts be resolved?
3. Are there existing grazing and/or other conflict flashpoint issues in the vicinity?
4. Is the structure expected to provide a perennial source of water or is it just seasonal?
5. Has a water demand assessment been conducted in the surrounding area?
6. How large is the anticipated 'user group' of the structure? Where are they located?
7. Has an assessment of wet/dry season demand been carried out?

### **What is the relationship to the KTC?**

1. How significant is the project for relationships and movements between the Turkana and Karamojong (and other groups)?
2. Will the project complement the use of existing structures by the Turkana (or other groups), and help prevent concentrations around specific water points? If so, how?
3. How are the management committee/WUA, subdistrict authorities and communities prepared to manage usage by other non-resident communities?
4. What specific gender dynamics will the intervention influence? How can these be carefully managed to ensure positive outcomes for gender equality transformation in the subregion?

## Appendix 2. Approach to the Study.

This research draws on an understanding of the complexities of water resources management in Uganda and the Karamoja subregion gained by the team members over the course of several years of engagement (Nicol and Odinga 2016). In addition, it draws upon a specific analysis of the IWRM/catchment creation process in Karamoja, funded by DFID and GIZ, from November 2016 to June 2017 (Debevec et al. 2017).

During the course of this research, it became clear that a political economy approach to the study of water resources management in Karamoja is important, and that the large dams – with their multiple, contested uses – present a microcosm for the study of complex and often conflicting interests in relation to water access and use. In a context of limited water resources, the large dams are the last resort for herders during a dry season, often creating an environment of strained competition.

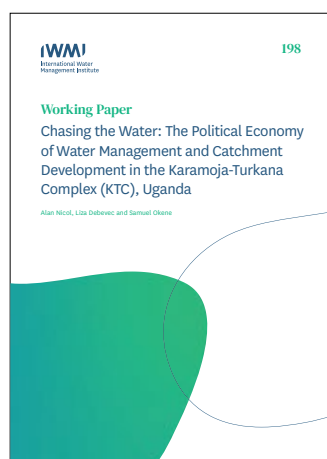
This competition is central to our understanding, and we analyze in our case studies what this means in relation to the structures of management and wider IWRM approaches being rolled out. For the purpose of these case studies, we conducted key informant interviews at all relevant levels, starting from the national (Water for Production Department in the Ministry of Water and Environment, and the Directorate of Water Resources Management) through to water zone (Kyoga Water Management Zone), catchment (representatives of the newly established catchment management committees), district (elected and appointed officials in districts where the dams are located) and subcounty (officials at the dam locations) levels. At the local level, we also held gender-disaggregated FGDs with communities residing in the vicinity of the dams, and with selected community members involved in the small-scale irrigation schemes located near the Arachek and Longoromit dams. In addition, we also met other key informants, including representatives of various NGOs and donors working in the subregion (in Moroto, Kotido, Nakichumet and Kaabong).

The FGDs were conducted in the Karamojong language with immediate translation into English. Oral consent was given by informants prior to the recording of interviews. We carried out four field trips of 6–10 day duration (October 2017, March/April 2018, August 2018 and November 2018). In addition to the field study, we reviewed the academic and gray literature, with a specific focus on publications related to social science and development studies about the Karamoja subregion.

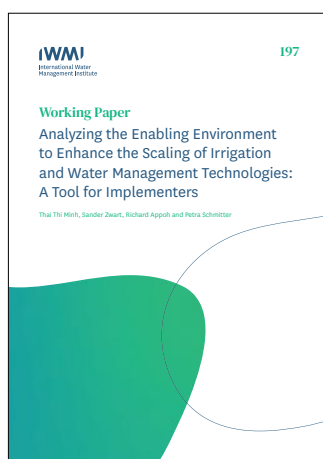
### Limitations of the Study

We tried to ensure that a whole range of key stakeholders were included in the study sample, with the hope of getting representative views that would allow us to reach evidence-based conclusions. However, the time and resources available for the study were limited. Random sampling or a household-level survey was not possible as the pastoralist-type settlements were spread over large areas and created a major logistical challenge. We, therefore, relied on two key methods: FGDs and key informant interviews. We recognize that selection of participants for the FGDs may have been biased by individuals and communities being suggested by district- and subcounty-level officials and coordinated by our local research assistants. To overcome this bias, we ensured, as far as possible, to triangulate results from and between FGDs and with our key informant interviews.

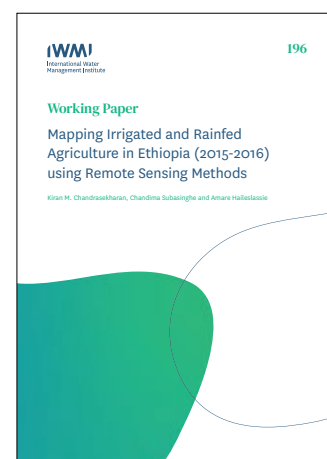
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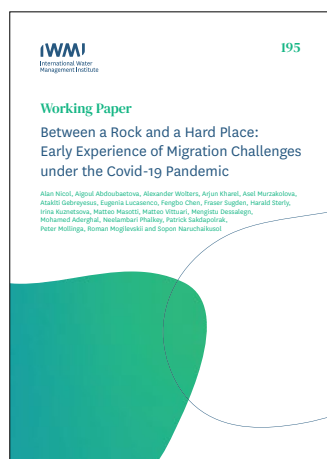
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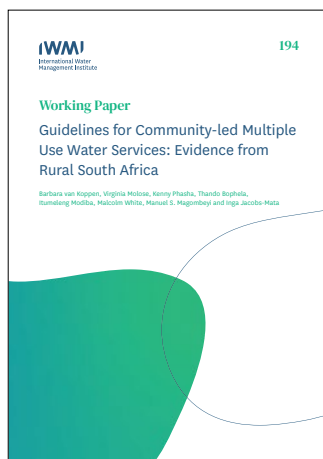
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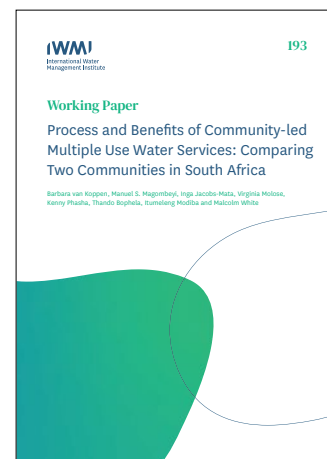
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