SPARC
Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises

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TECHNICAL REPORT

COLLECTIVE TENURE OF PASTORAL LAND IN SUDAN

Evidence from North Kordofan

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About SPARC

Climate change, armed conflict, environmental fragility and weak governance and the impact these have on natural resource-based livelihoods are among the key drivers of both crisis and poverty for communities in some of the world's most vulnerable and conflict-affected countries.

Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) aims to generate evidence and address knowledge gaps to build the resilience of millions of pastoralists, agro-pastoralists and farmers in these communities in sub-Saharan Africa and the Middle East.

We strive to create impact by using research and evidence to develop knowledge that improves how the UK Foreign, Commonwealth and Development Office (FCDO), donors, non-governmental organisations, local and national governments, and civil society can empower these communities in the context of climate change.

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1. CONTEXT

Pastoral collective tenure and degrees of tenure security in pastoral systems are not as well understood as tenure and tenure security for settled and individual/household land users. This has important implications for the design of suitable approaches to improve tenure security in such areas, and measuring perceptions of tenure security as a contribution to global land indices.

SPARC undertook a series of case studies in Burkina Faso, Kenya and Sudan to understand collective tenure and perceptions of tenure security among rangelands pastoralists. This was done in collaboration with Prindex, a data platform that carries out global surveys on people's perceptions of tenure security. Particular attention was paid in the studies to understanding any differences between men and women.

A synthesis document can be found on the SPARC website.

Two layers of tenure and tenure security are considered in the study: (1) the group; (2) individuals within the group, understanding that groups are not homogenous.

Our study focused on 'perceived' tenure security, i.e. how secure people feel. This recognised that perceived tenure security can be a function of formal (legal) recognition of access and use rights, as well as an individual or group's experiences.

Specifically, the study aimed to understand the following:

1. How do pastoralist communities and their members access grazing land, what are the terms of that access, and what happens in the case of disputes?

2. What aspects of the tenure regime are most important for pastoralist communities and their members?

3. What is the perceived tenure security of the group, and members of the group, in terms of continued access to resources through the group?

4. What do pastoralist communities perceive to be the main drivers of tenure insecurity?

Findings at community level include: a description of the pastoral community and collective land under study; the de facto tenure system at community level; the characteristics of the local tenure system, perceived tenure security and factors that affect community perceptions; and differences for individuals vis-à-vis the collective.

The study findings will inform the development of indicators to track tenure security in a pastoral context, as well as better interventions to secure tenure in collective pastoral systems. The next step in the process is a series of consultations to identify the indicators for measuring perceived tenure security at scale, and testing of these.

2. THE SIGNIFICANCE OF PASTORALISM IN SUDAN

Sociocultural

Owning livestock symbolises status and power in pastoral communities, with a person's standing often measured by the number of animals they possess. Livestock also serves various social and cultural purposes, including the payment of bridewealth, compensation for conflicts and helping to build group solidarity by lending animals to those in need.

Economic

Livestock rearing is widespread across Sudan, with pastoralists and agro-pastoralists as the primary owners. This sector plays a significant role in the country's economy, contributing around 60% to the agricultural GDP and about 25% to the national GDP. Sudan exports a substantial number of live animals, particularly sheep, mainly to Saudi Arabia and Egypt. Exports have been increasing significantly since 2000 and are now worth over $400 million per year (Humphrey et al., 2021).

Environmental

Pastoralism is considered an environmentally sound and sustainable land-use system in arid environments. Pastoralism is considered one of the most suitable and rational land-use and livelihood systems for a country such as Sudan, characterised by dryland environments. Sudan's pastoralist groups demonstrate flexibility and adaptability in response to changing environmental conditions (Sulieman and Young, 2023). They use environments that would otherwise remain untouched by human activities, such as the Gizu area – an ephemeral vegetation zone that sporadically appears in the northern, drier areas of North Kordofan and North Darfur in the Sahara Desert (Wilson, 1978).

2.1 Rangelands, population and livestock

Rangelands cover approximately 110 million hectares (ha), accounting for about 59% of the country's land area. These extensive rangelands span various ecological zones, ranging from desert and semi-desert regions in the north to low- and high-rainfall savannahs in the south (Gaiballa, 2011). The presence of such vast natural rangelands makes mobile and transhumant pastoral systems the dominant mode of production on communal grazing lands. Initially considered unsuitable for large-scale agriculture due to marginal soil and rainfall, these rangelands began to face encroachment from large-scale mechanised agriculture, particularly northward expansion, after the central clay plains were fully used by the mid-1980s.

Historically, Sudan has hosted one of Africa's largest pastoralist populations. However, there is no current reliable information on their exact numbers. Previous estimates range from 2 million to 3.5 million people before South Sudan's secession in 2011 (Egemi, 2008). In 2019, the livestock population was estimated at approximately 108 million, with 31 million cattle, 40 million sheep, 32 million goats and 4.9 million camels. This ranks Sudan among Africa's top livestock-producing countries (Wilson, 2018).

Pastoralists mainly inhabit arid and semi-arid regions in the central and northern parts of Sudan, often under communal land tenure systems. Different livestock types thrive in these areas based on available grazing resources. The dominant pastoralist groups in these regions are camel and cattle herders. There is also small-scale farming in these areas, although it is marginal for cultivation. Additionally, cattle herders can be found in the more humid southern regions (IUCN, 2021).

Pastoralism is the primary mode of livestock production and contributes significantly to the national economy and the livelihoods of a diverse population (UNEP, 2013). Economically, livestock make up about 60% of the agricultural GDP and approximately 25% of the national GDP. Most exports consist of live animals, with sheep being the most commonly exported type. Since 2000, Sudan's sheep and sheep-meat exports have tripled in value, exceeding $400 million annually. The main importing countries are Saudi Arabia and Egypt (Humphrey et al., 2021).

2.2 Challenges

Pastoralism faces a range of challenges and constraints as a livelihood activity for a significant portion of the country's population. While the underlying causes are numerous and interconnected, the main underlying factor is pastoral land tenure insecurity. Large-scale agricultural land acquisition and artisanal gold mining are encroaching on pastoral areas. And, artisanal gold mining relies on primitive extraction and processing methods that often lack efficient pollution control measures.

Collective land tenure is the foundation of the pastoral system and essential for its sustainability. However, the ongoing rush for land and gold mining activities has significantly reduced and fragmented the communal rangelands used by pastoralist groups throughout the country. As available land diminishes and competition intensifies, resource conflicts are more likely to escalate to violence. Throughout recent history, land acquisition has consistently fuelled conflict and injustice (Sulieman, 2018).

Insecurity is another persistent problem; multiple levels and types of conflict are prevalent in many pastoralist areas (Sulieman and Young, 2023). Additional challenges include blocking livestock routes in some areas, or even their complete disappearance (Abusas, 2009). In areas where routes remain open, there is often inadequate access to water resources, poorly designed routes and the degradation of resting places (Sulieman, 2013).

2.3 Formal tenure systems and their governance

There are two main types of tenure: the state's formal legal system and the communal traditional land regulated by customary laws and institutions. Customary laws refer to a community's unwritten social rules and structures derived from shared values and traditions. However, these two systems operate in parallel.

Communal traditional land tenure systems are the primary regulatory mechanism for land tenure in most pastoral areas and rural communities. But when it comes to landownership, they are not legally recognised in the formal government-operated judicial system. The state's formal land tenure system mainly operates in urban areas (Komey, 2009; Abukashawa, 2021).

There is a significant gap between these two systems. In his analysis of the land questions in Sudan, de Wit (2001) stated, 'Bringing the legal state mechanisms closer to these legitimate customs is the core issue of the land question. The granting of legal recognition of existing customary rights would mark progress towards achieving this objective.'

2.4 1970 Unregistered Lands Act

Among the various acts and land tenure laws, the 1970 Unregistered Lands Act is a notable example that violated the traditional and historical land rights used by pastoralist groups and smallholding farmers. The act placed all unregistered land under state ownership, including communal land used by various pastoralist groups (Sulieman, 2015). The act did not define the legal status of existing historical traditional land users, and it gave the government extensive powers to evict and considerable discretion regarding compensation. This act provided the legal basis for land acquisition, leading to the dispossession of local communities' customary land rights.

At that time, approximately 90% of the country's land was nationalised (Komey, 2009). While the act was not consistently applied, the government used it when necessary. Its sporadic use relates to the government's interest in raising tax revenue and exerting greater control over economic and political activities in pastoral areas through resource grabs (de Wit, 2001).

2.5 Civil Transactions Act 1984

Successive Sudanese governments depicted large-scale agriculture as the engine for economic growth, with export revenues supporting large industrial projects (Sulieman and Ahmed, 2016). To acknowledge the recognition of customary land attainment, the Government of Sudan issued the Civil Transactions Act in 1984, which states that local communities have usufructuary rights over the land they occupy, although legal landownership remains with the government. This means that different land tenure systems coexist in the same area (Abdul-Jalil, 2006).

2.6 Range and Pasture Law 2015

The relatively recent Range and Pasture Law reflects the Sudanese government's ongoing policy to control pastoral resources. It grants state authorities the right to manage rangelands in coordination with users. According to the law, state authorities can impose grazing restrictions and allocate land for grazing for the benefit of the entire community. However, it also paradoxically gives authorities the right to restrict and cancel such benefits, leading to limitations and ambiguities in its implementation (Egemi, 2017).

2.7 Tribal systems

Throughout Sudan's history, communal land systems have been managed under tribal systems and units known as *dar* or *hakura*, which translate to 'homeland'. The concept of customary tribal homeland is crucial for rural land tenure in Sudan and is closely linked to native tribal administration (Shazali and Ahmed, 1999). Each tribal area's management system is administered through hierarchical tribal systems. In most pastoral areas, the system is

led by a *nazir* who oversees the all tribal administrative affairs. Below the *nazir* is the *omda*, responsible for tribal subsections, and further down is the *sheikh*, responsible for people at the village or smaller group level.

Within the *dar* territory, individuals and groups from the tribe have the right to access and use pastoral resources, including farming activities (Elhadary, 2010). Within the tribal homeland, the collective security of the tribe is established, and individual land rights are recognised and can be inherited, but individuals cannot alienate land from the tribe's tenure.

Guests and members from other tribes often have access to grazing resources, with some limitations on farming and access to water resources. This open system allows pastoralists to exploit various resources in different ecological zones (Abdul-Jalil, 2006). In some areas, outsiders may have access to land for cultivation for a specific period of time, then return it to the original owner. This temporary agreement is known as *akul goom*, meaning 'eat and quit'. Typically, no rents need to be paid for *akul goom* (Babiker, 2008; Elhadary, 2010).

While this tribal management system grants primary rights to *dar* members, it also shows some discrimination against migrants, and women are excluded from decision-making. Another disadvantage is that the concentration of power is in a single person when it comes to land rights and dispute resolution (Babiker, 2008).

Although pastoralists have become increasingly marginalised and have lost the power to control their tribal institutions, as many of the roles of tribal leaders have been taken over by modern state institutions, their native tribal administration is still functioning and playing vital roles. Tribal administration is generally the natural way to represent pastoralists because tribal administrations are the bodies associated with land management.

Despite the wider national context of massive political changes since the 2019 revolutionary transition, and the subsequent fragile political situation in the country that has critically affected national and local formal government, tribal administration remains the primary form of local customary governance, with a continuing local presence and ongoing practical engagement in pastoralists' affairs (Sulieman and Young, 2023).

Normally, pastoralists identify themselves by affiliating with a specific tribe and ethnic group, following a specific tribal leader in the specified territory (Egemi, 2012). This is still widely viewed as an important and potentially viable dispute-resolution mechanism. Although a wide range of conflict management institutions exists in pastoralist areas in Sudan, the most important and historically recognised mechanism is the customary native administration system. Tribal leaders are involved in almost all traditional dispute-resolution mechanisms (Egemi, 2017).

3. OVERVIEW OF PASTORAL SYSTEMS

Table 1 lists approximately 43 major pastoralist groups. Historically, Sudanese pastoralists are divided into two groups based on the type of animals they raise, *abbala* (camel herders) and *baggara* (cattle herders). However, some groups may specialise in raising more than one type of animal, such as the Hadendowa in eastern Sudan and the Rizeigat in Darfur (Ahmed et al., 2002).

A recent trend in species preferences shows that both *abbala* and *baggara* also focus on raising sheep alongside their main species. This shift began in many areas of Sudan in the late 1980s and early 1990s, primarily due to market incentives related to thriving sheep exports (Sulieman and Young, 2019). Sheep are currently Sudan's most exported livestock species (Humphrey et al., 2021). Additionally, sheep are sold quickly in markets, making them the preferred species when immediate funds are needed. Pastoralists find sheep production efficient in terms of quick breeding and economic value. Camel and cattle herders affected by persistent droughts, famine and conflicts tend to concentrate on sheep when rebuilding their herds (Egemi, 2012; Sulieman and Young, 2019).

TABLE 1: MAJOR PASTORALIST GROUPS IN SUDAN BY GEOGRAPHICAL REGION AND SPECIALISATION

Region	Camel herders *(abbala)*	Cattle herders *(baggara)*	Agro-pastoralists
Eastern	Bisharyin, Amarar, Hadendowa, Rashayda, Ababda, Shukriya, Lahawin, Kawahla	Beni Amer, Shukriya, Hadendowa, Bororo (pastoral Fulani)	Hadendowa, Beni Amer, Shukriya
Central	Shukriya, Batahin, Rufaa El Sherig, Rufaa al-Hoi	Kenana, Ahamda, Selim, Rufaa al-Hoi, Sabaha, Ahamda, Musallamiya	Ingesana, Berta, Uduk
Kordofan	Kababish, Kawahla, Hawawir Shanabla, Beni Gerrar, Dar Hamid, Maganin	Hawazma, Meseiriya, Zurug, Meseiriya, Humur	Hamar, Nuba, Gawamaa, Bedeiriya
Darfur	Meidob, Jellul, Ziyadiya, Rizeigat, Zaghawa	Rizeigat, Maalya, Habbaniya, Beni Helba, Beni Hussein, Taaysha, Falata	Masaleet, Fur, Berti, Daju, Gimir

Source: Ahmed et al. (2002) and key informant interviews

Sudanese pastoralists must cope with temporal and spatial variations in pasture and water availability, escape biting flies and muddy conditions, and avoid farming zones during crop seasons (El Sammani and de Zborowski, 1993; Ahmed et al., 2002). They typically spend the dry season in the wetter southern areas and migrate to the drier northern areas during the rainy season (Behnke et al., 2020). Mobility between these two regions is facilitated by defined routes linking dry- and wet-season grazing areas (Sulieman and Ahmed, 2016).

Typically, passage through tribal lands of sedentary farming groups is organised through special arrangements between traditional leaders from each group to maintain the customary rights of both sides (Abdul-Jalil, 2006).

Overlapping rights for different users are common in communal grazing lands across Sudan. Although these rights are accepted in principle, there are rules that define how they are to be used or requested. These rules vary depending on location and the relationships between the individuals and groups involved. Common overlapping rights and uses in communal rangelands include: access to water for humans and animals; access to routes and passages; and access to forest resources through hunting, gathering wild fruits and collecting fuelwood. The organisation of these rights within the same groups and between different groups differs from place to place, depending on social factors and the condition of the resources to be used (Abdul-Jalil, 2006).

While some tribes, such as Rashayda, Shanabla and Kababish, remain totally nomadic, there is a clear shift towards partial transhumance among Sudanese pastoralists. New trends and adaptations observed among pastoralist groups in Sudan include: the use of vehicles in herding; the use of tankers and plastic bladders for water transportation to access remote, water-deficient areas; the use of feed concentrates; a shift from long- to short-distance mobility; increased commercialisation, particularly in sheep exports; diversification of livelihood activities; and greater engagement in military alliances and forces (Egemi, 2012; Sulieman and Young, 2023).

Coexistence and interaction with other land-use systems are considered part of resource management balance and mutual benefit exchange. One of the benefits is the practice of *taleg*, which involves allowing animals into agricultural fields after the harvest to benefit from crop residue. This practice is widely known in many parts of the country, where local orders annually stipulate the latest date for harvest, after which pastoralists are free to enter cultivated areas and graze. *Taleg* grazing benefits farmers by providing manure to the fields, removing crop residues and balancing herbaceous plant composition through rational grazing.

However, when use levels are not balanced or rational, such as trespassing of animal herds into agricultural fields before crop harvest, the interaction with farming can also have negative consequences (Gaiballa, 2011). Areas dominated by large-scale commercial farming have had an impact on traditional taleg for decades. Due to the lack of pasture land in these areas, crop residues from agricultural schemes are indispensable for livestock diets, especially during the summer. But to gain access, pastoralists have to pay. (Sulieman and Ahmed, 2016).

4. CHANGING LIVELIHOOD PERSPECTIVES AND ASPIRATIONS IN THE DRYLANDS

4.1 Tenure systems and governance in Jabrat Elsheikh locality, North Kordofan State

The tenure system in Jabrat Elsheikh is a collective pastoral system governed by tribal administration that follows unwritten customary rules. Tribal leadership manages this system hierarchically, with the *sheikh* leading at the village level. Above the *sheikh* is the *omda*, overseeing groups of *sheikhs*, and at the system's helm is the *nazir*, the tribe's chief. In addition to pastoralist groups, the locality is home to agro-pastoralist groups, primarily in the southern and central areas. Pastoralists dominate the drier, less populated central and northern regions where farming is limited.

As in other parts of Sudan, the traditional collective tenure system prevails in pastoral areas, with the state's formal legal system almost absent. For instance, the 2015 Range and Pasture Law, which grants the Department of Range the right to manage rangelands, remains unimplemented and largely unknown to pastoralists.

Within each group, the community manages the collective system and is led by the *sheikh*. This system accommodates various users and purposes, offering flexible access to rangeland resources in terms of time and space. It allows pastoralists from the same group, pastoralists from neighbouring groups within the same tribe, and pastoralists from other tribes to access resources. Pastoralists passing through the area during their annual migration cycle can also use these resources.

However, restrictions apply to farming and water resources within specific group territories – they are exclusively available to group members. Outsiders may be accepted as members over time if they adhere to local rules. Water resource investments, such as boreholes and water yards, are exclusive to the group and its members. Additionally, limited water availability may restrict non-group pastoralists from watering their herds.

Groups based on kinship and descent relations operate as the system's basic units, descending from a common grandfather. Group members enjoy equal access to rangeland resources and exclusive rights to other resources within their territories. Typically, these groups are the area's initial occupants, acknowledged by neighbouring groups within the same tribe and other nearby tribes. They often have systems of mutual aid, *nafir* (collective work without monetary transactions) and shared values. *Nafir* may extend to neighbouring groups, fostering relationships based on mutual benefit and interest.

One strength of this system is the deep-rooted understanding and respect for it among pastoral groups. It operates under the leadership of pastoralist groups, offering open access, which is crucial due to resource variability and the fragile, dry ecological system. During dry seasons or droughts, pastoralists can migrate and access resources in other areas.

The tribal governance of the collective pastoral tenure system features effective dispute-resolution mechanisms, largely handling issues internally without resorting to the formal state legal system. This system also emphasises shared responsibility for damages and losses caused by events such as droughts and famines, with compensation provided by group members. Despite its advantages, this system faces challenges such as the absence of democracy, the dominance of a few families and gender bias.

While the mechanisms of the collective pastoral tenure system in Jabrat Elsheikh have seen no significant changes, shifts in land use are impacting the system. Rapid expansion of mechanised farming in the last decade, particularly in fragile sandy soils, has led to soil erosion, reduced land productivity, sand encroachment and rangeland fragmentation. Artisanal gold mining, introduced in 2010, employs primitive and environmentally harmful techniques. Land acquisition by miners and investors is increasing resource competition and tension.

Private water facilities, including water transportation and container facilities, are widespread among pastoralists in Jabrat Elsheikh. Their use has created disparities in rangeland resource access within the same group, potentially affecting equal access principles when wealthier members gain better access to remote rangelands compared to weaker counterparts.

4.2 The collective pastoral tenure system under study

This study examines a typical and well-functioning collective pastoral tenure system in Jabrat Elsheikh's central and northern regions. Most pastoralists in these northern areas belong to the Kababish tribe, residing within their *dar* (home area). They have transitioned from total nomadism to transhumant migration.

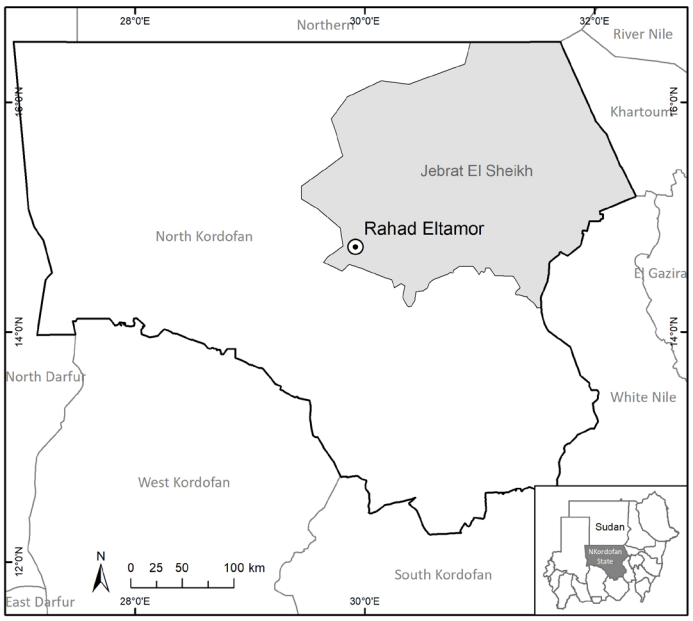
5. METHODS

5.1 Case study location

This study focuses on the village of Rahad Eltamor, which is situated in the western part of the locality Jabrat Elsheikh in North Kordofan State (Figure 1). Rahad Eltamor is among the area's oldest villages, with a history spanning approximately 100 years. Livestock rearing is a fundamental element of the villagers' livelihoods. The community in the village shares strong kinship bonds and primarily resides in their home area during the dry season. They rely on a collective pastoral tenure system to manage their resources, with the village *sheikh* representing them in the tribal administration system. The group clearly understands the spatial dimensions of their territories and practises seasonal livestock mobility. Additionally, limited small-scale subsistence farming is part of their livelihood.

Despite emerging changes in land use, such as the expansion of large-scale mechanised farming and artisanal gold mining in surrounding areas, the communal tenure system in Rahad Eltamor remains unaffected. It continues to function effectively, ensuring pastoralists in the area enjoy timely and flexible access to land and its resources. The village and its neighbouring settlements have not experienced conflicts.

FIGURE 1: MAP OF THE RAHAD ELTAMOR AREA



Source: Author's creation

5.2 Research methods and tools

This study combined a literature review with qualitative social research methods and tools. The literature review focused on the current state of pastoralism in Sudan and various tenure systems, particularly in pastoralist areas. Qualitative social research methods emphasised a participatory approach to facilitate dialogues.

North Kordofan State was selected based on the literature review and consultations with informants, as a region where 'typical' and 'well-functioning' pastoral systems still exist. Jabrat Elsheikh locality was recommended as an appropriate area for field work. The Rahad Eltamor village case study was chosen based on reconnaissance field surveys and consultations with local informants. Field work was conducted from 3 March 2023 to 17 March 2023.

Focus group discussions (FGDs) were crucial in understanding land tenure dynamics and security in Rahad Eltamor. Discussions covered land tenure security for the group as a whole as well as for specific individuals within the group, including women and youth. Table 2 provides a summary of the FGDs undertaken. A total of 38 people participated across all FGD sessions.

TABLE 2: SUMMARY OF THE FGDS UNDERTAKEN WITH THE PASTORALIST GROUP IN RAHAD ELTAMOR

Type of meeting	Participant	Topic	Site	Date
Test of the tools	12 (7 men, 5 women)	Testing the tools, including to identify any socially or culturally sensitive issues	Rahad Eltamor	4 March 2023
FGD1	9 (9 men, no women)	Description of the pastoral group, livelihoods and resilience	Rahad Eltamor	5 March 2023
FGD2 Part 1	15 (9 men, 6 women)	Pastoral land use, management and governance systems for dry season grazing land	Rahad Eltamor	6 March 2023
FGD2 Part 1	13 (8 men, 5 women)	The tenure system in place for collective access and use of dry season grazing land	Rahad Eltamor	7 March 2023
FGD 2 Part 1	13 (8 men, 5 women)	The most important characteristics of the collective tenure system for dry season grazing land	Rahad Eltamor	8 March 2023
FGD Part 2	12 (7 men, 5 women)	▪ Perceived community tenure security in dry season grazing land ▪ Perceived mobility security for the community in dry season grazing land	Rahad Eltamor	10 March 2023
FGD2 Part 2	12 (7 men, 5 women)	▪ Main factors affecting the community's tenure security in dry season grazing land ▪ The impact of loss of rights for the community on dry season grazing land ▪ Past loss of rights for the group	Rahad Eltamor	11 March 2023
FGD3	10 men	Topics discussed in FGD 2	Rahad Eltamor	13 March 2023
FGD3	8 youths (4 male, 4 female)	Topics discussed in FGD 2	Rahad Eltamor	15 March 2023
FGD3	6 women	Topics discussed in FGD 2	Rahad Eltamor	15 March 2023

The first FGD had nine participants and consisted of the village leader, middle-aged individuals and youth. The third FGD was conducted with community subgroups: men, women and youth. Participants in these subgroups included widows, landless members, economically disadvantaged individuals, artisanal gold miners and former migrants to Gulf countries.

These sessions aimed to capture differences in how individuals perceive their tenure security as rights holders within the group. Additionally, reconnaissance surveys were conducted at critical sites within the group's territories, including farming areas, the *rahad* (a natural water pond filled by rainwater runoff during the rainy season) and the *wadi* (a larger water depression filled by seasonal watercourses during the rainy season).

Key informant interviews were conducted during the field work. Interviews were carried out with five informants, including the *sheikh* of Rahad Eltamor village, a *sheikh* from a neighbouring ethnic group, an elder around 100 years old, the *omda* of the area where Rahad Eltamor is located, and a member of the dispute-resolution committee. At the state level, an interview was conducted with the General Director of the Rangeland Department in North Kordofan State. At the national level, interviews were conducted with three experts and researchers on land tenure, including collective pastoral land tenure.

5.3 Challenges and limitations

During the field work, the team was unable to meet with officials from Jabrat Elsheik locality. Staff from relevant departments were not at the locality office and could not be reached by phone.

Another challenge was the lack of electricity and internet connectivity, limiting communication with the research coordinator. In some FGDs, participants who were supposed to continue in subsequent sessions did not attend, necessitating the inclusion of new participants.

Absentees cited responsibilities such as animal care as reasons for their absence. To address this issue, the team provided detailed recaps of previous sessions to bring new participants up to speed. Unfortunately, all informants interviewed in Rahad Eltamor were men, as the two identified female informants were unavailable during the scheduled interview time.

6. THE COLLECTIVE PASTORAL TENURE SYSTEM UNDER STUDY

6.1 The pastoral group

The pastoral community in Rahad Eltamor settled in this region during the leadership of Ali El Tom, the first *nazir* for Kababish. This settlement represented a group of more than 100 individuals. They named themselves Bagagir, in honour of their grandfather Ali Bagagir, the pioneering settler in this area, accompanied by his extended family and relatives. Nazir Ali El Tom invited him to remain, serving as a buffer between the Kababish territories and neighbouring tribes. Before their arrival, they were solely nomadic pastoralists. After establishing themselves in Rahad Eltamor, their lifestyle transformed into a transhumant one. A portion of the family settled, while the rest became seasonally mobile alongside their livestock.

The estimated total Bagagir population in Rahad Eltamor is around 2,000 individuals, according to the assessments of the *sheikh* and other local informants. They inhabit an area of approximately 70 km2. In general, the group's population is growing through natural means. Bagagir are not found elsewhere in Dar Kababish, except for a small number of people who migrated from the region to Omdurman and other urban centres during the drought of the mid-1980s and decided to establish permanent residence there.

The Bagagir are part of the Giryat branch of the Kababish and are integrated into the hierarchical traditional tribal system of the Kababish tribe through their *sheikh*. They actively participate in various tribal events and collective responsibilities. Beyond the recognition they receive within their tribe, they are also acknowledged by groups from neighbouring tribes in the region. For example, their *sheikh* routinely participates in dispute-resolution committees. However, no official written documentation from government authorities formally designates him as a *sheikh*.

Membership in the group within Rahad Eltamor is primarily determined by kinship and descent relations, including blood ties and marriages. The group exhibits some flexibility in terms of membership. In various cases, they have allowed individuals from different tribes in neighbouring countries to join their ranks. Outsiders who are accepted into the group must stay as guests for an extended period during which they demonstrate respect, observe community rules and regulations and participate in *nafir* activities (collective voluntary work).

There are also numerous instances of women who have married in from other tribes who are now regarded as full-fledged group members. If a married-in woman becomes a widow, she has the freedom to stay in the area and continue her life as a member of the group or decide to return to her original place of origin. Typically, when a widow has mature sons to support her, she tends to stay in the area; otherwise, she may return to her home. Notably, there have been no instances of individuals losing their membership status.

6.2 Livelihoods and resilience

6.2.1 Main livelihoods and changes over time

The core livelihood of the Bagagir group revolves around livestock rearing. They also engage in activities associated with livestock, including livestock trading, which takes on diverse forms. Some members conduct trade in local weekly markets, while others undertake treks or transportation of animals to sell them in larger urban markets. Additionally, there is a practice of fattening animals by allowing them to graze alongside their herds for a couple of months before taking them to market.

Other livelihood activities include limited smallholding rainfed farming for household consumption. Typically, the Bagagir do not sell their harvest in the market. The average farm size ranges from 10 to 20 *mukhamas* (1 *mukhama* equals 0.7 ha). The main crops cultivated are staples such as millet, groundnut and okra. Manual tools and equipment are employed for all farming activities. Farming has gained increased attention in recent years among the villagers. Although there has been no significant expansion in cultivated land area, there is diversification into new crops, including sesame and chickpea. The primary motivation behind this shift is the pursuit of self-sufficiency and the desire to counter rising living costs, which have escalated significantly in recent years.

Migration to Gulf countries, particularly Saudi Arabia, has been a longstanding practice among the residents of Rahad Eltamor. This phenomenon primarily emerged as a response to the famines of 1984 and 1985, during which a significant portion of the village population lost part or all of their livestock. In Saudi Arabia, they predominantly work as camel herders.

A relatively recent addition to their livelihood activities since 2010 is artisanal gold mining, which has garnered interest among the youth and young pastoralists in the region. It is worth noting that, despite the absence of mines within Bagagir territory, artisanal gold mining has thrived in the surrounding areas.

6.2.2 Main livestock and changes over time

The people of Rahad Eltamor currently raise a combination of sheep, goats and camels. Based on their estimates, the group owns 10,000 sheep, 5,000 goats and 4,000 camels. Sheep and goats are herded together in a single flock. Historically, the situation was different until the drought that struck the area in the mid-1980s.

Before this drought, the most popular species in the area was camels, followed by cattle, sheep, then goats. Even before the drought, the number of cattle owned by the group was diminishing due to the spread of certain diseases (the drought eradicated the rest). As they began to recover from the drought, the people shifted their focus to raising sheep and goats because both species are efficient in terms of quick breeding compared to camels and cattle. However, the emphasis was more on sheep, primarily because of higher demand in the market.

The pastoralists do not anticipate returning to raising cattle because they are more sensitive to water deficiency compared to other species. Cattle require daily watering, while other species can endure for several days or more. This is especially relevant because their area is plagued by water shortages.

6.2.3 Climate and environment, changes over time and adaptation strategies

Rahad Eltamor is within the semi-arid zone of Sudan, part of the Sahelian belt in Africa. The rainy season is short, lasting from late June to September. The annual rainfall during a single rainy season in Jabrat Elsheikh locality ranges from approximately 200 mm to 250 mm. There is a noticeable rainfall gradient, with precipitation decreasing from south to north, and the rains typically arrive earlier in the southern areas. People have observed significant climate and environmental changes in their region. They reported that these changes began more than 30 years ago and described the following changes.

Climate changes:

- significant decrease in rainfall amount
- erratic and unpredictable rainfall patterns
- shortened rainy season
- decline in rangeland and crop productivity
- increased sand encroachment affecting arable land
- burial of large parts of the *rahad* area and the *wadi*
- reduced water availability due to sand encroachment
- wind erosion causing the erosion of plant seeds
- increased daytime temperatures
- decreased nighttime temperatures.

Changes in plant species composition:

- reduced plant species diversity
- thinner vegetation cover
- identified 'increaser' species (*Acacia tortilis* trees and *Aristida sp.* grass)
- declining tree species (*Acacia mellifera, Acacia seyal var. seyal, Acacia nilotica, Cordia rothii, Combretum aculeatum, Commiphora africana, Ziziphus spina-christi*)
- decreasing herb and grass species (*Hyparrhenia hirta, Indigofera semitrijuga, Cassia acutifolia, Balanites aegyptiaca, Blepharis linarifolia, Tribulus terrestris, Cymbopogon giganteus*).

6.2.4 Coping strategies

To cope with unpredictable climate patterns and climate-related shocks and stresses, the people of Rahad Eltamor have adopted several strategies. One of the main strategies is shifting to more drought-resistant livestock species, such as sheep and goats, while abandoning cattle because they cannot tolerate water deficiency. In dry years, they alter their livestock mobility patterns in search of pasture. During such years, they move away from their usual mobility areas to southerly pastures in more humid regions, such as South Kordofan State and, in some cases, the border with South Sudan, where pasture conditions are better. Also, in dry years, they relocate their houses within their territories to locations nearer to water sources, such as the *rahad* and the *wadi*.

Out-migration to urban centres in Sudan and to Gulf countries was one of the main measures local pastoralists took during the mid-1980s drought when most people left the area. Migration to Gulf countries was primarily among the youth. In the last 10 years, working in the artisanal gold mining sector emerged as a new option to cope with difficult times.

6.3 Collective access, use and tenure security of dry-season grazing land

6.3.1 Pastoral land use

Figure 2 presents a simple map drawn by the people of Rahad Eltamor, illustrating major land uses, main water sources, dwelling sites and rough territorial boundaries of their land, which they consider dry-season grazing land. Major land uses in the area include housing areas, grazing land, farming areas, water sources, and collecting forest products and medicinal and aromatic plants.

FIGURE 2: MAP DRAWN BY PEOPLE IN RAHAD ELTAMOR SHOWING RESOURCES AND SERVICES

Source: FGD participants in Rahad Eltamor

Housing patterns

There are two housing patterns. The first involves houses relatively close to each other. This type is found in three locations within the area, where extended families live with multiple generations in each location. The second pattern is typical of pastoralists, with substantial distances between houses to allow for better animal movement. Families in this type of housing are relatively small, newly formed and scattered throughout the territories of Rahad Eltamor.

Farming activities

The farming area is in the north-eastern part of the territories, constituting a small pocket representing 3–5% of the total area. The selection of this site for farming is based on soil suitability as perceived by the local community.

Grazing lands

The grazing lands in Rahad Eltamor are characterised by grass cover mixed with scattered trees. However, there are areas purely covered with grass or with trees. Additionally, there are a few outcrops and limited areas of bare land within the grazing land. Photos presented in Figure 3 provide examples of the main components of the grazing land in Rahad Eltamor, which serves as dry-season grazing land. The people spend about 70% of the year within this area.

Those who own large herds of camels and large flocks of sheep and goats often prefer to move to distant, vast grazing lands away from Rahad Eltamor during the dry season. The movement of these pastoralists may extend hundreds of kilometres to the south of Rahad Eltamor. Others who stay within the group territories also move south at the beginning of the rainy season to benefit from the new grass that emerges earlier there than in does in their areas. As the rainy season progresses, they proceed north. While some spend the rainy season in their home area, especially those who own a small number of animals, others with relatively large herds move to northern areas to spend the wet season there. The journey to the northern grazing land can take some of them to the Gizu.

The most important grazing land for the group is their home area during the dry season. Here, they have a collective land tenure system and full control. In other grazing lands outside their home area, they are considered guests and must follow the rules set by residents. During the wet season, resources such as pasture and water are abundant, but in the dry season water, especially, is limited.

Each group has its own rules to manage these resources. For example, only group members can access water due to its scarcity. In case of a fire, the village leader calls for immediate action and they work together to control it.

In normal good seasons, there is enough fodder for their animals and for those of neighbouring groups, so there is no competition for pasture. However, the biggest challenge in the dry season is accessing water. They transport water from nearby facilities as an individual solution. Fire incidents are rare; the last occurred in 2004 and was controlled collectively.

During the rainy season, they have no trouble accessing wet-season grazing areas in their region or elsewhere. The main issue during this time is animals wandering into agricultural fields, but a local committee effectively handles and resolves such cases. In the less populated, northern wet-season grazing areas, livestock route blockages are not a problem. Figure 3 illustrates common features of the dry-season landscape.

FIGURE 3: COMPONENTS AND FEATURES OF THE DRY-SEASON GRAZING LAND IN RAHAD ELTAMOR

Source: Hussein M. Sulieman

Water

There are two main sources of water: the *rahad* and the *wadi*. The water in the *rahad* used to last until November, but due to the buildup of sand and siltation, it now holds only a small amount of water by the end of September. This deterioration has been ongoing since the mid-1980s and has worsened in recent years. For the rest of the year, the villagers and their animals rely on boreholes and water yards in Um Surra village, located about 15 km north of Rahad Eltamor. They transport water using carts, tankers and plastic water bladders carried on vehicles. These facilities in Um Surra are privately owned, and pastoralists must pay for the water. The use of plastic water bladders is relatively new, starting about 15 years ago, and is now widespread for various purposes.

Forest resources

The grazing land in Rahad Eltamor contains a mix of grasses and trees, with some areas having pure stands of trees. Trees serve as a source of browsing for animals, building materials and firewood. They also provide wild edible fruits that women and children collect for consumption, not for sale. The community is committed to conserving its forest resources and preventing unauthorised tree cutting.

Medicinal and aromatic plants

The rangelands yield medicinal and aromatic plants, including *Cassia acutifolia, Cymbopogon giganteus* and *Balanites aegyptiaca*. These plants are used for medicinal purposes, and *Cymbopogon giganteus* is used for its aromatic properties in tea and water. The collection of these plants is open to group members and others, mainly carried out by women for household use, not commercial purposes.

6.3.2 Tenure system for collective access and use of dry-season grazing land

The collective pastoral tenure system for dry-season grazing land operates on an open-access basis, offering equal access to all group members. Individuals outside the group can also access and use this grazing land. However, the management, exclusion and transfer of rights are exclusive privileges held by the group and its members. Although there are no written or formally defined rules and responsibilities for access and use, all members follow a general rule: to avoid causing harm to the grazing land (e.g. tree cutting) or the people in the area (e.g. livestock theft). This rule is collectively defined and monitored by the group members.

The group is represented by the *sheikh*, a position that is not inherited but filled by selection by the community. The *sheikh* serves as the group's representative and enforces the rules and responsibilities related to maintaining the resources in the dry-season grazing land. In situations where there are new issues or cases that have not occurred before, the *sheikh* consults with the group members to reach a decision.

Women from the group typically do not play direct and visible roles in managing, excluding and transferring rights for the various components of the rangeland resources in Rahad Eltamor. When discussing the bundle of rights within the community, the focus is primarily on the key components of their dry-season area, including grazing/browsing land, water resources, forest resources and farming land. Table 3 summarises the 'bundle of rights' associated with each of these components of the dry-season rangeland.

Grazing and browsing land

Grazing and browsing land is accessible to all group members within the group's territory. However, there is an agreement within the group not to use the area immediately surrounding their village during the rainy season, reserving it for the dry season. This specific area, known as *harem*, spans 2 km to 3 km around the village and is off limits to pastoralists outside the group. The rest of the grazing land is open to outsiders, whether from the same or other tribes, as long as they adhere to a general rule of not causing harm to the grazing land or the people in the area.

Pastoralists from other groups visit Rahad Eltamor twice a year: first, at the beginning of the rainy season as they head to the northern wet-season grazing land and, second, towards the end of the rainy season on their way back to their own dry-season grazing land. Consequently, for most of the year, there are no outsiders in the group's territories. While outsiders do not need permission to access the rangeland resources, they are expected to follow the rules and regulations set by the group and to avoid actions such as setting fires or being accused of animal theft. Since 2016, one particular pastoralist group has been barred from staying in Rahad Eltamor's territory due to multiple accusations of animal theft. However, members of this group still have the right to pass through the area without stopping. This decision was reached through negotiations between the leaders of both groups, with the condition that the excluded group should not stay in Rahad Eltamor's territories. To enforce this decision, the *sheikh* of Rahad Eltamor visited the excluded group in their camps and informed them about the arrangement. This case illustrates that rules and responsibilities can change with changing circumstances.

TABLE 3: SUMMARY OF DRY-SEASON RIGHTS IN GRAZING LAND UNDER THE COLLECTIVE PASTORAL TENURE SYSTEM IN RAHAD ELTAMOR

Rights		Dry-season grazing land components			
	Category	Grazing and browsing land	Water sources	Forest resources	Farming land
Access	For the group	Open for the group	Open for the group	Open for the group	Open access for the group
	For outsiders	Open to outsiders	Open for domestic use	Open for outsiders	Outsiders are excluded
	For individuals	Young women are not allowed to access remote grazing land	Individuals own good and multiple water facilities have better access to rangelands	Open for all individuals	Agricultural fields are privately owned by group members
Use	For the group	All parts except the *harem* zone during wet season	Used by the for all resources	Used by all group members	All group members are allowed to use
	For outsiders	All parts except the *harem* zone during wet season	Not allowed for animal watering	Outsiders are allowed to use	Outsiders are not allowed to use
	For individuals	Young women can use only the area near the village	Individuals own good and multiple water facilities can use more grazing lands	Collecting of tree fruits is mainly done by women and children	All individuals are allowed to cultivate Landless individuals can borrow land from others
Management	For the group	Rules are defined by the group and the group is collectively responsible for taking care of the grazing land and their animals	Not involved in management	The group is keen to protect the forest resources from illicit activities They enforce the rules themselves and also through FNC*	Household responsibility There is a local committee responsible for monitoring animal trespass
	For outsiders	Excluded	Not involved in management	Not involved in management	Not involved in management
	For individuals	Play an active monitoring role	No management	Play an active monitoring role	Farm acreage and type of crops differ among individuals in the group

Rights		Dry-season grazing land components			
	Category	Grazing and browsing land	Water sources	Forest resources	Farming land
Exclusion	For the group	No exclusion	No exclusion	No exclusion	No exclusion
	For outsiders	Groups causing harm are excluded from staying and allowed only passage rights	Animals are excluded	No exclusion	Outsiders are excluded
	For individuals	No exclusion	No exclusion	No exclusion	No exclusion
Alienation	For the group	Not applicable	Not applicable	Not applicable	Not applicable
	For outsiders	Not applicable	Not applicable	Not applicable	Not applicable
	For individuals	Not applicable	Not applicable	Not applicable	Landowners can temporarily alienate part of their land to landless group members

Source: Author's creation. Note: *FNC = Forests National Corporation

Although the group is responsible for managing the grazing land, no maintenance or improvements have been made. While some important range plants are disappearing from the dry-season grazing land, the group believes it is still in good condition and does not require intervention.

Water resources

The access to and use of water resources are currently exclusive rights for people and animals within the group; outsiders are allowed to access and use these water resources, but only for domestic purposes, not for their animals. In the past, before the water sources started deteriorating, everyone was allowed access, and the water remained year-round without exclusions. However, due to problems such as sand encroachment and siltation, the amount of collected water has become limited. As a result, the group changed the rules around access, implementing the new rule in 2000.

The group's main water source during the dry season is the privately owned water facilities in Um Surra. Each family is responsible for transporting water individually, using various methods such as carts, tankers and plastic water bladders carried on vehicles. Women use carts to collect water; men are typically responsible for driving tankers and vehicles. Access to water during the dry season is their most significant challenge, and individuals who own multiple water facilities have an advantage, as they can easily provide water to different parts of the rangeland for their animals. Despite recognising the deterioration of their water resources, the community has made no improvements nor maintenance efforts.

Trees and forest resources

The dry-season grazing land is a mix of grasses and trees. The group and outsiders have access to these resources for activities such as browsing and collecting building materials, firewood and fruit. However, the group is committed to conserving their forest resources, so they prohibit activities that harm trees. They actively monitor for illegal activities such as illicit wood cutting and charcoal making. When someone observes such trespassing, they report it to the village *sheikh*, who then visits the location and, if necessary, involves the Forests National Corporation (FNC) in Jabrat Elsheikh if the invader refuses to stop their illegal activities.

For instance, in 2020, there was unauthorised tree cutting in their area for charcoal production by a commercial investor from an urban centre. When the group noticed the cutting, the *sheikh* engaged with the investor, and when the investor refused to comply, the *sheikh* escalated the case to the FNC. As a result, the FNC issued an evacuation order to the investor, who immediately ceased activity.

Another prohibited activity in the dry-season grazing land is shaking trees to drop fruits and pods for animals to graze. This can harm the trees. Fruit collecting is typically carried out by women and children within the community.

Farmland

Farming is a right exclusive to group members – outsiders are not allowed to cultivate within the group's territory. Each family within the group owns a private piece of land for farming, which is passed down through generations. Those who do not own land from the group can temporarily borrow land from others for cultivation, known as *akul goom*, without paying rent. A local committee within the group is responsible for resolving issues related to animals trespassing into agricultural fields during the growing season. They construct enclosures to contain trespassing animals and determine compensation for affected farmers. The committee also appoints someone to care for these animals and is paid from the fine money collected. All reported trespassing cases involve members of the group. They also practise *taleg* (as described in Section 2) after everyone has collected their harvest.

6.3.3 Main strengths and weaknesses of the system

Strengths:

- The system is part of a larger system applied and followed by other groups surrounding Jabrat Elsheikh locality.
- The system allows flexible livestock mobility across different landscapes.
- There are no significant differences between this system and the systems of neighbouring groups.
- The system is well understood by the group and other groups in the area due to its historical traditions and norms.
- It enables access to and use of resources from other groups, which is crucial during resource shortages.
- The system enhances social relations and cohesion through collective work such as *nafir*.

- It allows for a combination of livestock rearing and farming within their group's territories.
- Excluding outsiders from farming reduces group conflicts and ensures enough farming land for group members without competition.

Weaknesses:

- Recent years have seen some inaction and dependence on voluntary and collective group work, especially among young people.
- Open access has led to the intermingling of animals owned by different groups, sometimes causing disease transmission.
- A limited number of thefts have emerged in the area.

6.3.4 Community perspectives on how the system can be improved

The community believes that the collective pastoral tenure system does not require improvement, and that women should be responsible for and involved in household activities. Women within the community are satisfied with their roles and positions.

6.3.5 Characteristics of the collective tenure system for dry-season grazing land

Based on FGDs and key informant interviews, the most important characteristics of the collective tenure system, in terms of access and use, for dry-season grazing land are:

- Flexibility and unrestricted mobility on their land and other land when needed. This ensures timely access to required resources. Moreover, flexibility and unrestricted mobility are crucial for access to resources during dry years, which are a common occurrence in the area.
- The absence of rigid borders between neighbouring groups, whether from the same tribe or other tribes in the area. This allows for distant mobility, which is important for accessing resources, especially for camel herders.
- An efficient internal system to organise the use of agricultural land. Although privately owned, there is room and an opportunity for landless community members to gain access through borrowing land from other owners without payment. This behaviour fosters solidarity among community members.
- In cases of resource scarcity, the system prioritises people in the group. However, it also takes into account human needs, such as access to limited water resources in Rahad Eltamor.
- The system regulates and organises the group's access to resources, including preventing access to the *harem* area during the rainy season in order to preserve it for use when resources are less abundant during the dry season.

In terms of managing dry-season grazing land, people mentioned the following:

- The management system is an integrated part of their tribal historical system, inherited from their fathers. Therefore, it is well understood by them. The management system considers resource conditions, climatic factors and the group's needs.

- The system allows them to play an active role in maintaining their resources preventing degradation or over-exploitation. This is important because many groups undergo an annual cycle of mobility, and monitoring for harm and illegal activities is necessary.

- Well-established collective voluntary work practices exist within the group and they help neighbouring groups when needed (e.g. during a major fire event in 2016).

- The system can be modified to adapt to evolving situations if necessary. They can also seek support from government authorities, such as the FNC if they fail to prevent invasions into their resources.

- Most conflicts and disputes between the group and outsiders are usually resolved locally. The management system has various conflict-resolution mechanisms that are well-established and can work within and across groups.

- There is a seasonal committee of community members responsible for addressing cases of animal trespassing into agricultural fields. This committee helps prevent the escalation of disputes and they typically resolve problems through mutual consent.

6.3.6 Perceived tenure security of the community in dry-season grazing lands

The community in Rahad Eltamor thinks that it is very unlikely that they will lose their right to benefit from the collective dry-season grazing land during their lifetime (Table A1). They are also confident that their children will inherit rights to the collective dry-season grazing land (Table A2).

6.3.7 Perceived security of mobility for the community

The community in Rahad Eltamor think that it is very unlikely that they will lose their right to the mobility of livestock and people during their lifetime (Table A3). They believe that their children will retain these rights (Table A4).

6.3.8 Main factors affecting tenure security in dry-season grazing lands for the community

Community members named several factors that ensure their tenure security.

Most important:

- They are the original settlers in the area and have been there for more than a century. No one has challenged their land claims during this period.

Very important:

- They are part of a larger ethnic group and their *sheikh* holds a position in the tribal administration of this tribe. The *omda* of the area regularly invites the *sheikh* to attend meetings and may be asked to pay a ransom and *deya* (blood money) to compensate for losses in cases of clashes or dispute resolution.

- There is an abundance of grazing resources in the area with no competition for rangeland resources in the vicinity.

- The Rahad Eltamor area and its surroundings have been relatively free from conflicts,

providing a secure environment for access to grazing resources and the mobility of livestock and people. Disputes are usually resolved locally through traditional mechanisms.

Somewhat important:

- The pastoralists are well-respected by neighbouring groups from their tribe and other tribes.
- They sometimes participate in *nafir* with their neighbours when needed.

While it is unlikely that the community will lose its rights to the grazing land, they perceive the main threats to be outbreaks of disease, drought events, water scarcity and some youths being reluctant to continue working as herders. The community members believe themselves to be *asyad elarid* (landowners) and have little knowledge of the country's formal tenure systems.

6.3.9 The impact of losing community rights to dry-season grazing lands

Rahad Eltamor community members said that, if they were to lose their rights to the collective grazing land, it would have a devastating impact on various aspects of their way of life, including:

- They would lose their identity and traditions as pastoralists.
- Some might sell their animals and shift their focus towards expanding their farming activities.
- People might migrate to urban areas in search of alternative jobs and opportunities.
- Some may choose to work as hired herders in Gulf countries.
- Young individuals might turn to employment in artisanal gold mining.

6.3.10 No historical loss of rights for the community

The Rahad Eltamor community has never experienced any loss of rights to grazing land in the past.

6.4 Collective and individual access to dry-season grazing land within the community

6.4.1 Tenure system for individual access and use of dry-season grazing land

Individuals have equal rights to access and to use the collective grazing land. Any differences in access are primarily due to economic disparities and wealth. These differences have become more pronounced in the past 15 years with the introduction of plastic water bladders, as wealthier members can use these private water facilities to access remote grazing lands more easily.

Furthermore, the collective tenure system allows individuals to receive support from their families. Male members typically have a share in the family's livestock, allowing some to separate and work independently. Meanwhile, women do not have this privilege and usually receive a few animals as gifts upon marriage.

Some individuals who do not own many livestock have turned to farming, which is a more accessible way to improve their livelihoods. They often cultivate larger areas and a variety of crops, selling surplus harvest to invest in livestock. Migration to Gulf countries remains an attractive option for many young individuals, who often work together and share expenses. Some youth also prefer working in artisanal gold mining rather than herding.

The Rahad Eltamor community continues to support vulnerable and economically disadvantaged members. They lend or give animals to those in need to help them rebuild their stock. This assistance extends to widowed women within the community.

However, young women face restrictions on accessing grazing land due to social and traditional norms. Unaccompanied young women are limited to the *harem* area, while those with male family members can move more freely. Women are excluded from the management of grazing land, reflecting a broader pattern of gender bias in the community.

Challenges in accessing and using land within the collective system include uneven participation in collective work, with some individuals not contributing as much. Older generations often have a perception that the younger generation prioritises personal interests more than the group's well-being. Out-migration of married men for work in Gulf countries or gold mining places an additional burden on wives, who must manage household duties and care for animals.

Young pastoralists believe they should have opportunities to raise their own herds and diversify their income sources to improve the tenure system for individual rights. There is a growing trend of youth seeking independence from their extended families, managing their own herds and cultivating farming land within their extended family's territory. Male youths are actively pursuing diversified livelihoods that combine livestock herding with other activities, including farming, Gulf migration, gold mining and animal trade. The shift towards market-oriented and commercial thinking drives these changes.

Additionally, improving water facilities in Rahad Eltamor is seen as crucial for ensuring equal access and use of the collective grazing land.

6.4.2 How individuals in the group view their rights to dry-season grazing land

The perceptions of individuals within the group regarding their rights to the dry-season grazing land show no significant differences, as shown in Tables A1 to A10 from the FGDs conducted with the different community subgroups of men, women and youth. Overall, individuals feel confident about accessing and using the collective dry-season grazing land.

6.4.3 Key factors affecting individual land rights in dry-season grazing lands

Factors that ensure the security of individual land rights include the following.

Most important:

- Individuals belong to an ethnic group well-recognised in the area and share strong social bonds as relatives descended from a common grandfather. This unity enables them to access and use the collective dry-season grazing land confidently.

Very important:

- There is a strong sense of community among Rahad Eltamor members. Vulnerable individuals receive support from the community. For instance, if someone loses their animals, they receive compensation from relatives or friends.
- In the event of migration to Gulf countries, relatives collaborate and share travel costs. Widows are often married into the deceased husband's relatives or, if unmarried, receive care and support from relatives and neighbours.
- There have been no instances of individuals losing their rights due to conflicts or insecurity in Rahad Eltamor. Those without farmland can borrow from others and cultivate land without rent.

Somewhat important:

- The community still practises collective voluntary work, including weeding, harvesting, searching for lost animals and shearing wool. They also engage in *fazza* (collective efforts to recover stolen animals).

The most significant anticipated threat to individuals is the emergence of gold mining in their area. This could lead to competition and social disruption, as it has in neighbouring areas.

6.4.4 The impact of losing individual rights to dry-season grazing lands

If individuals in the community were to lose their rights to collective grazing land, the following impacts would occur:

- Out-migration to Omdurman, where some Bagagir families have been settling since the mid-1980s drought-induced migration.
- Male youth might seek opportunities to migrate to Gulf countries for hired herding and casual jobs.
- Youth may form small groups to work in artisanal gold mining within North Kordofan State and beyond.
- Women would likely focus on expanding their farming activities, cultivating more land and crop types.

6.4.5 Expected changes over time and ways to strengthen rights

Improving access to water resources is seen as a critical factor in enhancing individual rights. Well-distributed water facilities in dry-season grazing lands are essential for ensuring equal access.

In the future, with population and livestock numbers increasing, competition for resources is expected to rise. Additionally, the trend of prioritising personal interests over collective group interests, especially among youth, is expected to continue. This shift is driven by a growing orientation towards profitability. As interest in farming grows and the population expands, more dry-season grazing land may be converted to agriculture.

6.4.6 Past loss of individual rights

None of the individuals in the group have experienced the loss of rights to grazing land in the past.

6.5 Characteristics of the tenure system allowing individual access to dry-season grazing land

Important characteristics of the tenure system that enable individual access include the following.

In general:

- Flexible and unrestricted access for every community member on an equal basis, with no one having more power than others.
- The collective system allows individuals to make their own decisions regarding mobility and distance. They can extend their mobility beyond community territories when necessary.
- Men have the right to voice their opinions on collective decisions during meetings or gatherings, while women are excluded.
- All individuals participate in monitoring the collective tenure management system. If someone observes illegal activities within the dryland grazing area, they can address the issue directly or report it to the *sheikh*.
- Within the designated farming area, individuals are free to make decisions about their farming activities.
- Individuals benefit from collective practices such as *nafir*.

For more vulnerable individuals:

- More vulnerable individuals, primarily widows or women without land, experience marginalisation in community management and decision-making. However, they are content with this arrangement, considering it traditional for men to manage and make decisions.
- Although agricultural land is privately owned, landless community members can access land by borrowing from others without payment, promoting community solidarity.
- Economically disadvantaged households with limited labour rely on *nafir* for essential tasks such as weeding and harvesting, as they cannot afford labour costs.
- The community tradition in Rahad Eltamor includes providing animals to members who have lost their animals for any reason, helping them rebuild their livestock. This practice also extends to widows in the community.

7. CONCLUSION

In Jabrat Elsheikh locality, the existing land tenure system for dry-season grazing land is a collective pastoral tenure system governed by tribal administration and based on unwritten customary rules and regulations. The formal state tenure system is not present nor enforced in the area and pastoralists are generally unaware of the country's formal tenure systems.

The tenure system in place offers a number of advantages and benefits. It offers open access on an equal basis to all group members and even allows individuals from outside the group to access and use the grazing land. However, management, exclusion and transfer rights are exclusive to the group and its members. While these rules are not written down, they are well understood by the pastoralists.

The system's characteristics include flexibility and unrestricted mobility, with no rigid borders between neighbouring groups from the same tribe or other tribes in the area. Pastoralists have a well-established internal system for organising agricultural land use within the grazing area. This management system is part of their historical tribal heritage and allows them to actively maintain and prevent over-exploitation of their resources. It includes traditional dispute-resolution mechanisms.

Pastoralists, both as a group and as individuals, feel highly secure in their rights to benefit from the collective grazing land for their entire lives and future generations. This sense of security is attributed to several factors, such as their longstanding presence in the area, their affiliation with a larger ethnic group and the absence of resource competition and conflicts in their territory.

Unfortunately, women in the community are marginalised when it comes to accessing, using and managing the dry-season grazing land, as well as participating in decision-making. The pastoral communities in the area uphold traditional patriarchal values and this bias against women is deeply ingrained. Surprisingly, women in the community generally accept this situation and do not perceive their rights as being violated.

Looking ahead, pastoralists foresee challenges due to increasing human and livestock populations, which may lead to heightened competition over resources. They also expect a trend towards individual interests taking precedence over group interests. Additionally, with the growing interest in farming and a rising human population, there may be an expansion of cultivated land at the expense of dry-season grazing areas in the future.

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ANNEX

Tables A1–A10

TABLE A1: THE RESPONSES OF THE COMMUNITY IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF LOSING THE RIGHT TO BENEFIT FROM THE COLLECTIVE DRY-SEASON GRAZING LAND

The likelihood that the community could lose its collective grazing rights	Response			
	During the next year	Within the next five years	Within the next ten years	During the rest of your life
Very unlikely	100%	100%	100%	100%
Unlikely	0	0	0	0
Somewhat likely	0	0	0	0
Very likely	0	0	0	0
Don't know	0	0	0	0
Refused to answer	0	0	0	0

Source: Author's creation

TABLE A2: THE CONFIDENCE OF THE COMMUNITY IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF THEIR CHILDREN TO INHERIT THE RIGHT AND BEING ABLE TO USE THE COLLECTIVE DRY-SEASON GRAZING LAND

Confidence level	Response	
	Children will inherit rights to land	Children will be able to use the land throughout their lifetime
Not confident at all	0	0
Not confident	0	0
Somewhat confident	0	30%
Very confident	100%	70%
Don't know	0	0
Refused to answer	0	0

Source: Author's creation

TABLE A3: THE RESPONSES OF THE COMMUNITY IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF LOSING THE RIGHT TO MOBILITY OF LIVESTOCK AND PEOPLE

The likelihood that the community could lose its right to mobility	Response			
	During the next year	Within the next five years	Within the next ten years	During the rest of your life
Very unlikely	100%	100%	100%	100%
Unlikely	0	0	0	0
Somewhat likely	0	0	0	0
Very likely	0	0	0	0
Don't know	0	0	0	0
Refused to answer	0	0	0	0

Source: Author's creation

TABLE A4: THE CONFIDENCE OF THE COMMUNITY IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF THEIR CHILDREN TO RETAIN RIGHTS TO MOBILITY OF LIVESTOCK AND PEOPLE THROUGHOUT THEIR LIFETIME

Confidence level	Response	
	Children will retain rights to mobility	Children will be able to use the rights to mobility throughout their lifetime
Not confident at all	0	0
Not confident	0	0
Somewhat confident	20%	30%
Very confident	80%	50%
Don't know	0	20%
Refused to answer	0	0

Source: Author's creation

TABLE A5: THE RESPONSES OF MEN IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF LOSING THE RIGHT TO BENEFIT FROM THE COLLECTIVE DRY-SEASON GRAZING LAND

The likelihood that the community could lose its collective grazing rights	Response			
	During the next year	Within the next five years	Within the next ten years	During the rest of your life
Very unlikely	100%	100%	100%	100%
Unlikely	0	0	0	0
Somewhat likely	0	0	0	0
Very likely	0	0	0	0
Don't know	0	0	0	0
Refused to answer	0	0	0	0

Source: Author's creation

TABLE A6: THE CONFIDENCE OF MEN IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF THEIR CHILDREN TO INHERIT THE RIGHT AND BEING ABLE TO USE THE COLLECTIVE DRY-SEASON GRAZING LAND

Confidence level	Response	
	Children will inherit rights to land	Children will be able to use the land throughout their lifetime
Not confident at all	0	0
Not confident	0	0
Somewhat confident	0	20%
Very confident	100%	70%
Don't know	0	10%
Refused to answer	0	0

Source: Author's creation

TABLE A7: THE RESPONSES OF WOMEN IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF LOSING THE RIGHT TO BENEFIT FROM THE COLLECTIVE DRY-SEASON GRAZING LAND

The likelihood that the community could lose its collective grazing rights	Response			
	During the next year	Within the next five years	Within the next ten years	During the rest of your life
Very unlikely	100%	100%	100%	100%
Unlikely	0	0	0	0
Somewhat likely	0	0	0	0
Very likely	0	0	0	0
Don't know	0	0	0	0
Refused to answer	0	0	0	0

Source: Author's creation

TABLE A8: THE CONFIDENCE OF WOMEN IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF THEIR CHILDREN TO INHERIT THE RIGHT AND BEING ABLE TO USE THE COLLECTIVE DRY-SEASON GRAZING LAND

Confidence level	Response	
	Children will inherit rights to land	Children will be able to use the land throughout their lifetime
Not confident at all	0	0
Not confident	0	0
Somewhat confident	0	10%
Very confident	80%	70%
Don't know	20%	20%
Refused to answer	0	0

Source: Author's creation

TABLE A9: THE RESPONSES OF YOUTH IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF LOSING THE RIGHT TO BENEFIT FROM THE COLLECTIVE DRY-SEASON GRAZING LAND

The likelihood that the community could lose its collective grazing rights	Response			
	During the next year	Within the next five years	Within the next ten years	During the rest of your life
Very unlikely	100%	100%	100%	100%
Unlikely	0	0	0	0
Somewhat likely	0	0	0	0
Very likely	0	0	0	0
Don't know	0	0	0	0
Refused to answer	0	0	0	0

Source: Author's creation

TABLE A10: THE CONFIDENCE OF YOUTH IN RAHAD ELTAMOR FOR THE LIKELIHOOD OF THEIR CHILDREN TO INHERIT THE RIGHT AND BEING ABLE TO USE THE COLLECTIVE DRY-SEASON GRAZING LAND

Confidence level	Response	
	Children will inherit rights to land	Children will be able to use the land throughout their lifetime
Not confident at all	0	0
Not confident	0	0
Somewhat confident	0	10%
Very confident	90%	75%
Don't know	10%	15%
Refused to answer	0	0

Source: Author's creation

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