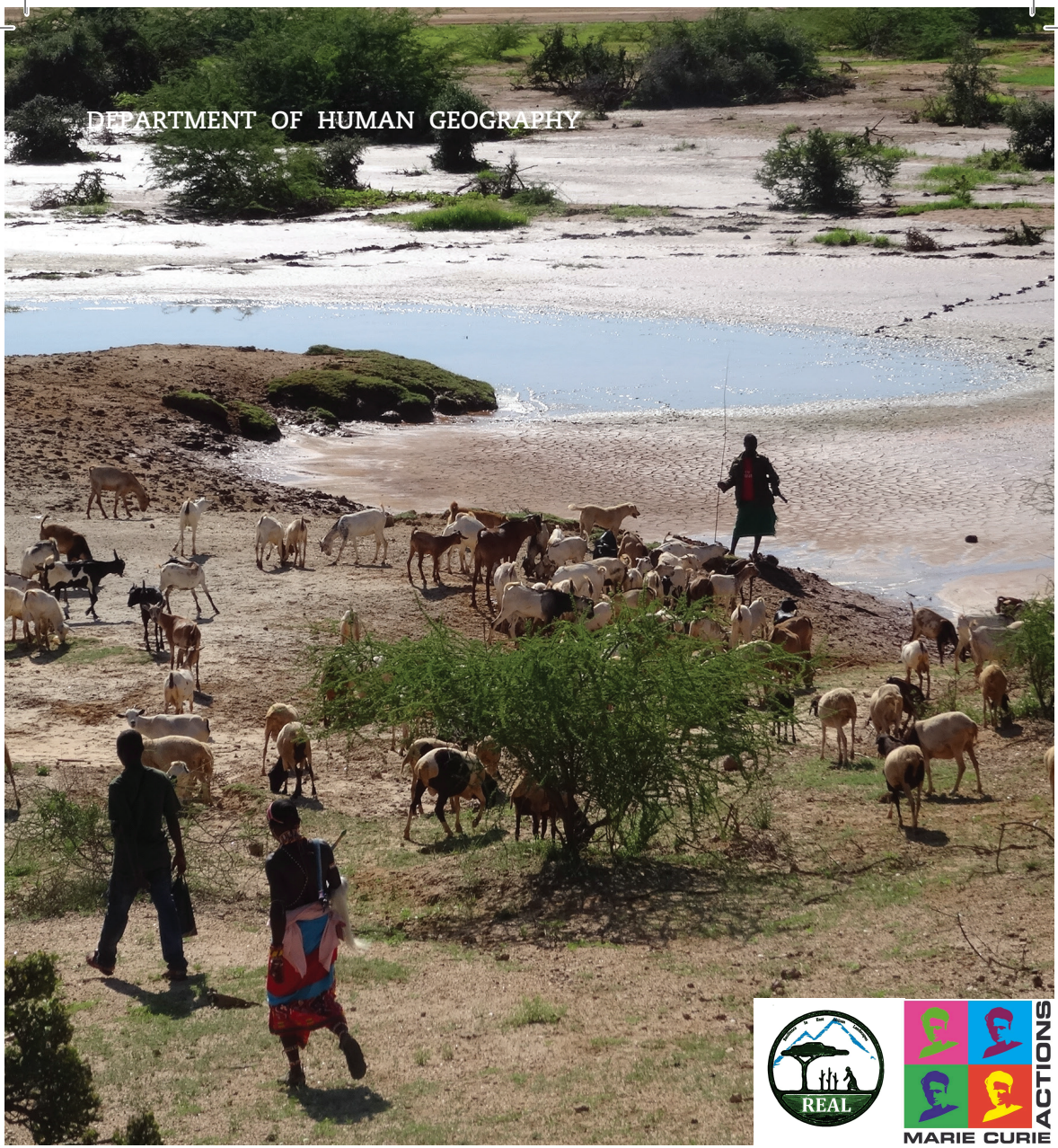

Livestock Grazing and Mobility

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Grazing management and livestock mobility in Lekiji Sesia, Kenya

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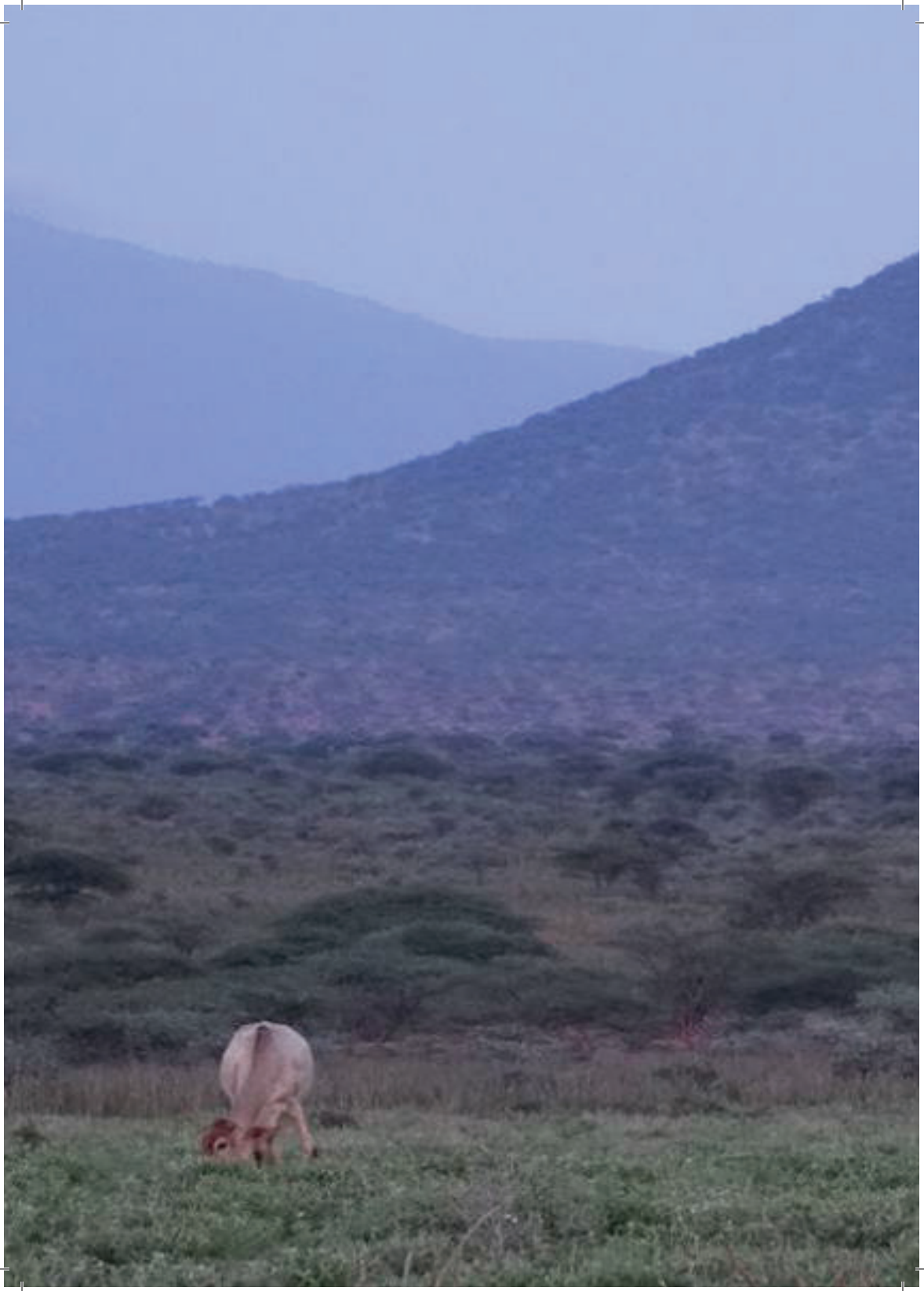

Introduction

In Kenya, dryland areas, or arid and semi-arid lands, make up of 80% of the country. Rainfall in arid areas varies between 150mm 550mm per year; in semi-arid areas between 550mm and 850mm per year. Pastoralists are residing in all the arid counties and in some of the semi-arid counties such as in the south of Kenya and in Laikipia, central Kenya. Pastoralism can be described as 'the extensive production of livestock in rangeland environments'; where a large part of subsistence and wealth is generated through the keeping of livestock. Besides its economic description, pastoralism is also about expressions of culture and a way of life. .

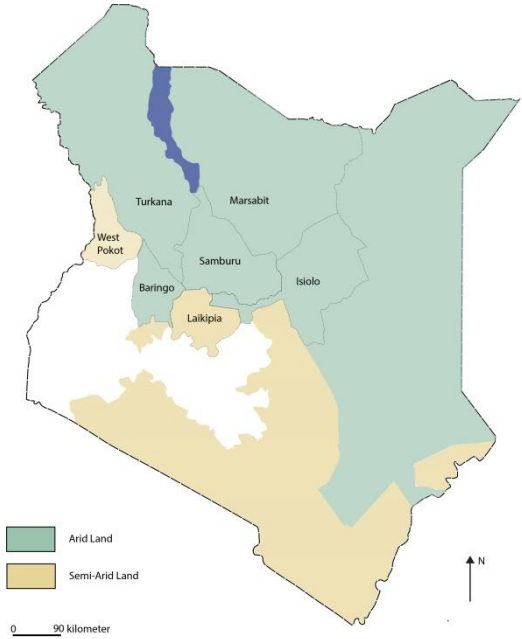

Figure 1. Arid and semi-arid lands of Kenya (based on: Vision2030 Development Strategy for Northern Kenya and other Arid Lands 2011).

Northern Kenya is home to many pastoralist populations including the Maasai, the Turkana, the Pokot (*Suk*), Rendille, Borana, Somali, Oromo and Samburu among others. Apart from livestock, pastoralist production needs access to labour (for herding) and to key grazing and water resources. Since these resources are scattered at different times over various places, livestock mobility is an important feature of pastoralist production. Currently the pastoralist populations in Kenya primarily practice semi-nomadic pastoralism, meaning that only parts of the family moves the livestock to areas with pasture and water, not entire households.

Historically, grazing management policies by the colonial Administration and the Kenyan Government have intended to deal with challenges of drought and livestock mobility in northern Kenya, albeit in different ways. Among the policies are forest demarcation, wildlife protection, grazing control, destocking measures and cattle marketing. For the purpose of managing resources both governments have made efforts to create grazing schemes and group ranches to change pastoralist nomadic life to sedentary ways of live. Currently grazing management through community conservancies is the main policy implemented. Any form of grazing management, or rangeland management, is based on a set of rules provided by the community, the government or another organisation. Decisions on how to manage pastures and water include the management of quality

and quantity of the resources; but also, who has access to these resources, and who has not.

The aim of this study was to understand the current conditions and developments of mobile pastoralism and access to grazing and water in Laikipia, Isiolo and Samburu, specifically in the Waso Ngiro River basin (Figure 2).

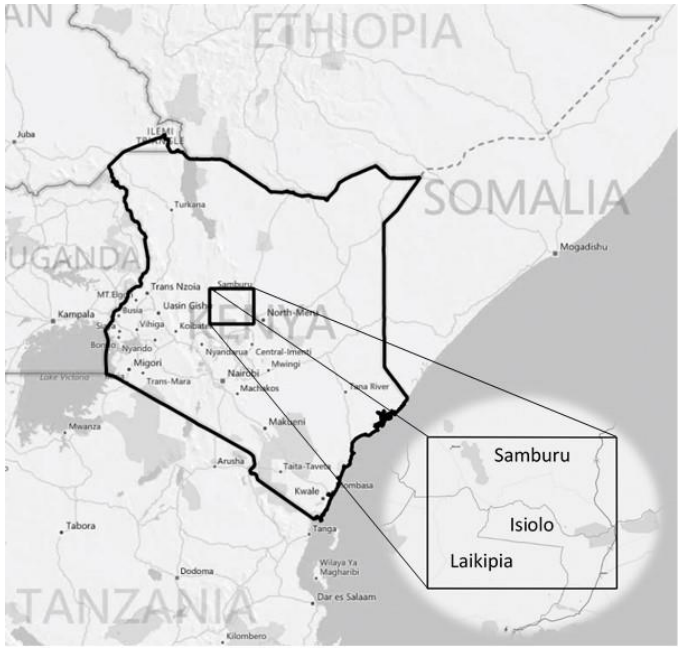

Figure 2. Research area. *Data, imagery and map information provided by MapQuest, Open Street Map and contributors, CC-BY-SA and Bing © 2016 HERE © 2016 Microsoft Corporation*

This is important in light of the current changes that governments and (international) organisations are

undertaking to improve livelihoods and security through wildlife conservation, tourism and rangeland management in the drylands of northern Kenya. But also because of the large-scale investments that are currently appearing in northern Kenya as part of Vision 2030 such as the Lamu Port Southern Sudan-Ethiopia Transport (LAPSSET) and the Lake Turkana Wind Power (LTWP) projects.

In consideration of the strategies to modernize and develop northern Kenya, local practices and livelihoods in relation to environmental management of resources are commonly described as traditional, less productive and especially harmful to the environment. Rangeland projects therefore often aim to change the ways of living of local communities towards a lifestyle and livelihood systems considered to be more modern by many.

However, it is equally important to have a closer look at how grazing management and mobility actually occur based on the stories and histories of people living in and with these changing social, political and ecological conditions. This booklet will therefore provide insights into grazing management from a local perspective, by describing grazing management and how it evolved over time from the colonial era until today. We will start in Lekiji, Sesia Samburu along the Waso Ngiro River, and by following cattle we will slowly move around Samburu East, to Isiolo and Laikipia.

Lekiji

Lekiji is located near the Waso River and the Sesia River. Samburu covers approximately 21,000 square kilometers and is part of the Rift Valley Province in north-central Kenya.

Figure 3. Lekiji in Samburu. *Image Landsat/Copernicus 2017*

Administratively Samburu is divided into three constituencies: Samburu North, Samburu Central, and Samburu East. Hence, according to administrative

boundaries, Lekiji is located in Samburu East constituency, Wamba division, Lodungokwe location, Sesia sub-location. After the new Constitution of 2010 and according to the devolution, Lekiji is located in Samburu East sub-county, Wamba West ward, Sesia village. Lekiji is also part of the Sesia group ranch. Sesia group ranch with Lpus, Ltumurin and Ngaroni group ranches together form Meibae conservancy. Sesia has 8.763 residents (September 2015 count) registered in the administration book of the sub-chief. Lekiji is one of the five larger settlements of Sesia. The others are Mabati, Nalepoboo, Lkalkaloi and Lekupe.

In Sesia there are four nursery schools and two primary schools. More and more children are attending these schools. There are two conservation projects active in Sesia: the Cheetah-projects, and the Grevy's Zebra Trust. They assist Sesia (and Meibae at large) with grazing management, protection against wildlife and school bursaries.

Figure 4. Nongopuli is an iconic landmark of Lekiji, Sesia.

Keeping animals

The Samburu from Lekiji are primarily dependent on domestic animals: cattle, goats, sheep, camels, donkeys and chicken. Not every family has all the animals mentioned. Also, the number of animals owned varies between families.

Figure 5. Donkeys are only used for carrying water, migration or carrying or even fellow animals sometimes.

Cattle are kept for daily milk production and only slaughtered for ceremonial activities when the meat is eaten. Goats and sheep are kept for milk, meat and for sale at markets. Chicken are kept for their eggs which are sold at the market, and sold for meat as well. Camels are kept for their milk and sold for meat. Donkeys are kept for carrying water but also for carrying other properties during migratory activities.

Figure 6. Feeding the chickens. Although traditionally the Samburu diet does not include chicken, nowadays a number of Samburu will eat chicken meat or eggs, and therefore there are people now keeping chickens to gain money from the sale of eggs or the chicken.

By selling livestock, especially goats and sheep, money can be spent on other foods, such as maize-flour, rice, beans, maize grains and sugar, and tea. Money is also used for buying as well as on clothes, shoes, necklaces and bangles (beads), school materials, cooking utensils etc. A cow will only be sold only if there is a big ceremony, or if one needs to pay school fees or for any other special occasion. Besides the income from selling livestock, many Samburu also work in Nairobi or other places in Kenya and send money back to support their families in Lekiji and other parts of Samburu, which reduces the need to sell livestock.

Figure 7. Lolkunyani livestock market, Samburu East. Livestock markets (sales yard) are equipped with sanitary buildings, shades for consuming tea or *kule nauoto* (fermented milk), fences, and the livestock loading and offloading points.

Water sources

The Waso Ngiro River is the main source of water for the people and their animals living in Lekiji, and Sesia. The Waso Ngiro is the river that separates the southern border of Samburu from Isiolo. The river fluctuates seasonally and depends mostly on the rainfall further south on the Laikipia Plateau where the two main tributaries of the river, the Ngare Narok and the Ngare Nyiro join to form the Waso Ngiro. People living in the always area claim that the amount of water, as of recently there is a perceived decline in water flowing through the river has declined in recent years. In 2015 the river was totally dry (for the first time, as we were

told); only hand-dug wells could be used to access the water.

Figure 8. The Waso Nyiro from Lekiji.

Besides the Waso, also Sesia River is an important source of water for the people and their animals in Lekiji, Lkalkaloi and Naalepobo settlements. Sesia River is only a seasonal river and the water mainly comes from hand-dug singing wells in the bedding.

Nagorowo is the river between Sesia and Ngutuk ‘oNgiron (neighbouring group ranch) and forms the boundary between the two locations group ranches. The Ngorowo River is an important water source, especially for the people from Lekiji, Nkisiau and Ngaroni settlements.

In 2017 the county government re-installed the Barselinga borehole, which is currently the only borehole in the area. The borehole is mainly shared between the people from Ngaroni and Lpus. In addition to the borehole, there are various sand dams in the area constructed by the county government to provide drinking water. Most are found in Lpus group ranch, along the Wamba-Maralal road; there is one sand dam in Ngaroni.

Figure 9. Dry riverbed as water source.

Lpurkel (lowlands)

The largest part of Samburu is *lpurkel*, or lowlands. Lekiji is located in *lpurkel*. *Lpurkel* is divided in *lpurkel onyekie*, red lowlands, and *lpurkel oibor*, white

lowlands because of the colour of the soils. *Lpurkel* is very dry, and surrounded by various better-watered highlands, *ldonyo,* including the Lorroki Plateau and the Mathews Range. *Lpurkel* is semi-arid to arid and the predominant vegetation is the acacia scrub. *Lpurkel* lies at a height of around 1220 meters above sea level. The Lorroki Plateau is referred to as *ldonyo* or Lorroki.

Figure 10. *Lpurkel onyekie* as seen from *Ndigirr* (Lusen Gap).

In *lpurkel*, the population density is low, although it has increased significantly over the last five decades. The main economic and viable activity in the area is mobile pastoralism. There are fewer towns, schools and trading centers compared to the highlands. The towns, centers and schools are also more distanced away from each other.

Rains in lpurkel and ldonyo

The rainfall pattern of Samburu is very complex. This is mostly because of the high variety and unpredictability in rainfall over the year, but also because the area of Samburu encompasses both highlands and lowlands. The rainfall pattern between the *ldonyo* (Lorroki highlands) and *lpurkel* (lowlands) is very different (Figure 13).

Figure 11. *Lng'erng'erua* in *lpurkel,* coming from the east**.**

The Samburu differentiate between three main rainy seasons:

- *Lng'erng'erua*: between April-May; long rains on the lowlands and the highlands
- *Lorikine*: July-August, long rains on Lorroki
- *Ltumurin*: October-November and early December rainy season of the lowlands and highlands

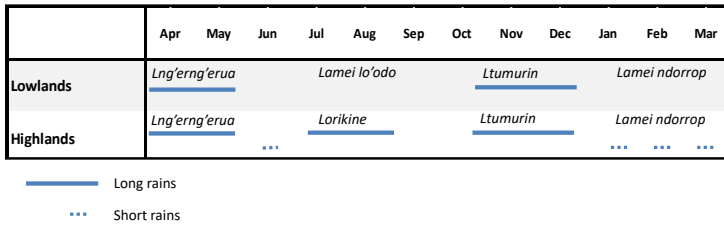

Figure 12. A schematic overview of the rainfall seasons in Samburu, separating the lowlands from the highlands.

As the figure above shows, the highlands receive more rain than the lowlands. The dry seasons between June-September and parts of October are called the 'long hunger', *lamei lo'odo*in kiSamburu; and the 'short hunger', *lamei ndorrop* between early December – February and parts of March. The name for *lamei lo'odo* is based on the rainfall pattern of the lowlands.

Figure 13. Lekiji and Nongopuli after the rains of *ltumurin.*

On Lorroki, there are four shorter periods of showers:
Rurume: occasional thundershowers in January
Somson oibor: occasional showers in February
Somso orok : occasional showers of March
Nkokwai: few showers in June

Overall, the rains in Samburu are erratic, highly localized, unreliable and unpredictable from year to year and from place to place. Also, the rains often fall in the form of short, heavy storms. Little water is retained by the soils and the temporary rivers dry up a few hours after the rainfall.

Figure 14. Heavy rainfall flushing through a seasonal river.

Soils, herbs, trees, grasses

The best soils in Samburu are to be found on the highlands of the Lorroki Plateau and surrounding hills, on Ndoto Mountains, Mathews' Range and Mt. Ngiro. The soils of the lowlands are considered very poor. The area referred to as *lpurkel onyekie* consists of large areas of reddish brown calcareous sandy loams (Red Desert Soils). Other areas referred to by the Samburu as *lpurkel oibor* are characterized by shallow stony soils with rocks.

Forests are mostly found in the areas with higher rainfall at higher elevations. They are under strict forest protection regulations enforced since colonial time; Samburu cattle are only allowed to enter when

the Kenya Forest Service and the county government allow them.

In the past, burning and grazing has modified the vegetation, creating a landscape with mainly bush and grasslands and with relatively few remaining forested areas. Nowadays, we have been told, burning is often impossible since no, or too little, grass remains as fuel. The absence of fire has resulted in a gradual progress towards more bushland and limits the development of grassland.

Figure 15. Bushland in Sesia – mainly acacia.

The Samburu lowlands are mainly covered with bushed and wooded grasslands, with the acacia being the dominant species. Especially the area between the

Seyia River and Waso Ngiro (Wamba area) is stated to be affected by heavy grazing in the past, lack of fire, and an uneven distribution of rain – causing the bushland to extend and making it difficult for cattle to find grazing for most of the year.

Figure 16. Cattle grazing along the Waso Ngiro.

Because it is harder for cattle to find grazing in the area, Samburu have increasingly invested in goats and camels who can find forage in other vegetation than grass.

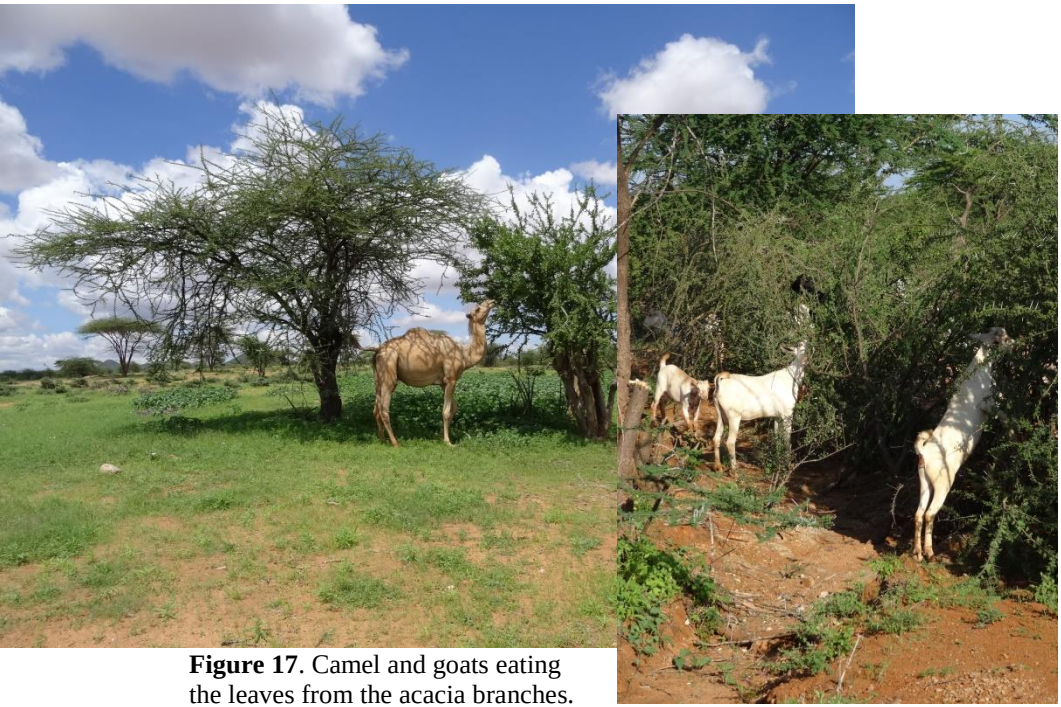

Figure 17. Camel and goats eating the leaves from the acacia branches.

It is not easy to find forage year round for cattle, and sometimes also goats. Therefore, wild plants and other ways of providing fodder to the livestock are sought after. Traditional medicinal plants, herbs and wild plants are used for nutrition in times of drought, and for medication. Additional forage to livestock is, for example, *sagaram*, which are the seed pods of the *ltepes* acacia. Branches of acacia trees are also cut to feed cattle and small stock who can otherwise not reach these branches.

Figure 18. *pir-pir*: the pushing of the tree with a large stick to get the *Sagaram* (acacia seed pods) out of the trees

Figure 19. Cutting off branches from acacia to feed sheep and goats.

A more recent trend is that Samburu purchase, or are given hay from the county government, to feed the calves and weak animals during times of a drought.

Figure 20. Providing hay to cattle during the drought.

Grazing management

Grazing management in Samburu has changed a lot from pre-colonial times to now. People have become less mobile and manage the grasses differently. Here we give a short overview of some of the most important grazing management practices.

Lokere

At the time when the colonial administration arrived in Samburu, the Samburu people were living a more

nomadic way of life than today. Families would follow the livestock to places with sufficient pasture and water. Often, the distances between these places were short unless during times of drought. Droughts, diseases, and other nomadic populations formed the major threats in pre-colonial times.

In these days, the *lokere* was used to provide grazing to livestock belonging to the community. The purpose of demarcating and separating a *lokere* is to manage grazing. Historically, the *lokere* areas were bigger than today. The *lokere* was communally managed and communally used. The elders decided that nobody could graze on the *lokere* until they had given permission.

Figure 21. *Lokere* in Meibae conservancy.

It is a practice that is still in use, but it is not as common today as it was in the early 20th century. Nowadays, a *lokere* is individually managed and only used for the cattle and animals of that individual. The *lokere* in Figure 22 is a recent one, fenced off with acacia branches. Also, today the *lokere* is mainly used for calves, and sick and weak animals. Elders have recently forbidden the use of *lokere* in Samburu East because it brought conflict; in Lekiji we did not see any. But around towns, and in special cases, some individuals still place their *lokere*.

Figure 22. Coming back from *lale* in Kom, Samburu.

Grazing schemes

Grazing in Samburu County has changed significantly over time. Various governmental interventions, both

during colonial time and after, were implemented to manage grazing and improve pastoral livelihoods.

Grazing schemes were implemented with the aim of improving the livestock and grazing. But also to solve problems of livestock mobility toward the south of Samburu where settler's ranchers were located. The settlers feared the spread of diseases and cattle theft. With the grazing schemes, the colonial administration tried to permanently settle Samburu pastoralists.

The colonial government started the implementation of grazing schemes on the highlands around 1935. By 1951, after 15 years of grazing control on Lorroki, the colonial government implemented a large-scale grazing programme in *lpurkel iyukie* (the red lowlands). This happened mainly in Wamba West sub-county (former district), and included Sesia location. The schemes are locally called *skimi*.

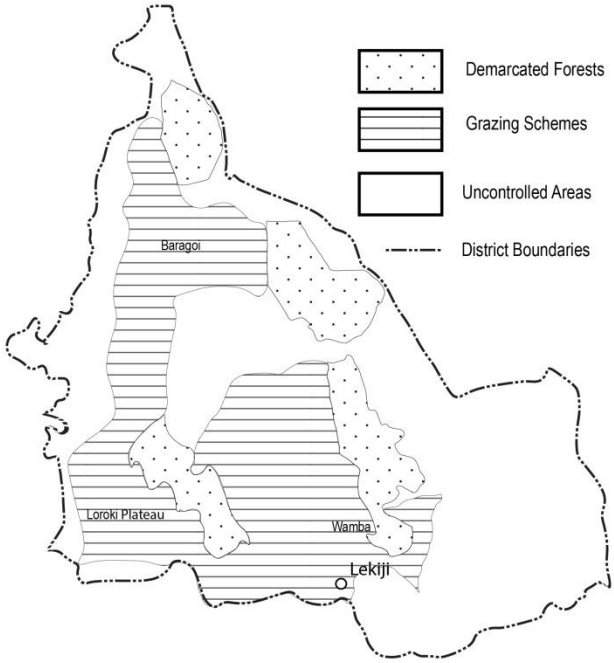

Figure 23. 'Samburu District Grazing Scheme as at the end of the 1950s' (reconstructed from Fumagalli 1978 and based on British Administration records).

Grazing control came hand in hand with stricter destocking policies. The forced selling of livestock took place every month at Machini, or Archers Post, where a slaughterhouse was located. Also all the Samburu forests were demarcated and highly restricted for grazing

Grazing schemes consisted of the division of grazing areas into blocks, where settlement was strictly forbidden. Rotational grazing of cattle in the separated blocks followed strict rules monitored by grazing

guards. When one block was opened, the other blocks were closed meaning that grazing was prohibited. When somebody would not follow the rules, fines were implemented.

Goats were not allowed to graze in the grazing schemes. But, Samburu pastoralists wanted to keep goats as well. They therefore took them to *lpurkel oibor* (white lowlands), in Losesia, where no grazing scheme was implemented. Because this place did not contain a grazing scheme, the goats were brought here to family and kin-members to graze.

Problems with the grazing schemes
The grazing schemes did not work out as expected. Wildlife was entering the schemes to graze inside 'on the best parts of the schemes'. Wildlife was competing with the cattle for grazing, or was grazing in the blocks that were closed for cattle grazing. Also shortage of water, erratic rains and shortage of supervisory staff restricted the colonial administration in their attempt to control grazing and livestock numbers. The response of the colonial administration was an increase of grazing schemes in the lowlands, up to a point where 1/3rd of Samburu was under strict grazing control.

People in Lekiji remember different things from these grazing schemes, depending on their age and the stories they have been told, or personal experiences from their youth. People who remember the schemes as bringing a lot of green grass talk about them as

positive; they remember that the grass was high in the grazing blocks, and green. ‘Nothing compared to as it is now’, some people would say. They did not have to move far to find grass for their cattle. However, most of the people that we spoke with were young boys at the time of the grazing schemes.

At the same time, there are also memories from the grazing schemes that are more negative: people remember or have been told to have been ‘beaten’ by the grazing guards. Also the fines and the restrictions for both grazing of cattle and settlement, as well as the prohibition of keeping goats, brought a great dislike to the grazing schemes.

The opposition among the Samburu against the grazing schemes increased and, finally, the schemes were closed down in 1961. The Samburu elders, the representatives of all sections, assembled and cast a curse against anyone who had contributed to establishing and maintaining the grazing schemes. The colonial government ended the grazing schemes.

Grazing in the forests

Before the introduction of the schemes forests were important grazing areas. In times of drought, forested highlands would still offer forage for livestock. But part of the colonial grazing control was to restrict grazing in the forest areas to serve as a water catchment to supply water to the area; grazing was considered of secondary importance. Forests were completely closed for grazing with great opposition

from the Samburu. After severe droughts, the administration allowed individuals with a grazing permit to enter the forest with a limited number of animals, but not with goats.

Mpaka and Nkwe Ngishu

Currently, management of grazing in Lekiji Sesia occurs through the *mpaka*. The *mpaka*, derived from the word 'park', is a system used throughout Samburu East to set land aside where nobody can graze until permitted. This system came in place during the 1970s after the colonial government left; the elders realized that there was a need for a system to manage grazing within the community.

Figure 24. The *mpaka* borders of Lekiji are usually rivers and roads.

Based on the knowledge of the grazing schemes, the *mpaka* is a defined area that is set aside during the wet season. The rules of *mpaka* are very different than the grazing schemes. There is no payment required and there are no grazing guards patrolling the boundaries. The elders decide about what land to set aside for the *mpaka*. They also monitor and control that nobody enters the *mpaka* before it has been officially opened. Anyone who enters the *mpaka* with livestock (either goats, sheep or cows), when the *mpaka* is still closed, will be fined. The fine often consists of a goat taken from the responsible person. The elders will slaughter and eat the goat. Once the *mpaka* is opened by the elders, all members of the community are allowed to graze in this area.

Sometimes *mpaka* is also referred to as *nkwe ngishu*, 'head of the cows', an area set aside to reserve grass to be grazed by cattle later during the season. *Nkwe ngishu* was probably already in use before the introduction of the grazing schemes and therefore also similar to the *lokere*.

Group ranches

Since 1972 the Group Representative Office has been working in Samburu District with the Ministry of Agriculture and the Ministry of Land and Settlement, to demarcate land on Lorroki and in Baragoi Division for individual and group ranches. Group ranches were implemented to link people to a specific area of land through membership. The idea behind the Group

ranches was that these would increase the members sense of ownership and

Figure 25. The beacon of Sesia group ranch.

responsibility for the land. This was meant to avoid land degradation and stop livestock mobility. Or, in other words, to change the lifestyle of the Samburu from a nomadic to a sedentary way of life.

Sesia group ranch has 405 registered members. This number is relatively low, because when Sesia group ranch got established, in 1976, the number of people

that were willing to register was only 37. One reason why people were resistant to group ranches was that they feared that their land would be taken away from them. Also, at the time, the Samburu were still highly mobile and therefore people did not feel the need to register themselves for a specific area.

In 1994 the registration for Sesia group ranch opened once again and 368 new members were registered in the group ranch book. Now there are a total of 405 officially registered group ranch members in Sesia. Since then, the group ranch has not been opened up for registration anymore, although it was stated that in January 2016 a new round of registration to Sesia group ranch would occur.

Meibae conservancy

Figure 26. Meibae conservancy: towards headquarters at Lmasi.

Sesia group ranch is one of the four group ranches that together make up Meibae conservancy. Meibae conservancy was established in 2006 with support of NRT. Meibae experienced some start-up problems and resistance from within the community. People feel that the conservancy means the loss of land, and other people say that it is too similar to the grazing schemes during colonial times. But people are also happy with Meibae, pointing at that it is creating employment for a number of people and providing the community with a permanent vehicle that can occasionally be used to give rides to markets and hospitals.

Figure 27. The Meibae conservancy car sometimes also get stuck after heavy rains creating muddy roads.

Meibae consists of four group ranches: Sesia, Lpus, Ltirimin and Ngaroni. Since the introduction of Meibae conservancy, increased attention has been given to the management of grazing resources. The grazing coordinator together with a group of elders from the four group ranches plans the grazing activities. They divide Meibae conservancy into blocks and each of these blocks has its own grazing plan. A grazing plan includes wet season grazing areas and dry season grazing areas. These grazing plans are based on the already existing plans and initiatives, such as the *mpaka*.

Livestock mobility

In spite of many governmental interventions and policies to sedentarize Samburu within Samburu County, there is still a strong need to move herds in order to strategically follow the complex rainfall patterns. The Samburu landscape is not divided into wet-season grazing areas and dry-season grazing areas. The livestock move around the area in search of pasture and water; and the grazing patterns are constantly changing because of the unpredictable rainfall pattern.

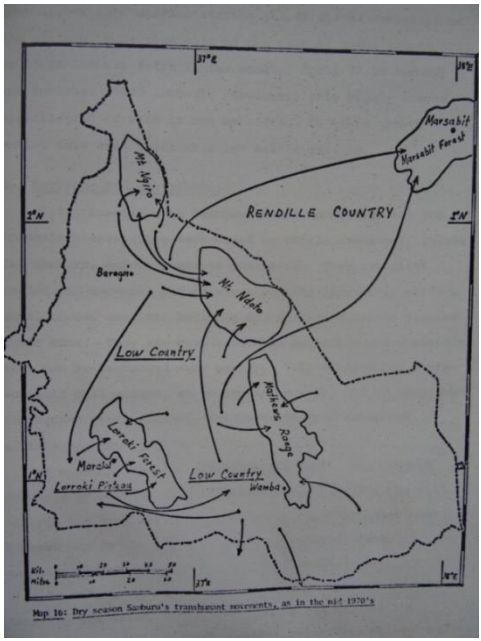

Figure 28. A map of Samburu mobility in the mid-1970s.
Source: Fumagalli 1978

When there is not enough grass for the cattle to feed on the *murrani* move with the cattle to the hills, or to other places within Samburu, and even to places like Kom in Isiolo, Baragoi at the border with Turkana, and Laikipia. In Sesia there are not many mountains and forests, so the *murrani* will go to the Lorroki Plateau or Matthews Range. Areas of conflict are often considered good grazing reserves; and private ranches south of the Waso in Laikipia are accessed overnight in order to exploit the grass available.

The *murrani* set up camp for themselves and the animals, called *lale*. In some cases the *murrani* will move with other animals as well, such as goats and sheep. This happens when there is not enough labour within the family available for separating the herds. In those cases, the entire family might come along.

Figure 29. *Lale* in Laikipia bordering private land.

But, camels, goats, sheep, and chicken mostly stay at home with the women, children and elders, unless there is a severe drought. In 2015, we were told that it was the first time that women and elders would go with goats to *lale* as well. Many goats from Lekiji were, for example, taken to Ldamat, which is part of the Lorroki escarpment.

Large scale development projects

Currently, there are various large-scale development projects ongoing that affect Samburu: the wind power project in Lake Turkana (LTWP) which means that the power line crosses through Samburu County; the Lamu Port Southern Sudan-Ethiopia Transport (LAPSSET); the increasing numbers of conservancies by Northern Rangelands Trust (NRT) and county government; and the KENTRACO powerline are currently the major projects. At the time of writing this booklet, these developments were still at an early stage of development. We do not exactly know what impacts these projects will have on grazing management and mobility in Samburu yet, but they are increasingly bringing insecurities to the people and their land. Fear of losing access and control over the land that the Samburu people use is a major issue in current struggles.

Conclusion

'there is not enough to eat here even for the kuku [hens and roosters]'

Over time, there have been many changes in the livestock management and livelihood strategies of the Samburu from Lekiji, Sesia, and from the Wamba Division more generally. According to the people we talked with, the landscape has changed: 'the land has become small', is what people would tell us. It was also mentioned that small stock and camels have increased, and the number of people living in the area as well.

Patterns of mobility have changed accordingly from nomadic pastoralism towards a more seasonally structured mobility where the animals are taken to faraway places with only the *murrani*. In the past, they would tell us, the *murrani* were not away from home for that long, and they would not go as often as now. Nowadays, the cattle and the *murrani* are most of the time not at home.

Many people speak of past times when there was green grass everywhere, and it is something they want to experience again. They say they are tired of the conflicts, and of losing people to struggles in the sites of Kom, Baragoi and even Laikipia.

Methods

This booklet is based on research conducted in parts of Samburu, Isiolo and Laikipia counties, Kenya, between 2014 and 2017. Field research took place in the Waso Basin ecosystem (in Lekiji, Samburu County; Lebarasheriki, Isiolo County; twenty private ranches; two abandoned lands and two group ranches in Laikipia County), for a total of ten months in 2015, and two follow-up months: one month in 2016 and another month in 2017.

The research focussed on interviews with elders, women, morans and other youth from the Samburu and Maasai pastoralist communities, and also with government officials from Samburu, Isiolo and Laikipia, NGO employees, conservationists and private ranchers.

The interviews that were conducted in KiSamburu occurred with the help of research assistants. Most interviews were recorded and transcribed with the help of research assistants.

Figure 30. Drinking tea in a *manyatta* (homestead) during one of the interviews.

Acknowledgements

During our stay in the field we have been asked repeatedly to share the research findings in such a way that it can also be useful for all the people that have given me their time and assisted me with providing information and stories. With this short booklet we hope to fulfil this request.

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All photographs were taken by Daniel and Annemiek, except for Figure 5 and 20: these are the courtesy of Joseph Lopsala Letoole and are used with authorization.

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Notes on contributors

Daniel Lenkaina is born in Baragoi and grew up around Wamba and Lekiji. He is a BECOM student at the University of Meru and has been working in the Waso Basin ecosystem throughout the fieldwork with Annemiek assisting with her research. Currently Daniel works as Village Representative of Sesia sub-location.

Annemiek Pas Schrijver is a PhD student at the Department of Human Geography, Stockholm University. Her research investigates pathways of natural resource governance and Samburu mobility patterns in the Waso Basin ecosystem in Kenya, as is presented in this booklet. Annemiek has been carrying out research in Kenya since 2014.

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Bird Migration

For millennia, birds migrate crossing continents between summer and winter destinations. It is estimated that every year, during March and April, 5 billion birds, about 200 species, migrate from Africa to Europe to breed. Depending on species, they cross this large distance in different ways. Some species have large wide wings like storks and prey birds who can use thermal flows during the day to glide over large areas; whereas smaller bird species like the swallow and the oriole need to use their strength and wing-stroke to reach their destination. Some birds also travel during the night, using the stars to orient themselves and to fly in the right direction.

During this journey, deserts, mountains and oceans have to be crossed. Although some species can cross these easily, others have to make a detour because it is too hard for them to cross these barriers directly. It often happens when birds cross the Sahara-desert they are surprised by sandstorms which make them loose their sense of direction. They end up in places without food nor knowing where to go, and die.

Most of these migrating birds return every year, when it is winter in Europe, to the same places in Africa to ‘winter’; where this exactly takes place depends on the rainy seasons and if there is enough food to be found. Also in Europe, most of the birds return to the same area as previous years, and sometimes even to the

same nests to breed their eggs and raise their young ones.

The Eurasian golden oriole

Kenya is an important bird country with an estimation of 1200 different bird species to be found. The Eurasian golden oriole is an example of a bird that migrates yearly between Europe and Kenya. The Eurasian golden oriole is a beautiful bird which is easily detectable throughout Kenya, but almost invisible in Europe because she prefers to keep herself hidden in leafy trees. However, this oriole has a strong and characteristic song which makes her easily recognizable. It seems she is singing of joy, to let us know that she has survived once again the dangerous migration.

Rene Riem Vis is a well-known birder. He visited Samburu, Kenya in 2016 for one month, and has many more stories to tell about the birds he has seen and their relation to Samburu culture.

This booklet is based on the PhD research project carried out by Annemiek Pas Schrijver from the University of Stockholm and Daniel Lenkaina from Lekiji. The overall research project took place in the Waso Ngiro River basin and looks at changing resources governance and mobility patterns. This booklet represents part of the research which took place in Lekiji, Sesia, Samburu. The information in this booklet is based on interviews and secondary literature sources. The main topic of the booklet is grazing management and livestock mobility and how these have changed over time.

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