

Recent Changes in Communal Livestock Farming in North-western Namibia with Special Reference to the Rapid Spread of Livestock Auctions and Mobile Phones

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ABSTRACT Commercialisation of livestock farming has increased rapidly among communal farmers in north-western Namibia over the past 4 to 5 years. The livestock auction system allows local people to make decisions regarding the sale of their livestock according to the price offered and their household's demand for cash. The availability of cash income has stabilised their livelihoods and allowed them to purchase luxury items. However, not everyone has taken advantage of this situation. The introduction of the auction system in the study area, the increase in income, and the increasing income gap in the study area all occurred in the context of this evolving national situation. This study also observed that the use of mobile phones has rapidly increased since 2006 in rural areas. Today, more than one person in each household in the study area owns a mobile phone. People typically use mobile phones to communicate with their relatives or friends in towns but they have also utilised them for tasks relating to livestock farming such as checking prices at auctions before participating and/or looking for buyers when they need to sell livestock. The utilisation of mobile phones has also enabled people living in towns to herd livestock in rural areas, the so-called mobile farmers. Mobile farmers, who direct employed herders via their phones, have been increasing in the study area in recent years. The introduction of the livestock auction and the rapid spread of mobile phones have contributed to an expansion in commercialisation and the diversification of the sector. As a result, these recent changes to livestock herding may impact the utilisation of natural resources. [*commercialisation, livestock farming, mobile phones, arid land, Namibia*]

INTRODUCTION

In arid and semi-arid areas of Africa, pastoralism is an important livelihood activity. However, fluctuations and changes in climate and natural resources have made this living uncertain (Scoons 1994). African pastoralists have coped with living in a vulnerable environment by adopting nomadic lifestyles (Ellis and Swift 1988) and by incorporating other livelihood strategies (Scoons 1994). However, some studies have suggested that livestock herding by local people has led to overgrazing and degradation of vegetation (Swift 1996; UNEP 1999).

North-western Namibia has been considered particularly at risk of vegetation degradation by overgrazing (Sullivan 1996a; Ward et al. 2000). While the notion that overgrazing automatically leads to vegetation degradation has been challenged in recent years, the relationship between resource use and the natural environment in arid and semi-arid areas is directly or indirectly influenced by social changes such as globalisation or national policy (Fratkin 1997). More studies on the relationships between social changes and natural environments are needed (Mearns 2004; Okayasu et al. 2007).

This study approaches the above problem through a case study in Namibia, where commercialisation and the expansion of mobile phone use have been identified as significant social

changes. This paper describes how these recent social changes have taken place in the pastoral society and examines how these phenomena affect local livelihoods. The author has conducted the research with a physical geographical approach and has quantitatively determined the character of the local vegetation and the resources used by herders (Teshirogi 2010). The results of this study will be combined with quantitative data for the natural environment provided by further longer-term research to develop an understanding of the relationships between social changes and the natural environment in arid and semi-arid areas of Africa.

The development of commercialisation among subsistence farmers and the associated changes in livestock farming is one of the most prominent recent changes to have affected pastoral societies, not only in Africa but in other parts of the developing world (Jansen 2005; Zaibet 2005). In Namibia, we can identify a rapidly expanding process of commercialisation occurring under a complex historical context. There are two sectors of livestock farming in Namibia: commercial farms and communal farms (Mendelsohn 2003). Since the colonial era, commercial farms have developed fallow lands into vast pastures, contributing to the development of livestock industry (Tainton 1999). On the other hand, owing to the colonial land use policy, indigenous people were forced to move to a "native

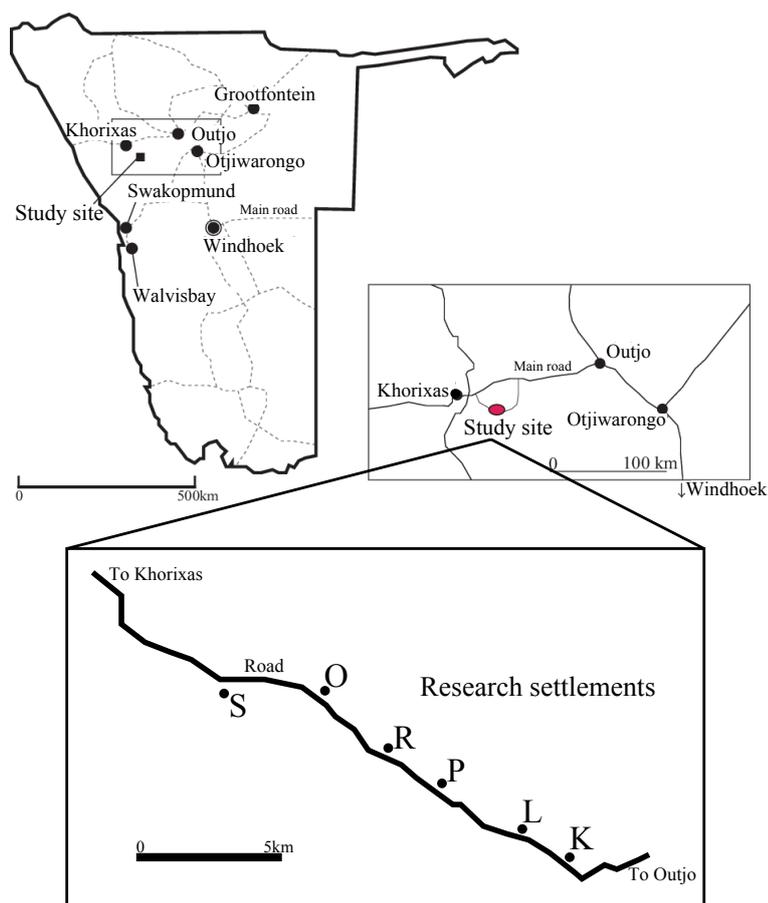


FIGURE 1. Study area and major town in central to northern Namibia.

reserve or homeland” and have practiced traditional herding, with livestock herders leading a nomadic lifestyle and allowing land to lie fallow (Muller et al. 2007; Werner 1997).

However, in recent years, settled and commercialised farming has increased rapidly among communal farmers (Werner 1997). For example, in north-central Namibia, some households have established “cattle posts”, areas of grazing land surrounded by a fence, and most cattle post owners have high-paying jobs. Their cattle management system is different from the traditional one (Fujioka 2007). In central Namibia, people also enclose pastures, which have recently been commercialised (Werner 1997).

It is impossible to overlook the effects of the rapid expansion of mobile phones on recent social changes not only in pastoral societies, but across the continent. Africa has the world’s fastest-growing rate of mobile phone subscriptions (ITU 2006). Because landlines and the postal system are not used as major communication tools, mobile phones are producing dramatic changes in how people communicate and make their livelihood. There is evidence that many new mobile users are located in rural areas (Sood 2006). However, there are only a few published studies of the linkages between information and communication technologies, livelihoods and poverty in developing countries (Braun and Torero 2006; McNamara 2008).

STUDY AREA

The study area consisted of six settlements in the Khorixas District, Kunene Region, Namibia ($20^{\circ}28'S$, $15^{\circ}16'E$; Figure 1). The area lies 50 km south-east of Khorixas, the main town in the Kunene Region, and the settlements are scattered along the roadside. Each settlement has 10–30 residents made up of 3–10 households. Every settlement is located near water wells.

The area is characterised by high relief, ranging from about 900 to 1,500 m above sea level and displays geomorphological heterogeneity (Teshirogi 2010). The mean annual precipitation was 220 mm/year for the 46 years from 1958 to 2004 at Khorixas (the data from Namibia Meteorological Service). Rainfall varies widely from year to year. The main livelihood of the residents is livestock farming, which is the most important activity for obtaining both food and cash. Domestic animals in the study area include goats, cattle, and a few donkeys. Every household has goats, which are a source of meat and milk and can be used as gifts, and to be sold. The number of goats varies by household, with some households having more than 100 goats and others holding only around 10. Some households keep cattle for milk and meat as well as for sale, while other households do not have cattle.

METHODS

To determine the general characteristics of the study area and its auction system, I collected data through interviews and participant observation. The data used in this study were mainly collected between June and August 2010, and in August 2011. I began fieldwork in this area in 2006 and lived with local people in the R settlement for a total of 20 months. Interviews included discussions of the historical and current state of livestock farming in the R settlement and five other neighbouring settlements, viewpoints regarding the use of the auction system in Khorixas of both villagers and administrators and the changes in livelihood brought about by the auction system.

INTRODUCTION OF THE AUCTION SYSTEM AND COMMERCIALISATION

Historical background

Before Namibia's independence from South Africa in 1990, the animal and meat industrial policy of the South African government was almost completely aimed at large-scale commercial farms in central and southern areas (Rawlinson 1994). Such commercial farmers were almost all immigrant settlers mainly from South Africa and European countries (Rawlinson 1994). On the other hand, the northern area, which was designated as a "homeland" during the apartheid era, was ignored for commercial farming (Rawlinson 1994). A so-called "veterinary fence" or "red line" was erected between the northern communal area and the central commercial farms, and transfers of livestock were prohibited due to concerns about infectious diseases (Sullivan 1996b).¹ Livestock and animal products were mostly supplied to the national/international market by commercial farmers (Mendelsohn 2006; Rawlinson 1994). Commercial farmers carried out livestock farming for the purpose of shipping, and they aggressively introduced improved breeds and mechanised their farms. In addition, policies of livestock promotion were conducted for commercial farmers at that time, while in the northern area there was no established livestock market (Liagre et al. 2000). In the northern area at that time, people practiced subsistence pastoralism for milk and meat, and the economic system was based on exchange (Liagre et al. 2000; Mendelsohn et al. 2000; Hishongwa 1992). The former Damaraland region straddles the red line. The study site was located on the southern side of the former Damaraland and was largely influenced by surrounding commercial farmers (Rohde 1994; Sullivan 1996a).

Before independence, the meat produced in Namibia where the market was limited was mostly exported to South Africa (Rawlinson 1994). After independence, when the government abolished apartheid policies and promoted economic liberalisation, the meat industry in Namibia became geared towards the increase in the numbers of livestock in order to export them to new global markets such as the

European Union (Rawlinson 1994). This accelerated the movement toward integrating subsistence pastoralism into the national/international market.²

Several efforts have been implemented by the government to develop the meat industry in the northern part of Namibia. One example was the unification of the criterion of the purchase price for cattle. By 1992, there was a price gap between prices in the homeland and freehold areas while prices in the northern part of Namibia were kept low. After unification, however, the prices in northern Namibia improved. The government also implemented several programs to provide technical support and to improve the quality of meat (Republic of Namibia 2000).

The development of an auction system in rural areas was related to the policies of the Namibian government. In the past, only large-scale commercial farmers played a major role in the livestock industry. However, since independence and the accompanying democratisation, the government has tried to broaden the livestock industrial base to include farmers in the former communal areas. To this end, the auction system has been introduced to each regional town and city.

Initially, the settlement nearest to the study area that held auctions was Outjo, located about 150 km from the study area. This auction system was established during the colonial period to serve the commercial farmers residing in the district. Although rural residents living in communal areas could have participated in the Outjo auction, my informants reported that almost no one in the settlements actually participated at that time. In 2006, an auction system was introduced to Khorixas, the nearest town to the study area. This significantly changed the situation for farmers, as they could now participate in an auction within an hour's commute.

Auction in Khorixas

During my time spent on site, the auction³ in Khorixas was held on Saturdays at a frequency of once every two or three months, and coordinated by Agra, which is an agricultural co-operative operating mainly in the Namibian farming sectors (Figure 2). Information concerning the auction was announced one month prior on the radio. A floor price was set based on a livestock transaction rate set by the government. The auction handled mainly cattle and goats. Locals could easily participate in auctions by following a set of simple procedures, choosing the number of livestock to sell depending on their own social and economic conditions, such as paying for school fees for their children, medical charges or celebrating marriage for the relatives.

People started preparing for each auction on the previous day by moving their livestock to Khorixas. Households that had their own vehicles did this by themselves. Those who did not own vehicles or who planned to sell a large number of



FIGURE 2. Livestock auction at Khorixas. (September, 2011 photo by Koki Teshirogi)

livestock used trucks prepared by Agra, and the transport cost was deducted from the profit.

Purchase prices were determined not only by the body weight and variety of livestock, but also the number and characteristics of buyers. Many buyers are neighbouring commercial farmers, and some originate from Windhoek or other towns with the intention to later resell livestock. In some cases, purchasers bought at prices more than twice the floor price. After an auction, sellers could immediately get cash by showing their registration cards at the local auction office.

Utilisation of auctions and their impact on the study site

In 2011, 9 out of 23 households sold livestock regularly at auctions. A case study of the households actively using the auction is presented below.

Case 1:

AH resided at a different farm in Khorixas before independence. In 1995, he moved to the study area because of drought. Before 2000, he sold livestock to commercial farmers around the study area and had not sold at any auctions. In 2000, he started to sell about 10 cattle a year at the auction in Outjo. He said that it was not convenient, however, because there was a high transportation cost, but he had no choice even though the price was low. That is, because of the high transportation cost, even if he did not agree with the price at the auction if he did not sell he would experience a large loss. In 2006, when auctions started to be held in Khorixas, he began to sell small numbers of livestock at every auction. He started to sell goats as well as cattle, as the price of goats was high at auctions. At that time local farmers were selling to commercial farmers at N\$250, but at the auction, the price was sometimes more than twice as high. For example, AH earned approximately N\$20,000 by the sale of seven cattle and bought a car in 2006.⁴ In 2010, he was able to buy a generator by selling five goats. He also used his profits to pay the school fees for his children to attend school in town.

AH and most others in the study area were able to sell at the auction in Outjo, but did not actively participate in it. However, in 2006, once auctions were made available closer to their settlement, they started to participate in them and their livelihoods became stable and even improved; many households became able to buy useful items such as cars and generators, and pay school fees.

Figure 3 shows the number of livestock by household since 2003. Contrary to the examples described above, some households with a small number of livestock still did not actively participate in auctions and have continued to use livestock solely for household consumption. Such households gradually increased in number. Households with large numbers of livestock largely decreased in number in 2006 to 2007 but became stable after 2007. People I interviewed explained that the reason for the decrease was the greater opportunity to sell livestock at the auction at Khorixas, and the active sale of livestock at the auction after 2006 controlled the number of livestock.

DIVERSIFICATION OF SALES CHANNELS FOR LIVESTOCK BY THE SPREAD OF MOBILE PHONES

Utilisation of mobile phones for livestock farming

Another prominent change that occurred in the study area was the rapid spread of mobile phones. In Namibia, as with other African countries, mobile phone use has become very common. In 2008, mobile phone subscribers exceeded half of the population (ITC 2009). For example, Figure 4 shows changes in subscribers to MTC, which is the largest mobile phone carrier in Namibia. The subscribers rapidly increased after 2000. By 2006, the number of subscribers had doubled following an expansion of the area of coverage (Sherbourne 2010). Within 3 years, the number of subscribers grew from 0.6 million to 1.2 million.

Figure 5 shows the changes in the number of people

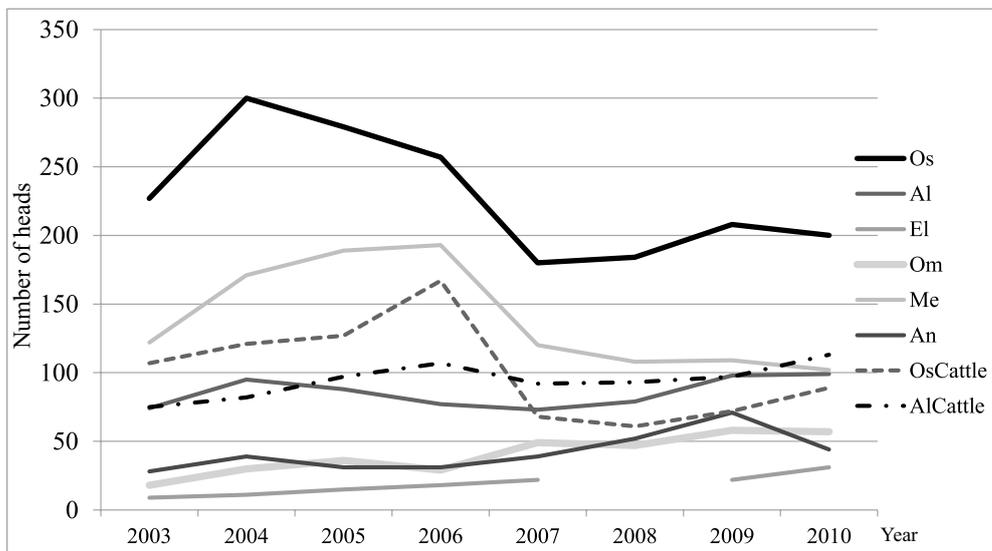


FIGURE 3. Recent changes in livestock numbers in the R settlement of the study site.

above the age of 18 with a mobile phone in one settlement of the study area. Before 2006, the study area was out of the mobile service area and people had to ascend a mountain a few kilometres away to make a call. Two people who owned mobile phones before 2006 were relatively wealthy and also owned cars. At that time they used mobile phones more often when they visited nearby towns than when they were in the settlements. However, after 2007, when a telecommunications tower was built near to the study area, the number of people with mobile phones rapidly increased. In 2010, more than one person in each household owned a mobile phone, including household heads, spouses, and children. The rapid spread of mobile phones had an impact on how people sold livestock.

Case 2:

EI was in her twenties and lived in the study area. When she was admitted to a hospital, she needed a large amount of money to cover medical bills. She used her mobile phone to text her friend DH and let her know that she wanted to sell her goats to pay the medical bill. DH in turn texted several acquaintances planning to buy goats. A relative of DH living in Khorixas sent a text stating that she would buy at N\$400. A few days later, DH went to Khorixas, to make the sale, and brought the money to EI. This price was twice that offered by commercial farmers, and she was able to obtain cash much more quickly.

As this case demonstrates, people in the study area can develop their own market using mobile phones. Mobile phones connect people who want to sell immediately and those who want to buy directly. However, if a situation arises where people typically receive price information by mobile phone, there is a possibility that the price may fluctuate, because of the large supply of information and the supply-demand relationship may become more delicate.

Additionally, as noted above, information concerning auctions in Khorixas was announced by radio. These

announcements included the floor price of each auction, but locals could not be sure how the price would increase since it depended on the buyers at each auction. With the spread of mobile phones, however, some people started to communicate with the person in charge of the auction by phone. For example, in one such case, IA communicated closely with the auction official and heard that the price of goats would increase in the following auction. Hence, he participated in that auction and sold five castrated male goats for N\$2,500. This price was 20% higher than the usual price. In addition, the officer would regularly call IA when the price was going to be higher at an auction. Hence, mobile phones made it possible for local people such as IA to obtain detailed information on buyers and prices on a real-time basis. However, IA did not always sell when the price was high.

Although the introduction of the auction system enabled local people to sell their livestock at a higher price, auctions were not held every month. If there happened to be an urgent need for a large amount of money, locals could not always wait to sell at an auction. In such cases, they often sold their livestock to commercial farmers. This process took about 10 days to get cash, and they had to sell at the asking price, which was around N\$200–250, and there was no room for negotiation. The case study below describes a situation in which a price received on a mobile phone at the auction was higher than the asking price by the commercial farmer.

It should be noted, however, that there were also some households with few livestock who made a living by unstable wage labour and living off pensions. In these households, the use of mobile phones differed.

Case 3:

SO was in his 50s and owned several goats. He earned a little cash by helping to manage the herds of other households. He

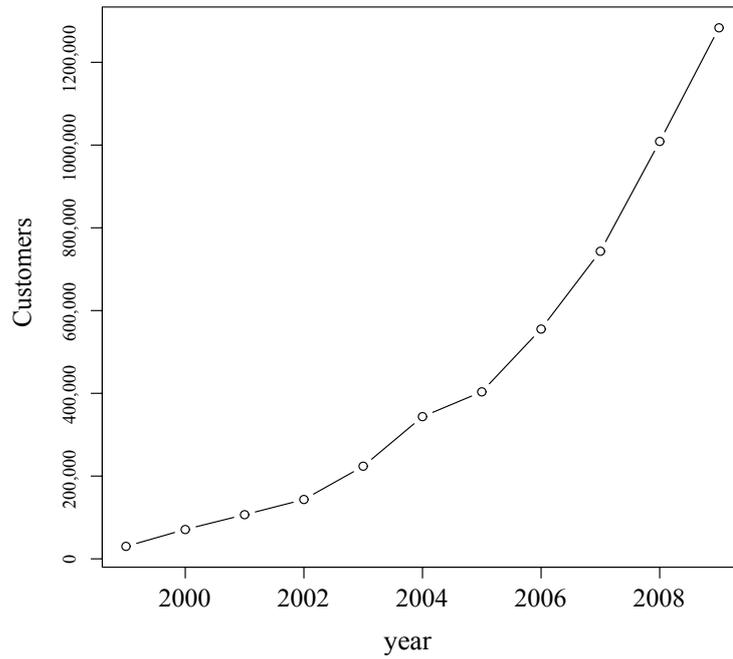


FIGURE 4. *The changes of the MTC customer. MTC is the biggest mobile network service in Namibia. Data cited from Sherbourne (2010).*

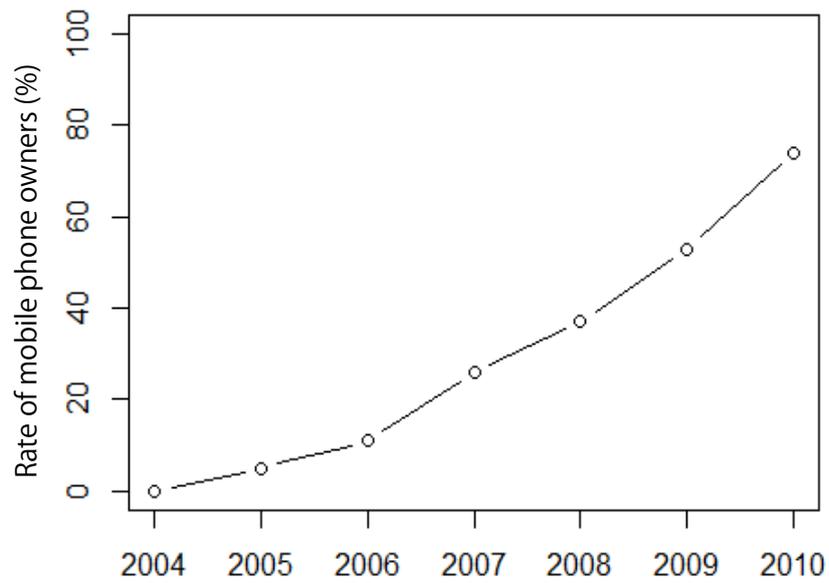


FIGURE 5. *Recent changes in rates of mobile phone owners among people above the age of 18 in one settlement in the study area (N=18-21 which was changed year by year, including elderly people).*

owned an old mobile phone, which a relative in an urban area gave him in 2009. He rarely used the phone, however, and only received calls from relatives living in towns. He had never sold livestock using a mobile phone. In fact, his phone was usually turned off and stored in a safe.

As this case study shows, this mobile phone owner did not use it as a livelihood strategy. This study observed other households behaving in the same manner as SO and using mobile phones only for their personal communication. Hence, the advantages of owning a phone were not uniform but differed greatly.

The rise of “mobile farmers”

The rapid popularisation of mobile phones has made it possible for urban dwellers to keep livestock in the study area and the surrounding rural areas. They hire herders and communicate with them by mobile phone, buying the herders the phones if necessary. In this paper, I refer to such urban-based farmers as “mobile farmers.”⁵

For example, in one such case, a man working at a veterinary office built a small hut in the study area in 2009 for his son and a herder he employed to live in. He started to keep 30 goats and 10 cattle there. He is from Khorixas but worked at Grootfontein, 300 km away from the study area, as a public official. He visited the study area only once a year; however, he contacted his son and herder by mobile phone once a week and directed them to sell the livestock at the auction or to make a new cattle post.

The woman who bought the goats from EI in case 2 resided in the city and had a job. She was planning to move to a rural area in the near future and told relatives living in the settlement that she wanted to increase her livestock. Therefore, as shown in the last case study, when someone wanted to sell livestock she connected with the seller and was willing to buy even though the price was relatively inflated.

The purchase of livestock by urban dwellers was not only conducted as a side business but also as social security for those hoping to live in rural areas after their retirement. For example, the person working as a public official in Windhoek and a person working as a teacher in Outjo started to herd livestock in the settlement. They needed to hire not only the herders, but also workers to build and repair the houses and cattle posts for their future livelihoods at the settlement. Therefore, they provided employment opportunities for their relatives and youths in the surrounding rural areas. However, the owners of livestock rarely came to this area and instead gave their instructions using mobile phones.

Local people said that in the past, a person who moved to an urban area could not engage in livestock herding in the settlements. The rapid expansion of mobile phones has enabled people living in remote areas to check their livestock at any time. Thus, many urban dwellers have become mobile farmers.

In the study area, rangeland can be accessed freely only

by following official procedures such as applying to the council or local authority. There is no tendency for mobile farmers to be in dispute with local farmers or for local farmers to enclose the rangeland. However, when the numbers of mobile farmers increase, competition for grazing areas might arise. During periods of drought, it has been reported that excessive utilisation of grazing areas has resulted in a number of livestock deaths (Rohde 1994). Further observations are required to determine how local farming entrepreneurs and mobile farmers from urban areas manage the vulnerable natural resources in the area.

CONCLUSION

This paper described the changes in livestock herding in a study site in North-western Namibia under the ongoing social changes following the introduction of an auction system and the rapid expansion of mobile phone usage. It is noteworthy that these two social changes did not independently impact livelihood in the study area, but have interacted.

It was argued that the auction system as a tool for commercialisation in communal areas should be adopted by people in the study area. However, studies regarding the commercialisation of subsistence livestock farming in Africa, have reported that farmers were not likely to sell their livestock even under the encouragement of commercialisation by the state (Holtzman and Kulibaba 1996). Previous studies have focused on the dilemma between subsistence farming and commercialisation based on a market economy. Even in the northern part of Namibia, it was argued that the number of livestock sold were unlikely to increase (Liagre et al. 2000). This was partly due to the lower price at the market than could be achieved through informal transactions (Liagre et al. 2000). A lack of marketing infrastructure, and the distance to marketing outlets have further complicated the marketing system (Fitter et al. 2001).

The reason why the introduction of an auction system was adopted by local people in the study site is explained by their historical experiences in this area. Unlike other traditional pastoral societies located in marginalised areas, people in the study site have been connected with commercial farms since the colonial era. They had been employed by nearby commercial farms and earned livestock as salary. These experiences become the basis for the easy incorporation of a livestock marketing system into their livelihood.

Of particular interest is that mobile phones became the key tool for taking advantage of the auctions. Owing a mobile phone enabled people to directly communicate with the officer in charge of the auction about the prices and they could select when they could make most profit. This does not mean that they cannot directly participate in an auction without mobile phones, but mobile phones do provide an advantage increasing

the chance of successful sales.

It was shown that the commercialisation process enlarged the household income gap. Households actively using the auction were more likely to purchase luxury items such as cars and televisions and improve their overall livelihoods. However, there were some households with fewer livestock that did not use the auction. Income gaps between these two types of households increased as the auction system developed. This gap could be observed in terms of how the people used mobile phones. People actively using the auction made full use of mobile phones but other people only used it when they communicated with their relatives.

Considering that informatisation enables people to access different types of opportunities (Sife et al. 2010), there is a possibility that even the households with fewer livestock can access income generating opportunities and the income gap will shrink. In the study area, however, the use of mobile phone in terms of livelihood activity differed between individuals. Therefore, at the time of this study, informatisation tended to increase the income gap rather than reduce it.

This study also noted that the two social changes (utilisation of auctions and mobile phones) led to a diversification of the transactions involving livestock farming in the study area. Previously, livestock transactions happened among the communal farmers themselves and nearby commercial farmers. After the introduction of the auction system, however, it included buyers from other parts of the country and officers from international enterprises selling livestock globally. At the individual level, through mobile phone communication, they can connect with a network of possible buyers outside the settlements. In addition, these changes in communication and livestock marketing generated “mobile farmers” in the study area. They were not just keeping the livestock in the rural area using mobile phones, but willingly increasing the livestock and considering it as a commercial product.

The various types of new individuals involved in livestock farming in the study area may introduce new vulnerabilities to the social and ecological system. For example, increasing the stakeholders in livestock transactions would expose the livelihood of local people to the price fluctuations of global markets, which was not previously experienced. If we look at the relationship between mobile farmers and communal farmers, there may be competition for pasture land if mobile farmers continue to increase in number, although this is not yet seen as a problem.

There is also an issue of how these social changes and the associated changes in the livelihood system will affect natural resources. In this study, it was shown that the overall number of livestock will become stable because of the constant sales at the auction, but overgrazing could still occur. By combining the

results of this paper with quantitative research on the natural environment, relationships between the natural environment and social change, which is also an important topic elsewhere in Africa, can be examined over a longer term.

NOTES

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1. This is the official reason, and it also strengthens the geographical reality of this artificial division between the northern communal areas and southern commercial areas (Sullivan 1996b).
2. After independence, the meat industry of Namibia was administered by the Meat Corporation (Meatco). The Meat Control Board of South West Africa (Meat Board) was also organised during the South African era, and now they are responsible for controlling the volume of meat transferred to the market and for determining the market price (Rawlinson 1994).
3. There are two types of livestock auction (public and permit auctions) that take place in the study area. Public auctions involve multiple buyers and multiple sellers, while a permit auction involves a single buyer and multiple sellers. In this article, the term auction refers to public auction, because currently almost all auction is public, and permit auctions are minimised.
4. In early 2010, \$US1 was equivalent to N\$7. A goat typically sold for N\$300 during informal transactions but for N\$500 at auctions. In some cases of cattle sales, the difference in price reached N\$1,000.
5. In East Africa, the keeping of livestock by relatives living in remote areas is common practice as a form of livestock exchange (Little 1985), but this paper is only concerned with those who are handling livestock management through mobile phones.

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