

STRENGTHENING LOCAL SAFETY NETS AS A KEY TO ENHANCING THE FOOD SECURITY OF PASTORALISTS IN EAST AFRICA: A CASE STUDY OF THE RENDILLE OF NORTHERN KENYA

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ABSTRACT The increase in climate-change-related natural disasters presents a major threat to the food security of pastoralists in East Africa. This paper explores ways of reducing the dependence on food aid and enhancing the food security of pastoralists through a case study of the Rendille in Northern Kenya. Current Rendille food systems have resulted from adapted livestock herding strategies and loss of nomadic lifestyles, as well as dependence on food aid. Although food aid is included in the livelihood strategies of pastoralists, the Rendille have built “credit” relationships with local shopkeepers, based on mutual trust, which enable them to buy food without cash. They avoid the damage of drought by keeping their livestock mobile and applying the features of a mutual support network, such as sharing meat among the community in the cattle, goats, and sheep camp, practicing impartial distribution of milk and blood at the camel camp, and redistributing relief food in the settlement. These local safety nets all help pastoralists secure their food distribution and consumption. Therefore, strengthening local safety nets by improving disaster preparedness and sustaining social support relationships should be considered the keys to enhancing food security and preparing for future disasters.

Key Words: Drought; Food aid; Food security; Local safety nets; Mutual support.

INTRODUCTION

The arid and semi-arid lands of East Africa are home to five million pastoralists and agro-pastoralists, whose livelihood strongly relies on livestock (AU, 2010). For hundreds of years, pastoralists have developed remarkable adaptive strategies for this harsh environment (Smith, 1992; Dahl & Hjort, 1976). However, their lives have changed significantly in the 20th century. The pastoralists of East Africa have been politically marginalized both in the colonial era and since the independence of new nations. Their livestock-based economy has also been weakened by the encroachment of a cash and market economy. Since the 1980s, many researchers have pointed out the problems and difficulties faced by pastoralists, which include poverty, sedentarization, rangeland privatization, political marginalization, and impacts from development activities (Galaty, 1994; Spencer, 1998; Fratkin & Roth, 2005; Sun, 2005; Catley et al., 2013).

In recent years, the increasing number of climate-change-related natural disasters, such as high frequency and long-term droughts and unpredictable rain patterns have caused extensive damage to the productive capacities and adaptive strategies of pastoralists (IPCC, 2007; Collier et al., 2008). As joint research conducted by leading international organizations indicated: “The magnitude and rate

of current climate change, combined with additional environmental, social and political issues, are making many traditional coping strategies ineffective and/or unsustainable, amplifying environmental degradation and food insecurity, and forcing communities to rapidly find new livelihood strategies” (Riché et al., 2009: 3). In addition, the most recent severe drought occurred between 2010 and 2012, and affected more than 12 million people living in Southern Ethiopia, Northern and Eastern Kenya, and Southern Somalia, and led the United Nations to officially declare a state of famine in the southern part of Somalia for the first time in the past three decades (OCHA & Allen, 2011; Oxfam, 2011; USAID, 2011).

The extent of the damage caused by the drought has drawn global attention towards the issues of food security and humanitarian assistance in East Africa. Several international conferences have been held by international aid organizations, national governments, and NGOs, including the Summit on the Horn of Africa Crisis, which were conducted to share experiences, examine the damage, and seek solutions (EAC & IGAD, 2011). Since most pastoralists live in remote areas and have been politically marginalized for decades, few national governments have provided effective emergency responses. Food aid, which has been implemented as humanitarian assistance since the 1970s, continues to play a major role in drought preparedness and response. However, this has been highlighted as a particular issue and criticized from different perspectives. The shortage of stocks of relief food by national governments and the delay in food distribution due to the system of operation of humanitarian agencies were noted as having worsened the situation when the drought continued (Save the Children & Oxfam, 2012). On the other hand, local communities were criticized for depending heavily on food aid and their lack of alternative adaptation measures to respond to the increasing frequency of droughts (USAID, 2012). To prepare for extreme climate events that may occur in the future, it was suggested that national governments, aid organizations, and pastoralists should work to reduce their dependence on food aid and build community resilience to enhance long-term food security (EAC & IGAD, 2011; IGAD, 2013).

However, food aid has become an integral component of the livelihood strategy of most pastoral communities, and this is due to the influence of humanitarian assistance that was implemented over the past half-century. Reducing the distribution of relief food without careful consideration of its function in the current food system of pastoralists may increase their vulnerability to the effects of natural disasters. Therefore, to achieve the above goal, it is important to first understand the role of food aid in the livelihood strategies of pastoralists, and then consider what should be improved in developing alternatives to food aid, as well as how to enhance the resilience and food security of the community.

This paper aims to examine the above questions through a case study of Rendille pastoralists in Northern Kenya. Based on ecological and anthropological research that has been conducted by the author since 1998, the ways in which increasing natural disasters (especially the increasing frequency and extended duration of droughts) have threatened the food security of pastoralists is observed. A focus on the influence of food aid on the current food system of pastoralists is then presented. Relief food distribution carried out in the last half-century affected

not only the diet of pastoralists, but also their residential patterns. The current food system of the Rendille has resulted from adapted livestock herding strategies and loss of nomadic lifestyles, as well as dependence on food aid. Based on this understanding, the paper examines how the Rendille work to maintain their food security both in times of disaster and in ordinary life. The results lead to a discussion and conclusions as to why local safety nets should be highlighted and strengthened in order to enhance the food security of pastoralists.

GROWING THREATS TO THE FOOD SECURITY OF PASTORALISTS

Northern Kenya contains a large area of bush land and semi-desert grassland. Most of the area has an annual rainfall of less than 500 mm, which are impossible conditions to conduct rain-fed agriculture. Pastoralists, such as the Samburu, the Rendille, the Gabra, the Borana, and the Turkana, have been living in this area for centuries. By raising many species of livestock (including camels, cattle, goats, sheep, and donkeys) and keeping both the community and livestock highly mobile in response to environmental uncertainty, these communities have managed to maintain a subsistence economy that relies both on livestock products and on the exchange of livestock for agricultural products with neighboring farmers and merchants (Spencer, 1973; Sato, 1980; Schlee, 1989). The Rendille inhabit the Kaisut Desert, which is the driest part of Northern Kenya and has an annual rainfall of less than 200 mm. The population numbered 60,437 in 2009 (Oparanya, 2010).

Pastoralists living in these arid and semi-arid lands of East Africa continually face chronic food insecurity. According to the Rendille, there are three “enemies” that threaten food security, which are drought, animal disease, and livestock raiding. Over the past half-century, threats from both animal disease and livestock raiding have been significantly reduced, due to the great efforts made by governments, aid organizations, and pastoralists. However, the threats from climate-change-related disasters, such as long-term drought, unpredictable torrential rain, and floods, are increasing. For example, a drought that occurred in the rangeland of the Rendille between 2005 and 2006 was devastating for most of the cattle stock, which had just been regarded as an important cash income resource of the Rendille in recent years. In addition, huge damage was caused to the stocks of goats and sheep by torrential rain that fell unexpectedly during the long dry season of 2007. Furthermore, drought occurred again between 2008 and 2009.

The Rendille use a traditional chronology in which a calendar year is named according to the major event that happened in that year. According to this chronology, drought occurred once every ten years before 1970 (in 1939, 1949, 1958, 1968), and then occurred twice every ten years between 1970 and 2000 (in 1970–71, 1978, 1984–85, 1988, 1990–92, and 1996). Furthermore, the author observed that severe drought occurred four times in the past 15 years (in 2000–01, 2005–06, 2008–09, and 2010–12). The East Africa Drought of 2010 to 2012 was reported as the worst to have occurred in the past 60 years (OCHA & Allen, 2011). In reality, however, the damage incurred was not from this single drought, but rather,

from the accumulation of damage that had been caused by previous droughts that occurred in 2005–06, and 2008–09. The increasing frequency of drought was explained by the pastoralists as follows: “Our grandfather told us drought used to occur every ten years. Our father said it occurred every five years. And now, it occurs every two to three years.”

Both the frequency and duration of droughts cause damage to the food security of pastoralists. In Northern Kenya, a year generally follows four seasons: a long rainy season that lasts from March to May, followed by a long dry season that occurs from June to November, a short rainy season between mid-November and December, and finally, a short dry season between January and March. Pastoralists do not recognize a dry season as constituting a drought. A drought is identified by the failure of rainfall to occur in the rainy season, which in turn extends the duration of the dry period. For example, the long dry season lasts for six months, and if rain fails to come in the following short rainy season, and then only falls in the following long rainy season, the dry period may extend up to eleven months. This is recognized as a single-year drought. If rain continues to fail in the long rainy season and only falls in the next short rainy season, the duration of the dry period may extend up to 18 months. If the short rainy season fails again, then the dry period will be up to 21 months in duration. The duration of dry periods lasting for more than two rainy seasons is recognized as a multi-year drought.

Since rainfall is unpredictable, pastoralists cannot forecast whether a drought may last for a single year or many years. Drought is normally recognized and memorialized by the damage it causes to communities and their livestock. A single-year drought may cause food shortages, due to the bad health conditions of animals and decreased milk production during this time. A multi-year drought may destroy livestock herds and force people to leave their pastoral lives and head for IDP (Internally Displaced Person) camps. According to the Rendille, it takes three to five years for a herd of goats to recover from the damage caused by a multi-year drought, and rebuilding a herd of cattle or camels takes more than ten years.

CHANGES IN THE FOOD SYSTEM AND THE INFLUENCE OF FOOD AID

The political and economic contexts of Northern Kenya have changed rapidly in the past half-century. Following a severe drought that occurred from 1982 to 1984, global famine relief efforts triggered the implementation of development projects by both international development organizations and national governments. Rapidly expanding towns materialized inside the rangeland as the sites for relief food distribution and development projects. Before these towns emerged, pastoralists occupied widespread stretches of land and moved frequently throughout the region. Development projects and drought-relief efforts encouraged the establishment of settlements in the vicinity of the new towns (Fratkin, 1998; Fratkin & Roth, 2005). In the rangeland of the Rendille, a local town named Korr has developed from being a water point to being the biggest population center in the

region in the last three decades. There are more than 30 permanent grocer's shops in the town today, most owned by Somali traders who followed the development projects to the Rendille region in the 1980s–90s. According to the local authority, one third of the Rendille population (approximately 21,000 people) were living in Korr Location in 2009, and this included approximately 4,000 people who lived in the town area and approximately 16,000 people who lived in more than 50 settlements near the town. The population of the Rendille was approximately 27,000 in 1989 and had grown to 60,437 by 2009. The high rate of population growth has been attributed to the loss of nomadic lifestyles among this community (Republic of Kenya, 1994; Oparanya, 2010).

Both the distribution of relief food and changes to the residential patterns of this community have strongly affected the food system of pastoralists. The Rendille used to employ a dual-residential system that consisted of settlements (*goob*) and herding camps (*foor*). People from the same clan established their own settlement, and herding camps were built for each livestock species that were tailored to the different biological adaptability of each species to the environment. According to Sato's study conducted in the 1970s, this dual-residential system was effected as a central strategy of food production and consumption for the community. He described it as follows: "As the dry season advances, married people with young children are left behind in the settlement, while the herders must take herds away in search of better pasturages ... After the rains fall, those people who were dispersed between herding camps and settlements, join together into the same area where fresh pastures and waters are available" (Sato, 1980: 69). Since livestock produce more milk and do not need to move far to graze or find water in the rainy season, people from both the settlements and herding camps can easily access livestock products. However, those left in the settlements during the dry season reported having to obtain food from both merchants and occasionally in the form of food aid in order to sustain their food distribution and consumption. The seasonal movement of settlements used to take two days and the communities were able to cover a distance of 15 to 40 km in this time.

Although livestock herding camps were established and continued to move frequently, the seasonal fission and fusion strategy was no longer practiced after the 1990s, due to the loss of nomadic lifestyles and the permanent settlement of the community near towns. Fig. 1 illustrates the current food system of the Rendille, which consists of permanent settlements, livestock herding camps for the different species kept by the community, shops, and food aid organizations in local towns, and livestock markets.

The number of households in a Rendille settlement varies from 30 to 150, with an average of 107 being found in the Korr Location. It was observed that more than 90% of housewives and small children under the age of seven years and approximately 60% of the elders (married men) live in the settlements (Sun, 2005). Since most livestock are kept in herding camps that are located far away, people living in the settlement have few opportunities to access livestock products, such as milk and meat. Each household may keep between five and ten goats and sheep for milking, from which they can obtain approximately one liter of milk per day. The milk is either given to small children or used to make milk

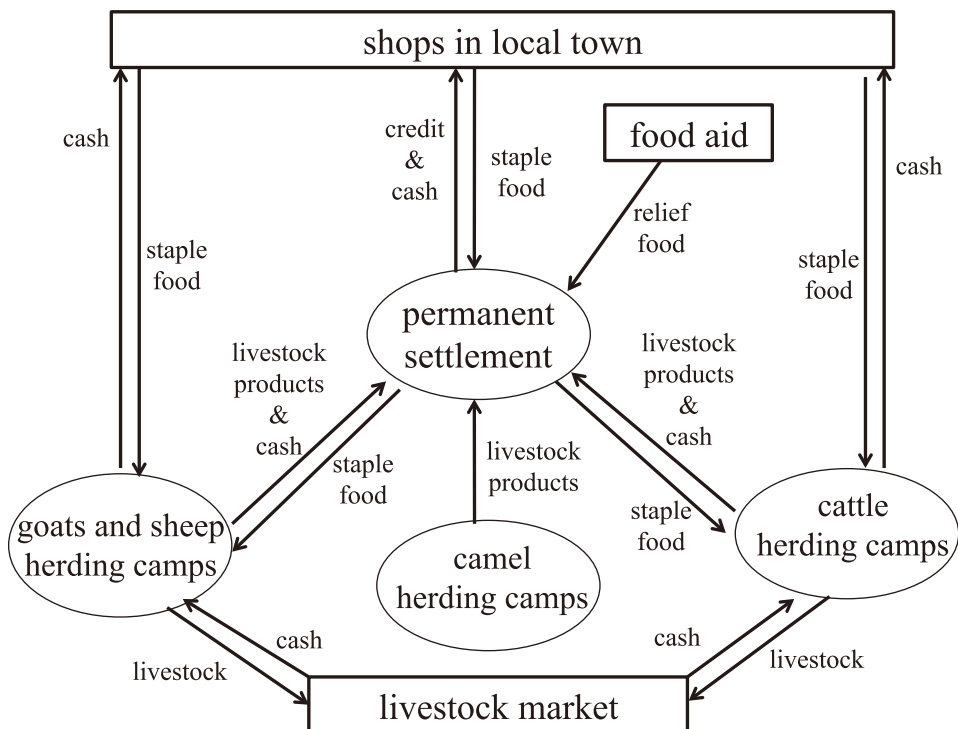


Fig. 1. The current food system of the Rendille

tea. The only opportunity people living in the settlements have to consume sufficient milk and meat products is during traditional ceremonies when all the herds are taken back to the settlement. Maize is the only staple food for people in the settlement, and it is purchased from shops in town. For most pastoralists in Northern Kenya, selling livestock is the only measure of cash income they are able to access. Therefore, when people in the settlement need to buy food from shops in town, they must ask their relatives who are in charge of the herding camps to sell animals at the livestock market, and send the money back to the settlement. Food aid is also important for people living in settlements. According to the Rendille elders, in the 1980s and 1990s, they used to receive relief food from the national government and aid organizations. The community deliberately settled closer and closer to the local town, as they did not want to miss the relief food distributions that were operating in town. Housewives also wanted the settlement to be closer to the town, because they were responsible for carrying all the food for the community from the town to the settlement on foot.

In comparison to those in the settlement, people in the herding camps had more access to livestock products. The Rendille prefer to gather all the camels of a settlement together and build a single herding camp for the community. Circumcised young men who are known as warriors are in charge of managing the camel camp. Camels are the only animals that can produce relatively stable milk

supplies in the dry season, and therefore, it was possible for the herding camp to be a self-sufficient unit year-round. If milk production is low, herders may take blood from the jugular vein of the camel and mix it with the milk to make a typical Rendille food, namely *banjo*. If milk production is high and the herding camp is not far from the community settlement during the rainy season, herders may keep the milk in containers and send these back to the owners of the camels in the settlement. Therefore, the camel camp is considered to play a major role in the pastoral subsistence of the Rendille.

The Rendille are renowned camel herders; however, they have also been working hard to raise cattle in recent years (Sun, 2005). This is because the market price of cattle is high. When people need a large amount of money to pay for things such as medical expenses or school fees, they tend to sell an ox, as it is the most valuable animal at the livestock market. Cattle can only produce sufficient milk in a short period of the rainy season. Herders in the cattle herding camp depend mainly on maize during the dry season. Maize is either bought from shops by herders, or sent from the settlement by the owners of the cattle when they receive relief food. A cattle camp normally keeps one or two donkeys for food transportation purposes.

Goats and sheep are considered to be the most convenient livestock for the Rendille. They grow fast, become mature, and give birth at the age of one to two years, and have a short gestation, which lasts between three and four months. The numbers of livestock in a herd of goats and sheep may double within three years, if there are good climate conditions. Goats and sheep are milked daily, slaughtered for meat, and are frequently sold at the livestock market. Every household keeps goats and sheep, with herd numbers varying from 30 to 300. A household with a large number of goats and sheep may establish a herding camp individually. However, most of the Rendille prefer to build a camp collectively with their relatives so that they can help one another. A goat and sheep camp is normally managed by elders along with their small children. Their daily diets depend both on livestock products and maize. As with cattle camps, herders buy food from shops in town, and receive food from the settlement. In the rainy season, herders may make sour milk and send it back to the settlement if milk production has been sufficient during the season. During the dry season or a period of drought, herders are often asked to sell animals at the livestock market and send money to the settlement.

As described above, food aid has affected both the diet and residential patterns of pastoralists. Within the current food system, livestock products, agriculture products (mainly maize and beans), and relief food are obtained, distributed, and consumed within the network of permanent settlements, livestock herding camps, shops, and food aid organizations in local towns and livestock markets. Based on this understanding, an examination of how the Rendille are able to maintain food security during periods of disaster and ordinary life is presented.

THE FUNCTION OF LOCAL SAFETY NETS IN FOOD DISTRIBUTION AND CONSUMPTION DURING DROUGHT

The 2010 to 2012 drought caused a huge amount of damage in the arid and semi-arid lands of East Africa. According to the Rendille, the drought began in the form of a delay of the short rainy season, which occurred between November and December 2010. When herders realized that the rain had failed to appear, they started to move cattle, goats, and sheep from the center of the Kaisut Desert, which is their main rangeland, to the southeast part of the desert. They built herding camps near a local town where water could be found from boreholes near the town, and waited for the next rainy season to come. The long rainy season of 2011 was expected to start in March, and herders thought they could go back to their main rangeland during this time. Unfortunately, the long rainy season failed again and the pasture of the southeast region was insufficient to feed all of their livestock. Herders therefore decided to move further south because they knew of a big river that passed through that region. It took them more than 10 days to reach the river. The distance covered was more than 200 km. Both herders and livestock suffered from dehydration, since there was no water point available along the way. Although conditions near the river were not good during this period of drought, the herders had no choice but to set up their camps near the north bank of the river where there was some pasture available for the cattle, goats, and sheep.

In order to avoid livestock raiding and protect their livestock from predators, the herders built a big camp to keep all the cattle, goats, and sheep of the same settlement. They stayed there for one and a half years until rain fell during the short rainy season of 2012. Herders mentioned that they almost lost touch with their relatives in the settlement, because the herding camp was very far from the center of the rangeland of the Rendille. However, they also commented that they were lucky, because they escaped early from the drought-stricken area, and therefore, their livestock were not too severely affected. They mentioned that they had slaughtered weak animals and shared the meat with others in the same camp, and collected the fruit from palm trees (*Hyphaene compressa*) along the bank of the river during the drought. They also took animals to a livestock market and bought food in a big town located 30 km south of the river.

While the cattle, goats, and sheep were moved towards the big river in the south, the camels were kept in the southeast part of the Kaisut Desert. The herders explained that two factors affected the movement of the camels. First, camels prefer the dry environment of the Kaisut Desert rather than the thicket found in the south. Second, people were afraid that their camels would be raided because the rangeland near the river in the south was also used by other pastoral communities. Herders emphasized that losing goats is like losing money, but losing camels meant that they would have to drop out of practicing pastoral subsistence. This illustrates the high value of camels in Rendille society. Due to the low rate of livestock products that were available during the period of drought, herders of the camel camp were barely able to maintain their diet, in which milk and blood played a crucial role. They highlighted that although food was limited in this

period, the custom of impartially distributing livestock products at the communal place (*kulal*) of the camel camp was retained, because it helped the Rendille to avoid experiencing differences in the numbers of camels that could be milked among the herds, and to reinforce the solidarity of herders.

During the period of drought, the people left in the settlement were completely reliant on relief food for sustenance. The World Food Programme (WFP) started to provide relief food for the Rendille in early 2011. Food items included maize, beans, rice, cooking oil, and a nutritional food called Unimix, which was especially for malnourished children. Food distribution was carried out every second month by local staff of the Kenya Red Cross. However, not everyone in the settlement was able to receive relief food. The aim was only to distribute to vulnerable households that met the criteria set out by the WFP. According to the regional officer of the WFP, these criteria are used to ensure impartiality in food distribution so that food is given to people who are facing difficulties. A relief committee was established by the representatives of each settlement and the local staff of the Red Cross to register these vulnerable households. Priority was given to households with elderly people, small children, and widows, and then to those households that were recognized as being poor. The amount of relief food that was prepared and sent to the settlement on a truck was based on the number of vulnerable households in that settlement. Local staff of the Kenya Red Cross allocated the distribution according to the list of vulnerable households.

However, as soon as the local staff left, households who had received relief food brought it to a common place in the settlement, and redistributed it to all households in the community. The people of the settlement explained the redistribution as follows. During the drought, all livestock were sent to herding camps, which were moved far away from the settlement. Therefore, no matter how many livestock one owned, all households in the settlement were experiencing the same living standards and all suffered because of the food shortage. People could only survive by helping each other. If vulnerable households had refused to share their relief food with others in the community, it is likely that no one would have helped them in facing further difficulties. Since the Rendille establish settlements according to clanship, members of the same settlement treat each other as relatives, and mutual support among households is common. In households with widows, sick people, and small children, or those widely known as being poor, their members can frequently visit other households and ask for food, livestock products, and money. The common understanding that the community will not ignore or reject vulnerable people strongly ensures the long-term food security of all households. In contrast, the period of relief food distribution is uncertain. Therefore, vulnerable households who had received relief food would rather share it with other households in the settlement to maintain mutual support relations, than simply keep the relief for their own consumption.

Therefore, the Rendille escaped from facing more extensive damage resulting from the drought by keeping their livestock highly mobile, and by applying mutual support within the community, which took the form of sharing meat in the cattle, goat, and sheep camp, practicing impartial distribution of milk and blood in the camel camp, and redistributing relief food in the settlement. Mutual support in

these forms is considered to reflect local safety nets within pastoral communities, which helped them secure food distribution and consumption during the period of a natural disaster.

HOW LOCAL SAFETY NETS FUNCTION IN ENSURING FOOD SUPPLY

Although food aid plays an important role in sustaining the diet of people living in permanent settlements, it is only available during the period of a natural disaster. Apart from consuming relief food, the community also uses staple food to supplement their diet, and this is mainly bought from grocer's shops in town. Selling animals, usually goats and sheep, is the only way for most pastoralists to earn cash. However, the amount earned is affected both by the price for which livestock can be sold at the market, and the health of the animals. To address the problem of food and cash shortages, the Rendille have developed a relationship with local shopkeepers founded on mutual trust, which allows them to buy food without having cash to hand.

This trust relationship is called "credit" by the shopkeepers, which is the same word used in English. The relationship operates as follows. When a housewife from a settlement needs to buy food, but does not have money, she first looks for a shop in town where the shopkeeper either knows her or her relatives, and asks to buy food on credit. If the shopkeeper trusts her, she can order what she wants and lets the shopkeeper write her name, food items, and the amount in a notebook. She can continue to buy food on credit from this shop until she is able to repay in cash. The Rendille call the credit "*chiira*," which means "write," as all credit is recorded in writing in the notebooks of shopkeepers.

According to a shopkeeper whose father opened the first retail shop in Korr Town in the early 1980s, the credit relationship developed rapidly between the 1980s and 1990s when most of the Rendille settlements emerged near the town. Before permanently settling there, communities resided far away and people only visited the town every month or two in order to sell their livestock. Having sold their animals, they came to the shops to buy food that would feed the community for a month or two, and transported food to the settlement with the help of camels or donkeys. When more and more Rendille people began to settle near the town, and their livestock were moved further and further away to escape from the effects of more frequent droughts, the people of the settlement had no choice but to come to the town to buy food. Those who had a good relationship with shopkeepers were allowed to buy food on credit, or pay directly by giving the shopkeeper livestock. This was the origin of the credit relationship. It spread quickly and became the most important way for the Rendille to obtain food in the 1990s.

The benefit of the credit relationship for shopkeepers is that it ensures they will have a certain number of customers. When the trust relationship between pastoralists and shopkeepers was established, the people of the settlement continuously bought food from the same shop. The relationship may last for years or even generations. To avoid the credit becoming so high that people would be

unable to repay, shopkeepers either decide the maximum amount of credit or limit the period in which people can take credit, and this is based on their economic status. Generally, the credit ranges from 5,000 ksh to 10,000 ksh per household per month, and the period of repayment may extend to three months. When the credit of a household becomes high, the shopkeeper informs the housewife to prepare for repayment. Since most households do not have a stable cash income, the people of the settlement ask their relatives who are in charge of the livestock herding camps to sell their animals at the market and send money to them. Normally, people of the settlement are not able to repay the total amount of credit at once, but they will not be prevented from continuing their credit relationship if they are able to repay some of the amount. Undoubtedly, this credit relationship requires mutual trust between shopkeepers and pastoralists. If pastoralists continue to buy food but do not have the ability to repay what they have been given in credit, the shopkeeper will face bankruptcy. Conversely, if the shopkeeper refuses to sell food on credit, the pastoralists may suffer from food shortages.

When shopkeepers and people of the settlement discuss repayment, they usually use the Rendille term “*mog*” to imply credit. The term *mog* originally refers to a specific social support relationship that allows the Rendille to borrow livestock from each other, and it is only used to borrow male animals. For instance, if someone’s livestock has been raided or lost, or the household faces a food shortage, or they require an animal to be slaughtered to celebrate the birth of a baby, he can borrow a *mog* animal from others in the community. It usually takes a week for the negotiation to borrow a *mog* animal to be concluded. Once the relationship has been agreed upon, the borrower can use the *mog* animal as he wishes, and does not need to return the animal until the owner lays a claim. The borrower can return either the original animal or an animal of the same type. The relationship is retained in people’s memory and preserved for generations. The offspring of the owner can claim the *mog* animal from the offspring of the borrower when he faces difficulties and needs the animal to be returned. This is referred to in a Rendille idiom “*mogee mususuhtoo*,” which means that a *mog* will never expire. According to the Rendille, *mog* is an important relationship because it helps to strengthen social support between the poor and rich in the community, as anyone is vulnerable to the effects of an unpredictable drought or raid and could face poverty in that circumstance. It is not uncommon to see people claiming that *mog* animals should be returned to the original owner after a severe drought. Therefore, when the credit relationship is called *mog*, it both highlights the relationships of social support between pastoralists and shopkeepers, and emphasizes a form of credit that will never expire.

According to the shopkeepers, efforts must be made to ensure that there are sufficient food stocks in the shop and to stabilize the price of food so that people can continue to manage their credit. If one shop does not have enough food stocks available for the community, people who are taking credit from that shop will have to seek food in other shops. Once they start a new credit relationship with another shop, they may not come back to the original shop. On the other hand, if a shopkeeper raises the price of food frequently, credit increases will be very high in the short term and people will not be able to repay their loans. In

Northern Kenya, frequent droughts may drive up the prices of food dramatically; therefore, the credit relationship between shopkeepers and the Rendille is regarded as a safety net that secures the food supply of the settlement, and also helps to maintain food security in the region.

CONCLUSION

The increasing number of climate-change-related natural disasters (especially long-term and frequent droughts) have become a major threat to the food security of pastoralists in East Africa in recent years. Food aid carried out by international aid organizations and governments remains the dominant form of humanitarian assistance in the absence of other mitigating and adaptive measures in responding to these crises. However, the influence of food aid in the past half-century has led pastoralists to heavily depend on relief food in maintaining their diets and this has made them more vulnerable to the effects of natural hazards. In order to prepare for future disasters, both pastoralists and aid organizations should consider reducing the dependence on food aid and enhancing food security. The implications that emerged from the case study of the Rendille discussed in this paper are detailed below.

In order to both maintain livestock herding subsistence and access to food aid, the Rendille have developed a dual-residential system. Young people are in charge of livestock herding camps, which are kept highly mobile in accessing pasture and water, and escaping from natural disasters. Elders, housewives, and small children live in permanent settlements near the local towns, which make access to relief food easier. When a severe drought forces herding camps to move further and further away from the settlement, those left in the settlement suffer food shortages and become increasingly reliant on relief food for sustenance. The current food system of the Rendille is made up of livestock products, agriculture products, and relief food that are obtained, distributed, and consumed within the network of permanent settlements, livestock herding camps, shops, and food aid organizations in local towns and livestock markets. This suggests that food aid has been fully integrated into the livelihood strategies of the Rendille. Reducing relief food stocks may cause changes in the current food system and affect pastoralists' food security. Therefore, it is important to find alternative ways of securing the food supply and enhancing the whole food system so that pastoralists can reduce their dependence on food aid.

The only other way for the Rendille to obtain stable food supplies is by buying food on credit from grocer's shops in local towns. This credit system is based on the mutual trust relationship that exists between pastoralists and shopkeepers, which is practiced commonly and is regarded as a safety net to secure food supplies in the region. Therefore, strengthening this relationship may help pastoralists sustain their food security and potentially reduce their dependence on relief food. Two implications are considered feasible. First, encourage and support local shops to improve their food-stockpiling capacity at ordinary times. This would be useful for both pastoralists and shopkeepers in preparing for food shortages

and the increased food prices during the period of a natural disaster. Second, establish a guarantee system that enables pastoralists to continue to buy food on credit even when they cannot repay their credit during the period of disaster. During the period of a natural disaster, if local shops have enough food to sell, the price is stable, and pastoralists can continue their credit, dependence on food aid may decrease. Both aid organizations and government should understand the function of these local safety nets and work together with local shopkeepers and pastoralists to develop alternatives to relief food and improve the food security of the region.

Having said this, the Rendille escaped damage caused by the severe 2010 to 2012 drought by keeping their livestock highly mobile, and by applying mutual support among themselves, which included sharing meat in the cattle, goat, and sheep camp, practicing impartial distribution of milk and blood in the camel camp, and redistributing relief food in the settlement. The Rendille did not follow the instruction of aid organizations in terms of food distribution, which specified that food aid should only go to “vulnerable households” in order to retain the “impartiality” of food access. Rather, the community redistributed relief food among themselves to ensure “equality” in the community so that mutual support could be sustained. This is based on the common understanding that the community will not ignore or reject vulnerable people, and maintaining mutual support relations means ensuring the long-term food security for all households. This suggests that humanitarian assistance such as food aid should not simply follow its own principle and be limited to emergency response, but more efforts should be made to understand the importance of social support relations of local communities and enhance long-term food security. Furthermore, developing and promoting the ways in which livestock products are transported between herding camps and permanent settlements may increase access to livestock products and improve the nutrition conditions of people living in permanent settlements, and reduce their dependence on food aid.

The findings from this case study illustrate that pastoralists have developed local safety nets both within the community and in the region to ensure that they have social support and are able to sustain long-term food security. Therefore, understanding, reevaluating, and strengthening local safety nets by improving disaster preparedness and sustaining social support relations should be considered key to enhancing food security and preparing for future disasters in this region.

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