

The Maasai who started agriculture

1. Introduction

Kenya has over 80% of its land as semiarid region. Its main vegetation is savanna ⁽¹⁾. Many populations live in savanna area. According to a definition of savanna, “the land has function to prevent overuse and is place where people live a life by sustainable use of local natural resources”, it is considered to have similar characteristics with Japanese satoyama. East Africa has been hit by severe drought in recent years. This severity has “never been experienced before” as a village elder says, and this issue has to be taken in consideration that they are going through a major environmental changes when discussing about Kenyan community which utilizes natural resources. At Loitokitok in Rift Valley province, the Maasai, who are nomadic herdsmen whose diet had traditionally been only beef, have started farming recently. Although the farming is practiced only in a part of the tribe, we interviewed them about their past traditional lifestyle, the reason to start faming, and problems and future expectations.



Pic 1 Farmland in Loitokitok

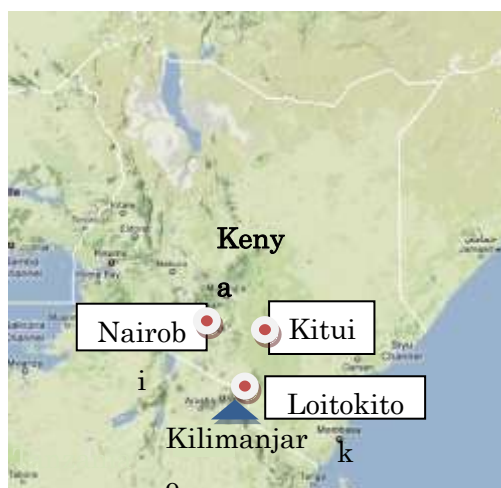


Fig.1 Survey area in Kenya

2. Survey Area and Method

The survey area is Entonet Location, Loitokitok Division, Kajiado District in Rift Valley province(Fig. 1). The area is located in the north side of foot of Kilimanjaro. It is suited for agriculture due to its availability of irrigation and well using the underground flow from the mountain (Pic 1). A roadway to this area from Nairobi is under construction and it is considered to become a prospective agricultural area. Amboseli national park is in the vicinity. With cooperation of the community leaders and Entonet ward councilor, we held a workshop with 21 representatives from each age group including female participants in Namelok village. The discussion topics included life in savanna, the reason for starting farming, and future expectations (Pic 2). We also visited local irrigation farming site and non-irrigation farming plots.



Pic 2 Participants of the workshop in Namelok village

3. Survey Results

3-1. Life coexisting with natural resources

Maasai is a nomadic tribe existing along Tanzania to western Kenya. Their life coexists with cows. The Maasai people respect the cows which provide them most of their essential needs such as milk, blood, meat, fat, and hide. Natural resources that Maasai utilize are plants found in savanna for cattle breeding and firewood and medicinal plants for their own use. The deterioration of savanna directly affects Maasai's lives.

*** Coming of age ritual**

Male Maasai becomes an adult at age of 18. In the past, a male who turn 18 was circumcised and added to the lion hunters as a rite of passage. At present, Kenyan government has banned the lion hunting so men under 40 years old do not have the experience of hunting a lion. Hunting of lion is only permitted when a lion attacks cattle. So the present day coming of adult ritual is comprised of just circumcision and the communal life in the woodland afterwards.

***Traditional diet**

Maasai's diet has been solely depended on cow blood, milk and meat. They extract about 2 liters of cow blood from the healthiest cow. The ways to consume the blood are: 1) drink it raw, 2) mix in milk and drink it, 3) mix in oil and warm it up then eat the loosely solidified product, and so on. The milk is consumed raw or fermented for about 3 days in a gourd and eaten. The meat is eaten only on special occasions such as when; 1) a child is born, 2) a man is circumcised, 3) a wedding, 4) a funeral, or 5) practicing communal life in woodland as a warrior. Traditionally, Maasai did not eat vegetables. Also, it is a taboo to hunt a wild game other than lions. A woman in her 50's in the village ate something other than cow for the first time in 1961. That year was hit by severe drought and the government provided bags of maize flour via airplane. They made Ugali with the maize, and that was probably the first food the woman remembers as a non-cow-oriented food. Recently, food other than cow-oriented is becoming popular in Maasai villages; however for the elderly males, consuming even chickens did not seem to be a favorable habit.

*** Medicinal plants**

Maasai uses some wild plants for medicinal purposes. Table 1 shows some examples of medicinal plants introduced by the workshop participants. There are essential medicines for their life such as remedies for Malaria, hemostatic, laxative and anthelmintic, eye drop, abdominal pains, menstrual cramps, or delivering placenta. There is 1 example in the table that became inappropriate for using because the effect of the medicine became too intense after the diet of Maasai changed and so as their constitution. Except for the one plant, other plants are still in use today. But people began to use more modern pharmaceutical products after a hospital was built recently.

Table 1 Maasai's medical plants

Maasai name	Scientific name ^{*1}	English	Part of plant used	efficacy	Remarks
Olkiloriti	<i>Acacia nilotica</i>		root	Many diseases	IUCN status: 'Least Concern'
			leaf	Malaria	
Olmame			root	Kisonono (Gonorrhea ^{*2})	
			root	Malaria	
Olmukutan			leaf	Anthelmintic	Due to diet change from solely depending of cow to variety of food sources, they became physically more fragile. Consequently, the medicinal effect of this plant has become so intense that they have stopped using it.
			leaf	Anthelmintic	
Olemit			root	Malaria	
Olkisikoni			root	Allergy	
Osokonoi			leaf	Stomack upset	
Olkonyil	<i>Rhamnus prinoides</i>		root	Kidney disease	
			leaf	Refiner	
Esukuroi			leaf	Eye-drops	
Entulelei	<i>Solanum mauense</i>	Sodom apple	fruit	Hemostatic	See picture
			root ^{*1}	Malaria, Chest pains ^{*1}	
Empere-Epapa			root	Abdominal pains	
Olmairo-ngiro	<i>Plectranthus kamerunensis</i>		root	Cramps	
Olosukii	<i>Zanthoxylum usambarensis</i> ?		leaf	Aperitive for child	
Olekikareta			root	Egestion of placenta	Carried by midwife

*1: H.J. Beentje, Kenya trees, Shrubs and Lianas, 1994, National Museum of Kenya⁽²⁾

*2: <http://www.etsumi.jp/africa/kiswahili/majina/magonjwa.html>

3-2. Reason to start agriculture

Maasai settled in Namelok in 1974. The reasons they started farming were population increase and drought. After they settled in, population increased so they could not sustain lives by just cows that they had. This caused them to begin cultivating land in 1990s. Also, drought became more and more prominent after 1980s. Many of the wild plants disappeared and occasional heavy rainfall had washed away the soil. An elderly Maasai commented, "before 1980s, drought had come but for a short period. Recent droughts are longer and more severe than what we had been experiencing."



Pic 3 Feeding stalks and leaves of maize to a gaunt ^{cow} Kenyan government began to take political measures to the Maasai in this part of the land to subdivide either 10 acres of non-irrigation farmland or 5 acres of irrigated farmland per household in 2001. People in Namelok obtained irrigated land and since then they began full-scale agriculture.

We must note that those Maasai have not entirely abandoned their traditional way of living of depending on cattle breeding (Pic 3). Since the introduction of agriculture, they have accepted to change their traditional lifestyle, but it was not intended. Especially for elderly Maasai, cows are the most important asset in their life to this day. Many of the Maasai who received the 10 acres of non-irrigated land have opted for selling the land for cash income and did not go into practicing

agriculture and maintained their cattle breeding lifestyle. This seems to represent the same attitude towards affection to the tradition.

3-3. Present Condition of Agriculture

Irrigated Farmland

Water from the source is provided once a week for four hours (Pic 4). Main crops are tomato (August to November), beans (December to February), maize (March to July), (occasionally onion or left fallow) and they rotate those crops. Cattle manure is used for fertilizer and weeding is done by hand with harrow. If commissioners do not visit the village, they would go to Nairobi or Mombasa for a market. Some issues associated with their irrigated agriculture are: 1) there is no reliable market, 2) they do not know suitable means of treating crop diseases, and 3) there is a lack of professional who can lead them to solve these problems.



Pic 4 Irrigated farmland in Namelok village

Despite these problems, younger generation had positive visions toward agriculture. They are willing to work in the field and affirmative to get cash. They hoped for expansion of agriculture in the future. Women did not have negative feeling about agriculture even though agriculture imposes them more work hours than cattle breeding.

Non-irrigated Farmland

The non-irrigated farm owner we interviewed in Loitokitok was from Kikuyu tribe. He purchased the land from Maasai via other friends. He owned 36 acres of farmland and cultivated maize and beans. Crop diseases were treated with pesticide, and crops were sold at neighboring market. He was trying to cope with drought by drilling a well. Loitokitok is blessed by underground flow from Kilimanjaro, and is becoming a major agriculture district in Kenya. Kikuyu tribe has originally practiced agriculture so that it is not difficult for experts like them to make sufficient harvest here.

4. Conclusion

About External Difference and Essential Analogy Between Savanna and Japanese Satoyama

In savanna, one can see an unchanging, vast flat land stretched to the horizon. Cultivated field also expands to wide area. However, if looked closer, one can find water, houses, and corrals in the scenery so it is not the same with large scale intensive farm or unpopulated primary woodland. This type of landscape is externally different from those seen in Japan or Indochina where one sees mosaic structure of about 1ha each of secondary forest, paddies, rivers and villages. People in Kenya have lived in this land by raising cows, collecting medicinal plants, fetching water, and raising a family despite continuous threat of lion attack. In terms of quality of lifestyle, the savanna life has the same essence with that of present Indochina or Japanese satoyama 60 years ago. If a satoyama is defined by its mosaic predisposition, the weight is laid on whether necessary essence is present rather than the size of a patch.

About Traditional Knowledge and Modern Scientific Knowledge

Maasai depicted in this report presents both traditional lifestyles of cattle breeding by utilizing savanna's natural resources and modern irrigated agriculture to make cash. In their traditional lifestyle, Maasai depended on its diet solely on cow blood, milk and meat, and collected natural resources from savanna only for the use of firewood and medicinal plants. They kept their rule to hunt no other wildlife but lions - their predators - by raising lion hunting warriors. It was a perfect mechanism in savanna to coexist with wildlife and to enable sustainable use of resources. However, influences of market economy, change in wildlife management, and drastic environmental changes have led this traditional lifestyle to become ill-suited for the present situation. Maasai is seeking means to maintain their cows under never-experienced drought. Also, they are seeking farming techniques or knowledge to tackle the problems with their new agriculture business. Modern scientific knowledge should answer them. And a structure to introduce this knowledge to farmers is inevitable.

About Creation of New Commons

Sometimes there is a proposal for a business model called "creation of new commons" which utilizes ecosystem services. For example in Namibia, a foreign NGO has initiated local villagers to conduct eco-tours by themselves, in which tourists observe elephants living in floodplain forest of seasonal streams. It has become a major income source for the villagers and they had changed their lifestyle of living on dwindling cattle breeding to tourism since then⁽³⁾.

Maasai so far proceeds with the agriculture cautiously. The elders always have the leading role and it ensures solid bonding of the community. Their traditional way of living by cattle breeding is almost exhausting because of recent drought, nonetheless, they try to maintain the cattle while proceeding with agriculture which is a more practical cash income source. This state can be considered as dual economy⁽⁴⁾. There is little chance of external business model of selling ecosystem service to be admitted in this village for now. However, in Kamba, people left their traditional hunter-gatherer lifestyle 60 years ago and switched to agriculture-based life. Their current priority is to stabilize agriculture under progressing aridification and they seek for ways to acquire technology and cash income.

Neither of them was willing to transform their traditional lifestyles. What they wish most importantly, is the technology and knowledge to cope with the present drought condition. Young generation had hopes for educational opportunity because of that. When we talk about creation of new commons, it does not have to be a business model incorporating the ecosystem service. It can be a human resource support system or information network to support the local traditional lifestyles.

The landscape in satoyama is determined by the diet and lifestyles of people who live there by depending on the local natural environment. Community management is run proactively by the villagers. If the purpose of Satoyama Initiative is to preserve biodiversity of nature created by interaction with human beings, traditional lifestyle of the community or support of human resource are important essences.

References

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