

farmers having big-size herds (50-100 heads and more), truly nomadic but moving on short distance and selling up to 50% of their camel milk to the factory according to the season and their proximity to the town. Based on this typology, the milk collection was organized by the dairy factory (implementation of milk centers in key-places), the milk coming from loyal or occasional producers. Thus, the dairy factory had a significant, but partial effect on the herd mobility.

The spatial differentiation of the herd means that in many cases, the lactating animals are settled around the city of Agadez, close to the consumption basin, while the "non-productive animals" (dried females, young animals, males out breeding season) are managed in pastoral zone in traditional way. Finally, "modern farming" (feed supplementation, veterinary inputs, milk marketing) and "traditional" (extensive farming, herd mobility, natural resources, low inputs) are cohabitating within the same herd generating between these two spatial poles a set of flows (animals, forages, products, manpower, inputs).

Traditionally, in the Tuareg society, the women are holding the milk like in all Sahel countries (Dicko et al., 2006). In a context of low integration into market, the "power" on the milk is not disputed by the men. But, with the increase of the incomes from milk, we assist to a certain "defeminisation" of the milk sector (Schneider et al., 2007), the intermediary activities (collect, transport) becoming assumed by the men. The changes are observed at two levels: at the household level, the women transferring their right on milk and at the collect and marketing level where the women lose their parts of market.

The sustainable rural livelihood (SRL) framework

The SRL framework is an analysis grid taking in account the changes in the environmental capital (animals, infrastructures, resources), the financial capital (incomes linked to the milk marketing) and the human capital (manpower, respective roles of the husband and of the wife). The observed changes in pastoral system have few effect on the herd composition (between species and within species), and on infrastructures (except the milking equipment, the houses of settled Tuareg are still the tent), but the effect on the natural resources is significant. The settlement has two major consequences: (i) the use of the multi-location to alleviate the pressure on the periurban environment, (ii) the use of purchased supplementary feeding (concentrates purchased on the market or "bush grass", conveyed by caravan from the pastoral area), now possible thanks to the incomes from camel milk sold. Regarding financial aspect, the advantage of milk is its availability all over the year and consequently, to benefit in return for periodic cash. Beyond the potential change in the incomes' distribution within the household, the increase of the available cash is beneficial to all the family and contributes to the poverty alleviation.

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MODERNIZATION IMPACT ON CAMEL BREEDING IN KAZAKHSTAN

Imamura K.¹, Yoshihito S.², Nurtazin S.³, Baibagysov³ A

¹ Nagoya Gakuin University, 1-25 Atsutanihishimachi, Atusta, Nagoya, 456-8612, Japan; ²Nagoya University, Japan; ³Al-Farabi Kazakh National University, Kazakhstan

Abstract

This study aims to evaluate the modernization impact on camel breeding culture in the Sahara Desert and Central Asia. The camel has been an important animal for the desert people to get milk, meat, wool and working power. In the Sahara Desert, the Tuareg have lived with dromedary. The use for transportation is reduced; camel are now animals for tourism. While the Bactrian camel has been kept as working animal in Kazakhstan, the camel milk has recently come to highlighted as healthy drink; milk production became more important and the number of dromedary has increased. In the socialist time of the Soviet Union, the collective farm system dominated camel breeding. Today, the breeding form of the camel is various: big ranching system considers as enterprise, private individual pasturing, breeding in small yards, and traditional nomadic way. Various kinds of effect and change to which pastoral culture has been exposed with the modernization process are analysed.

Key words: Kazakhstan, Mali, pastoral culture, milk production, breeding form

ҚАЗАҚСТАНДАҒЫ ТҮЙЕ ШАРУАШЫЛЫҒЫНА ЖАҢҒЫРТУДЫҢ ӘСЕРІ

Бұл зерттеу Орталық Азия мен Сахара шөлінде түйе өсіруді жаңғырту әсерін бағалауға бағытталған зерттеу. Шөл даладағы халық үшін түйе өнімінің соның ішінде сүті, еті, терісі және жұмыс күші ретінде қолданудың таптырмас қоры болған. Сахара шөлінде дромедарлар туаректермен бірге өмір сүрді. Қазіргі уақытта түйелерді жұмыс күші ретінде емес туризм мақсатында қолданылатын болған. Сондай-ақ Қазақстан мемлекетінде екі өркешті түйелерді жұмыс күші ретінде қолданған, бірақ соңғы жылдар ішінде түйе сүтінің маңыздылығы дәлелденіп, түйе сүтінің өндірісі қолға алынған. Совет Одағы кезінде колхоз түйе шаруашылығы басым болған. Қазіргі таңда түйе өсіру формасы алуан түрлі: үлкен жеке шаруа қожалықтарда, жеке мал, кішігірім аулада өсіру және дәстүрлі көшпелі түрде. Бұл мақалада жаңғырту нәтижесінде малшы тайпаларының әртүрлі әсерінің және өзгерісінің анализі көрсетілген.

Түйін сөздер: Қазақстан, Мали, бақташы мәдениет, сүт өндірісі, өсіру формасы.

ВЛИЯНИЕ МОДЕРНИЗАЦИИ НА ВЕРБЛЮДОВОДСТВО В КАЗАХСТАНЕ

Это исследование направлено на оценку влияния модернизации на культуру разведения верблюдов в пустыне Сахара и Центральной Азии. Верблюды являлись важным ресурсом молока, мяса, шерсти и рабочей силы для людей пустыни. В пустыне Сахара, туареги жили с дромедарами. В настоящее время использование верблюдов для перевозки уменьшилось; теперь они являются животными для туризма. Аналогично, двугорбые верблюды в основном использовались в качестве рабочих животных в Казахстане, но в последнее время верблюжье молоко было выдвинуто как здоровый напиток и производство молока стало важнее. В социалистические времена Советского Союза, колхозный строй преобладал в верблюдоводстве. Сегодня же, форма разведения верблюдов разнообразна: система большого ранчо считающееся предприятием, частный скот, разведение в малых дворах и традиционный кочевой образ. В статье анализируются различные виды влияний и изменений, которым подверглась пастушеская культура в результате модернизации.

Ключевые слова: Казахстан, Мали, пастушеская культура, производство молока, форма разведения

Introduction

Since 2006, I have been surveying the Tuaregs, nomadic people inhabiting the Sahara Desert who rely on camels as their primary means of livelihood, and have demonstrated how they have developed their stock farming technologies with respect to livestock milking over the course of a year. Since 2011, I have simultaneously been surveying livestock conditions in Kazakhstan while comparing stock farming technologies and inhabitants' views on animals in arid areas of Africa and Eurasia.

Modern nomadic stock farming culture is witnessing great change due to motorization, which has led to the diminishing value of horses and camels (previously a guiding force in the formation of civilizations in arid areas), as well as due to the privatization of land, which has created obstacles to the nomadic way of life. However, horses, cattle, and camels continue to be reared in Kazakhstan, and although they are no longer used for work and transportation, all three are prized in the region for their meat and dairy.

Since 2011, anthropological surveys were carried in Kazakhstan. These surveys, which are focused upon the Kazakh people, have been conducted alongside a research into the culture and societies of the Saharan Tuaregs.

Materials and methods

Field survey were conducted by observations, Interviews in 2013 and 2014 in Almaty, Taraz, Shymkent, Otrar, Turkistan, and Aralisk. Some statistical data about domestic animals were collected by FAOSTAT.

Results and discussions

According to 2011 FAO statistics, the livestock reared in Kazakhstan consists of sheep (15,110,000), cattle (6,175,300), goats (2,878,100), horses (1,528,300), camels (169,600), donkeys (30,000), buffalo (10,000), and pigs (1,344,000). It should be noted that because Kazakhs are Muslims they do not consume pork; the pigs are reared principally by ethnic Russians.

There are two domestic camel species: the dromedary and the Bactrian camel. Furthermore, the distribution of the two domestic camel species differs, although they meet at the latitude corresponding to an average temperature of around 21°C (Hongō, 2006). However, both species of camels have long been reared in Kazakhstan, and have been actively crossbred to produce hybrids; for example, the Bukht hybrid camel, used to transport goods, was apparently first bred on a wide scale here.

The result of interviews are as follows;

A. Interviews conducted on March 2013 and July 2013 in Uznagak (a village located 100 km northwest from the center of Almaty) Although 90% of the camels that Mr. U, a stock farmer, was rearing were dromedaries, there were also Bactrian camels in his flock. Although Bactrian camels have long existed in Kazakhstan, Mr. U had recently started to buy his camels from Mongolia.

Up until a decade ago, Bactrian camels were the norm, but as a result of the increased demand for fermented camel milk dromedaries began to be imported from Turkmenistan due to their increased milk output; however, the milk of Bactrian camels has a higher fat content. As a result, female dromedaries have been crossed with male Bactrian camels in order to create hybrids, but these attempts remain at the experimental stage. Hybrid varieties include Narmaia types, although these hybrids can only be produced in Kazakhstan because other regions are either too cold for dromedaries, or too hot for Bactrian camels. Mr. U draws a genealogical tree of the camels and gives each of them a name.

B. Interview conducted on March 2013 in Akshi (a village located approximately 120 km northwest from the center of Almaty). Mr. D manages the Beke Dauret stock farm, which has a fermented camel milk production plant. His farmland covers 8,000 ha, dispersed across four areas. Mr. D has invested a considerable amount of effort into the stock farm, where he was rearing 3,000 camels; approximately 1,000 of them were milkable females. Almost all camels that Mr. D was rearing were dromedaries.

C Interview conducted on July 2013 at the home of a stock farmer in Otrar with Mr. K. He was rearing 20 camels, 10 cows, and 10 horses, but no sheep or goats. Since camels find their own food, there is no need to look after them, but cows fall ill easily and have to be fed and treated, making their care bothersome. He uses some uncultivated land owned by the state for free. All of his camels were dromedaries, and he makes shubat from their milk for both home consumption and to sell.

D Interview conducted on May 2014 at the home of a stock farmer in Aralisk. Stock farmers kept Bactrian camels and hybrid (Kospak). They say dromedary cannot survive in these areas.

The rearing of camels over the last hundred years in Kazakhstan has been deeply affected by the collective farming of the Soviet era, as the number of camels fell steeply from 1,200,000 in 1927 to 100,000 in the 1990s. The purpose of camel-breeding in traditional Kazakhstan was either for transport, ceremonial purposes or having a necessary number in order to

preserve one's fortune, and were thus bred in large numbers. However, the "rationalization" that coincided with the advent of the Soviet Union restricted the number of livestock an individual could raise in an effort to achieve collectivization, and is considered to have led to a severe decrease in the number of camels. Soviet policy not only had an effect on the quantity of camels, but also their purpose: in the 1980s, the government emphasized the use of camels as foodstuffs.

The number of camels in Kazakhstan continued to decline even after the country's independence in 1991, as the agriculture and stockbreeding industries continued to flounder in depression after independence, a major cause for which was the dismantling of the sovkhos and kolkhos farm management systems, leading to widespread disruption as farms were restructured into individual entities.

However, the decrease steadied in 1999, after which the numbers of camels started to rise again. This has been claimed to be due to the health benefits that camel milk, and in particular fermented milk (shubat), are said to provide.

Fermented camel milk is said to contain vitamin C and immunoglobulin, and is advertised as not only possessing the capacity to strengthen one's immune system against disease, but also contains anti-aging effects.

In response to the increasing prominence of camel milk, Kazakhstan has begun to turn away from Bactrian camels in favor of dromedaries.

Bactrian camels were formerly the most common camel species in Kazakhstan, and until recently constituted 80% of the total number of camels in the country (Konuspayeva and Faye, 2004). However, dromedaries have started to be imported from countries such as Turkmenistan because they produce more milk. As mentioned above, 90% of the camels reared by one stock farmer working on the outskirts of a city were dromedaries.

Currently, three types of Bactrian camels, one type of dromedary (the Alowana), and the Narmaia hybrid are bred in Kazakhstan (Konuspayeva and Faye, 2004). To what extent are these five varieties genetically dissimilar, and what differences are there in the actual quality of their milk? I have doubts as to whether the dromedaries in Central Asia are really the same species as the dromedaries bred in the Middle East and the Sahara Desert, as the dromedaries reared in Kazakhstan seem to be more similar to the Bactrian camel—a different species—in terms of hair length and build.

In the next research I would like to conduct a multilateral analysis of the movements in the change of camels in Kazakhstan from Bactrian camels to dromedaries. I would first analyze any socio-economic factors, then the techniques of stock farmers and their lifestyles.

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THE DEVELOPMENT OF THE CAMEL INDUSTRY ON ABORIGINAL LANDS IN CENTRAL AUSTRALIA AND ITS PARALLELS WITH ISOCARDS GLOBAL MISSION.

Knight A., Young F.

Ngaanyatjarra Council (Aboriginal Corporation) 1, 58 Head Street Alice Springs NT Australia 0871. Email: alex.knight@ngaanyatjarra.org.au

Abstract

Development of camel industry on Aboriginal Lands in Central Australia will build capacity amongst local Aboriginal People to manage feral camels using the sale of the camels to pay for their own management.

Dromedary camels, used extensively for transport until motor vehicles became available, were released in the Central Australian desert and rapidly multiplied. From 2009-2013 the Australian Government funded a culling program, shooting camels and leaving them to rot on the ground. Culling was dependent on government funding and carried out by non-indigenous government staff. It built no local Aboriginal capacity to manage camels and was not sustainable.

Frank Young a local Aboriginal man describes how the new camel industry developed from a refusal by his people to allow the culling.

The Ngaanyatjarra Camel Company, a joint venture between the Aboriginal land holders and skilled livestock managers, empowered local Aboriginal People to develop the industry to suit their society and culture.

This parallels ISOCARDS Mission; to ensure that the broader community understands that while the camel industry is relatively small on a national level in Australia it is very important economically and for food security for desert aboriginal people who live in one of the most arid environments in the world.

Key words: camel industry; dromedary camels; Aboriginal community; Aboriginal land; culling camels

ОРТАЛЫҚ АВСТРАЛИЯНЫҢ ЖЕРГІЛІКТІ ЖЕРЛЕРІНДЕ ТҮЙЕ ӨНДІРІСІН ДАМУТЫ ЖӘНЕ ОНЫҢ ISOCARD МИССИЯСЫМЕН ПАРАЛЛЕЛДЕРІ

Орталық Австралияның жергілікті жерлерінде тұрғындарға түйе өндірісінің потенциалын арттырып, жабайы түйелерді пайдаланып, өз ісін дамытуды жолға қою.

Автокөлік пайда болғаннан бастап тасымалдауда кеңінен қолданылатын түйелер Австралияның орталығындағы шөл далаға жиберілген болатын. 2009-2013 жылдардан бастап Австралия үкіметі жаңа бағдарламаны қаржыландырды, онда түйелерді атып, сол шөл далада денелерін қалдарды. Олардың денелерін жинауға