

Unique Experience and Achievements of Sakha People in Development of Agriculture in the North

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Abstract

In article the historical and cultural contribution of people Sakha about since XIII century in northern civilization by cultivation and progresses of horse breeding and cattle breeding in the North which within many centuries have turned to traditional branches of facilities of native peoples of the North is considered. The comparative analysis of their progress per 1990-2012 in northern regions of the Russian Federation is resulted. It is as a result drawn a conclusion that people Sakha as the numerous native people continues to develop rather with advantage traditional branches of agriculture in severe conditions of the North and by that increases the contribution to progress of northern civilization.

Keywords: native peoples of the North, people Sakha, cultivation and progress of horse breeding and cattle breeding, the contribution to northern civilization, progress of agriculture, northern regions of Russia

1. Introduction

In the modern conditions of globalization of economy problems of preservation and development of the indigenous peoples of the North and their traditional sectors of life activity become more urgent. In this aspect historical and cultural contributions of the Sakha people have enormous importance since the thirteenth century in the northern civilization by breeding and development of horse breeding and cattle breeding in the North, which for many centuries have turned to traditional sectors of the economy of indigenous peoples of the North.

Agriculture in Yakutia also appeared before the revolution, but its significant development was in the twentieth century, and among the northern regions of Russia Yakutia occupies the leading position. The created own zonal system of agriculture allowed to effectively use the bioclimatic potential of territory of Yakutia and get very good results.

The Sakha people as the numerous indigenous people continue to rather successfully develop traditional industries of agriculture in the harsh conditions of the North, thus increasing its contribution to the development of the northern civilization. A retrospective analysis of development of these industries of agrarian economy shows large capabilities to achieve high performance in extreme natural and climatic conditions of the North, thanks to the great diligence, patience and purposefulness of villagers.

However, in the period of transition to a market economy in the Republic of Sakha big decline in agricultural production happened. The main reason, it seems to us, is the elimination of large-scale agricultural enterprises and economic foundations of collective labor, and the reduction of levels of agrotechnology and intensive agrarian economy. In addition, before the Republic of Sakha (Yakutia) there is an urgent task of retention of leading advanced positions not only in the North of our country, but also in the world for the maintenance and

development of agriculture in extreme climatic conditions of the Extreme North.

At the same time the urgency and the need for more sustainable and effective development of agriculture of the Republic of Sakha (Yakutia) are increased by the fact that: firstly, this industry is the economic basis of lifestyle of indigenous peoples; secondly, in recent decades the food provision of population sharply reduced at the expense of local production and the food security of the republic is considerably weakened; thirdly, at the present time in connection with the introduction of mutual economic sanctions the EU and the United States it is need to ensure the food security of the country and the region at the expense of import substitution of local products of agriculture.

2. Literature Review

As it is known the indigenous small-numbered peoples of the North in the harsh natural conditions have created, first of all, a specific culture of doing traditional industries, such as reindeer breeding, hunting and fishing. However, in the course of further development of the northern territories there were improved methods of procuring their living, modes of production of material values – the food, clothing, footwear, housing, fuel and instruments of production required in order for society to live and grow. Thus, in the earliest era of population of Yakutia in XII-XIII centuries the Sakha people based their economy mainly on herd horse-breeding, which at that time better met the nomadic conditions of life. Ancient rock paintings of riding people prove that the Yakuts used horses, first of all, as a means of transportation. According to researchers of history of that period (A.F. Middendorf, F. Wrangell, G. S., Miller, V. L., Seroshevsky, R. K., Maak, and others), gradually, as a transition to employment, to a greater extent appropriate to settled conditions of existence, for the Yakuts those sectors gained in importance that had the character of barter. With an increase in demand for meat, milk, butter, skin, and others the development of cattle breeding began.

The territory of Yakutia became the northernmost boundary of breeding of cattle and horses, and the residence of northern cattle-breeders of the world – the Sakha people. And today in the world there are no other people that in the harsh climatic conditions of the Far North have managed to create a cattle-breeding civilization, which is symbiotic with the natural environment, and to maximally use an ethnolandscape resource of territory of their residence. In the modern conditions, when the human civilization is looking for ways of transition onto a sustainable path of development, this unique experience of the Sakha people may be more widely demanded and used in other northern regions of Russia, and, perhaps, in the world.

Unfortunately, as in Russia, all the more so abroad, the Sakha people are little known, as made outstanding contributions to the development of the northern civilization. The process of penetration of the Extreme North lasted for several centuries. The study of this unique experience could give answers to many live issues. Professor G. V. Ksenofontov first of the researchers divided the development of the area by settlers from the Baikal region in Yakutia in two stages (Ksenofontov, 1992).

The first is the development of the territory of Yakutia by Turkic speaking pedestrian hunters and reindeer breeders, who in search of furs got from the Baikal region to Zhigansk located in the lower reaches of the river Lena. Ksenofontov believed the descendants of these people to be the Lena and Vilyuy Tungus.

The second is the gradual penetration of small groups of cattle-breeders on the river Vilyuy, and then the relocation of the bulk of cattle-breeders across the Vilyuy basin on Lena. To prove his hypothesis G.V. Ksenofontov used not only ethnographic and historical data collected by him personally in the expedition trips on the territory of Yakutia, the Turuhanskiy Territory and the Irkutsk region. He proved an inextricable link of nature with the economy, designed the economic base of different types of natural economy, conducted economic parallels of Irkutsk Buryat-cattle-breeders and the Sakha people. Yet the main native traditional industry of Sakha ancestors was horse breeding before the XIV century.

Even by the arrival of Russians most of the Sakha people were involved in the herd horse breeding, as the reports of the first Cossacks indicated. In 1634 the Cossacks wrote to the Moscow Tsar Mikhail Fedorovich: "And the Yakolskaya, sire, land is large and crowded, and horsed (Gabyshev, M. F., 1972).

The same circumstance was noted by the academician A.F. Middendorf: "... the Yakuts were horse breeders. Such good riders, keeping several thousand horses, and hitherto they remain in the chief places of his stay " (Middendorf, 1878).

Historical documents show that in the seventeenth century the Yakuts had more horses than cattle. The head of the Vilyuy expedition R.K. Maak wrote that "... a horse for a Yakut is not only labor, but also an important source of food, as the Yakuts are not just big fans of horse meat, but beyond that consume a huge amount of sour mare's milk (Maak, R. K., 1887).

The Yakuts created in the North a technological culture adapted to the harsh conditions - the original culture of breeding horses. The most revered chief occupation of the Yakuts was the horse breeding and the breeding of unique local Yakut horse breed notable by the fact that they are year-round on snow-covered pastures, that is on pasturage. At all stages of economic and social development of Yakutia the horse breeding played a huge role. Its importance continues to grow today. This industry in our republic by virtue of peculiarities of natural and economic conditions not only serves the purposes of transport, but also to a large extent meets the needs of the local population in meat and fat products.

Previously the horses were year-round used as pack horses and saddle horses, draft animals to transport various goods. Along the Irkutsk highway all sorts of officials, merchants with goods came and mail was carried. Due to the lack of roads main cargoes packly transported in Yakutia. Horse paths were laid from Yakutsk to Vilyuysk, Nyurba and Suntar; through Namtsy to the Vilyuy mouth; through Amga to Okhotsk; through Churapcha to Tatta, and to Kolyma through Verkhoyansk, etc. In the XVIII-XIX centuries the Yakut horses were used to serve many large Russian expeditions passed through the central regions of Yakutia in the direction of Okhotsk, Kamchatka, Kolyma, etc. These expeditions, especially the Bering ones, recruited and sent to Okhotsk thousands of Yakut horses. So the Sea of Okhotsk, Yana, Indigirka and hard-to-reach remote areas of the Kolyma river basins were mastered. For state coffers and industrialists the mass pack transport over long distances through the taiga, mountain ranges and swamps, in the absence of the costs of construction, equipment and maintenance of improved roads, the use of horse transport was profitable.

For example, from 1924 to 1941 annually up to 20-23 thousand horses were employed for the carriage of goods, mainly for the development of Lena gold mining and Aldan gold mines. During the war years more than 23 thousand horses were sent from Yakutia to the front by the decree of the Presidium of the Supreme Soviet of USSR on 20 August 1939 (Information, 2003), and in 1946-1953 in the recovery period of the national economy in the areas of Siberia - about 27 thousand horses (Gotovtsev, 1995).

3. Materials and Methods

3.1 The Sakha People as Indigenous People of the North

In the modern conditions of globalization and humanization of economy the problems of conservation and development of the indigenous peoples of the North and their traditional sectors of activity become more urgent. Indigenous Small-numbered Peoples of the Russian Federation are 47 peoples, five of which are in the Republic of Sakha (Yakutia) (Government, 2011).

The Governments of the Russian Federation and the Republic of Sakha (Yakutia) pursue effective public policies to preserve and create conditions for increasing the number of Indigenous Peoples of the North, as shown by the censuses in the Republic of Sakha (Yakutia) (Table 1).

Table 1. Population figures of the Republic of Sakha (Yakutia) (According to the Censuses, people)

№	№	Nationalities of	1970	2010	Growth rate
p / p	population of the Republic of Sakha (Yakutia)				in %
	The Republic of Sakha (Yakutia)		664123	958528	144.3
1.	Yakuts		285749	466492	163.2
2.	Evenki		9097	21008	230.9
3.	Evens		6471	15071	232.9
4.	Chukchi		387	670	173.1
5.	Dolgans		10	1906	190.6 times
6.	Yukagirs		400	1281	320.2
	Total of the Republic of Sakha (Yakutia):		302114	506428	167.2

Source: Statistical yearbook of the Republic of Sakha (Yakutia), statistical collection / TO FSGS on RS (Y); - Yakutsk, 2001-2012. Yakutsk region, 2012. - 740 p. (P. 68).

In the settlement and economic development of the Extreme North aboriginal small-numbered peoples certainly have the initial experience: in the Northern Russia - Yukagirs, Evenki, Evens, Chukchi, Dolgans, Khanty, Mansi, Nenets; in Alaska (USA) - Aleuts, Athabascans, Eskimos and Indians; in the north of Canada - Indians, Métis, Inuit and others. Problems of their socio-economic and cultural development are in the focus of attention of

countries having the northern territories, as well as the United Nations and other international organizations. In addition to that the historical role and problematicity of life activity of many indigenous peoples of the North in the politics and economy of states of world, including the Russian Federation, in our opinion, so far does not particularly stand out, are not considered, and are not even being studied. The indigenous numerous peoples of the North of the Russian Federation are Karelians - 56,908 people, Komi - 202,422 people and the Yakuts - 466,492 people (based on the All-Russian Population Census 2010), which have their own statehood in the form of a republic.

Of these the people of Sakha, the size of which is now approaching 450 thousand, are one of the most numerous indigenous peoples of the Russian North. However, in the study of its role and place in the development of mankind, its contribution to the world civilization, as it is noted in the introduction of the monograph of Institute for Humanities Research of Academy of the Republic of Sakha (Yakutia), which was published in 2003, the first attempt was made (Sakha, 2003).

As the science of history proves, the ancient ancestors of the Sakha people having a southern origin, moved to the North probably in the twelfth and thirteenth centuries. However, the formation of the Sakha people as the numerous indigenous people of the North of Russia was accelerated since the XVII century. According to B.O. Dolgikh, then the number of Yakuts was small in the Yakut district. According to the first census of the Russian Empire in 1897, the number of Yakuts reached 221.5 thousand people, i.e. over these centuries they became the numerous indigenous people of the North. And over the last century the number of the Sakha people doubled and now are about 450 thousand people. In contrast to the indigenous peoples of the North, whose way of life was based on the reindeer breeding, hunting and fishing, the Yakuts did, moreover, the horse breeding and cattle breeding, and led a semi-settled way of life. As a result of further adaptation of horses and cattle, breeding of their native breeds, improving a technology of their reproduction and maintenance in the harsh natural conditions, the Sakha people created new traditional branches of the economy of the North – the horse breeding and the cattle breeding. This meant simultaneously the creation of its new sedentary life activity and an economic basis adequate to the status of indigenous people of the North.

3.2 Breeding and Development of Horse Breeding by the Sakha People

Currently horse breeding is one of the most effective branches of agriculture in conditions of the Extreme North. However, apart from Yakutia it has not yet received wide distribution. So, at the beginning of 2013 in the Republic of Sakha (Yakutia) there were 169.7 thousand heads, or 12.3% of the total number of horses of the Russian Federation, and according to this indicator Yakutia took first places in the whole of Russia and the Far Eastern Federal District. In the second place with the presence of livestock 136.1 thousand heads (9.9%) is the Republic of Altai, then the third is the Republic of Bashkortostan with a population of 125.4 thousand heads (9.1%). In Russia there are only 13 regions with the presence of horse livestock over 30 thousand heads. Among the regions of the Extreme North of Russia, apart from the Republic of Sakha (Yakutia), a large number of herd horses is in the Komi Republic - 4,2 thousand heads, the Arkhangelsk region - 2.4 thousand, in the Khanty-Mansi Autonomous Okrug - 2.3 thousand and the Kamchatka Krai - 1.5 thousand (Table 1). This is explained by not only a reduction of pastures for keeping herd horses in connection with the intensive development of mining, but also the general decline in agricultural production. In other northern regions, such as the Taymyr, Evenk and Chukotka Autonomous Okrugs, which are in analogous similar climatic conditions, there are no herds of horses at all (Table 2).

Table 2. The number of horses in the northern regions of the Russian Federation (in farms of all categories at the end of the year, thousands of heads)

Regions	2000	2005	2010	2011	2012	Growth rate % in -x (C. 6 / C. 2)	Sp. weight 2012 % in -x of total
The Republic of Karelia	0.5	0.3	0.25	0.22	0.19	38.0	0.09
Komi Republic	6.4	5.6	5.0	4.5	4.2	65.6	2.08
Arkhangelsk region	6.8	4.5	2.9	2.7	2.4	35.3	1.19
Including the Nenets Autonomous Okrug	0.7	0.3	0.1	0.1	0.08	11.4	0.03
Murmansk region	0.1	0.1	0.06	0.07	0.06	60.0	0.02

Tyumen region	-	-	20.9	20.5	20.6	-	10.23
including the Khanty-Mansi Autonomous Okrug	2.8	2.1	2.2	2.3	2.3	82.1	1.14
Yamal-Nenets Autonomous Region	0.6	0.5	0.25	0.25	0.2	33.3	0.09
The Republic of Sakha (Yakutia)	129.5	130.2	163.4	170.8	169.7	131.0	84.28
Magadan region	0.2	0.1	0.1	0.1	0.1	50.0	0.04
Kamchatka Krai	1.3	1.3	1.2	1.4	1.5	115.4	0.74
Total:	148.9	144.4	196.3	202.9	201.3	135.2	100.0

Source: Data of State Statistics Committee of 29.11.2004, 18.10.2007, 28.03.2011, and 23.05.2013.

Among the federal districts of Russia the largest number of horses is found in the Siberian Federal District - 620 346 heads, or 45.0%, and the Volga Federal District - 246 597 heads, or 17.9% of the total population of horses of the Russian Federation, and in the Far Eastern Federal District 189,325 heads, or 13.7 % (Table 3).

Table 3. The number of horses in the federal districts of Russia (All categories of farms at the end of the year, thousands of head)

Federal District	2000	2010	2011	2012	2012 to 2000 in %
RF	1617.7	1340.5	1362.2	1378.5	85.2
Central FD	205.1	79.7	72.1	65.2	31.8
Northwest FD	40.1	18.7	172	16.0	39.9
Southern FD	182.9	97.7	94.5	93.1	50.9
North Caucasian Federal District	-	74.5	81.5	82.2	-
Volga FD	416.1	263.2	248.2	246.6	59.3
Ural FD	111.5	67.6	65.9	65.7	58.9
Siberian Federal District	518.9	558.2	593.1	620.4	119.6
Far Eastern Federal District	143.1	180.8	189.8	189.3	132.3

Source: Data of Federal State Statistics Service of 29.11.2004, 18.10.2007, 28.03.2011 and 23.05.2013.

In the federal districts of Russia for 2000-2012 a decrease of number of horses happened, apart from the Far Eastern Federal District, which achieved growth in the number of horses by 32.3%, and the Siberian Federal District - 19.6%. This was facilitated by the increase in the number of horses in the Republic of Sakha (Yakutia) by 31.0% and the Republic of Buryatia - by 44.7%. In other regions of Russia the increase in the number of horses is observed only in the Altai Republic - 2.8 times and Zabaykalsky Krai - 55.1%. It should be noted that they have expanded their herds by Yakut horse breeds. According to statistics, more than 20 thousand Yakut horses from the republic were sold.

3.3 Emergence and Development of Cattle breeding as the Main Branch of the Sakha People

Over the centuries the people of Sakha successfully combine the development of horse breeding with dairy and meat productive cattle breeding. Mass distribution of cattle in the territory of Yakutia began since the XIV century from the territory of the Lena-Amga interfluvium. For several centuries the Sakha people managed to create a unique natural landscape for cattle. As noted by Academician A.F. Middendorf, "... from the shepherds they became herders. With their cattle they waded into such homeless areas where they have to take care of the housing and stocks of hay for the winter" (Middendorf, 1878). The transition from meat horse breeding to dairy cattle breeding was accompanied by the replacement of main meat food with little milk consumption with meat and dairy foods with a predominance of milk and dairy products.

The appearance of real possibility of further development of cattle breeding impelled the Sakha people to be more engaged in the change of natural landscape and the expansion of its range, right up to the coast of the

Arctic Ocean. Laying-in of fodder was closely associated with the culture of care of hayfields and pastures (fencing, water body drain, irrigation, clearing bushes, carrying out spring agricultural fires). Gradually the cattle breeding has become one of the main occupations of the Yakuts in the North. The cattle was kept in the stall period for 8-9 months in barns (khotons), and in the summer in sayylyks (annuals). A peculiar way was created combining winter stall and summer sayylyk keeping of livestock. Due to this system, the Sakha people in the extreme conditions bred a new breed of cattle characterized by unpretentiousness, low weight, the minimum requirement for feed - 1080 FU per cow during the winter with a 4-9% high content of fat in milk and nutritious meat (Abramov, 2000).

It is also important that the Sakha people have created a distinctive technology of production adapted to the northern conditions, processing and meat and dairy products (kerchuyakh, suorat, aryy, chohon, mare, tar, etc.). In 1828-1830, according to the data of the Second Yasak Commission, in the Yakut region each inhabitant had almost one horse and 1.7 head of cattle. And in 1917, according to the Agricultural Census, 459.8 thousand heads of cattle and 121.4 thousand heads of horses were kept in the farms of Yakuts, i.e. there were 2.09 and 0.55 of heads per capita, respectively (Yakutia XX, 2001).

In the first decades of Soviet rule there was a significant shift in the development of northern livestock sector, and in 1938, according to the report of the CPC YaASSR, the livestock reached a record number - 792.7 thousand heads, from them in collective farms were listed 585.5 thousand heads and in state farms - 34.8 thousand heads (Yakutia. Chronicle, 2004).

Despite the decline in agriculture since 1990 all over Russia, the data for 2012 show that the Republic of Sakha has maintained a leading position in the number of cattle among the northern regions of Russia. As the main factor of this one should consider that the private farms of population and remained agricultural collective enterprises use many years of experience of their ancestors of conducting extensive cattle breeding. A significant decline in the number of cattle in the other northern regions of Russia can be explained by the lack of experience of care and technology of keeping the cattle in the extreme conditions of the Extreme North (Table 1.1.3).

In 2012 the number of cattle in all northern regions of Russia compared to 1990 significantly decreased. So, if the reduction was in the Republic of Karelia by 79.9%, the Komi Republic by 77.9%, the Arkhangelsk region by 84.7%, the Murmansk region by 82.2%, the Magadan region by 91.2%, in the Republic of Sakha (Yakutia) by 43.0%. As it can be seen from Table 4, in 2012 in Yakutia 233.3 thousand heads of cattle were kept, whereas in all other northern regions of Russia there are only 152.3 thousand heads, i.e. more than 81.0 thousand heads.

Table 4. The number of cattle in the northern regions of the Russian Federation (All categories of farms at the end of the year, thousands of heads)

Regions	1990	1995	2000	2005	2010	2011	The rate of reduction In % (col.7 / column 2)
The Republic of Karelia	126.3	82.1	56.2	34.9	28.2	25.4	20.1
The Komi Republic	173.5	126.4	83.3	45.3	38.7	38.4	22.1
Arkhangelsk region	354.7	232.5	129.4	74.1	56.9	54.3	15.3
including Nenets Autonomous Okrug	9.1	5.3	4.1	2.7	1.7	1.6	17.6
Murmansk region.	43.8	18.2	11.9	8.7	7.8	7.8	17.8
Khanty-Mansiysk	64.3	40.3	18.9	11.7	11.4	12.1	18.8
Yamal-Nenets Autonomous Region	6.8	4.1	2.1	1.1	1.0	1.0	14.7
Taimyr Autonomous	2.6	0.7	0.0	no data	no data	no data	-
Evenk Autonomous Area	1.8	1.1	0.8	no data	no data	no data	-
The Republic of Sakha (Yakutia)	409.3	358.3	289.7	301.3	233.7	233.3	60.0
Magadan region	43.1	14.7	7.5	4.9	3.6	3.8	8.8
Chukotka	14.7	2.4	0.1	0.1	0.1	0.0	-

Source: Statistical collection. Regions of Russia. SEP. Goskomstat of Russia: Moscow, 2003. - P. 545-546.

Statistical collection. Regions of Russia. SEP. Goskomstat of Russia: Moscow, 2012. - P. 158-646.

3.4 Development of Agriculture and Crop Production

Historically, also a fact is confirmed that the domestic breeding of cattle and horse breeding could not develop without agriculture and crop production. It can be believed that the Yakuts were engaged in their primitive forms since that time as the cattle breeding appeared and in this connection - mowing. In winter a period of 8-9 months in a year the cattle were kept in khotons and fed by hay harvested during the summer. In addition, draft and working horses could not graze on the snow-covered pastures, they also needed a harvested forage.

In Yakutia on its vast territory meadows and glades overgrown with grass were naturally formed. Many of them appeared as a result of forest fires. On learning about this, apparently the Yakuts herders deliberately spread burnings and forest fires for the purpose of expansion of pastures and haylands. Also, ditching to drain water from lakes and formation of meadows can be considered as a primitive form of agriculture. But, no doubt, that in Yakutia the cultural agriculture and crop production appeared after the arrival of Russian peasants in the seventeenth century. Exactly they began to engage in farming, arable farming and horticulture. Familiarization of the Yakuts with the farming culture began in the 70-80s of the seventeenth century. The Yakuts relatively quickly adopted skills of tillage of Russian peasants. As a result, the agriculture and crop production were widely developed in the nineteenth century (Yakutia, 2001).

At the same time the agriculture and crop production have become an important branch of husbandry only in the twentieth century, in the years of Soviet power, after mass collectivization of farms, creating collective and state farms. The Sakha people in harsh climatic conditions and permafrost lands made significant development of agriculture and crop production, getting high yields of grain, potatoes and vegetables, some forage crops, which can also be regarded as a world agricultural achievement in the North of our planet – the Earth.

In the Republic of Sakha (Yakutia) on January 1, 2012 according to the data of the Office of Federal State Statistics Service of Sakha (Yakutia), the area of agricultural land is 1637.7 thousand hectares, including arable land - 104.2 thousand hectares, hayfields - 718.0 thousand hectares, pastures - 794.8 thousand hectares, deposits - 19.9 thousand hectares, perennials - 1.0 thousand hectares (Statezhagodnik, 2012).

The agriculture and crop production are mainly located in agricultural zones: Central, Western, and Vilyuy and Zarchnaya groups of uluses. These areas are located in the basins of Lena, Viluy and Aldan. They are home to the majority of the rural population and in them about 89% of hayfields, 99% - arable land, 90% - the number of cattle and 80% of horses are concentrated (Konyukhov, 2005).

In the Republic of Sakha (Yakutia), the development of agriculture is the biggest concern. Since 1991, in connection with the agrarian reform in the Republic of Sakha (Yakutia) legislation and state programs of agricultural development of the republic and its villages are periodically enacted. Every year from the republican budget funds are allocated in the amount of about 6-8 billion rubles. On 27 September 2012 the President of the Republic of Sakha (Yakutia) E. A. Borisov has issued a decree "On comprehensive measures for rural development in the Republic of Sakha (Yakutia)", where he declared 2013 the Year of the village in the Republic of Sakha (Yakutia) and defined the main directions of complex measures on rural development in the country. One of the main focuses is to "ensure the sustainable functioning of agricultural production on the basis of targeted and effective use of agricultural land."

In the twentieth century in the Republic the intensive development of the agricultural production was based on increasing the acreage of crops. But in the period of transition to market relations agrarian and land reforms occurred, which led to the elimination of state agricultural enterprises and the change of ownership of land.

Table 5. Acreages of crops (Farms of all types, thousands of hectares)

Types of crops	1900 g	1950 g	1990 g	2000 g	2005 g	2010 g	2011 g
The total sown area	22.2	92.8	107.3	60.6	48.7	44.2	45.2
including:							
crops - all	21.6	79.9	24.1	29.7	14.9	15.3	15.1
of them:							
wheat	2.4	22.3	1.7	6.8	3.3	2.0	2.0
rye	0.1	32.5	1.2	0.5	0.1	0.0	0.0
barley	...	22.1	11.7	13.0	6.4	6.2	6.3
oats	1.4	3.0	9.5	9.4	5.1	7.1	6.7

potato	0.6	6.9	9.1	10.0	9.0	7.8	8.1
field vegetables	0.1	1.1	1.1	2.4	1.9	1.9	1.9
forage crops	-	4.8	73.0	18.5	22.9	19.2	20.0

Source: Statistical yearbook of the Republic of Sakha (Yakutia) / TO FSGS on RS (Y). - Yakutsk, 2012. - 440 p.

As it is seen in Table 5, since the 90s of last century acreages of crops began to decline, which were in the use of state agricultural enterprises. The resulting new peasant (farmer's) farms are not yet in a position to engage in large areas of crop production, as the former large state farms. In the Republic the most record grain area is 126.2 thousand ha was achieved in 1942; potatoes - 10.7 thousand ha in 1995; vegetables - 2.4 thousand ha in 2000 (Achievements, 2007).

Table 6. Gross harvest of major crops (Farms of all types; thousands of tons)

Names of cultures	Years:							
	1900	1940	1950	1990	1995	2000	2010	2011
Crops	17.2	42.9	19.2	27.6	17.1	30.2	11.1	8.6
Potato	1.6	12.4	16.4	64.4	66.5	74.6	71.5	69.8
Vegetables, open ground	...	6.4	2.6	24.0	24.1	26.3	24.6	24.2

Source: Statistical yearbook of the Republic of Sakha (Yakutia) / TO FSGS on RS (Y). - Yakutsk, 2012. - 442 pp.

At present, agricultural production cooperatives and some small-scale peasant (farmer's) farms predominantly do the grain cultivation. Peasant (farmer's) and private farms of the population more successfully grow potatoes and vegetables.

In the Republic the most record gross grain harvest - 42.9 thousand tons - was achieved in 1940; potatoes - 102.3 thousand tons in 1989 and vegetables - 33.7 thousand tons (including greenhouse vegetables) in 1983 (Achievements, 2007).

Table 7. Average crop yields (Farms of all types; quintals per hectare of harvested area)

Names of cultures	1961-1965 gg.	1985-1990 gg.	1995 g	2000 g	2010 g	2011 g
Crops	5.5	8.5	7.3	10.7	8.4	6.7
Potato	54	90	62	75	92	86.4
Vegetables, open ground	114	210	103	114	134	126

Source: Statistical yearbook of the Republic of Sakha (Yakutia) / TO FSGS on RS (Y). - Yakutsk, 2012. - 443 p.

Used agricultural cropland of the Republic have very small bioclimatic potential, which is explained, firstly, by low content of humus layer in arable land - from 2-6% (Ivanov, 2008) (a comparison: in non-chernozem zone of Russia the humus layer is up to 15%); secondly, a short growing season - 80-100 days against 160-180 days according to the norm; thirdly, a small amount of precipitations - 200-220 mm, i.e. 2 times smaller than the norm. Therefore it is impossible to obtain high yields of crops that can be seen from Table 7.

4. Results and Discussion

Under market conditions, there was a sharp decline in meat and milk production in all regions of the North of Russia, which could adversely affect the balanced nutrition of the local population (Table 8). Meanwhile, in addition to dairy products, the structure of products and especially meat is important for the health of northerners. The amount of high nutrient, rich in vitamins, essential amino acids, trace elements deer and foal meat in the diet of northerners should be increased.

Table 8. Dynamics of production of agricultural products (All categories of farms, thousands of tons)

Regions	1990 g						2011 g					
	Mn with	Mo lo to	Yay tsa million units.	Zehr but	Kar then Fel	Ovo cabbage soup	Mn with	Mo lo to	Yay tsa million units.	Zehr but	Kar then Fel	Ovo cabbage soup
The Republic of Karelia	24.7	176.2	260.7	0.9	106.1	17.3	7.8	65.4	21.1	0.2	89.5	22.1
Komi Republic	38.1	207.0	365.4	0.6	127.5	20.3	20.4	62.4	146.8	0.0	113.8	22.2
Arkhangelsk region	62.3	391.6	467.4	98.7	167.0	27.4	28.1	120.7	232.1	7.1	145.0	32.0
Including Nenets Autonomous Okrug	4.0	11.5	n.sv.	n.sv.	0.3	0.1	1.5	3.3	0.0	n.sv.	1.4	0.1
Murmansk region	24.6	82.0	283.7	n.sv.	3.5	7.3	10.1	28.4	82.4	n.sv.	12.1	0.6
Khanty-Mansi Autonomous Okrug	9.6	53.2	53.0	0.8	54.6	6.8	7.0	22.3	34.8	-	85.2	19.6
Yamal-Nenets AO	6.0	8.7	10.5	n.sv.	1.2	1.0	4.9	1.9	0.2	n.sv.	1.0	0.1
The Republic of Sakha (Yakutia)	40.6	267.4	174.1	25.2	64.5	23.9	23.7	185.9	124.4	7.8	69.7	32.3
Magadan region	18.6	62.0	137.5	n.sv.	25.2	10.4	0.4	5.8	20.7	n.sv.	12.7	4.1
Chukotka	7.5	6.8	6.6	n.sv.	0.0	0.3	1.0	0.1	3.5	n.sv.	0.0	0.1
Kamchatka Krai	21.1	73.7	142.5	n.sv.	58.4	20.1	2.3	17.0	45.0	0.1	45.4	15.4

Sources: Statistical yearbook of the Republic of Sakha (Yakutia). Regions of Russia. SEP. Goskomstat of Russia. - M., 2003. - P. 557-560.

Statistical yearbook of the Republic of Sakha (Yakutia). Regions of Russia. SEP. Goskomstat of Russia. - M., 2012. - P. 158-646.

* Production of livestock and poultry for slaughter.

The decline in production of major kinds of products affected the reduction of gross agricultural output (Table 9). For example, the Arkhangelsk region, which is the birthplace of Kholmogor breed of cattle, made the production in 1990 as Yakutia in the amount of 1.7 billion rubles, and in 2011 the level of its production was only 61.6% of that of the Republic of Sakha (Yakutia). In the north-east of the Far Eastern Federal District in the Magadan region, together with the Chukotka Autonomous Okrug in 1990 made 47%, and in 2011 - 12.6% of the total agricultural production of the Republic of Sakha (Yakutia).

Table 9. Dynamics of total agricultural production (Farms of all types, at current prices, mln. rub., until 1998 - bn. rub.)

Regions of Russia	1990	1995	2000	Grow2005	2010	2011
	(Gr6/gr3)					
The Republic of Karelia	1.2	741	1527	2683	4256	4693
Komi Republic	1.1	951	2556	3973	7392	8629
Arkhangelsk region	1.7	1609	4525	5251	9778	11613
including Nenets Autonomous Okrug ...	32	161	282		591	649
Murmansk region	0.7	381	1079	1441	2939	3245
Khanty-Mansi Autonomous Okrug	...	454	1658	2551	5547	7654
Yamal-Nenets Autonomous Okrug	...	97	239	497	1201	1600
The Republic of Sakha (Yakutia)	1.7	1664	5441	9103	17884	18840

Magadan region	0.8	190	405	812	1626	1714
Chukotka	...	110	72	293	499	663
Kamchatka Krai	0.8	651	1557	2184	4799	5272

Sources: Statistical yearbook of the Republic of Sakha (Yakutia). Regions of Russia. SEP. Goskomstat of Russia. - M., 2003, pp 495-496.

Statsbornik. Regions of Russia. SEP. Goskomstat of Russia. - M., 2012. - P. 158-646.

In order to solve the food problem of Northern regions it is needed to start works on the dissemination of traditional extensive northern cattle breeding and grazing horse breeding with the use of centuries-old experience of the Sakha people. At the same time it is advisable to use local breeds of cattle and horses for breeding with the aim of creating new kinds of local breeds adapted to the extreme natural and climatic conditions of the North.

It should be noted that during years of development of socialist economy in the USSR, in Yakutia we achieved significant, and even record high in their own way results in the rearing and keeping of herd horse breeding and cattle. Thus, in the Republic out of 23 Heroes of Socialist Labor 12 laborers are toilers of cattle and herd horse breeding (Achievements, 2007).

And in the second half of the twentieth century on agriculture, with the outstanding results in vegetable growing Egorov M.G. in 1952 was awarded the State (Stalin) Prize of the USSR of III degree. Also four yakutians were awarded the title of Hero of Socialist Labor:

- 1) The Decree of the Presidium of the USSR Supreme Council of 06.21.1950 - Baramygin N.K., the foreman of collective farm named after Engels of Olyokminsky district;
- 2) The Decree of the Presidium of the USSR Supreme Council of 01.10.1957 - Samsonov G.S., the vegetable grower of collective farm named after Lenin of Megino-Kangalassky district;
- 3) The Decree of the Presidium of the USSR Supreme Council of 30.04.1966 - Kornilova M.M., the vegetable grower of OPH YaNIISH;
- 4) The Decree of the Presidium of the USSR Supreme Council of 11.12.1973 - Novgorodova E.I., the vegetable grower of collective farm named after Lenin Megino-Kangalassky district (Achievements, 2007).

In the Republic the maximum average yield of vegetables was achieved in 1983 - 250 q/ha, and in 1989 grains - 15.8 q/ha and potatoes - 110 q/ha. In 1993, the unit of Romanov N.P. of IAPC "Tehtyur" of Megino-Kangalassky district has made a record on spring wheat yield - 36 q/ha on an area of 65 hectares, there were collected 324 tons of grain in total (Achievements, 2007).

5. Conclusion

Based on the foregoing, we offer to avow that the selection of local breeds of cattle and horses by the method of national breeding, as well as the associated development of northern agriculture (the fodder production) intrinsically become the traditional industries of nature use and the main occupation of numerous indigenous people of the North - the Sakha people, as well as reindeer herding, hunting and fishing for the indigenous small-numbers peoples of the North. Therefore, in general, all the agriculture of the Sakha Republic should refer to the traditional sectors of economy of the North enjoying support of federal government. Agricultural lands (not only reindeer pastures, but also hayfields, pastures for cattle and horses, as well as forests, lakes, rivers, used for hunting and fishing) should be referred to the objects of traditional nature use and protected by rights of all indigenous peoples, including the people in the Sakha, on these objects.

Thus, the cultural and historic contribution of the Sakha people to the development of northern civilization consists in the creation of original northern system of life activities of peoples, the economic basis of which is the breeding of cattle and herd horses, as well as the development of agriculture. And in order that the world community acknowledges the contribution of the Sakha people in the development of northern civilization, fundamental complex researches should be conducted with wide participation of experts from different scientific fields, as well as discussions at international conferences and forums with the participation of representatives of all the indigenous peoples of the northern territories of the world.

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