

Interaction of the Yakut ethnicity and biological systems in the territory of the Sakha Republic (Hordogoy settlement, Suntarsky District) and Krasnoyarsk Krai (Essey settlement, Evenks District)

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Abstract: In the context of global transformations the man-nature interaction is undergoing considerable changes. This process is of great importance for peoples engaged in traditional activities: fishing, hunting, gathering wild plants, breeding cattle and horses. On the one hand, objective changes mean development of civilization, while on the other hand, they cause modification of traditional involvement of people into the biological system. The article presents the analysis of “man – biological system” relations on the material, obtained by the scientists, post-graduate (master) students and students of Siberian Federal University during the expedition to the selo (village) of Hordogoy (Suntarsky District, the Sakha Republic, the Russian Federation) and to the posyolok (settlement) of Essey (Evenks District, Krasnoyarsk Krai, the Russian Federation). The result of the paper is the comparative analysis of the changes in the lifestyle of Yakuts that resulted from the industrial development of natural resources in the region. [Libakova NM, Sitnikova AA, Sertakova EA, Kolesnik MA, Ilbeykina MI. **Interaction of the Yakut ethnicity and biological systems in the territory of the Sakha Republic (Hordogoy settlement, Suntarsky District) and Krasnoyarsk Krai (Essey settlement, Evenks District).** *Life Sci J* 2014;11(6s):585-592] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 122

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1. Introduction

The problem of inclusion of man into biosystem and changing the “man – nature” relationship can be solved in the course of a natural science research, as well as by means of socio-cultural analysis, because natural and cultural components coexist in man. The concept of “biological system” implies unity of anthropogenic and natural components (Zagustin, 2012; Buzmakov 2012).

Of course, in every part of the world human activity is somehow connected with the surrounding nature, however understanding of this interaction in the context of northern territories seems most important. This is due to the fact that the northern areas constitute 70% of the entire territory of the Russian Federation; they are a “treasure trove” of minerals and are of strategic importance for the country (Koptseva and Kirko, 2014; Koptseva and Reznikova, 2009, Kirko et al, 2013, Meghova et al, 2013).

Active development of the northern territories of the Russian Federation, including industrial development, results in the inhabitants’ of these areas, who are mostly carriers of traditional cultures, experiencing a significant impact of “major cultures” (Berry, Dasen, Purtinga, Segal, 2007; Slezkin, 2008), which causes drastic changes in all spheres of life of these peoples.

The Sakha (Yakutia) Republic is the largest subject of the Russian Federation and the world’s largest administrative unit (its area is 3,083,523 sq.

km), it is part of the Far Eastern Federal District, and it occupies the second place in the rating of Russian regions according to the economic potential of natural resources (Expert RA, 2011).

Indigenous people, living in the Sakha (Yakutia) Republic, are Yakuts (who call themselves “Sakha”). According to the Russian Census 2010, their number is 466 492 people. Traditional occupation for them is cattle and horse breeding – special breeds of these animals were bred for survival in harsh climatic conditions. Due to the socio-economic changes, this type of activity is the main only for residents of remote settlements, such as the selo (village) of Hordogoy.

The selo (village) of Hordogoy, founded in 1890, is the center Vilyuchansky Nasleg (settlement) of Suntarsky Ulus (district). It is located on the high picturesque riverside of the river Vilyuy, which determined its name. Such settlements are the most striking examples of influence of civilization processes on traditional Yakut culture; they also demonstrate the peculiarities of interaction of man and biological system.

Krasnoyarsk Krai, which borders with the Sakha (Yakutia) Republic, is the second largest subject of the Russian Federation (its area is 2,366,797 km²) and the first in the ranking of Russian regions in the economic potential of natural-resources (Expert RA, 2011). The Krai is part of Siberian Federal District; it includes Taymyr Dolgan-Nenets and Evenks Districts.

The population of Krasnoyarsk Krai is greatly varied. According to the latest census of the population, the Krai is home by 42 ethnic groups. Among them are representatives of 10 indigenous Siberian ethnic groups, 8 of which belong to the category of indigenous small-numbered peoples (peoples living on the lands of traditional settlement of their ancestors, preserving their way of life, having not more than 50,000 people and identifying themselves as separate ethnic communities). Essey Yakuts, living in the posyolok of Essey, located in Ilimpiyskaya group of settlements of Evenks District belong to the group of small-numbered peoples. The population of Essey is 631 people, 10 of them are Evenks.

Essey Yakuts position themselves as the ethnic group, distinct from the Yakuts of the Sakha (Yakutia) Republic. This is an isolated ethnic group, which has a special language that is different from the classical and colloquial Yakut language (Sakha). The posyolok (settlement) of Essey lies beyond the Arctic Circle and is on the western shore of Lake Essey in tundra zone. Originally the traditional occupations of its residents were reindeer herding and fishing; today only fishing is preserved. Disappearance of reindeer herding resulted from several factors: on the one hand, increase in population of wild reindeer, on the other hand, the influence of civilization - industrial development of the area, geological prospecting.

According to the latest data, population of Hordogoy is about 670 people, most of whom are indigenous people, Yakuts. Despite the high birth rate, the population of the selo is decreasing. It is connected with migration of people to the cities (Mirny, Yakutsk), as well as high mortality, the main causes of which are accidents (in the woods or on the river), illness, etc.

2. Materials and methods

The main method applied was the method of field research carried out under the supervision of Professor Natalia Koptseva in 2010-2013 by the scientists, PhD students, post-graduate (masters) students and students of Siberian Federal University.

The main scientific methods applied in the field research were observation, in-depth and expert interviews, questionnaires and statistical analysis; in this article we use the method of comparative analysis (Pimenova N.N., 2014; Sereckina N.N., 2014, Koprseva and Kirko, 2014, Kirko et al, 2013).

Validity of the results of the research is ensured by applying the principles of multicultural approach, as well as Etic and Emic approaches (Libakova and Sertakova, 2014).

This article is based on the material collected during the expeditions conducted in 2010 in the posyolok (settlement) of Essey, in 2012 – in the selo (village) of Hordogoy.

3. Results

The study focused on the analysis of indicators of standard of living of Yakut ethnic group which are the following: the area of residence, the main methods of economic activity, the general state of health care, education, preservation of language and traditional culture, attitude to modern civilization processes.

To begin with, we will consider the average statistical analytical data, and then we will present the data obtained through the in-depth interviews.

Peculiarities of the ecology of living in the territory and basic methods of traditional economies will be examined among the first indicators of standard of living.

Hordogoy village is located in the zone of middle taiga, which is characterized by abundance of coniferous forests and meadows, extending along the rivers. Climatic conditions here are rather harsh. Winter is cold and long, in summer heat or freezing weather are possible. Summer daytime temperature is 17-19°C, in winter the temperature drops to -40 ° C and below. Due to these factors, agriculture is represented by the traditional economies of Yakuts: horse breeding, animal husbandry, fishing, and hunting. They are the main area of work and the main source of livelihood of the villagers. Also horticulture is quite common in the village: the people grow potatoes, beetroots, carrots (Myglan and Vaganov, 2008).

Traditional crafts are developed in Hordogoy, which are strictly divided by gender. Women are engaged in weaving of horsehair (workshop of Sakha Sargyt), sewing, beading, while men are engaged in processing of wood and metal, manufacturing household utensils.

However, today most of the villagers are engaged in education, administration and services, rather than in agriculture.

Employment in the posyolok of Essey is currently mainly associated with traditional types of occupations. In Soviet times, there was a fur farm in the posyolok where silver fox was bred. The farm is now abandoned, it is beyond restoration. This situation has existed since 1992, and in order to provide themselves with essentials things, the population is engaged in barter (for example, fur is exchanged for furniture, firewood, building materials). During this time, attempts at breeding cows and Yakut horses were made, people even

consulted the experts from Yakutia, but the attempts were unsuccessful.

The distinctive feature of Essey's Yakuts, which makes them different from Yakuts – Sakha, is that they are reindeer herders – there are several reindeer brigades (teams) in the posyolok. People also hunt wild reindeer, whose migration paths are in the immediate vicinity of the posyolok. Some residents of the posyolok hunt fur animals, their hides are used for making clothes. Besides reindeer herding and hunting, people also fish. People mainly fish in the rivers, as fish from the lake is dangerous for eating (Krivonogov, 2013; Koptseva and Kirko, 2014; Batashev, 2013).

There are some problems in the sphere of traditional occupations. In particular, the quality of caught fish is often not up to the food standards, as some species of fish are infected with parasites. Sometimes fishermen catch fish with abnormalities in the development, so the local people also say about the harmful effect on the ecological situation of the Polar Division of MMC “Norilsk Nickel”, whose emissions are carried as far as the village.

Today some Yakuts, engaged in traditional occupations, replace chums (raw-hide tents) by tourist tents. Long-livers are critical about this innovation, saying that chums were better, because they are very convenient for dry and smoke fish and meat. Earlier fishermen set chums, then – tents, now they are increasingly replaced by wooden log huts (golomo). Today chums are still used as dwellings (Varavina, 2013).

Another problem is associated with hunting wild deer: the population of the posyolok and municipal district authorities are aware of the fact that the migration paths of wild reindeer are not fixed and in a few years deer can go by a different route (not through the posyolok), which will cause dramatic changes in the traditional way of life.

It should be noted that modern civilization is present in the village in a very limited form. To communicate with the outside world people use letters (including purchase of clothing). In addition, food products and household items are brought to order by helicopters, which are the main transport, carrying cargo and passengers. There is satellite TV in the posyolok. There is no Internet and mobile phones.

People get around by motor boats, in winter—by snowmobiles, there are no other vehicles in the posyolok. The residents of the posyolok still use narty (dog sledges) in winter.

Therefore, the use of technical advances and innovations by Essey's Yakuts is very limited. Moreover, many of the inconveniences, associated with natural conditions, are not considered by the

residents as a problem. For example, in summer it is difficult to get around the posyolok because it is actually located on lake Essey, so the land is water logged, but nobody pays much attention to it, as well as to the problem with drinking water – the water in the lake is heavily contaminated with human waste, and the cemetery located nearby is an additional source of danger to health. The factors of anthropogenic pollution are considered by the residents to be a much greater threat – lately people have increasingly started to suffer from oncological diseases.

The next area of interest in the study is *the analysis of social and cultural situation*, which will include information about family, culture, language, and health care in the settlements of indigenous small-numbered peoples.

It was found that in the society of Hordogoy there still exists patriarchal order. There are several men living in the village who are authoritative carriers of cultural heritage. The Council of veterans-long-livers is very important in the village; their opinion is always taken into account by the residents, as well as by the administration. In recent years, women have become more active, they get involved in politics, solve problems connected with the life of the village on the equal footing with men.

Views on *family and marriage relationships* in Hordogoy are not as conservative as they used to be. Long-livers agree that marriage for love and one's own search for a spouse is not worse than the traditional parental matchmaking, where the most important thing was the status of the family, which could be beneficial to intermarry. Today, many families have 1-2 children, although traditional marriage involved production of a large progeny.

Families, living in the posyolok of Essey form clans. There are conflicts between members of family clans, connected with distribution of power and influence in the village, but the members of one clan support each other, they form family businesses. The way of family life is quite traditional: a man is considered to be the head of the family, elders are respected, their opinion is taken into consideration, as a rule there are not less than three children in a family. It is interesting to note, that not long ago the marriage with a person from a lower clan, were frowned upon by the relatives, and preference is still given to a marriage with a Yakut, rather than to a mixed marriage, which illustrates the commitment to the traditional way of life (Koptseva and Kirko, 2014; Nakhodkina, 2013; Makarov, 2013).

As for *the health care*: there is a feldsher – midwife station on the territory of Hordogoy. It is systematically and completely supplied with medicines, but there is only one feldsher (rural

paramedic). The village is remote and isolated, with limited transport connections with the outer world; therefore, emergency medical assistance is problematic.

In the posyolok of Essey there are big problems with prevention and treatment of diseases, since there are not enough doctors and medical equipment. Today Essey's Yakuts prefer to be treated with modern medicines, they consult with specialists, but, nevertheless, they are aware of the old ways of treating various diseases. Usually various medicinal herbs are used for these purposes: cowberry leaves are used as tea, dried moss is planted on clothes for the prevention of colds. Currently, the outflow of population is mainly connected with people over 50, who are leaving for Tura in order to have access to medical care.

Situation with *education* in Hordogoy is the following: there are the essential educational institutions in the village: a kindergarten and a boarding school (internat), designed for a small number of pupils. Therefore it was decided to build another kindergarten and expand the school premises. According to the school curriculum, a large amount of time is devoted to studying the native language and ethno-cultural subjects (horse-breeding, work with beads, horsehair etc.). Besides, much time is spent studying fundamentals of computer science, a foreign language. Yakuts believe that education is an important component in formation of an integrated personality.

People Essey's Yakuts speak a special dialect, which differs from the language spoken in the Sakha Republic due to a large number of archaisms. All the children in the village speak their native language; there is a problem with their adaptation to the Russian language. In addition, there are problems with education in the Yakut language, because there are no qualified specialists, while local people do not welcome the teachers from Yakutia, thereby asserting their separateness and uniqueness. It is also notable that Essey's Yakuts consider written speech of the elders more correct, pointing that they use the Latin alphabet rather than the Cyrillic alphabet. The researchers note that the Latin alphabet, proposed by S.A. Novgorodov for creating civil writing, is easier to use than the Cyrillic alphabet and allows to convey all the nuances of sounds of speech (Filippov, 2006).

In terms of *culture and language*, Hordogoy can be called a mono-ethnic village, as it is dominated by Yakuts. The locals believe that the determining factor of ethnic identity is the language. That is why long-livers of the village believe that learning from an early age, as well as communication, should be only in the native language. Every resident of the village says with pride that he is a "Sakha". Here you can

also hear about the special purpose of the Yakut ethnic group, the importance of its authentic development. The population treats their historic memory with great care. The history of the village is preserved and popularized by the director of Vilyuchansk art gallery A.M. Maksimov, as well as the staff of the cultural and leisure center "Buluuyeeene". Close proximity to nature, traditional occupations, and also national festivals help to preserve the identity and culture of Yakuts. Particularly important is Ysyakh (June 21), showing animist beliefs of the ethnic group and consolidating all the Yakuts of the Republic.

As it has been already mentioned, Yakuts are close to nature. Moreover, they have formed a unique, traditional culture of the nature – man dialogue (Popov; 2004). Communication of people with the nature is very intense. This is reflected in folklore, literature and everyday activities.

Yakuts have developed a comprehensive system of ecological traditions which are observed for example during hunting and fishing season, and which are expressed in the bans on hunting animal of certain species, gender, and age, in regulating the needs and preserving the balance of animals in certain hunting areas etc. The essence of environmental awareness was expressed in religious notions about nature, in the face of which man felt like a younger brother, part of nature. That is why they do not hunt animals in excess of their needs, hunting only game animals and birds, observe totems. For example, Siberian white crane, swan, birds of prey are considered by Yakuts to be totem birds. Therefore, Yakuts are very sensitive to development of their areas by large industrial companies. Ecological situation in the ulus (district) to which Hordogoy belongs, is very difficult nowadays. Diamond and hydropower industries have caused degradation of river ecosystems and also caused deterioration of health of the indigenous population.

The important source of information in the research was an in-depth interview. In 2010, in the posyolok of Essey the interviews with several people were conducted, including the local school teacher Alexeeva Antonina Yevgenyevna, who told about the history of the posyolok, rites and traditions of Essey Yakuts, and Maimaga Sergei Mikhailovich, head of the administration of the posyolok of Essey, who described the current situation in the settlement. In the table 1 shows changes in the life of Essey's Yakuts from the beginning of the XX century to the first decade of the XXI century.

Table 1. Changes in the life of Essey Yakuts from the beginning of the XX century to the first decade of the XXI century

Beginning of the XX century	2000 – 2012 years.
Favorable environmental situation	Ecological changes connected with large industries in the North of Krasnoyarsk Krai
Treatment of diseases with the help of traditional medicine	Modern methods of treatment are preferred. The emergence of oncological diseases.
Population is engaged in traditional occupations: hunting, fishing, reindeer herding, fur manufacturing.	An attempt has been made to organize private enterprises based on traditional fishing activities
Food that is procured by the locals themselves, traditional Yakut and Evenk dishes	Ethnic dishes predominate in daily diet. Yukola (from fish or venison), heley, salamat.
People wear national clothes in everyday life	National clothes are worn only by people working in taiga, who are engaged in hunting, fishing or reindeer herding. Young people and people who permanently live in the posyolok wear modern clothes.
Traditional religion: all the rituals were as a rule connected with a certain animal. Each family had totemic figures which were kept in the house.	The rituals are partially preserved. The memory of the totem animals survived but the figures are no longer kept in the house.

According to the table, the environment has practically not changed, deteriorations are associated only with appearance of anomalies in the development of animals, which the locals explain emissions of large enterprises, and the fact that residents started to suffer from oncological diseases more often.

In the health care the transition from biological system to civilization is observed. Preference is given to modern medicines, but the traditions of folk medicine are not forgotten, they are used if necessary.

Since the beginning of the XXI century there have been attempts to organize private enterprises in the posyolok. For example, the Maimaga family is trying to restore a workshop for sewing fur clothing

in the village. The head of the village S.M. Maimaga (informant) expressed the opinion that the fur workshop should eventually become an independent enterprise, explaining that the performance will increase when the workshop becomes the property of the current leader. S.M. Maimaga emphasized the need to not only sew comfortable clothes, as it is the done at present, but to decorate them with traditional motifs to preserve the identity.

Informant Alekseeva A.E. told about the tradition to smear the door of the newly – built house with blood of reindeer. It was obligatory to fire a stove in order to feed the spirits with melted fat. This ritual is partially preserved.

Rituals and traditions of Essey Yakuts indicate their involvement in biological system, their relationship with nature, which is still preserved today.

In 2012, in the village of Hordogoy the depth interview was conducted with five key members of the local population (including both the representatives of administration of the village and respected villagers): informant Aytalina Vitalievna – a specialist of the village administration; informant Alexander Moiseevich Kirillin – deputy chairman of the village Board of Deputies; informant Nikita Semenovich Glukharev – a long-liver of the village (99 years); informant Alexander Moiseevich Maksimov – the director of the art gallery, a lecturer in “national culture”; informant Fatima Nikiforovna – a village long-liver, the chairman of the Board of Veterans. The selected interviewees were asked questions on the problems of interaction of the local population and industrial organizations in Suntarsky Ulus (region); on the nature of changes that have occurred in recent decades in the territory Vilyuchansky Nasleg (settlement) in connection with the arrival of financial-industrial groups to their territory; on traditional Yakut practices of use of nature. In the table 2 shows types of changes in the lifestyle of the Yakuts living in the village of Hordogoy from the beginning of the XX century till the beginning of the XXI century under the influence of the industrial development of the area.

Table 2. Types of changes in the lifestyle of the Yakuts living in the village of Hordgoy from the beginning of the XX century till the beginning of the XXI century under the influence of the industrial development of the area

1890 – 1930 years	2000 – 2012 years
Favorable environmental situation	Violations of environmental regulations in the territory Suntarsky Ulus of Vilyuchansky Nasleg
High level of health of population	Reduction in the level of health of population health (alcoholism, oncological diseases)
High life expectancy (average life span: 80 years, life span of more than 50 % of population — more than 100 years)	Low life expectancy (average life span: 60-70 years)
Religion: shamanism, paganism (indigenous religion “Ajyy” – “Divinities”)	Religion: official Christianity, unofficial – paganism
Population of the village -1,300 people	Population of the village 670 people
A wide range of traditional economic activities (occupations): breeding cattle (deer, cows, horses), birds; men – hunting, fishing; women – fur manufacturing, currying, weaving clothes from horsehair and other materials, gathering	A narrow range of traditional economic activities (occupations): breeding cows, birds; hunting, fishing (reduction of the amount of caught fish and animals); horsehair weaving, sewing traditional clothes only as arts and crafts

Let us comment on some parameters of comparison of the lifestyle of indigenous Yakut population at the beginning of the XX century and at the beginning of the XXI century, listed in the table. The first parameter for comparison is the ecological situation, which, according to the observations and evidence of long-livers of the village, has considerably deteriorated by the present time. It is clear that the results of the in-depth interview fixed not static data and scientific indicators of the ecological condition of the region, but rather the changes observed by ordinary residents, which are as follows: after the construction of “Vilyuiskaya HPS III”, the crystal clear water of the river Vilyui acquired a reddish hue, indicating pollution of the river; today the water is unsuitable for use without additional purification, as during the construction of the hydro electric power station ancient burial sites

and forests that produce the chemical elements harmful to human health were in the flood zone. Another observed change in the environment is a persistent smell of hydrogen sulfide that is felt in Mirny, located not far from Vilyuchansky Nasleg.

The health of indigenous population in Vilyuchansky Nasleg has deteriorated, as evidenced by the decrease in life expectancy (from the village of long-livers Hordgoy turned into a village with a typical life expectancy of 60-70 years), as well as the emergence of “civilization” diseases - for example, oncology and alcoholism.

Aboriginal religion of Aiyy, based on shamanism and pagan worship of nature deities, which also regulated the relations of biosystem and humans, was officially replaced by Christianity. Christian religion has taken root in Yakutia only at the official level (during the arrival of Christianity Yakuts baptized in order to get tax exemption), while the pagan festival of Ysyakh (the festival of agricultural cycle – the arrival of summer) has retained its dominant value.

The most favorable period for the growth of the indigenous Yakut population in the northern settlements was the period of inclusion of Yakutia in the Soviet Union, when sovkhosy were organized in naslegs, which involved supplying the areas with agricultural machinery, cattle, which allowed to actively practice traditional use of land and provided jobs for young people in the state farms. After the end of the period of state farms there were no jobs for young people left in the village. The younger generation of native Yakuts of Vilyuchansky Nasleg get education in the cities – Mirny, Yakutsk, Krasnoyarsk, Novosibirsk, St. Petersburg, mainly in technical disciplines – engineering, oil industry, or humanitarian – philologist, which are not fully needed in the village. Young people leave the nasleg to find work in the big cities of Yakutia and Russia, which will eventually lead to complete disappearance of indigenous Yakut people rural areas.

As for traditional economic activities (occupations) (breeding livestock and poultry, production of food products and consumer goods), they are either significantly reduced in volume (more than by half as compared with the beginning of XX century) or disappeared from the natural way of life, becoming arts and crafts museum practices (the Art Gallery was established in the village of Hordgoy to create national clothes and household items at least in the form of museum exhibits).

4. Conclusion

The research hypothesis was that the indigenous peoples who live in a particular area must be an integral part of the biological system of the territory,

and ruining indigenous lifestyles or interference in the natural system, ignoring the practices of traditional use of nature, entails irreversible changes in the biological system. During the field research and comparative analysis it was found that the traditional culture of the Yakuts today adapts to external changes, while at the same time trying by all means to preserve its uniqueness and originality.

The comparative analysis of the representatives of a seemingly integral ethnic group reveals some features of the process of adaptation, characteristic for indigenous small-numbered peoples of the North. Isolation of Esseyens Yakuts, their compact living on the remote territory far from other ethnic groups, certain natural conditions largely determined the specific features of their way of life, distinguishing them from the Yakuts, residing in the territory of the Sakha Republic, determining the peculiarities of their interaction with nature and civilization. Rituals and traditions of Esseyens Yakuts indicate their involvement in the biological system, their relationship with nature, which is still preserved today. It was noted that Esseyens Yakuts make very little use of technical innovation. Moreover, many of the inconveniences associated with natural conditions are not considered by the residents as a problem.

As for the Yakuts of Hordogoy village of Suntarsky Ulus of the Sakha Republic, it can be said that representatives of this ethnic group demonstrate high level of preservation of culture in the changing society and strong connection with nature (through traditional occupations, crafts, etc.), which is enhanced by the natural landscape, historical memory, authority of long-livers. The traditional is not forgotten; rather it is the new which adapts to the established order. Some residents speak disapprovingly of the Western influence on young people. But still, almost every house has a satellite TV, radio, landline telephones. Some families have Internet access. Modern transformations that make life in Hordogoy more comfortable are positively assessed by the residents.

In general, it can be concluded that the process of integration into the “major culture” is more intense in Hordogoy village, while Esseyens Yakuts are to a larger degree aiming at the preservation of traditions and uniqueness of the Yakut world outlook.

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