

Traditional Knowledge in Socio-Economic Development: National and Local Perspectives

Svetlana Panikarova

Chair of Management

Katanov State University of Khakasia

Abakan, Russia, 620067, Russia

Ekaterinburg, Uralskayastreet 52/1, 136

E-mail: panikarova_s@mail.ru

(Received: 3-4-13 / Accepted: 13-5-13)

Abstract

The purpose of this paper is to discuss the perspectives of use of traditional knowledge in national socio-economic development in general and in the development of local communities of aboriginal nations of Siberia in particular. This study aims to analyze the traditional economic activity with the help of the questionnaire of 1500 respondents (from different ethnic groups) in different parts of the Siberian region - Khakasia. The results of empirical research have shown that in Khakas communities traditional kinds of activity are extended and they are of great importance for people as earlier. Comparative analysis of labor productivity in animal husbandry and wildlife management allows to draw a conclusion of positive influence of traditional knowledge on these fields of activity. Some clusters of traditional economic institutions of the indigenous people of Southern Siberia have been identified. The results of evolution of traditional institutions and their current state are presented. Even the transformed institutions are accepted by members of national communities as earlier. The spiraling process of traditional knowledge of Khakas people is explained in the SECI Model. Three strategies to manage the traditional knowledge were recommended. The research demonstrates the traditional knowledge may be the factor of economic increase and social development for local society. Moreover, it is a national heritage and it needs to be managed.

Keywords: socio-economic development, community, traditional knowledge.

1. Introduction

Traditional Knowledge refers to knowledge, capability, experience and wisdom that have been accumulated, existed, survived or developed in accordance to the ecological system, natural surroundings, society and cultures. According to UNESCO the meaning for traditional knowledge is similar to intangible cultural heritage: the practices, representations, expressions, knowledge, skills that communities, groups and, in some cases, individuals recognize as a part of their cultural heritage (UNESCO, 2003). Knowledge is a process involving the social construction of ideas about the external world that guide human action. Traditional knowledge systems, locally rooted in a particular geography, are mostly culturally transmitted via collective memory that is encoded in stories, myths, legends, songs, dances, rituals, and practices. Traditional knowledge can be common knowledge, such as knowledge about land-

use or resource-use, practices, and may be shared by the members of all the social groups within a community (Xu et al., 2005).

The interest to intangible cultural heritage and traditional knowledge as factors in socio-economic development has increased for last decades all over the world. Unfortunately the capabilities of traditional knowledge as resource in national and local sustainable development in Russia are not realized to the full.

The purpose of research is to discuss perspectives of use of traditional knowledge in national socio-economic development in general and in the development of local communities of aboriginal nations of Siberian particular.

Following ways of using of traditional knowledge potential for Russian economy and society:

a) Economic benefits and impact of traditional knowledge:

- Tool for development of tourism and connected branches;
- Way of increase of Agricultural production and wildlife management;
- Resource for development of alternative medicine;
- Tool for regional development;
- Creating jobs for Aboriginal people and migrants;
- Energy saving;
- Catalyst of technical innovation.

b) Societal benefits and impact of traditional knowledge:

- Serving as catalyst of intercultural dialogue;
- Promoting sustainability;
- Forging local and regional identity;
- Contributing to social cohesion;
- Enhancing quality of life for Aboriginal people and migrants.

The research describes economic and social situation of one of Siberian ethnic group – the Khakas people. Khakas is an aboriginal ethnos of Southern Siberia which traditional employment are nomadic cattle breeding, hunting and gathering of forest product.

The structure of the paper is as follows: The second section presents the problem definition and introduces Khakas community background. The third section presents the research framework about traditional kinds of activity of Khakas people. The fourth section presents the results of the evolution-institutional analysis. The fifth section presents the discussion about management of knowledge in Khakas communities and the last section is the conclusion.

2. Problem Definition

In 1991 the territory populated by Khakas people and it got the status of a republic. The title ethnos (Khakas) makes 12% of population of Khakasia or 65,4 thousand persons. The contemporary ethnic composition of Khakasia has been formed rather recently. The results of the First Russian Population census in 1926 showed Khakas had made 53% (44,2 thousand persons) of all inhabitants of the territory. Population had sharply increased (3,1 times) from 1926 to 1939. It continued to improve further because of inflow of labor migrants from other parts of Russia. This influx of the Russian-speaking migrants has provoked the acceleration of assimilation of the autochthonic population. The government policy on industrialization of Siberia has destroyed habitual life of the aboriginal people and hasn't offered any other alternatives of employment. Physical and mental health of Khakas have been dramatically decreased.

ing in the Russian reforms of the end of the 20th century (Logacheva, 2005). Khakas people have poorly adapted to the new socio-economy institutes and the alien means of generating livelihoods. Social problems, including alcoholism, are prevalent in the Khakas communities. In this connection Khakas communities are characterized by the lowest level of economic improvement and the life quality.

The government decisions of the period of a planned economy on agro-industrial development Siberia have negatively affected the environment of Khakasia.

Firstly, there was a campaign for tilling virgin soil in 1956-1961 when 46% of farmland of the Republic had been ploughed. Such scale plowed land without local agroclimatic features has led to heavy ecological consequences. The steppe territories underwent the strongest wind erosion and soon the arable land has been destroyed. To this day 85% of an arable land are subject to a wind erosion and about 30% are carried in the category of poor (having 1,5-2% of a humus) (Kandalova, 2010). The area of pastures was reduced therefore by many collective farms (collective farms and soviet farms) which have been compelled to overtake cattle for grazing in summertime in a taiga. As a result of hundred springs and the wood rivers have been trampled and have disappeared. A lot of rare species of plants have stopped to exist.

Secondly, there was a campaign for development of light industry in the 1960th when several powerful industrial complexes had been constructed. It was necessary to increase a livestock of sheep for maintenance complexes of raw materials (wool). The livestock of sheep has increased 3,3 times in republic for 30 years and has got about 1,5 mln in the 1990 (Table 1). The cattle breeding was still extensive, therefore loading on pastures was excessive and by the end of the 1990th it made 5 times more scientifically-proved norm. It has caused a deep and scale degradation of the steppe territory of Khakasia.

Table 1: Livestock dynamics in Khakasia

		Livestock of everything (thousand)						
		1880-92	1917	1990	1995	2000	2005	2010
1.	Equines	73,3	70,9	28,2	24,7	14,7	14,3	31,9
2.	Cattle	75,1	113,8	257,8	179,1	134,3	139,2	169,4
3.	Sheep	168,8	277,2	1488,8	543,7	156,8	78	175,0

Thus various government policies that aim to modernize, standardize, and scale up rural production as well as increase manufacturing demand destroyed the system of traditional knowledge which was existing for many hundreds years in the Khakas territory. For generations, Khakas have lived in natural ecosystems in which they have developed and practiced lifestyles and belief systems that draw upon their deep knowledge about local plants, wildlife, and ecology. They used different strategies for maintaining livelihoods including hunting, gathering, nomadic grazing, fishing, and intensive agriculture. This variety of strategy provided preservation of ecological system.

3. Traditional Kind of Economic Activity

3.1 Traditional Agricultural Activity

The purpose of this abstract is to prove that traditional knowledge of Khakas people remains in local communities on the contrary to assimilation and negative state policy consequences for ethnos. This study aims to analyze traditional economic activity of Khakas with the help of the questionnaire of 1500 respondents (Russian and Khakas) in different parts of Khakasia.

The results of empirical research have shown that in Khakas communities traditional kinds of activity are extended and they are of great importance for people as earlier (Panikarova,

2011). In Khakashaoldings the cattle breeding still prevails (Figure 1). The livestock of Khakas holdings is about 25-50 % more than of Russian holdings.

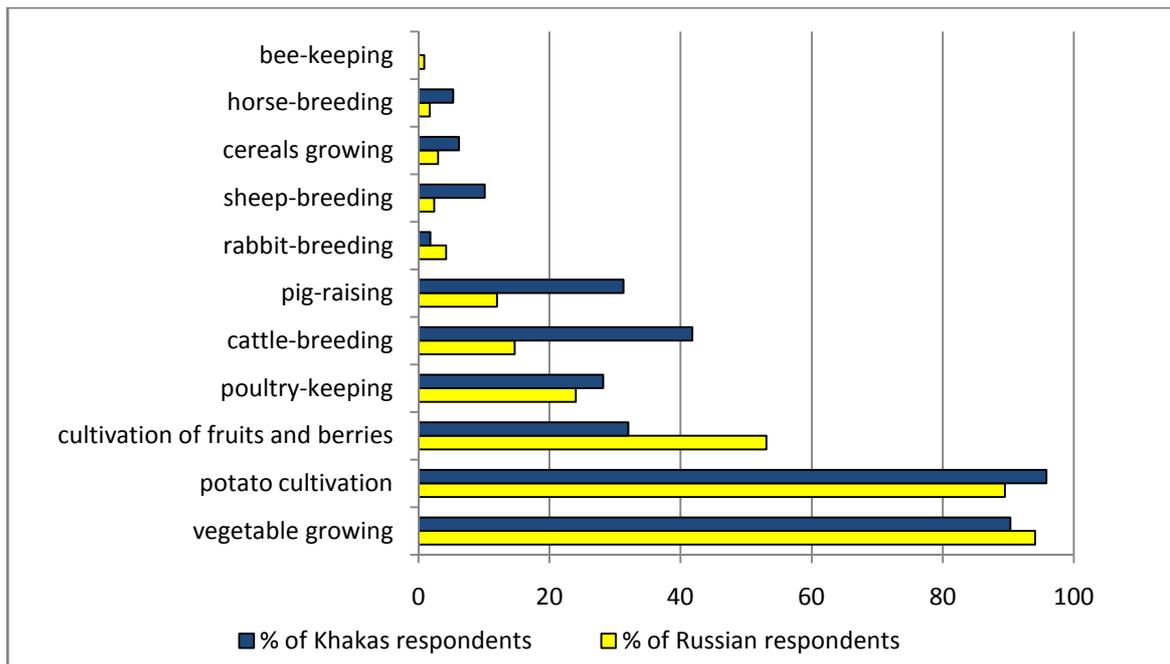


Figure 1: Shares of household economy are involved in traditional agricultural activity

The visible land-user differences exist between Khakas and Russian holdings. The Khakas people are using the smaller area of the land as fields and gardens than the Russian and greater part of land as haymakings and pastures.

The Siberian indigenous people show preference to traditional kinds of agricultural activity. By the results of research Khakas people want to be more included in cattle-breeding activity than Russians (Figure 2).

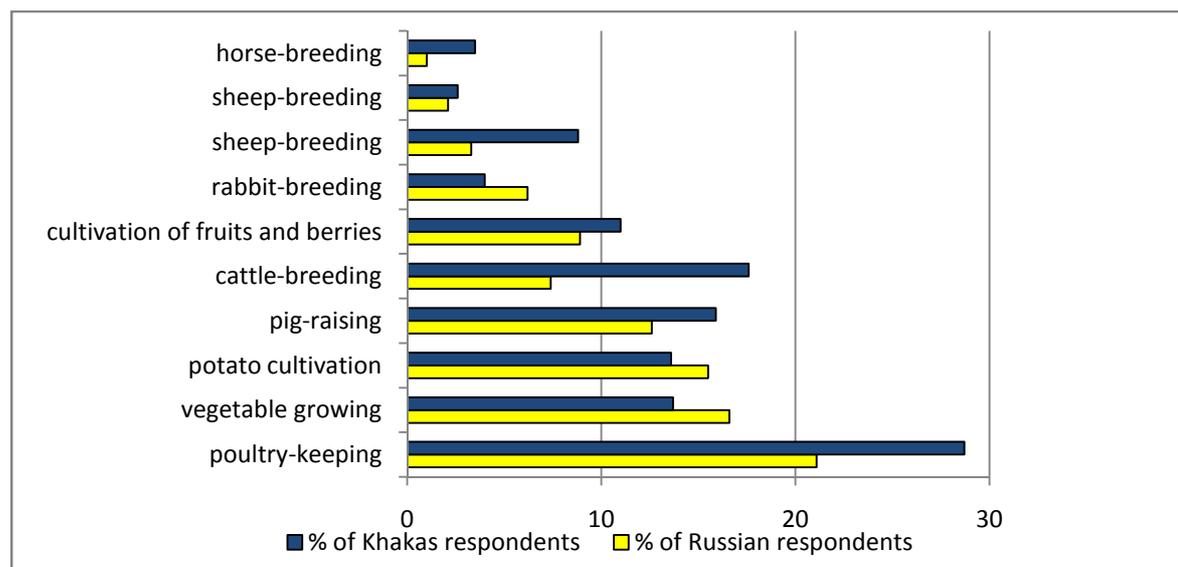


Figure 2: Shares of household economy is wanted to be included in traditional agricultural activity

3.2 Traditional Wildlife Management

Traditional wildlife management takes a significant place in maintaining livelihoods inhabitants of Siberia. For example about 40% citizens of Khakasia are involved in to gathering. Figure 3 describes that there more Khakas people than Russian which are involved into gathering.

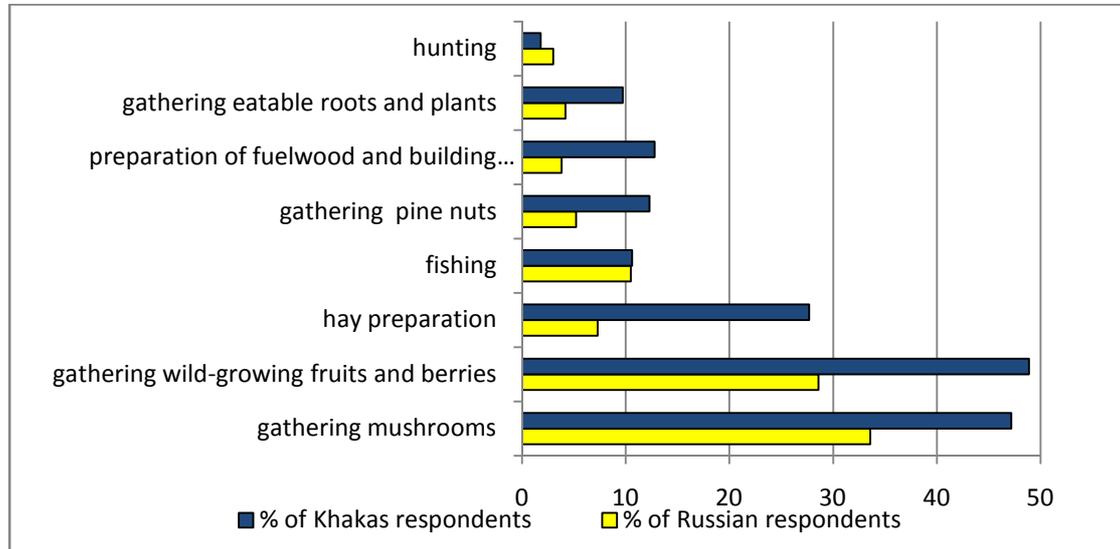


Figure 3: Shares of household economy are involved in traditional wildlife management

Like in an agrarian activity, in traditional wildlife management the question concerning their desire to be engaged in any kind of activity has been asked to respondents. Apparently in Figure 4, Khakas holdings have more desire to be engaged in traditional kinds of wildlife management than Russian. Gathering of wood mushrooms is the Exception (historically Khakas didn't collect and overwork mushrooms).

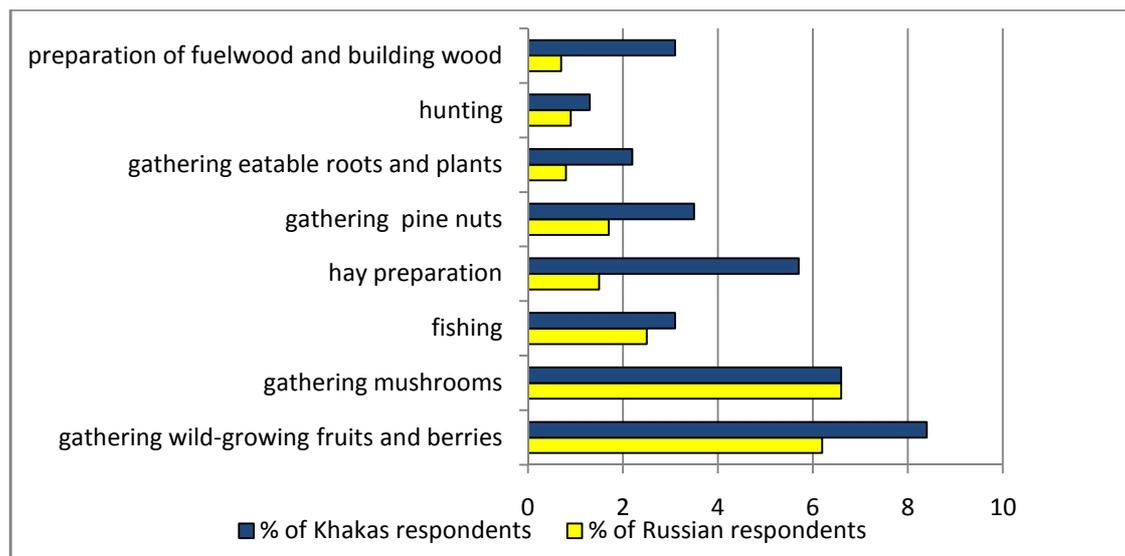


Figure 4: Shares of household economy is wanted to be included in traditional wildlife management

3.3 Labor Productivity in Traditional Kinds of Activity

Comparative analysis of labor productivity in animal husbandry and wildlife management allows to draw a conclusion of positive influence of traditional knowledge on these fields of activity. Khakas holdings have more labor productivity in comparison with the others in traditional kinds of activity such as: beef cattle breeding, sheep-breeding, gathering eatable roots and plants, gathering pine nuts. On the contrary labor productivity of Khakas holdings on the kinds of activity borrowed by Russian immigrants is much less for example: pig-raising, potato cultivation, vegetable growing, cultivation of fruits and berries (Table 2).

Table 2: The Labor Productivity Khakas Holdings

№	The kind of activity	The holdings of region on the average (rubles in hour)	Khakas holdings (rubles in hour)
<i>Agricultural Activity</i>			
1.	Beef Cattle Breeding	39,4	63,0
2.	Dairy Cattle Breeding	48,9	38,0
3.	Sheep Breeding	49,3	95,4
4.	Pig Raising	29,8	21,7
5.	Potato Cultivation	51,9	36,6
6.	Vegetable Growing	18,9	15,3
7.	Cultivation of Fruits and Berries	144,4	29,8
<i>Wildlife Management</i>			
7.	Gathering Mushrooms	47,6	47,6
8.	Gathering Wild-growing Fruits and Berries	84,1	89,8
9.	Gathering Eatable Roots and Plants	186,9	246,8
10.	Gathering Pine Nuts	182,4	194

4. Traditional Economic Institutions

4.1 The Concept of Institution

In the study of any of a wide range of economic questions, it is difficult to ignore the importance and influence of institutions. In fact, since the origins of modern economic thought, this thesis has been accepted in differing degrees by a significant number of currents and theories. It was over a century ago that a system of concepts varying considerably from the postulates of orthodox neoclassic economic theory was established. The given approach was introduced for the first time by T. Veblen «Why is economics not an evolutionary science?» (1898) and «The place of science in modern civilization» (1919). T. Veblen, having rejected the idea of a human being as an atomic economic agent, suggested a notion of institutions as «sustained mentalities inherent in large social communities». Institutional economics had further been comprehensively developed by J. Commons, who was the author of transaction theory as any form of transferring legal control from one person to another, and who expanded Veblen's theory of evolutionary selection of institutions, and also by W. Mitchell, who studied applied issues related to economic dynamics, including economic cycle development.

Relevance of economic system development modeling from the existing equilibrium positions to new quasi-equilibrium ones caused establishment of evolutionary economics. Theory of evolution embodied the basic concepts of biological evolution theory by Ch. Darwin: heredity, variability, selection. Establishment of the given theory had worked its way up from theoretic-

cal premises by T. Veblen through evolutionary growth theory by J. Shumpeter to the models of economic system evolutionary growth by R. Nelson - S. Winter (1982).

T. Veblen was the first who suggested a more common and compact notion of institutions. Hence, in the present research work institutions will be referred to as well-established principles of interaction between economic agents.

There is another interpretation of institutions that can be found in economic literature: it is not only principles of interaction between economic agents, but also organizational forms of economic agent union (Hodgson, 2006). Such narrower interpretation of the notion of institutions results in the fact that establishment of certain organizations can be numerically estimated (Makarov, 2003). In the present paper we shall follow an interpretation of the notion «institution», which was suggested by G. Kleiner: «institution is a system of principles including a based principle and a set of mechanisms and valuable installations reproducing the given institution» (Kleiner, 2004).

It is essential to mention the fact that institutional interpretation of economic systems cannot have a zero level similar to neoclassic equilibrium position. The research by G. Hodgson (2006) demonstrated that a substantial methodological issue regarding description of evolutionary process of institutions is relative to any effort in terms of explanation of institution establishment in the context of natural pre-institutional state. Such efforts come to a deadlock due to the fact that they inevitably have to admit initial presence of other institutions, for instance, a language one. Hence, a remarkable feature of the recent studies in the scope of neoinstitutional theory was the recognition of several traditional economic institutions of indigenous people of Siberia for analysis.

Institutional function implies that a certain order or relative stability can be obtained on a meso-economic level with all the diversity and differences. Existence of institutions assumes that regulations, restrictions, customs and ideas can bring a certain variant into individual objectives and preferences by way of specific psychological and social mechanisms. Such variance might contribute to establishment and stability of institutions (Vlasov, 2010; Popov and Vlasov, 2013).

The present-day institutional economics claims three-level schemes of economic system research. The first level of the given scheme is occupied by an individual represented in the institutional theory as homo institutus (contract person) instead of homo economicus (economic person) in the neoclassical theory. The second level corresponds to various institutional conventions, the third one – to institutional environment.

Institutional description of economic system is based on a methodological approach by D. North. It includes the following key points (North, 1981):

1. only individuals may have their own interests and pursue their own goals;
2. formal and informal cluster of institutions always sets bounds to human interface and affects it;
3. formal and informal institution variations are always a result of human interface in specific conditions.

In other words, on the one hand, an individual is bounded to the existing institutional structure; on the other hand, he can modify the given structure according to his preferences. Thus, the core of institutional description of economic systems is evolutionary nature of institution structure development. In this respect, the modern institution theory is closely related to the evolution economic theory and it can be considered as an integration, namely, institution-evolution theory.

4.2 Evolution of Traditional Institutions

The purpose of the present abstract is to reveal the features of evolution of traditional economic institutions caused by socio-economic and political changes at various historical stages of Siberia.

In the course of research 5 clusters of traditional economic institutions of the indigenous people of Southern Siberia have been identified (Table 3).

Table 3: The traditional economic institutions

The economic institutions	The traditional institutions
Institutions for property	Institutions for corporate property of land
	Institutions for private property of cattle
Institutions for attraction to work	Institutions for labor mutual aid
Institutions for interaction between economic agents	Institutions for wandering
	Institutions for communal managements

The listed institutions are typical for the majority of nomadic societies. However evolution of traditional institutions of Siberian nomads is unique, as it is strong influenced by the Russian Empire policy at first and the Soviet Union policy later.

The territory of Siberia was attached to the Russian Empire in the 18th century. Since then traditional institutions of Siberian indigenous people passed a difficult way of evolution. There were some important periods of institutional transformation such as: imperial policy of resettlement of peasants from the Central Russia to Siberia (1890-1913th), revolution and military communism (1917-1920th), Stalin collectivization and repressions (1929-1938th), Soviet planned economy (1940-1990th), market reforms (1990-2000th). These historical periods were reflected in traditional institutions of indigenous people of Siberia on a miscellaneous. The results of evolution of traditional institutions and their current state are presented in the table 4.

Thus, results of the evolution-institutional analysis allow to assume that development of traditional economic institutions in contemporary economy is possible. Some institutes are defined which can increase economic efficiency of traditional kinds of activity of Khakas people such as:

1. Institutions for corporate property of land plus norms of market transactions with the land for users;
2. Institutions for private property of cattle plus different market norms of purchase and sale, rent, etc.;
3. Institutions for labor mutual aid involved different types of the cooperative enterprises;
4. Institutions for communal managements involved Institutions for communal managements.

Even the transformed institutions are accepted by members of national communities as earlier. Therefore they can become the effective instrument of social and economic development of indigenous people territories.

5. Management of Traditional Knowledge

Nonaka and Takeuchi (1995) proposed the SECI process by explaining how knowledge can be transferred and created. SECI is a spiraling process of interactions between explicit and tacit knowledge. The interactions between the explicit and tacit knowledge lead to the creation of new knowledge. The spiraling process of traditional knowledge of Khakas people can be explained in the SECI Model (Figure 5) also as it was made in research of P. Yodmongkon and N. Chakpitak (2011). According to the research, regarding the Khakas community, the management process of knowledge has to include three types of economic agents: local government authorities, entrepreneurs, members of Khakas community.

Socialization: the Khakas people, local government authorities and entrepreneurs shared experiences (tacit knowledge) through face to face communication. Each of economic agents creates concrete knowledge: local government – about institutional structure Khakas community, entrepreneurs – about using traditional institutions in market economy, members of Khakas community – about increasing efficiency of traditional activity.

Table 4: Results of Evolution of Traditional Institutions

Title of institution	Traditional institution		Current institution	
	Based principle	Reproducing set	Based principle	Reproducing set
Institutions for corporate property of land	Land belongs to a kin or a community	Norms of distribution of the rights of possession or using between families	<u>Trans-formed:</u> in the Constitution of the Russian Federation the principle of a private property on the land is fixed; principles of municipal and state property on the land are formalized	<u>Trans-formed:</u> market transactions with the land are formalized;land users are personified
Institutions for private property of cattle	The cattle is a private property of the head of the family	Norms of kin mutual aid (exchange, donation, inheritance, temporary using, etc.)	<u>Remained without changes</u>	<u>Transformed:</u> norms of kin mutual aid were transformed to market norms of purchase and sale, rent, etc.
Institutions for labor mutual aid	Joint agricultural works, hunting, gathering, etc.	Norms of planning, organization and distribution of result of joint activity (usually depending on a labor contribution)	<u>Transformed:</u> different types of the cooperative enterprises are formalized	<u>Remained</u> plus norms of entrepreneurship in market economy

Institutions for wandering	Moving at a distance of 10-50 km 2-4 times a year	Norms of management, use of resources, interactions	<u>Remained partially:</u> moving 2 times a year from winter house to a yurta and back	<u>Didn't remain</u>
Institutions for communal managements	Kin and communal management	Norms of decision-making, prestigious economy, punishment, responsibility, communal self-government	<u>Transformed:</u> institution for chieftains is formalized, the institution of local self-government is formalized	<u>Remained partially:</u> within management of national local communities

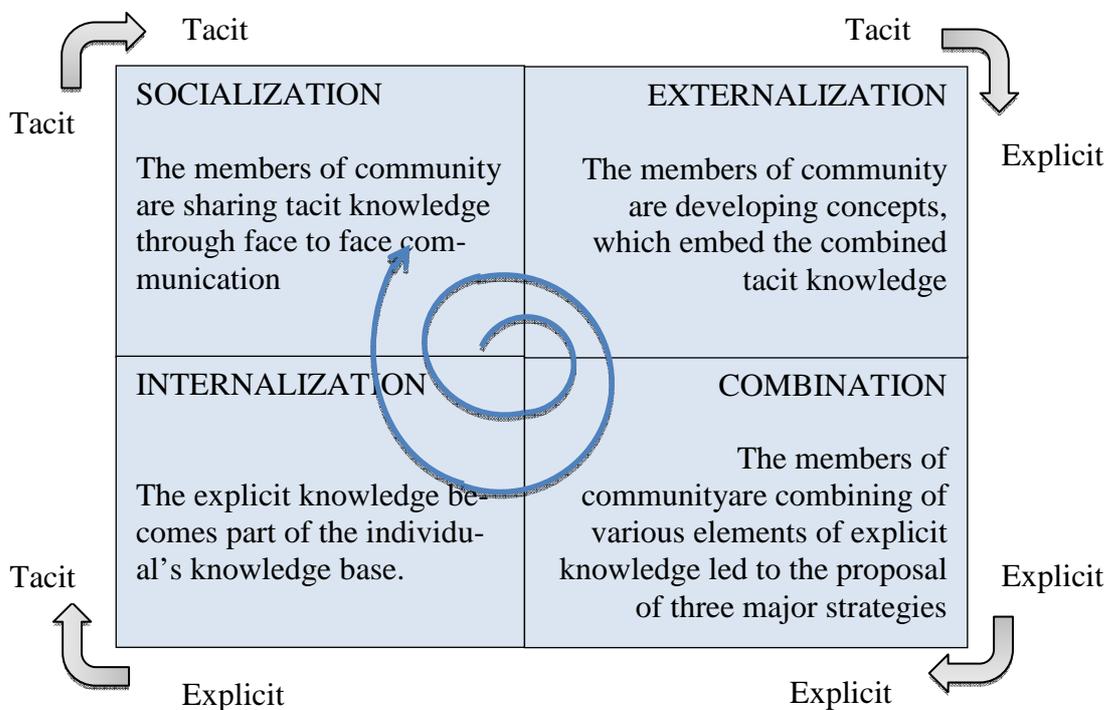


Figure 5: SECI Model (Nonaka & Takeuchi 1995): Khakas community

Externalization: From the creating commercial firms on exchanging experiences, economic agents are developing concepts, which embed the combined tacit knowledge. And which enable its communication.

Combination: The Khakas people, local government authorities and entrepreneurs are combining various elements of explicit knowledge which led to the proposal of three major strategies to manage the traditional knowledge (figure 6).

Internalization: The explicit knowledge becomes a part of the individual's knowledge base. For example, the entrepreneur receives knowledge for Khakas cattle breeder who takes part in encouraging the communities to socio-economic development. The Khakas people, local gov-

ernment authorities and entrepreneurs learn from each other and find the new way of managing their traditional knowledge together.

Therefore, traditional knowledge may be the factor of economic increase and social development for the local society.

Strategies	Key success factors	Socio-economic effect
<i>Animal husbandry development</i>	Participation of a local government in creation of agricultural cooperatives; Expansion of market infrastructure of animal husbandry	Increase quality of life of indigenous people; Growth of animal husbandry production
<i>Commercialization of traditional wildlife management</i>	Organization of purchase of forest production of the indigenous people; Supporting the processing and marketing enterprises	Increase quality of life of indigenous people; Preservation and distribution of indigenous people's traditional knowledge about environment
<i>Realization of a state policy taking into consideration the existence of traditional institutions</i>	Development of institutions for municipal and state property on the land; Development of different kind of market transactions with livestock (purchase and sale, rent, etc.); Support of different types of the cooperative enterprises; support of local self-government institution	Preservation and support of ethnic culture; Solution of social problems of Khakas communities

Figure 6: Strategies of traditional knowledge using

Conclusion

The major points covered by this paper may be summarized as follows, the traditional knowledge can be a factor of economic increase for local society if them to manage.

The results of empirical research have shown that in Khakas communities traditional kinds of activity are extended and they are of great importance for people as earlier. Comparative analysis of labor productivity in animal husbandry and wildlife management allows todraw a conclusion of positive influence of traditional knowledge on these fields of activity.

Some clusters of traditional economic institutions of the indigenous people of Southern Siberia have been identified such as: institutions for corporate property of land, institutions for private property of cattle, institutions for labor mutual aid, institutions for wandering, institutions for communal managements. As exemplified by our study of traditional institutions are accepted by members of national communities as earlier. Therefore they can become the effective instrument of social and economic development of indigenous people territories.

The spiraling process of traditional knowledge of Khakas people is explained in the SECI Model. According to the research, regarding the Khakas community, the management process of knowledge has to include three types of economic agents: local government authorities, entrepreneurs, members of Khakas community. Three strategies to manage the traditional knowledge were recommended such as: animal husbandry development, commercialization

of traditional wildlife management, realization of a state policy taking into consideration the existence of traditional institutions.

Acknowledgement

Research work is performed within the state task of the Ministry of Education and Science of the Russian Federation "Design of effective market institutions in procuring branch of the region

References

- [1] G.M. Hodgson, What are institutions?*Journal of Economic Issues*, XL(1) (2006), 1-26.
- [2] G.T.Kandalova, How to optimize the use of steppe pastures of Khakassia in modern conditions, *Steppe Bulletin*, 29(2010),3-20.
- [3] G. Kleiner,*Evolution of Institutional Systems*, (2004), Moscow: Science.
- [4] A. Logacheva, Khakassia – Perception the population of new living conditions, *Sociological Researches*,9(2005),82-85.
- [5] V.L. Makarov, Institution calculus, *Economics and Mathematical Methods*,39(2) (2003),14-37.
- [6] R. Nelson and S. Winter,*An Evolutionary Theory of Economic Change*, (1982), Cambridge: Harvard University Press.
- [7] D. North,*Structure and Change in Economic History*, (1982), New York: Norton.
- [8] I. Nonaka and H. Takeichi, *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*, (1995), New York: Oxford University Press.
- [9] S.V. Panikarova, Borders and structure of ethnoeconomy of region,*Regional Economy: Theory and Practice*, 222(39) (2011), 39-47.
- [10] E.V.Popov, M.V.Vlasov and A.Y.Veretennikova,Knowledge generation within a firm as an object of institutional design, *Actual Problems of Economics*,139(1)(2013),463-479.
- [11] United Nations Educational, *Scientific and Cultural Organization Convention for the Safeguarding of the Intangible Cultural Heritage*, (2003),Paris.
- [12] T. Veblen,*The Place of Science in Modern Civilization and Other Essays*, (1919), New York:Huebsch.
- [13] M. Vlasov, Resource differentiation of knowledge,*Proceedings of the 11th European Conference on Knowledge Management*, 1&2(2010), 1057-1063.
- [14] J. Xu, E.T. Ma and D. Tashi et al, Integrating sacred knowledge for conservation: Cultures and landscapes in southwest China, *Ecology and Society*,10(2)(2005),7, Online: www.ecologyandsociety.org/vol10/iss2/art7/
- [15] P. Yodmongkon and N. Chakpitak, Applying intellectual capital process model for creating a defensive protection system to local traditional knowledge: The case of Mea-hiya Community,*Electronic Journal of Knowledge Management*,7(4) (2011), 517-534, Online: www.ejkm.com.