UDC 338.463. 33: 330.34 (470. 1-17)

Problems of agri-food sector in the Pechoran Arctic region *

The article shows the significance of providing people with fresh products in the development of mineral resources base in the Arctic subregion of the European North-East. The article describes the environmental conditions of the region, analyses the labor and agricultural resources. It reveals the forms of business ownership and their place in the production of certain types of goods. The article shows the influence of 1990 – 2000 transformation processes on agricultural production dynamics and the state of the industry's production capabilities. Analytical data allowed to reveal present-day social and economic problems of the agrarian sector that are connected with macroeconomic and inter-sectoral deformation.

Agri-food sector, Pechoran Arctic region, environmental conditions, specialization, resource potential, agrarian reforms, socio-economic problems.

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The Arctic sub-region of Russia's European North-East (Pechoran Arctic region) comprises the following municipalities: the towns of Vorkuta, Inta, Usinsk, the Izhemsky and Ust-Tsilemsky rural districts of the Komi Republic, and the Nenets Autonomous Okrug (NAO). We included these municipal entities into the Pechoran Arktic region on the basis of their soil, climatic and economic conditions of agricultural production. This region is rich in mineral, fuel and energy resources. It contains significant reserves of coal, oil, gas, chrome, manganese, diamonds, vermiculite, nickel, copper and other rare metals.

* The article has been prepared in the framework of RAS Ural branch research projects No. 12-U-7-1013 "Opportunities for the preservation and sustainable development of the agri-food sector in the sub-arctic regions of the European North-East" and No. 12-7-8-006-Arctic "Pechoran-Ural Arctic. Role in the economy of the Republic of Komi, problems and directions of development".

The development level of sub-arctic regions' industry allows to allocate a considerable part of financial resources to the development of agri-food sector and rural areas.

Enhancing the role of arctic regions and adjacent territories in the country's socio-economic development depends on the participation of the indigenous peoples of the North, whose lifestyle, traditions and culture are based on traditional activities: hunting, reindeer breeding, sea hunting, fishing. The native minorities of the North are mainly employed in agriculture, hunting and fishing. The share of their employment in these activities equals 79 – 90% in some of the rural municipalities in the Nenets Autonomous Okrug [1, p. 7].

An important factor determining the mineral and raw-materials capacity development is the provision of the sub-arctic population with fresh wholesome foodstuffs: milk, meat, eggs, fish, potatoes and vegetables. The livestock products produced in the North contain more polyunsaturated fatty acids, essential for the prevention of cardiovascular diseases, than those produced in the Southern and Central regions of Russia. In addition, fresh and chilled meat preserves more vitamins than frozen meat.

The sub-arctic zone agriculture provides the population with fresh wholesome foodstuffs and promotes the development of food industry, ensures employment, prevents monopolization of the local food markets by individual suppliers, keeps down the prices for food products, imported from outside the region, preserves the traditional lifestyle of rural population, contributes to preservation of the indigenous peoples' spirituality, culture, traditions, improves the demographic situation, people's settlement pattern, promotes the preservation of environment and natural landscape. Agriculture also satisfies the recreational needs of population (tourism in the traditional industries).

The history of the Pechoran Arctic agriculture is deeply rooted. It developed along with the development of the territory and was aimed at providing the population with wholesome foods not subject to long-range transportation. The practical guidelines for the provision of the Pechora Coal Basin population with foodstuffs, reindeer breeding development, fodder production by meadow formation in tundra in the North-East of the Republic of Komi are described in the works [2, 3, 4].

The main agricultural branches include meat and dairy cattle breeding, poultry farming on a commercial basis, fodder production. Potatoes and vegetables production is concentrated in the population's farms and households.

Conditions and resource potential of agriculture

Agricultural climatic conditions in the Pechora Arctic region, such as short, cool summers, long, severe winters, do not promote the wide-scale arable farming. Permafrost covers most of the Nenets Autonomous Okrug territory, and only in the river valleys, especially in the lower reaches of the Pechora River and its estuary it is present in small patches. Soil on the vast territory of tundra thaws in the range of 30 – 40 cm. The mean annual temperature in the Kanin Peninsula is 1.3° C, in the town of Naryan-Mar – 3.3° C, in the urban-type settlement of Amderma – 4.1° C. Winter lasts 7 months, summer – 3 months, spring and autumn – 1.5 – 2 months. Vegetational season is 60 – 100 days with the accumulated temperatures of 800° C in the north and 1200° C in the south. The frost-free season is short. The frosts occurring in late spring and early autumn, sometimes in July and August, are damaging for crops [5, p. 9-10, 17-18].

The mean annual temperature in the sub-arctic zone of the Komi Republic is 3.2° C, average annual precipitation is 420 – 460 mm. The frost-free season lasts 70 – 80 days, the period of stable snow cover is 190 – 200 days.

The period with average daily temperature above 10° C (active vegetation period for the majority of cultivated plants) lasts only 64 – 76 days at the accumulated positive temperatures of 800 – 1000° C [6, p. 33].

Thus, the environmental conditions, and first of all, climate, soil quality and short vegetation period impede the efficient development of agricultural production. The conditions for arable farming are particularly unfavorable in the Nenets Autonomous Okrug and the municipalities: the town of Vorkuta and the town of Inta with prevailing tundra soils and extremely limited heat resources. The majority of the territory is permafrost. However, it should be noted that the conditions in the Pechora River basin are favourable for the development of cattle breeding (a sufficient amount of precipitations provides a relatively high efficiency of fertilizers; an almost continuous light stimulates the rapid growth of plants; large areas of floodplain meadows). The estimated forage yield from floodplain meadows of the sub-arctic zone in the Republic of Komi exceeds 17 thousand tons of fodder units.

Labour resources. According to the all-Russian agricultural census data as of 1 July 2006, in the Nenets Autonomous Okrug the share of people employed in large and medium-sized agricultural organizations reached 92%, in small enterprises – 4%, in farming enterprises – 1% and in individual enterprises – 3%. The share of the average annual number of employees of large and medium-sized agricultural enterprises of the okrug, engaged in fishing, was 0.9%, in the processing of products of traditional and other sectors – 28.7%. All the employees of small agricultural enterprises were engaged in processing of agricultural and fishing products [7].

Only 1.8 thousand people were employed in the agricultural sector of the sub-arctic zone in Republic of Komi in 2011, whereas in 1989 this figure exceeded 8 thousand people. The share of municipal unitary enterprises for agricultural products processing accounted for 12.4% of the total number of people employed in the agrarian sector, 46.9% – limited liability companies, 19.2% – co-operatives, 10.2% – peasant (farmer) enterprises, 11.3% – joint-stock companies.

At present, the agricultural sector of the zone lacks specialists – zootechnicians, veterinarians, engineers, accountants, middle managers. It experiences personnel turnover, low education level of managers and specialists.

For example, in 2011 the share of heads of the enterprises in the food sector with the length of employment under 3 years was 26.9%, and with that of 10 years and more – only 3.8%; over 2/3 of the senior management staff didn't have core education. Among all the managers and specialists, every fourth had no higher or secondary professional education, among the specialists (other than senior ones) – 29.8%, among middle managers – 37.3% *(tab. 1)*. At the same time, only 2% of managers and specialists improved their qualification in the system of continuing professional education.

Agricultural organizations in the sub-arctic regions experience the shortage of qualified personnel – farm machinery operators, machine milking operators, reindeer herders. It is conditioned mainly by the discontent with the remuneration of labour. The level of nominal gross payroll for agricultural workers in 2011 was 2 times lower than the average one in the republic's economy.

For instance, in the Izhemsky and Ust-Tsilemsky districts the average monthly wages of agricultural workers were only 34% of the average wages in these rural areas, 48% of the average wages in the republic's agriculture, 78% of the subsistence level. The average monthly salaries and wages in the republic's agriculture were 15.0 thousand rubles, in agricultural organizations of the sub-arctic regions – 14.6 thousand rubles and in the republic's economy – 28.8 thousand rubles.

Table 1. Education level of managers and specialists in agricultural organizations of sub-arctic zone in the Republic of Komi in 2011, %

Managers and specialists	Education		
	Higher	Specialized secondary	Without higher or secondary vocational
Managers and specialists	32.7	42.7	24.6
Heads of organizations	52.0	32.0	16.0
Chief specialists, among them:	50.9	41.5	7.6
agronomists	100.0	-	-
zootechnicians	42.8	57.2	-
veterinarians	25.0	75.0	-
engineers	50.0	33.3	16.7
economists	100.0	-	-
accountants	33.3	57.1	9.6
Specialists, excluding chief	24.4	45.8	29.8
Middle managers	19.4	43.3	37.3

It should be noted that the unemployment level in rural areas is rather high. In 2010, the number of registered unemployed was about 500 people in Izhemsky District, it exceeded 300 people in Ust-Tsilemsky District. There are also many unemployed who don't care to register themselves. All this indicates the potential for creating new jobs in the agricultural sector.

Land resources. The zone occupies the area of 32.7 million ha, including 18.5 million ha of reindeer pastures, 55% of which are located in the Nenets Autonomous Okrug, 45% – in the Republic of Komi. Only a small part of land resources is used for agricultural purposes – 0.4%, and the share of arable land is only 0.04% of the land area. A higher proportion of developed cropland is characteristic of Izhemsky (1.5%) and Ust-Tsilemsky (1.0%) districts. These territories account for only 0.3 ha of agricultural land and 0.03 ha of arable land per one resident.

The agricultural lands consist mostly of forage grasslands – hayfields and pastures *(fig. 1)*. So, there are 9.2 ha of meadows per one ha of arable land in the sub-arctic zone, 113 ha – in the Nenets Autonomous Okrug, 7.5 ha – in the Republic of Komi.

The analysis of agricultural resources showed that in the sub-arctic areas, in comparison with the Arkhangelsk Oblast and the Republic of Komi, the availability of biological resources is lower, except for the deer population per capita *(tab. 2)*.

Organizational and legal structure of agriculture

43 collective organizations, 22.9 thousand private households and 111 peasant (farmer) households are engaged in the production of agricultural products in the sub-arctic area. Forms of business ownership for the region in general, the sub-arctic areas of the Republic of Komi and the Nenets Autonomous Okrug are presented in *table 3*.

As the above data shows, in the sub-arctic area of the European North among the agricultural organizations, agricultural production cooperatives accounted for 60.5%, limited liability companies – 30.3%, joint-stock companies – 4.6% and state unitary enterprises – 4.6%.

Agricultural organizations had the leading part in egg production (Inta Poultry Farm) and meat production, and private households – in the production of potatoes and vegetables. The share of agricultural organizations in the total volume of milk production was 47%, the share of private households – 46%; the role of peasant (farmer) households in the production of agricultural products was minor. They accounted for 7% of milk, 4% of meat; 0.4% of eggs; 1.4% of potatoes and 0.2% of vegetables *(fig. 2)*.

Figure 1. Structure of agricultural lands in the sub-arctic area of the European North-East, %

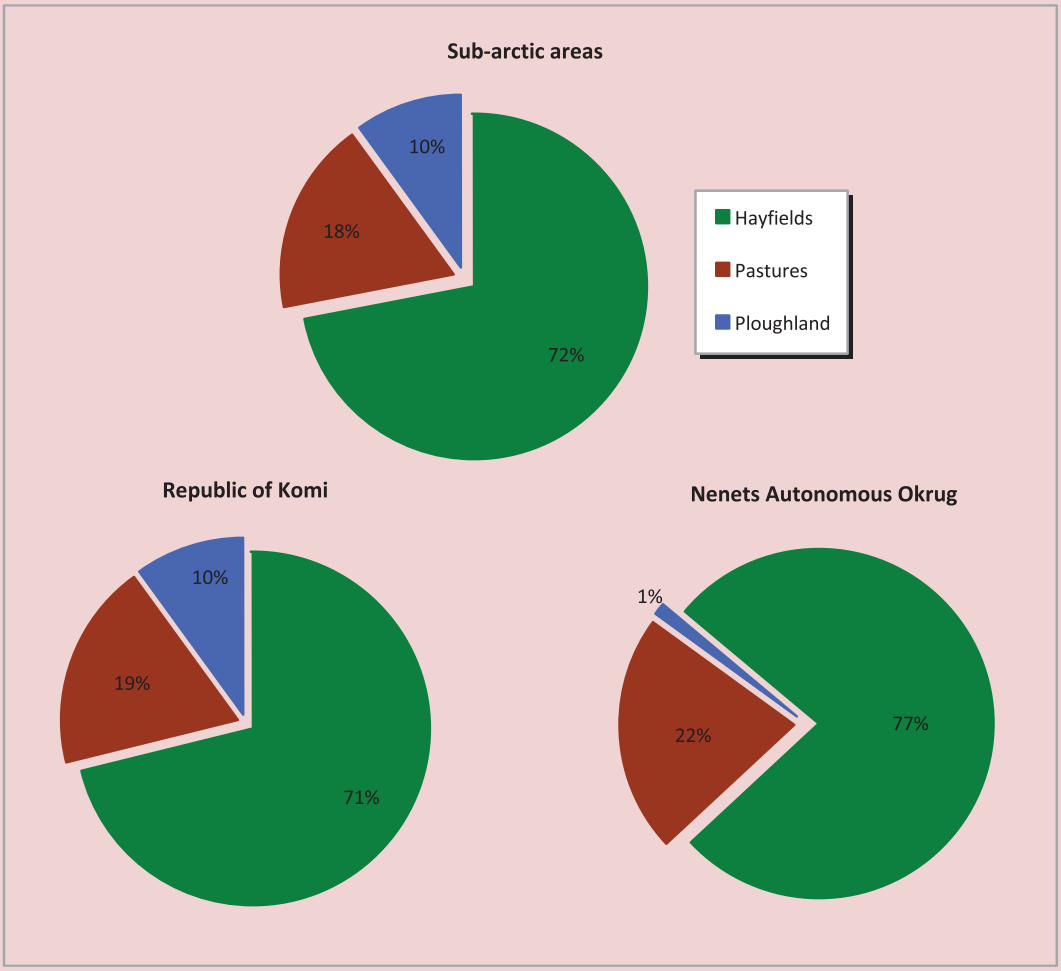


Table 2. The availability of agricultural resources (per 100 pers.) in 2010

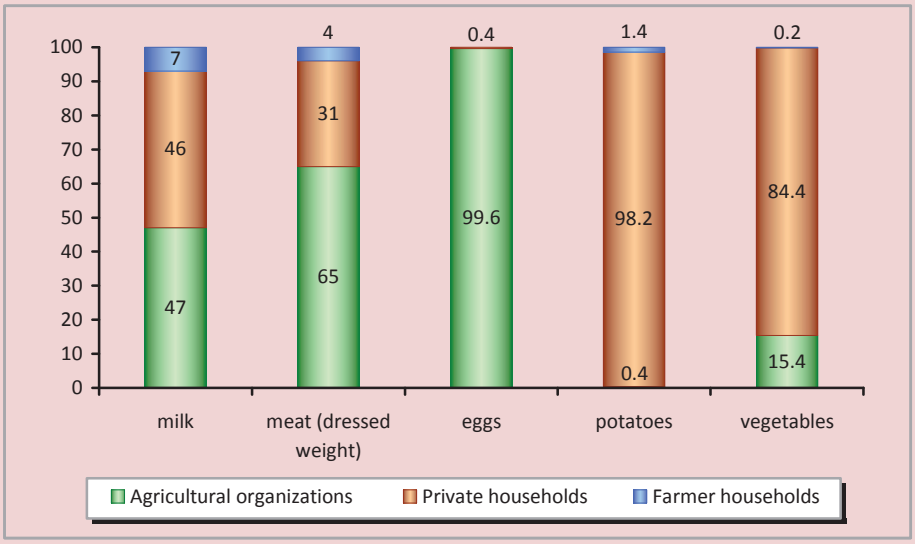
Municipal entity, region	Agricultural land, ha	Including ploughland	Cattle	Including cows	Deer, head	Swine, head	Sheep and goats, head
Vorkuta	3.8	2.1	0.02	0.02	6.7	0.2	0.003
Inta	30.9	3.1	2.1	1.0	88.8	0.17	0.6
Usinsk	26.7	2.9	4.1	1.5	58.3	0.1	0.7
Izhemsky District	139.2	15.7	15.5	10.2	40.6	0.3	4.1
Ust-Tsilemsky District	341.8	10.8	25.0	11.8	6.4	0.09	11.5
Sub-arctic regions of the Republic of Komi	28.2	3.3	2.4	1.2	22.9	0.3	0.8
Nenets Autonomous Okrug	53.6	0.5	4.0	1.6	404.9	0.0	0.2
Sub-arctic area of the European North-East	30.9	3.0	2.6	1.3	62.9	0.3	0.7
Arkhangelsk Oblast	37.6	18.1	4.6	2.1	0.2	2.0	1.5
Republic of Komi	33.3	11.4	4.3	2.0	9.3	2.8	2.0

Calculated: 1. Agriculture in the Republic of Komi. 2011: stat. digest. Komistat. Syktyvkar, 2011.
2. Regions of Russia. Socio-economic indicators. 2011: stat. digest. Rosstat. Moscow, 2011.
3. Agroindustrial complex of Russia in 2010. Moscow: Ministry of Agriculture, 2011.

Table 3. Forms of business ownership in the sub-arctic area in 2010

Municipal entity, region	State unitary enterprises	Agricultural production cooperatives	Joint-stock companies	Limited liability companies	Peasant (farmer) households	Private households, thsd.
Vorkuta	-	1	-	1	1	0.4
Inta	-	-	2	1	6	11
Usinsk	-	-	-	2	11	2.6
Izhemsky District	-	2	-	2	24	7.2
Ust-Tsilemsky District	-	2	-	7	35	6.2
Republic of Komi	-	5	2	13	77	17.5
Nenets Autonomous Okrug	2	21	-	-	34	5.4
Sub-arctic area	2	26	2	13	111	22.9

Figure 2. Share of different types of households of the sub-arctic area in the production of products in 2010



During the transition period, the region should develop large collective farms, with the simultaneous restructuring of production relations, as well as private households and peasant (farmer's) way of life. Small-scale commodity sector should be viewed not as an alternative to large-scale production, but as an addition, providing for the full disclosure of agricultural potential. Vorkuta and Inta, which experience an acute shortage of dairy products and lack their own fodder base, should have state-owned enterprises. Limited liability companies, agricultural production cooperatives and private subsidiary plots of the population will prevail in rural areas.

Influence of market reforms on the situation in the agrarian sector

The highest indicators in agriculture were achieved in the late 1980s – early 1990s. In 1990, the average annual milk production was 79.3 thousand tons, meat production (in live weight) – 19.3 thousand tons, eggs production – 132.2 million pieces; potato production – 12.0 thousand tons, vegetables production – 2.1 thousand tons. Almost all farms were profitable and all the kinds of products found a market. 176 kg of milk and dairy products, 25 kg of meat, 29 pieces of eggs, 27 kg of potatoes and 5 kg of vegetables were produced per capita of population.

In the total production output in 1990, agricultural enterprises accounted for 87% of meat, 86% of milk, 100% of eggs, 13% of potatoes and 97% of vegetables.

The transition to market economy had a negative impact on the agrarian sector, especially on the livestock breeding in the sub-arctic area. In 1990 – 2010, milk production in all categories of farms decreased 4.5-fold; meat production – 3.1-fold; eggs production – 2.4-fold; potatoes production – 1.4-fold; vegetables production – 1.3-fold. Changes in the volumes of animal husbandry production output are shown in *figure 3*.

The period under consideration shows a sustained reduction of livestock production per capita. Given the significant reduction in the number of population, milk production per one resident of the area decreased from 176 to 68 kg, meat production (in live weight) – from 43 to 24 kg, eggs production – from 29 to 22 pieces.

Reduction in the agricultural products production led to a steady decline in the provision of population with food resources, especially livestock products. Basic food resources of this area are imported from other regions of the country and from abroad.

In the years of reforms there has been a reduction of cultivated areas and livestock population. In 1990 – 2010, the areas under crops decreased from 13.4 to 2.0 thousand ha; cattle population decreased from 59.4 to 10.6 thousand head, including cows – from 25.2 to 5.3 thousand head; pigs – from 14.5 to 1 thousand head; sheep and goats – from 11.7 to 2.9 thousand head; deer – from 309.9 to 256.7 thousand head.

Fixed capital investment in agriculture decreased significantly. The basic funds of industry are worn out by more than half. It is in the state of organizational, technical and technological backwardness. Tractor fleet decreased 6.9-fold, energy facilities – 6-fold.

In 1998 – 2011, in the sub-arctic regions of the Republic of Komi, the number of tractors has decreased 4.5-fold, pickup balers – 2.5-fold, milking machines – 7.8-fold. In 2011, the power capacities accounted for only 48.7 thousand h. p.

When power capacities reduce significantly, machinery and equipment at the agricultural enterprises and households experience drastic deterioration. The All-Russian agricultural census data show that in the large and medium-sized agricultural organizations of the Nenets Autonomous Okrug there are only 2% of tractors aged less than 3 years old, the share of tractors aged 9 years and older is 80%.

Figure 3. Dynamics of animal husbandry production in all categories of farms in 1990 – 2010 (1990 = 100)

For small enterprises and private households these indicators were 0.54% and 0.40% respectively.

Application of organic and mineral fertilizers for 1990 – 2010 decreased considerably: if in 1990 the amount of applied organic fertilizers was 159 thousand tons, then in 2010 – only 3.7 thousand tons, mineral fertilizers –16 030 and 69 centners respectively. This leads to the fact that the removal of nutrients from the soil exceeds their input with fertilizers.

During the years of agrarian reforms, the subsidiary husbandries of industrial enterprises were virtually eliminated. For instance, in the town of Vorkuta in 1990 there were 7 agricultural enterprises and over 20 subsidiary husbandries. They contained 9.5 thousand head of cattle, including 4.8 thousand cows; more than 7 thousand head of pigs. 17.5 thousand tons of milk and 3.0 thousand tons of meat in live weight were produced. 1758 centners of milk and 298 centners of meat in live weight were produced per 100 ha of agricultural land. 13.6 kg of meat in live weight, 80 kg of milk and 6.4 kg of vegetables grown indoors were produced per capita of population of the municipal entity. By 2011 only two agricultural enterprises have remained. Cattle population decreased to 61 head, including cows – to 54 head; pigs – to 479 head. In 2010, only 16 centners of milk and 44 centners of meat in live weight were produced per 100 ha of farmland.

In agricultural organizations of the area the principle of self-repayment and self-financing is violated. In 2011, in the sub-arctic regions of the Komi Republic the share of unprofitable organizations increased from 30% to 42%. Profitability level is 23 times lower than the one necessary for implementing the expanded reproduction.

The profitability of cattle-breeding remains extremely low *(tab. 4)*. Beef production is unprofitable in the majority of agricultural organizations. Half of agricultural enterprises are in a critical condition.

Present-day socio-economic problems of agrarian sector development

The village is undergoing a systemic crisis, caused by historical events, as well as market reforms. The drastic market reforms in the Northern areas were accompanied by the decline in agricultural production, deterioration of the production potential as well as the peasant community. The impact of market reforms on the state of agrarian sector in the Northern area is shown in the publications [8, p. 41-51; 9, p. 45-59].

The rural areas of the sub-arctic zone in the European North-East have the following socio-economic problems:

1. Decrease in population number due to migration and natural decline: in 1990 – 2011, the number of rural population decreased by one third.

2. Low incomes of the rural population, significant wage gap between agricultural workers and those in other industries.

The average per capita incomes of the rural population in the sub-arctic area of the Republic of Komi in 2010 were 2.5 times lower than those in the towns and 2 times lower that in the republic in general.

In 2011, the average monthly wages of those employed in agriculture in the sub-arctic area equaled only 14.6 thousand rubles, or slightly more than half of the average wage in the republic's economy, the wages of tractor drivers equaled 10.4 thousand rubles, milking machine operators – 9.8 thousand rubles, reindeer breeders – 13.3 thousand rubles, poultry-raisers – 17.5 thousand rubles. In Izhemsky and Ust-Tsilemsky districts the average monthly wages of agricultural workers amounted to only 7.1 – 7.2 thousand rubles, while the subsistence level of the able-bodied population is 8.3 thousand rubles and the average wage in the republic's agriculture is 16.4 thousand rubles. The average amount of pensions is below the average republican indicators. Poverty is destroying the labour and genetic potential of the village.

Table 4. Profit and profitability of production in agricultural organizations of the sub-arctic area in the Republic of Komi in 2011

Region, town, organization	Net profit, loss (-), thsd. rub.	Level of profitability, loss (-), %					
		Excluding subsidies			Including subsidies		
		all activities	milk	beef	all activities	milk	beef
Izhemsky District							
Agricultural Production Co-operative (APC) Agro-Centre	2413	-24.0	-13.5	-50.3	18.8	37.3	49.5
APC Borovaya	-1096	-36.5	…	…	-14.7	…	…
LLC Zarechye	4285	-19.3	…	…	57.9	…	…
APC Collective Farm Mokhcha	3941	-8.7	-8.2	-11.1	88.0	…	…
Ust-Tsilemsky District							
APC Zarya-1	3422	-10.2	…	…	23.8	…	…
LLC Rochevo	1422	-31.0	-49.2	-16.2	19.3	8.1	…
APC Mayak	68	-40.0	28.6	-20.9	1.9	85.7	…
LLC Rybak Pechory	5056	-16.7	-	-	107.5		
LLC Filipovo	196	-33.2	-47.1	-11.8	5.1	12.5	…
LLC Trusovo	1255	-27.2	-53.9	6.6	17.1	-4.8	8.4
LLC Zvezda	1007	-23.7	…	…	15.4	…	…
Usinsky District							
LLC Severnaya	-154	-29.9	-59.0	…	-0.1	…	…
LLC Kolva	-1226	-39.9	41.2	-65.3	-5.9	65.2	…
town of Vorkuta							
APC Olenevod	10743	11.1	-	-	23.3		
LLC Sovkhoz Gorodskoy	-423	-29.0	…	…	-5.0	…	…
town of Inta							
LLC Agrocomplex Inta Pripolyarnaya	-3089	19.2	…	…	-1.4	…	…
State Unitary Enterprise (SUE) RK Petrunskoye	1571	-9.5	…	…	10.7	…	…
SUE RK Abez	1176	-24.3	-24.3	…	22.3	…	…

3. High unemployment rate and weak social security of rural population. So, in Izhemsky and Ust-Tsilemsky Districts for the end of 2010 the number of people registered in the state employment agencies was 0.8 thousand, with the 4 months duration of a job search by the unemployed. The number of the unemployed per one vacant position was 12 people.

4. Shortage of qualified personnel, low level of professional training of managers and specialists, low level of management in organizations. In 2011, among the employees with professional education in the sub-arctic area of the Republic of Komi, there were only 6.9% with higher education, 15.4% – with secondary education, 20.2% – with elementary education.

For the republic in general, these indicators were higher: 10.2%, 20.8% and 28.4% respectively. Professional education level is especially low in peasant (farmer) households. Here the share of employees with higher education equals 5.0%, with secondary education – 10.1%, with elementary education – 9.6%.

Monitoring of quantitative and qualitative characteristics of personnel potential showed that the total number of managers and specialists at agricultural enterprises decreased sharply. It is conditioned by the reduction in the number and size of agricultural organizations, as well as the high turnover rate of personnel. In 2011, the number of dismissed managers and specialists exceeded the number of recruited ones by 7.7%.

5. A considerable lagging of the rural areas behind the towns and suburban southern regions in the social infrastructure development and the quality of services. Individual housing stock in the village virtually lacks utilities. In Izhemsky District only 7% of residential quarters have running water, 3% – sewage system, 20% – central heating, 1% – hot running water, 1% – baths and showers, 0% – gas (piped and liquefied). In Ust-Tsilemsky District these figures are 14.7; 47; 1.1 and 0% respectively.

6. Extremely low transport accessibility of the rural population and a lack of opportunities for obtaining the main types of social benefits (health care, education, culture, public services). No municipality of the sub-arctic area has a hard surface road transport connection with the city of Syktyvkar. For 1990–2010 in Izhemsky and Ust-Tsilemsky districts, the number of preschool facilities has decreased by 25%, the number of educational institutions – by 14%, the number of hospitals – by 27%. In comparison with the republican level, the provision of rural population with doctors is 2–3 times lower, with paramedical staff – 1.6 times lower.

Due to the insufficient volume of construction and in connection with the heading toward the concentration of education, health care and culture, under the conditions of poor development of the road network and mobile forms of servicing, territorial availability of these kinds of services for the rural population is reduced.

7. Considerable production decline in cattle breeding, which is the leading branch of the area. For the twenty-year period, milk and beef production has decreased 4 – 5-fold.

8. Great dependence of the village on the agrarian sector, the low efficiency and competitiveness of agriculture.

9. Extremely low level of innovation activity in the agrarian sector. Restriction in the use of innovations is connected with the unstable financial status of economic entities, the lack of highly skilled managers, specialists, lack of state support, lack of state innovation policy and innovation infrastructure.

10. Unfavourable external environment, characterized by non-equivalent cross-sectoral exchange, flaws in pricing and taxation policies, the lack of loans, the monopoly of procurement, processing and trade organizations, insufficient government support, the displacement of local agricultural producers from food markets.

11. Modern policy, based on the use of branch-wise approach to territorial development, holding back the sustainable development of rural areas.

12. The absence of a system of scientific and information-advisory support and personnel training for the agricultural sector and rural areas sustainable development management.

At present, an attempt is made to work out the state policy of the sustainable development of the agricultural sector and rural areas. The implementation since 2006 of the national project "Development of Agricultural Complex" promoted the increase in eggs and poultry production in the sub-arctic areas, as well as the increase in profits, the reduction of the share of unprofitable agricultural organizations.

At the same time, certain negative trends still exist, for instance, the reduction of the livestock population, milk and beef production. The level of profitability in agricultural organizations and farmer households is 4 – 5 times lower than the one required for expanded reproduction.

The quality of life in rural areas has not undergone any significant positive changes either. The RF Government Decree dated 30 November 2010 approved the Concept for the sustainable development of the rural areas of the Russian Federation for the period up to 2020. At present, the Concept of preservation and comprehensive development of rural territories of the Republic of Komi for 2012–2020 is being worked out. But this is clearly not enough. It is necessary to work out a strategy and programme for sustainable agricultural and rural development of the sub-arctic areas.

Thus, the study of the conditions and acute problems in the agri-food sector of the sub-arctic area of the European North-East allows to make the following conclusions:

• the area's agrarian sector provides the population with fresh wholesome food products, it also provides employment of population and performs the functions of a traditional way of life of indigenous peoples;

• environmental conditions, and first of all, climate, soil quality, vegetation period, impede the efficient development of agricultural production; conditions for arable farming are most unfavourable in such municipalities as the town of Vorkuta and the town of Inta and in the most part of the Nenets Autonomous Okrug; conditions in the Pechora River basin are favourable for cattle breeding (almost continuous lighting, sufficient amount of precipitation, vast floodplain meadows);

• insufficient provision of population with biological resources (except for the deer population) hinders self-sufficiency with local food products;

• environmental conditions, geographic location, natural-historical and socio-economic factors and social needs caused agricultural specialization on cattle breeding, poultry breeding and production of traditional branches; agricultural organizations play a leading role in livestock products production, and individual households – in crop husbandry (potatoes and vegetables); the role of farmer households in the production of agricultural and fishing products is minor.

• evaluation of agrarian sector development shows that its highest indicators were achieved in the pre-reform period; the 1990 – 2000 transformation processes led to a slump in production, the deterioration of resource potential and decrease of the level and quality of life of peasants;

• the main problems still include extremely low incomes of agricultural workers, the high level of unemployment, poor development of social sphere in the village, shortage of qualified personnel, low level of management, a considerable lag of rural areas from urban areas concerning the development of infrastructure and quality of services, significant decline in production of cattle breeding products (one of the leading branches of the area), and the unfavourable external environment.

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