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Specifics and current status of modernization processes in the agriculture of peripheral northern territories*

The specifics of agricultural development management in the remote northern territories should be always taken into consideration; otherwise modernization processes in the agricultural sector would be impeded. The article defines the concept of agriculture modernization and highlights its necessity. It reveals the peculiarities, opportunities and limitations of technological and socio-economic development of agriculture in the peripheral northern rural territories of the Komi Republic. The article studies agriculture modernization for the period of the 1960s–1980s, and under market reforms. It shows the impact of market reforms on the change of economic and social conditions of agriculture in the peripheral areas of the northern region. For stimulating agricultural production modernization, the authors propose a target-programme method of managing the agriculture in peripheral territories

Modernization, agriculture, peripheral areas, Republic of Komi, factors, conditions, development trends.

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Agricultural production in the peripheral (remote) areas of the North requires modernization to achieve the following goals: overcoming its technological backwardness, enhancing its role in providing people with foodstuffs, formation of competitive advantages on local and regional markets, rational nature management, efficient use of human capital, enhancement of the standard of living and quality of life of peasants, attracting and retaining youth in agriculture, elimination of considerable differentiation in the socio-economic development of remote and suburban areas.

In the course of transformation of market relations and agrarian reforms, peripheral northern territories faced the deterioration of agricultural facilities and infrastructure; the reduction of cultivated area, cattle population and the number of agricultural workers; the decline in agricultural production and standard of living of rural community. The current trends in agriculture can lead to its degradation and to the reduction of rural areas inhabited for centuries. The key direction of overcoming the crisis situation in agriculture is its modernization.

Agriculture modernization of the territories under our study requires huge financial resources. The agrarian sector lacks its own investment sources due to its low profitability. It would be wrong to consider the development of local agricultural production from the standpoint of making profit sufficient for expanded reproduction. Agriculture in the North, due to its specifics, is closely connected with social sphere and can be developed only with state support, in the absence of which the agricultural producers will not be able to implement technological modernization and innovation development.

The aim of the research is to analyse the specifics, to identify the factors and conditions, to assess the modernization of agriculture in the remote areas of the Komi Republic.

The concept of modernization

Modern science contains numerous approaches to the notion of modernization. The *Unabridged Dictionary of Foreign Words* defines modernization as the 'change of something in accordance with modern requirements, tastes' [1]. The *Modern Economic Dictionary* and the *Economic Encyclopedia* treat modernization as the perfection, improvement, upgrading of an object, bringing it in compliance with new requirements and standards, technical specifications, quality indicators. Machinery, equipment, technological processes are usually subject to modernization [9, 13]. G. Vechkanov considers modernization as a synonym for all progressive changes, as an updating, enhancement of an object in accordance with the latest achievements and standards [3, p. 39]. In the broad sense, modernization is interpreted as a set of all the progressive changes, as the key developmental factor of different spheres of society.

In the early 1990s P. Sztompka made an attempt to specify the concept of modernization and identified its three meanings: 1) it is a synonym for all the progressive social changes, when society moves forward in its development; 2) modernization = the present time; 3) 'modernization' refers to backward or underdeveloped societies (Third World countries and Soviet states) and describes their movement from the periphery to the core of the present-day society [12]. The notion of modernization as the movement from the periphery to the core of the present-day society is determined in scientific literature as the *catch-up modernization* [10, p. 3].

In a broader sense, modernization is considered as a process of positive changes in the state and society on the basis of economic, political and cultural innovation, leading ultimately to the change of its economic and social structure, political organization, to the enhancement of welfare in all social groups, to the development of culture, science and technology and nature conservation [10, p. 5].

According to V.G. Fedotova, modernization is a transition from a traditional society to a modern society, which is distinguished primarily by its orientation toward innovation [11, p. 192].

At present, 'new industrialization' [2, p. 440] and 'innovation industrialization' [6] can be considered a favourable development scenario of Russia's modernization model.

Agriculture modernization represents a type of economic development, based on continuous technological improvement, introduction of new varieties of plants, breeds and species of livestock and poultry, new forms of organization and management, social and environmental innovation. Current modernization is a process of profound changes in different spheres of life in rural areas, the process should be comprehensive and it cannot be reduced to technological and economic aspects only. Its goal is to achieve the growth in agricultural production, as well as to eliminate poverty among rural population and enhance its welfare.

Innovation modernization should be carried out both in collective and peasant (farm) enterprises and rural households that play a significant part in the conditions of cyclical economic crises. V.V. Patsiorkovskiy points out that "the formation of the modern technological order at farmsteads and households shall be considered as one of the tasks for modernization and innovation development of economy" [7, p. 504].

Specifics, factors and conditions for agricultural production modernization

According to such factors as remoteness, scarcity of population, underdeveloped infrastructure and low transport accessibility, as well as the backwardness of agricultural and social development institutions, the following districts of the republic were defined as peripheral rural territories: Ust-Tsilemsky, Izhemsky, Udorsky, Troitsko-Pechorsky, Ust-Kulomsky and Koygorodsky.

Peripheral rural areas occupy 42% of the republic's territory, they have 146.8 thousand hectares of agricultural land (35% of the republic's fund), with 21 thousand hectares of arable land (20.5%), and the prevalence of natural hayfields and pastures. In comparison to the republic, these areas have 3.1 times more farmland, 1.8 times more arable lands, 2.7 times more cattle, 3.3 times more cows, and 4 times more sheep per inhabitant in general. We also point out the abundance of forest, mineral and water resources in these areas. The peripheral areas contain 49% of the republic's rural population and 33% of its rural settlements (239 settlements). In the pre-reform period (1990), the share of these regions in agricultural production was 22%.

46 agricultural organizations, 210 farms and 39.7 thousand households were engaged in agricultural production in 2011. The major part of all types of products is produced by households.

Agricultural companies are mainly represented by limited liability companies (LLC) and agricultural production cooperatives (APC). The share of LLC among agricultural enterprises is 54%, APC – 42%.

Remote rural areas of the Komi Republic have good opportunities for the development of cattle breeding (large areas of floodplain meadows produce over 12 thousand tons of fodder units). This important and multifunctional industry guarantees all-year employment of people, providing them with fresh dairy and meat products, as well as ensuring the most efficient use of hayfields, pastures and forest areas. Cattle breeding should be considered as a strategic direction in the development of the agricultural sector. The importance of accelerated modernization of this sector is linked to the fact that in 2011 the republic produced 70 kg of milk and only 3.4 kg of beef per person per year, which is equal to 16% and 8% of the scientifically grounded consumption rates.

The areas under our study have the resources for producing organic products and creating the relevant market segment. The sales of environmentally friendly products can produce a kind of rental income. Scandinavian farmers successfully use the benefits of the northern agriculture for the production of eco-friendly foodstuffs. Finland declared its national agriculture to be the industry that produces only environmentally safe products according to the standards of the European Union (EU). The subsidies allocated to Finland by the EU Centralized Fund for the production of 'green' products are greater than those allocated for the production based on traditional technologies [8].

The main problems and difficulties concerning modernization of the agrarian sector in the peripheral areas of the North are as follows:

- reduction of population due to migration and natural losses (for 1990–2011 the number of population has decreased by almost one third);
- high unemployment rate and weak social protection of rural population (at the end of 2011 the number of the registered unemployed was 2.4 thousand, or 40% of all the registered unemployed rural residents of the Komi Republic);
- significant backwardness of remote rural territories in comparison with urban and suburban areas concerning the development of social infrastructure, quality of services (for instance, the share of dilapidated and rundown housing is 41% in Troitsko-Pechorsky District, 35% in Koygorodsky District, and 34% in Ust-Kulomsky District);
- poor transport accessibility for rural population and a lack of opportunities to receive basic social benefits: education, health, culture, public services (among the six peripheral areas only Koygorodsky and Ust-Kulomsky districts have transport communication with the city of Syktyvkar by hard-surface roads; the vast majority of the settlements are connected with the district centres through dirt roads);
- extremely poor condition of agricultural infrastructure and facilities;
- lack of specialists and qualified personnel of widespread occupations;
- low competitiveness and efficiency of the sector;
- instability of the sales of agricultural products;
- low investment attractiveness of the agricultural sector.

Economic assessment of construction of dairy farms with 100 and 200 cows in the remote areas indicates that, under the current state support of innovation-investment activity and revenues of farmers, the payback period for the projects will amount to 12.5 and 11.3 years with the loan term of 8 years [5].

According to the questionnaire survey held among agricultural managers and specialists in peripheral areas, the factors hindering modernization and innovation development include the disparity of prices for agricultural and industrial products (55% of respondents); poor facilities and infrastructural base (52% of respondents), lack of qualified personnel, poor engineering and transport infrastructure of the rural areas, including bad roads (43% of respondents), low level of state support (41% of respondents), lack of funds for investments and innovations (36% of respondents).

Modernization in the pre-reform period

In the pre-reform period, modernization processes in agriculture of peripheral areas and other regions of the Komi Republic included progressive technological, economic, social and institutional changes. The strategy for agricultural development in these years was determined by the intensification of production based on the improvement of material and technology base. In the 1980s–1990s the volume of capital investments in the industries of peripheral areas and the availability of fixed assets of agricultural enterprises (the main production assets per 100 hectares of farmland) increased, respectively, 4.7-fold and 2.1-fold *(fig. 1)*.

The industry implemented crop rotation and new varieties and technologies of crop cultivation; certain measures have been taken to improve the fertility of land; scientifically grounded farming systems, intensive fodder production systems, advanced technologies of fodder procurement, mechanized technologies of seeds and herbage production, etc. were used. Livestock breeding used new breeds of animals, intensive feeding and fattening of cattle, comprehensive mecha-nization of farms, new technologies of wholesome feed mixtures for cattle, rectovaginal method of artificial insemination.

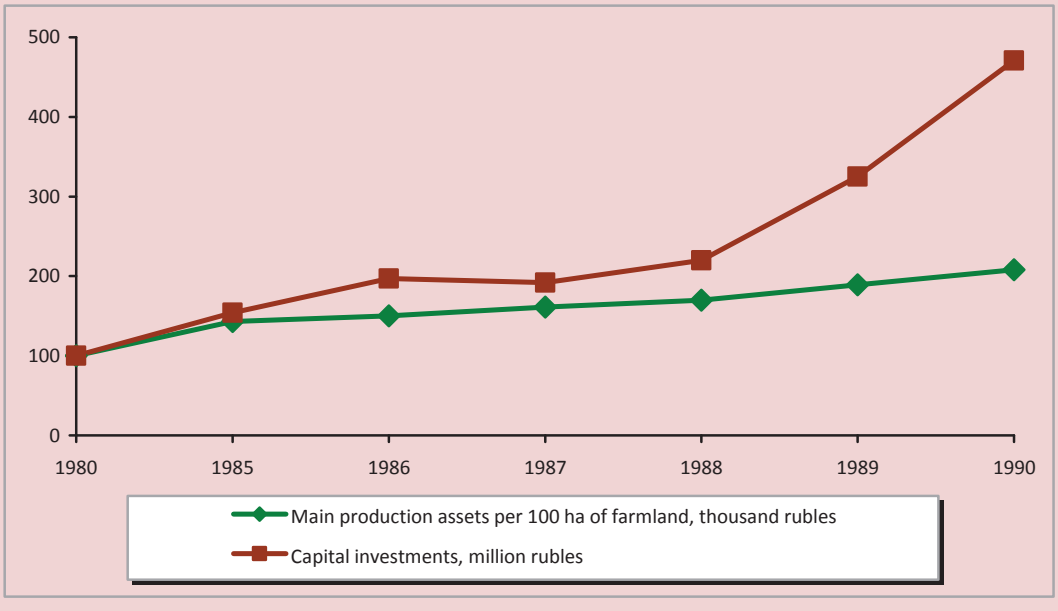
In the pre-reform period, a majority of measures were undertaken for the development of reindeer herding. Reindeer breeding teams were provided with air services; the disease control among deer was intensified, as well as anti-gadfly medical treatment; provision of cultural, domestic and commercial services for reindeer herders improved.

There were positive changes in internal economic relations, in the specialization and concentration of production, new forms of labour organization and material incentives (contract and lease relations) were applied, as well as workshop management structure and production control on the farms, training and retraining of qualified personnel was performed on a broader scale. Positive changes in price formation were based on the increase in the purchase prices for agricultural products.

The social policy in the pre-reform period was primarily focused on reducing the gap between the urban and rural population's living conditions and standard of living. Aggregate income of rural families steadily increased, its level was gradually approaching urban indicators. One could observe an actual tendency of enhancing the level of rural population's provision with various social and domestic services, a comprehensive site development of central farmsteads, as the key objects of the rural areas.

All this contributed to the improvement of the key production indicators in agriculture. Until the early 1990s, the dynamics of crop and livestock production in the peripheral areas was positive (excluding vegetable production in the

Figure 1. Volume of investment in agriculture, and the availability of fixed assets of agricultural enterprises in the peripheral areas of the Komi Republic in 1980–1990 (1980 = 100%)



1980s – 1990s). Potato production increased 1.9-fold, meat production – 3.8-fold, milk production – 2.2-fold, egg production – 4.4-fold in 1990 compared with 1965. The change in the volumes of milk and meat production (in live weight) in the pre-reform period is shown in *fig. 2.*

In the period under consideration all the state farms (sovkhozy) and major items of production were profitable. The profitability level of economic activities ranged from 24% in Koygorodsky District to 51% in Ust-Tsilemsky District. Livestock production, especially milk and dairy products, was marked by high profitability *(tab. 1).*

Thus, modernization of agriculture in the peripheral districts of the Komi Republic in the pre-reform period promoted the increase in potato and livestock production. The share of the districts in the republic's total production of potatoes increased from 8% in 1965 to 21% in 1990, in the total meat production – from 14% to 22% and in the total milk production – from 18% to 30%. All agricultural enterprises were profitable. The profitability level of agricultural production promoted the process of extended reproduction. Positive changes took place in the reduction of the gap between the urban and rural population's living conditions and standard of living.

Figure 2. Milk and meat production in all types of farms of the peripheral districts of the Komi Republic in 1965–1990, thousand tons

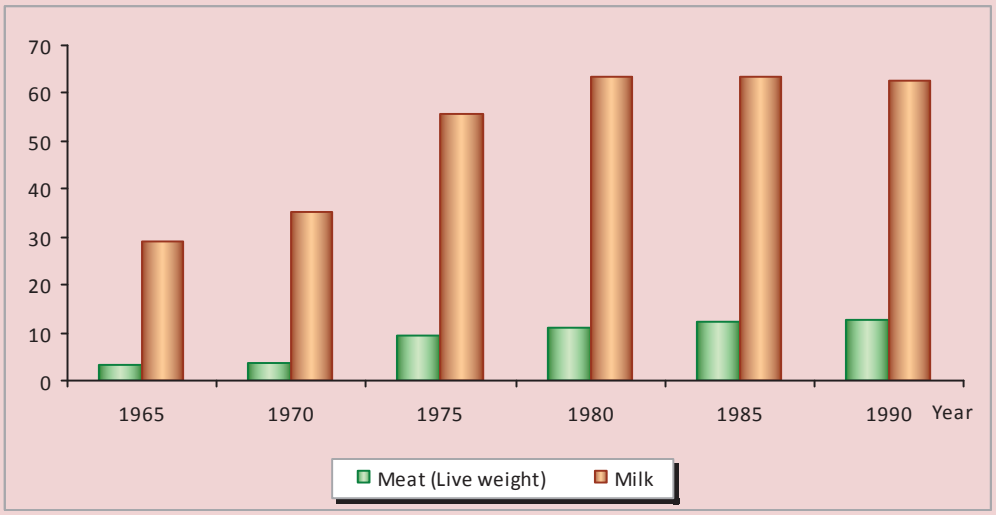


Table 1. Profit and profitability of production in agricultural organizations of the peripheral districts of the Komi Republic for 1989

Indicator	District					
	Izhemsky	Koygorodsky	Troitsko-Pechorsky	Udorsky	Ust-Kulomsky	Ust-Tsilemsky
Profit, thousand rubles	6109	543	672	2865	3594	6145
Profitability (unprofitability -) – overall activity, %	46.0	24.2	46.3	46.1	32.7	51.1
Crop production	29.8	-3.7	-9.8	-26.7	13.4	12.7
Animal husbandry	46.3	26.9	50.7	47.2	34.9	51.4
Milk and dairy products	64.3	42.7	52.0	74.0	59.9	66.0
Meat of all kinds	30.2	12.0	52.3	22.2	13.0	33.5
Beef	29.4	15.2	55.8	23.7	17.0	34.3
Source: Main indicators of economic performance of state farms for 1989. Komi Republic Statistics Department. Syktyvkar, 1990.						

However, in the pre-reform period, the remote areas didn't complete the intensification of agricultural production; the transition to industrial technologies wasn't carried out. Several poultry farms, dairy and greenhouse facilities were functioning on an industrial scale since the 1970s only in the vicinity of towns and in suburban areas.

Influence of agrarian reforms on the modernization of agriculture

In the course of market reforms, the village witnesses contradictory socio-economic processes. In recent years, legal and organizational conditions have been created for the functioning of various ownership and management forms, the foundation for market-based development mechanisms have been laid. The state's monopoly of land has been eliminated. The overwhelming majority of agricultural production and the entire sphere of agricultural products processing and marketing have been privatized. Producers obtained the right to choose the forms of management; they got a free hand with the selling of their agricultural products, with the purchase of material and technological resources and the disposal of their revenues.

Currently most of the villagers have the right of ownership to the land. Property and land shares have been transferred to the ownership of peasants; the areas of land plots allocated for personal utilization have been increased; restrictions on personal subsidiary plots, residential and homestead construction have been removed. Access to land is open for urban residents as well. Under the structural reorganization of the economy followed by the rise of unemployment and deterioration of financial welfare, the provision of urban residents with land for commercial and household usage is an important element of the social protection of population.

A new socio-economic structure of agricultural production has been created, characterized by the presence of private, collective and individual forms of ownership.

In the course of economic reforms in the agrarian sector, the role of private households and farms increased, the role of collective sector has decreased sharply. For instance, agricultural enterprises accounted for 78% of milk production in 1990 and 29% in 2011; meat production was 70% and 17%, respectively; production of potato was 29% and 1%, production of vegetables – 55% and 0.2%. The share of households in milk production increased from 23% to 61%, in meat production – from 31% to 75%, in the production of potatoes – from 70% to 98%, in the production of vegetables – from 45% to 99% *(tab. 2)*.

The share of agricultural organizations in milk production is the biggest only in Koygorodsky and Udorsky districts. The role of peasant farm enterprises in the production of agricultural products, especially crops, is insignificant. The share of milk production by peasant farm enterprises in the peripheral areas increased from 0.3% in 1995 to 10.0% in 2011, meat production – from 0.7% to 8.2%, respectively.

The reform of the agricultural sector was accompanied by a sharp reduction of the state support and the volume of investments, the accelerated liberalization of prices for equipment and facilities, which led to price disparity. This impeded technical and technological re-equipment of agricultural production, and social transformations in the village. The tractor park in agricultural organizations of the republic's peripheral districts decreased 8.5-fold in 1990–2011, the number of seeding machines reduced 13.6-fold, the number of balers reduced 4.8-fold, the number of fodder harvesters – 9.7-fold, the number of solid fertilizer applicators – 36.7-fold, the number of liquid organic fertilizer applicators – 52-fold (the data for 1991–2009, because since the mid-2000s, these machines are not used anymore), the number of milking machines – 7-fold, the amount of power capacities – 9.2-fold *(tab. 3)*.

Table 2. The share of different types of farms in agricultural production in the peripheral areas of the Komi Republic, %

Indicator	Potato		Vegetables		Milk		Meat (live weight)	
	1990	2011	1990	2011	1990	2011	1990	2011
Peripheral areas	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agricultural organizations	29.0	1.2	55.0	0.2	77.5	28.7	69.5	16.5
Private households	70.2	97.8	45.0	99.2	22.5	61.3	30.5	75.3
Peasant farm enterprises	0.8	1.0	-	0.6	0.0	10.0	-	8.2

Calculated according to: 1. Agriculture of the Komi Republic. 2001: statistical digest. Goskomstat of the Komi Republic. Syktyvkar, 2001; 2. Agriculture of the Komi Republic. 2012: statistical digest. Komistat. Syktyvkar, 2012.

Table 3. Availability of the main types of machinery in agricultural organizations of the peripheral areas of the Komi Republic for the end of the year, units

Machinery	1991	1999	2000	2004	2008	2009	2010	2011
Tractors of all types	1752	971	879	401	231	231	212	207
Tractor trailers	905	428	379	193	85	85	79	77
Ploughs	282	110	91	57	33	33	32	32
Cultivators	169	28	26	13	7	7	10	9
Seeding machines	136	61	65	35	12	10	10	10
Mowing machines	738	352	323	178	77	84	77	78
Tractor rake	409	148	136	72	28	30	29	30
Balers	173	98	92	70	44	35	36	36
Forage harvesters	58	37	35	12	4	7	5	6
Potato harvesters	40	14	11	3	-	-	-	-
Solid fertilizer applicators	367	98	93	32	12	11	10	10
Liquid fertilizer applicators	52	14	13	1	-	-	-	-
Milking machines and units	314	150	138	54	18	18	17	17
Including those equipped with milking pipeline	…	…	…	…	-	4	4	4
Power capacities, thousand hp	351.0	182.5	157.3	50.4	35.0	34.8	32.4	38.3

Source: Rosstat data.

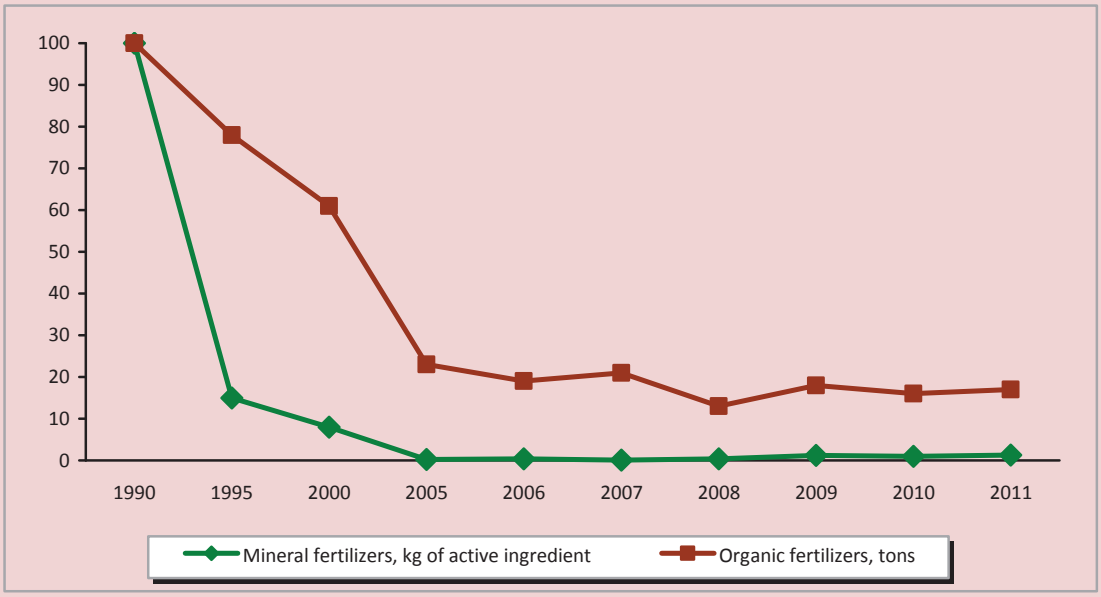
The available machinery is deteriorating rapidly. The data of the all-Russian agricultural census of 2006 shows that in agricultural enterprises of the peripheral districts under consideration there are only 3% of tractors aged up to 3 years, the share of vehicles aged 9 years and over is 84%. The depreciation of fixed assets in livestock breeding is over 70%.

Regarding the crop sector, we should point out the deterioration of agro-chemical and hydro-physical properties of soil, the increase of waterlogged land and bushland areas caused by the destruction of drainage systems and cessation of land reclamation from the early 2000s. The application of mineral and organic fertilizers reduced dramatically *(fig. 3)*.

For 1990–2011 the application of mineral fertilizers calculated per 100% of nutrients per 1 ha of crops has decreased from 199 kg to 2.6 kg, organic fertilizers – from 18 tons to 3 tons. In recent years, mineral fertilizers haven't been applied in Izhemsky, Troitsko-Pechorsky, Udorsky, and Ust-Tsilemsky districts, and organic fertilizers haven't been applied in Izhemsky, Troitsko-Pechorsky and Ust-Tsilemsky districts. As a result, the removal of nutrients from the soil by crops is not compensated by the introduction of fertilizers in these regions.

During the years of reforms, the agricultural sector experienced an increase in the outflow of qualified personnel. For example, in the

Figure 3. Application of fertilizers per 1 ha of crops in agricultural organizations of the peripheral districts of the Komi Republic (1990 = 100%)



1980s, one state farm had an average of 8 specialists with higher education and 40 specialists with secondary vocational education, but nowadays an agricultural organization accounts for only one specialist with higher education and five specialists with secondary vocational education. 27% of specialists and management personnel and 57% of middle managers don't have higher or secondary vocational education. The qualification level of workers is also low. According to a questionnaire survey, only one person was distinguished as 'First-grade master of livestock breeding' and only five – as 'Second-grade master of livestock breeding'. The number of people employed in agricultural production decreased 8-fold, over 10 thousand people were dismissed from agricultural organizations.

Market reforms were accompanied by decline in production. For 20 years, milk production in all types of farms declined by 3.2 times, meat production (in live weight) – by 4.2 times *(fig. 4)*. The decline in production output was especially significant in collective farms. During this period, milk production decreased 9.2-fold, meat production – 22.5-fold, potato production – 30.1-fold, production of vegetables – 108.3-fold.

In the period under consideration, cultivated area in all types of farms reduced 1.9-fold, including the land under forage crop – 3-fold. Currently, the ploughland is used only by 35%. The number of cattle decreased 4.7-fold, the number of swine – 5.8-fold, the number of sheep and goats – 2.6-fold.

Agriculture modernization in the remote areas is impeded by the absence of the sector's own funding sources due to its low profitability. Excluding subsidies, all kinds of products remain unprofitable. The level of profitability of agricultural organizations, even with regard to subsidies, is three times lower than the standard necessary for extended reproduction. The profitability of milk is extremely insufficient, and beef production is unprofitable. As for deer meat, it also has a low level of profitability (taking into account subsidies) *(tab. 4)*.

The analysis of financial stability of agricultural organizations in the peripheral areas in 2011 shows that 61% of them are in a crisis situation. Only four organizations are completely financially stable.

Figure 4. Dynamics of livestock production in the peripheral areas of the Komi Republic for 1990–2011 (1990 = 100%)

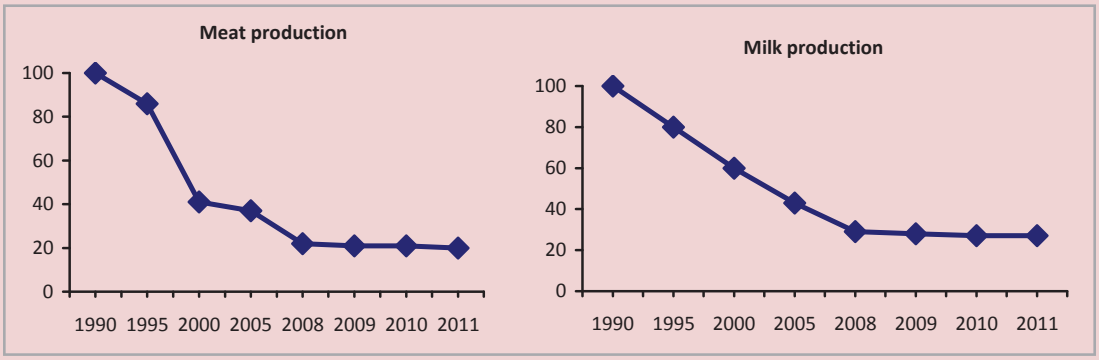


Table 4. Profitability and unprofitability (-) of production in agricultural organizations of the peripheral districts of the Komi Republic for 2011, %

Production	Excluding subsidies	Including subsidies
Total	-27.3	12.8
Milk	-33.2	6.5
Beef	-24.7	-15.7
Venison	-31.0	18.8

Agricultural producers are unable to carry out modernization, which requires huge financial resources, without state support. At present, the amount of state support provided to the agrarian sector in the peripheral rural areas is insufficient for innovation-based development; furthermore, it is not enough even to handle the decline in production. In 2011 the agrarian sector of the Komi Republic received 1253.5 million rubles as a state subsidy, out of which only 9.9% (123.5 million rubles) were allocated to the agriculture of the republic's peripheral areas, despite the fact that their share in the volume of gross agricultural output is 18.5%. In order to enhance profitability and improve investment opportunities of agricultural production in the remote areas, it is necessary to increase direct state support in 3 – 4 times. For attracting budget resources, each rural municipal entity should have a development strategy and innovation-oriented investment projects, in addition to labour and industrial potential.

It is also expedient to exempt agricultural organizations and farms from all taxes for 5 years and enhance the role of long-term credit. A concessional loan for the construction and modernization of cattle-breeding premises in the Northern territories should be provided for 20 – 25 years, and for the purchase of machinery and equipment – for 6 – 8 years.

One of the problems of the agrarian sector in the peripheral regions consists in the instability of sales of agricultural products and the exclusion of local farmers from food markets. In order to enhance the competitiveness of agricultural enterprises and peasant farms, regional and municipal authorities, along with the heads of agricultural economic entities, should stimulate internal demand. To achieve this, it is necessary to establish a contract system that ensures the priority of local products when purchasing goods for the regional and municipal funds; in addition, free meals for schoolchildren and food stamps for the poor should be introduced.

Besides, the monopoly of procurement, intermediate and processing organizations should be eliminated by transferring the product processing and realization cycle on a cooperative basis.

Recovery from the crisis, stabilization and development of the agrarian economy, taking into account innovation modernization, are connected with the target management of agriculture in the peripheral areas. It is necessary to shift from the agri-food sector development policy to the village development policy. The strategies and programmes for the development of agriculture and rural areas in the remote municipalities should be combined with strategies and programmes for the development of the entire agricultural sector and rural areas in the Komi Republic; besides, they should be integrated into the republic-wide programmes. Such management scheme is shown in *fig. 5*.

The Ministry of Agriculture and Food of the Komi Republic plays a key role in agricultural and rural development in cooperation with other concerned departments and municipal authorities. It is also necessary to involve the interested groups of rural population in this process. The complex problem of development of the rural areas and their main economic branch, i.e. the agrarian sector, requires the involvement of regional science in the study of various aspects of the spatial organization of the rural economy, production, market and social infrastructure. The science should be provided with a social order for the conceptual development of different scenarios of possible sustainable socio-economic development of the rural areas.

Thus, the analysis of specifics, factors and conditions of modernization processes in the agricultural sector of the peripheral Northern territories leads to the following conclusions.

1. Agricultural modernization in the remote areas is conditioned by the necessity to curb the decline in production, to provide people with fresh wholesome foodstuffs; by the necessity of rational nature management and the use of human resources; by the need to enhance the standard of living and quality of life of rural residents and to retain youth in the village; by the necessity to eliminate the substantial differentiation in the socio-economic development of the peripheral and suburban areas.

Figure 5. Target management scheme for the development of agricultural sector in the peripheral territories

2. There are certain prerequisites for technical re-equipment, technological and socio-economic development of the agrarian sector in the peripheral rural territories: availability of human resources, natural forage base (vast areas of floodplain meadows), the resources and means for producing organic products, demand for fresh dairy and meat products.

3. The main factors impeding modernization and innovation development of the agrarian sector include low investment attractiveness of the sector, scantiness of the economic entities' own financial resources, insufficient amount of state support to the agricultural sphere, lack of qualified personnel, low level of management, poor development of production, market and social infrastructure.

4. Modernization of agriculture in the 1960s–1980s is connected with progressive technological, economic and social changes. It promoted the positive dynamics of agricultural production. In the pre-reform period the level of profitability of agricultural organizations corresponded to the optimal standard, necessary for implementing extended reproduction. The transition to market relations curtailed technological reforms in the industry.

5. Agricultural economic entities of the peripheral rural areas have lost the ability of self-development and can't implement modernization processes without the leading role of the state. The agriculture of these areas, due to its specific features and its role in providing people with biologically wholesome products should be considered as the social sector that will not necessarily bring profit.

6. To prevent the development of a crisis scenario, it is necessary to switch from agriculture management in the republic on the whole to the address target management of the agrarian sector of each peripheral territory. The Ministry of Agriculture and Food of the Komi Republic plays the key role in agricultural and rural development in cooperation with other concerned departments and municipal authorities. It is also necessary to involve the regional science and rural population in this process.

References

1. Bulko A.N. Unabridged dictionary of foreign words. Moscow: Martin, 2004.
2. Vdovenko Z.V., Korsun A.V. Income differentiation of Russia's population as a barrier to innovation and technological development. Russia: trends and development prospects: yearbook. Vol. 7. INION RAN. Moscow, 2012. Part 2. P. 439-443.
3. Vechkanov G. Neo-industrialization and modernization. Economist. 2012. No. 9. P. 39-47.
4. Dmitriyeva T.Ye. Territorial organization of the Northern region: the scale of the periphery. The North: problems of the peripheral areas. Syktyvkar, 2007. (RAS Scientific Council on the issues of regional development. Komi Scientific Centre of the Ural RAS Department). P. 57-87.
5. Ivanov V.A., Ponomareva A.S. Assessment of innovation and investment projects of municipality's development in the northern region. Economic and social changes: facts, trends, forecast. 2012. No. 3 (21). P. 135-145.
6. Ivanter V.V., Komkov N.I. Basic provisions of Russia's innovation industrialization concept. Economic and social changes: facts, trends, forecast. 2012. No. 5 (23). P. 16-25.
7. Patsiorkovskiy V.V. Households and the reproduction of population in the innovation and technological development of the regions. Regions of Russia: strategies and mechanisms of modernization, innovation and technological development: the seventh international scientific-practical conference. INION RAN, the Department of scientific cooperation and international relations; Moscow, 2011. Part 1. P. 498-505.
8. Poshkus B.I. What's new in the system of support of agriculture in the countries of the European Union. Globalization and agrarian economy of Russia: tendencies, possible strategies and risks. Moscow: VIAPI named after A.A. Nikonov: Encyclopedia of Russian villages, 2011. P. 197-200.

9. Raizberg B.A., Lozovskiy L.Sh., Starodubtseva Ye.V. Modern economic dictionary. 2nd ed. Moscow: Infra, 1999.
10. Sokolova G.N. Modernization as a technological and social phenomenon: Belarus – Russia. Sociological studies. 2012. No. 5. P. 3-13.
11. Fedotova V.G. Globalization and modernization. Globalistics. Encyclopedia. Moscow: Centre for Scientific and Applied Programmes 'Dialog'; Raduga, 2003. P. 192.
12. Sztompka P. The sociology of social change: translated from English, ed. by V.V. Yadov. Moscow: Aspekt Press, 1996.
13. Economic encyclopedia. Cientific and editorial board of the publishing house 'Ekonomika'; RAS Institute of Economics. Moscow: OAO Ekonomika, 1999. P. 439.