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## Impact of the geographical differentiation of the quality and security of population employment on the territorial shrinkage in Perm Krai rural areas

*The article presents the analysis and indicates the extent of the problem concerning territorial differentiation of the quality and security of the rural population employment, as compared with the city residents of Perm Krai by indicators of wages and unemployment level. The impact of territorial differentiation of the quality and security of employment on the shrinkage in Perm Krai rural areas is revealed. Territorial shrinkage is characterized by rural population decrease, higher employee attrition rate, as compared to cities, reduction in the number of workers per one pensioner, deterioration of agricultural material and technical base; crop areas reduction.*

*Keywords: territorial differentiation, quality of employment, security of employment, unemployment, territorial shrinkage, population decline, reduction in cultivated areas.*



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At present, a significant part of the population (about 26%) lives in rural areas. In Perm Krai this indicator amounted to 25.1% at the end of 2011, which corresponds to average values. Because of the presence of huge rural territories, major role of the rural population in ensuring food security of the country and the specificity of rural society functioning, the problems of the Russian village have been repeatedly discussed in the works of Russian economists and sociologists.

The issues of the inequality of rural population in comparison with urban residents according to the quality and security of employment are particularly relevant for the study. It is the differentiation of rural and urban population by these parameters that is associated with the fact that the rural areas fall behind by living standards, have higher employee attrition rate at agricultural enterprises, as compared to the cities; with the reduction in the number of employed population per one pensioner;

deterioration of agricultural material-technical base; the reduction of sown areas of agricultural crops.

The enumerated processes characterize the shrinkage in rural areas – a phenomenon that has been most widely distributed in the regions of the forest and, partially, of the forest-steppe zone of the country.

The quality of employment is characterized by different factors such as working conditions, the presence of formal employment, social guarantees, etc. But the most important factor, which allows making objective conclusions on the scope of the territorial differentiation of the employment quality, is the average monthly wages of the rural population as against urban employees.

M.F. Sychev points out unfairly low wages of village workers and social consequences related hereto on the example of the Vologda Oblast. He also notes mass shutdown of village schools, feldsher's stations, sharp reduction in the construction volume of modern housing, roads, engineering infrastructure of rural territories. Consequently, according to M.F. Sychev, the demographic situation in the village gets worse, youth outflow is observed, the quantitative and qualitative indicators of the labour potential decline [6, p. 56].

L.V. Kostyleva for analyzing the data characterizing population inequality, applied stratification scale that divides population into have-nots, poor, needy, wealthy and rich [5]. In compliance with the classification of L.V. Kostyleva, the group of "have-nots" comprises people, who are on the verge of physical survival and do not have enough money even for food.

**According to the results of the sociological poll conducted in the Vologda Oblast, it was revealed that the self-evaluation of socio-economic status of the population living in different territorial settlements is significantly differentiated. Most of the rich and wealthy citizens live in big cities. 22.3% of the population of Vologda and**

**Cherepovets assigned themselves to these two groups. In rural areas only 10.4% of the population considered themselves rich and wealthy. And vice versa, 21.5% of the urban respondents qualified themselves as needy and poor, while in rural areas the percentage is much higher – 44.4% [5, p. 121].**

The RAAS academician I.N. Buzdalov generally characterizes Russian agricultural people as diminished class. I.N. Buzdalov notes that despite numerous government documents, laws and regulations, proclaiming the state's commitment to the development of agriculture, no significant shifts in the agricultural sector have occurred. The living standards of the rural population considerably decreased in the result of the agricultural policy during the years of market reforms. At present, social conditions of the rural way of life in all of its aspects lag behind urban conditions [1].

Population employment security in the labour market of the municipality is determined by the unemployment level, indicators of labour market tightness and the efficiency of employment centres for citizens' employment in a specific territory.

The analysis of statistical data, describing the situation in the labour sphere of Perm Krai, allowed revealing patterns characterized by the fact that unemployment rates and the indicators of labour market tightness are always higher, and the effectiveness of employment is lower in rural areas. Labour market tightness in rural areas may reach tens, and in some cases hundreds of people per one vacancy. As a rule, it takes more time for the rural unemployed to find a job than for the urban ones, except for one-company towns and depressive territories, where the security of population employment, especially during crisis periods, is also low [8, p. 116-145].

The existence of villages with no employer is one of the reasons for high unemployment rate in the country's rural areas.

Thus, according to Z.I. Kalugina and O.P. Fadeeva, as early as at the beginning of last decade in the Novosibirsk Oblast the real employer was absent in 200–300 settlements, or 10–20% of all rural settlements of the oblast. Even if some companies existed legally, in fact, their activities were ceased. Some agricultural enterprises curtailed production activities of their branches in remote settlements. Therefore, the residents of these settlements also ended up with no work. Having no permanent income sources, they have to supply themselves by hunting, fishing, gathering mushrooms, berries, cedar cones [4, p. 79].

With regard to the term “territorial shrinkage”, it should be specified for clear understanding of the material that two interpretations of this concept are applied in the scientific use. Firstly, territorial shrinkage is understood as the increase in its penetrability, coherence, accessibility, due to the increase in travel speed of people and cargo in space. In this case, the process of territorial shrinkage is used in the positive context. Secondly, the term “territorial shrinkage” is used to characterize the process of reducing lived-in, developed, economically active lands – the process, perceived as negative [7, p. 16].

This negative process is studied in the works of the majority of the authors on the changes of the village in the process of society transformation. For example, ten years ago G.V. Ioffe and T.G. Nefedova predicted gradual transformation of Russia’s forest and partly forest-steppe zones into agglomeration of islands of small, reclaimed areas around cities, surrounded by the sea of forests. According to their forecast, the marginal areas with collective agricultural enterprises that had lost their marketability and worked only to support local population households were expected to emerge. They literally predicted the following: in the part of the territories the depopulation will lead to the elderly, who stayed in such

settlements, living out their remaining days. In the end, finally “archipelagizing” Russia will turn into a compact European country, without changing its external contours and not giving an inch of ancient Russian lands to foreigners” [3, p. 91]

It must be acknowledged that in many respects, these predictions came true. This is evidenced by partially or completely abandoned villages along the roads, especially in the territories peripheral in relation to the industrial centres.

The author believes that it is necessary to analyze relevant statistical data, characterizing the studied processes, in order to estimate accurately the impact of territorial differentiation of the quality and security of population employment on the territorial shrinkage in Perm Krai rural territories, to determine the extent of shrinkage in rural areas and the social consequences of this phenomenon.

According to the municipal and territorial division, as of January 1, 2012 Perm Krai comprised 354 municipalities, including 42 municipal districts, 6 urban districts, 32 urban settlements and 274 rural settlements. The population resided in 25 cities, 27 urban-type-settlements (UTS) and 3578 rural settlements. It should be noted that medium-sized cities with 50 to 100 thousand inhabitants, towns and urban-type settlements are the centres of many municipal districts of Perm Krai. However, there are 15 municipal districts, the centers of which are villages with exclusively rural residents. In the given research, these very areas will be compared to 5 urban districts including only the urban residents<sup>1</sup>.

The data characterizing differences in the level of quality and security of employment in Perm Krai rural areas, as compared to urban areas, are presented in *table 1*.

<sup>1</sup> The sixth urban district UTS Zvyozdny is closed administrative-territorial formation, so data on the unit is not available.

As follows from tab. 1, 2 large cities (regional city of Perm with the population over 1 million people and the second largest city of Berezniki with the population of 154.6 thousand people) occupy the 1st and 2nd positions, respectively, in terms of wages and the registered unemployment level.

Medium-sized cities of Solikamsk and Kungur with the population of 96.8 thousand and 82.9 thousand people, respectively, are also located at the top of the table. Kudymkar with the population of 16.2 thousand people is included in the category of towns, but it has higher wages and much lower unemployment rate than in most rural areas. The exception is rural municipal areas adjacent to large industrial centers – Permsky District, occupying the 4th place by wages and 5th place by unemployment level, Kungur and Solikamsk districts, taking the 3rd and 7th places by unemployment level. It can be explained by the fact that the population of the enumerated territories can daily “shuttle from home to work and back home” (according to the terminology of T.V. Zayniyeva [2, p. 17]) to the enterprises of the nearby cities.

In all other rural areas that are far away from the enterprises of Perm, Berezniki, Solikamsk and Kungur, the wages are lower and the unemployment level is higher than in the rural areas under review.

High 7th and 10th places of Berezovsky and Bardymy municipal districts in the wage rating are conditioned by the deployment of JSC Gazprom structural subdivisions in these territories, with the local population being engaged in the maintenance of the main gas pipeline. Due to the fact that the wages of workers servicing JSC Gazprom pipeline transport are above Krai-average level, the indicators characterizing the level of wages in the municipal districts under review are in the top third of the rating.

The analysis of the data, presented in table 1, shows that in the territory of Perm Krai the

substantial differentiation in the amount of nominal accrued wages of the population of large and medium-sized cities, as compared to the wages of rural residents, is observed. The wage gap between large industrial centres (Perm, Berezniki, Solikamsk, Kungur) and rural territories, which are peripheral in relation to these cities, is particularly noticeable.

It should be noted that in 12 out of the 15 municipalities under review, the level of average monthly wages in 2011 did not exceed 16.5 thousand rubles per person, i.e. it lagged behind the indicators of the regional centre by more than one third. In 10 of them the wages were lower than 13 thousand rubles per month, that is less than half of the level of the regional centre. 10 thousand rubles of accrued wages per 1 employee in Kudymkarsky Municipal District makes up only 39% of 25.5 thousand rubles of average monthly wages of the employed at Perm enterprises.

The comparison of the level of registered unemployment rate in cities and rural municipalities revealed, that the minimum unemployment level was observed in large cities of Perm and Berezniki – 0.61% and 0.74%, respectively. In all rural municipalities, except for suburban Permsky and Kungursky districts, the unemployment level was above Krai average.

The differentiation scale of the population employment security by the unemployment indicator is characterized by almost 6.7 times excess of this indicator in Yusvinsky Municipal District (4.07%), as compared to the corresponding value in Perm (0.61%).

Differentiation of the quality and security of population employment affected the differences in the intensity of the processes of population decline in Perm Krai municipalities.

Official data shows that for the 2000–2011 period the population in Perm region decreased by 247 830 people, or by 8.6% in relative terms. The number of population increased only in 1 out of 25 analyzed municipalities during

Table 1. Adjustment table of the rating values of the indicators of wages and unemployment level in urban and rural territories of Perm Krai

Territories	Imputed average monthly per employee wage in 2011*	Registered unemployment level at the end of 2012**	Rating position by the indicators of imputed average monthly per employee wage	Rating position by the indicators of unemployment level at the end of 2012
In Krai on average	18773.3	1.46		
<i>Urban districts</i>				
Perm	25503.9	0.61	1	1
Berezniki	22454.2	0.74	2	2
Kungur	17609.2	1.12	5	4
Solikamsk	20060.9	1.63	3	6
<i>Rural municipal districts</i>				
Bardymy	15507.3	2.90	10	16
Beryozovsky	16377.1	3.24	7	17
Bolshesosnovsky	12975.2	5.21	16	25
Yelovsky	12163.0	3.26	20	18
Karagaysky	13876.2	2.56	13	11
Kishertsky	11466.6	2.85	23	15
Kuyedinsky	12664.2	2.23	18	8
Kungursky	12514.3	1.10	19	3
Ordinsky	13637.2	3.74	14	19
Permsky	19004.9	1.28	4	5
Sivinsky	11310.5	2.73	24	12
Solikamsky	13226.3	1.88	15	7
Uinsky	12881.7	2.74	17	13
Chastinsky	14992.6	2.74	12	14
<i>Komi-Permyak Okrug</i>				
Kudymkar	16261.9	2.27	8	9
Gaynsky	15937.2	4.89	9	24
Kosinsky	15012.6	4.38	11	23
Kochoyovsky	16948.2	4.33	6	22
Kudymkarsky	10038.5	2.34	25	10
Yurlinsky	11942.8	3.88	21	20
Yusvinsky	11762.7	4.07	22	21
<p>Note. Information is collected and calculated independently with the involvement of the following sources: *Perm Krai. Statistical yearbook: 2012: statistical digest. Local agency of the Federal State Statistics Service in Perm Krai (Permstat). Perm, 2012. P.85 ; **The unemployment in PermKrai. Results of 2012: information note of Perm Krai employment committee. 2013. No.1; Department for the organization of the employment service activities on the registration of public services recipients and labour market monitoring. Perm, 2013. Available at: <a href="http://www.szn.permkrai.ru">http://www.szn.permkrai.ru</a>. (retrieved August 2, 2013).</p>				

the studied period, i.e. Permsky Municipal District. This can be simply explained by the following: having acquired homes outside the city, more affluent population of Permsky District moved from the regional centre to suburban rural settlements. It should be noted that the actual number of Perm population is much higher than the official one million people. It is in Perm that service, construction, etc. workers, who temporarily or permanently

left their native villages, urban-type settlements and little towns in search for well-paid jobs and more high-profile and action-packed lifestyle, live in rental apartments.

Perm Krai is characterized by population heterogeneity in rural areas. It makes itself evident in the fact that the population decline in the peripheral rural areas of Perm Krai has been observed during the whole transformation period and at present.

This resulted in the existence of areally huge, but deserted municipal districts, inferior in population number to the villages located in immediate vicinity to large and medium-sized cities, at the distance from industrial centres. For example, as of January 1, 2012 the population of Yurlinsky Municipal District, a constituent of Komi-Permyak Autonomous Okrug, amounted to 9318 people, 7249 of them lived in Yurlinskoye rural settlement. The population of Uinsky Municipal District made up 10 996 people, 4566 of them resided in the district centre – Uinskoye rural settlement. Yelovskoye rural settlement numbered 6526 people, while the whole Yelovsky Municipal District – 10 392 residents. The rural settlements, comprising several villages with the total population of only several hundred people can be discovered within the territories of these and other municipal districts.

The process is reverse in rural municipal districts in immediate vicinity to large and medium-sized cities: the population there is concentrated in suburban rural settlements. Thus, at the time of the research 103 212 people resided in Permsky Municipal District, that is 10 times higher than the total population of all peripheral municipalities listed above.

Permsky Municipal District comprises rural settlements with the population of over 10 000 people, that is higher than the total number of population living in peripheral municipalities. 10 525 people reside in Kultayevskoye rural settlement of Permsky Municipal District, 10 331 people in Sylvenskoye rural settlement, and 10 243 residents in Kondratovskoye rural settlement. All this is the consequence of heterogenous socio-economic development of Perm Krai territories, a factor in which is the differentiation of the quality and security of population employment in urban and rural areas.

The problem of population decrease in peripheral rural areas, of course, should be alarming to heads of Perm Krai and its

municipalities, regional and municipal legislative and executive authorities. But this is only one of the problems, caused by territorial differences in the quality and security of employment. Even more significant shifts were made in reducing the number of workers in rural enterprises and organizations of Perm Krai (*tab. 2*).

As follows from the data of *tab. 2*, the number of employees at the enterprises and organizations in Perm Krai and its municipalities significantly reduced in the 2000–2011 period. This reduction was extremely uneven. In large and medium-sized cities, the number of employees decreased from 20.1% in Perm to 32% in Kungur, and in the rural municipalities in the range from 42.4% in Kosinsky District to 60.7% in Yelovsky District.

A group of territorial units, characterized by the maximum workforce attrition rate, comprises rural peripheral areas of Perm Krai north-western territories, where farming is hampered by harsh climatic conditions and complex terrain (swampiness, uneven territories, dissected by ravines, etc.).

Transport accessibility to industrial centres that are located on the main roads and railways resulted in the mechanical outflow of working age population from other deserted municipal districts. In a number of cases the population of whole villages of Kuyedinsky Municipal District left for Yekaterinburg, while a part of the population of Yelovsky District moved to Perm and Chaikovsky. Mountainous and wooded area resulting in shallow elevation pattern of agricultural lands hampers agriculture in Kishertsky and Uinsky districts that are also characterized by high employee attrition rate.

Only “lucky hit” can save the rural territories from the outflow of the working population. For example, as already have been mentioned above, the structural subdivisions of JSC Gazprom, located in Beryozovsky and Bardymsky municipal districts, provide jobs, stable wages, which means the effective

Table 2. Dynamics of the average number of the employees of Perm Krai municipalities in the 2000–2011 period

Territories	Number of employees		Absolute attrition, people	Comparative attrition, %	Rating position by the comparative attrition
	2000	2011	2011/2000	2011/2000	
<b>Total</b>	1020579	908076	112503	11.0	
<i>Urban districts</i>					
Perm	381783	304938	76845	20.1	1
Berezniki	78540	57332	21208	27.0	3
Kungur	25997	17672	8325	32.0	4
Solikamsk	42306	33738	8568	20.3	2
<i>Rural municipal districts</i>					
Bardymsky	6673	3839	2834	42.5	6
Beryozovsky	6545	3375	3170	48.4	11
Bolshesosnovsky	4828	2334	2494	51.7	18
Yelovsky	4501	1767	2734	60.7	25
Karagaysky	5033	2234	2799	55.6	21
Kishertsky	7204	3661	3543	49.2	14
Kuyedinsky	10469	5865	4604	44.0	8
Kungursky	13575	6567	7008	51.6	17
Ordinsky	5679	3013	2666	46.9	9
Permsky	29699	15782	13917	46.9	10
Sivinsky	6639	3247	3392	51.1	16
Solikamsky	6211	3206	3005	48.4	12
Uinsky	3791	1682	2109	55.6	22
Chastinsky	5169	2953	2216	42.9	7
<i>Komi-Permyak Okrug</i>					
Kudymkar	13555	6960	6595	48.7	13
Gaynsky	4826	2321	2505	51.9	19
Kosinsky	2247	1295	952	42.4	5
Kochyovsky	4068	1717	2351	57.8	24
Kudymkarsky	7358	3144	4214	57.3	23
Yurlinsky	3144	1423	1721	54.7	20
Yusvinsky	6970	3472	3498	50.2	15
Note. Information is collected and calculated independently supported by the following sources: Perm Krai. Statistical yearbook: 2012: statistical digest. Local agency of the Federal State Statistics Service in Perm Krai (Permstat). Perm, 2012. P. 52-53.					

demand of a part of the population for food and services, hence, the development of trade and services sphere, and consequently, top positions of these territories in the ratings on the wages, the registered unemployment level, employee attrition dynamics. This suggests that the timely launching of production in the backs, not to mention the state support of agricultural producers, could stop the processes of territorial shrinkage in rural areas and use their employment potential more effectively.

In order to determine the regularities of the employee attrition, the background study of the dynamics of the average staffing number in Perm Krai municipalities for the shorter period from 2005 to 2011 was carried out (tab. 3).

As follows from the data of tab. 3, the number of employees at the enterprises and organizations in Perm Krai and its municipalities continued to decrease in the 2005–2011 period. But the employee attrition rate differs in various municipalities.

Table 3. Dynamics of average staffing number in Perm Krai municipalities from 2005 to 2011

Territories	Number of employees		Absolute attrition, people	Comparative attrition, %	Rating position by the comparative attrition
	2005	2011			
<b>Total</b>	848808	685344	163464	19,3	
<i>Urban districts</i>					
Perm	326596	304938	21658	6,6	1
Berezniki	66418	57332	9086	13,7	4
Kungur	19923	17672	2251	11,3	3
Solikamsk	40859	33738	7121	17,4	5
<i>Rural municipal districts</i>					
Bardymsky	5512	3839	1673	30,4	7
Beryozovsky	5427	3375	2052	37,8	17
Bolshesosnovsky	3895	2334	1561	40,1	18
Yelovsky	3126	1767	1359	43,5	20
Karagaysky	5364	3661	1703	31,7	9
Kishertsky	4032	2234	1798	44,6	22
Kuyedinsky	9174	5865	3309	36,1	14
Kungursky	9855	6567	3288	33,4	13
Ordinsky	4401	3013	1388	31,5	8
Permsky	25327	15782	9545	37,7	16
Sivinsky	5086	3247	1839	36,2	15
Solikamsky	4186	3206	980	23,4	6
Uinsky	3060	1682	1378	45,0	24
Chastinsky	4359	2953	1406	32,3	12
<i>Komi-Permyak Okrug</i>					
Kudymkar	12315	6960	5355	43,5	21
Gaynsky	4210	2321	1889	44,9	23
Kosinsky	1902	1295	607	31,9	11
Kochyovsky	3141	1717	1424	45,3	25
Kudymkarsky	3431	3144	287	8,4	2
Yurlinsky	2082	1423	659	31,7	10
Yusvinsky	5963	3472	2491	41,8	19

Note. Information is collected and calculated independently supported by the following sources: Perm Krai. Statistical yearbook: 2012: statistical digest. Local agency of the Federal State Statistics Service in Perm Krai (Permstat). Perm, 2012. P. 52-53.

It slowed down in large and medium-sized cities, while in the little town of Kudymkar and in rural municipalities with no industrial component it, on the contrary, increased. For example, Perm lost 20.1% of the workforce during the 2000–2011 period, and 6.6% for the latter half of the reporting period from 2005 to 2011. The exception is a company town Solikamsk; the tendency for the employee attrition deceleration is typical of other large and medium-sized cities. And on the contrary, in the most problem rural areas (Kochyovsky, Uinsky, Yelovsky and Kishertsky municipal districts), the employee attrition rate at

enterprises and organizations accelerated in the 2005–2011 period, that in time will likely result in the fact, that these areas stop being suppliers of agricultural products.

Decrease in the average staffing number at enterprises and organizations in Perm Krai municipalities led to the reduction in the number of working population per one pensioner (*tab. 4*).

As follows from the data of *tab. 4*, higher indicators of the number of working population per one pensioner were recorded in 2011 in large and medium-sized cities of Perm Krai with low unemployment rate, high wages and

Table 4. Dynamics of reduction in the number of working population per one pensioner for 2005–2011, people

Territories	Number of working population per one pensioner, people		Rating position in 2011	Reduction in the number of working population per one pensioner for 2005–2011, people		Rating position by the indicators of comparative reduction in the number of working population per one pensioner for 2005–2011
	2005	2011		Absolute, people	Comparative, %	
<i>Urban districts</i>						
Perm	1.26	1.09	2	-0.17	-13.5	1
Berezniki	1.38	1.16	1	-0.22	-15.9	2
Kungur	n/a	n/a	-	-	-	-
Solikamsk	1.55	1.09	3	-0.46	-29.7	5
<i>Rural municipal districts</i>						
Bardymsky	0.67	0.48	19	-0.19	-28.4	4
Beryozovsky	1.14	0.68	7	-0.46	-40.4	14
Bolshesosnovsky	1.04	0.59	11	-0.45	-43.3	18
Yelovsky	0.90	0.50	15	-0.4	-44.4	19
Karagaysky	0.87	0.57	12	-0.3	-34.5	9
Kishertsky	0.90	0.50	16	-0.4	-44.4	20
Kuyedinsky	1.15	0.75	6	-0.4	-34.8	10
Kungursky	0.83	n/a	-	-	-	-
Ordinsky	0.95	0.63	10	-0.32	-33.7	8
Permsky	1.17	0.67	9	-0.5	-42.7	15
Sivinsky	1.25	0.79	5	-0.46	-36.8	13
Solikamsky	1.11	n/a	-	-	-	-
Uinsky	0.81	0.46	21	-0.35	-43.2	17
Chastinsky	1.29	0.84	4	-0.45	-34.9	11
<i>Komi-Permyak Okrug</i>						
Kudymkar with Kudymkarsky Municipal District	0.98	0.67	8	-0.31	-31.6	6
Gaynsky	0.86	0.49	17	-0.37	-43.0	16
Kosinsky	0.69	0.47	20	-0.22	-31.9	7
Kochyovsky	0.90	0.49	18	-0.41	-45.6	21
Yurlinsky	0.69	0.51	14	-0.18	-26.1	3
Yusvinsky	0.83	0.54	13	-0.29	-34.9	12

Note. Information is collected and calculated independently supported by the following sources: Perm Krai. Statistical yearbook: 2012: statistical digest. Local agency of the Federal State Statistics Service in Perm Krai (Permstat). Perm, 2012. P. 97.

low employee attrition rate at enterprises, as compared with krai rural municipal districts. These cities are Berezniki with the index of 1.16, Perm and Solikamsk with 1.09 of working people per one pensioner by the end of 2011.

As expected, the worst indicators were recorded in Uinsky, Kosinsky, Bardymsky rural municipal districts (0.46, 0.47, and 0.48 per one pensioner, respectively). In three other regions, this indicator does not exceed 0.5 of working people, i.e. more than 2 times below the

corresponding indicators of Perm Krai cities. The author focuses his attention on a number of alarming trends, characterizing the situation with the reduction in the number of working age population per one pensioner in Perm Krai municipalities:

1. This process covers every single city and municipal district.

2. The process of reducing the share of the employed per one pensioner, proceeds dangerously fast – from 13.5% in Perm to more than

40% in eight rural municipalities for the 2005–2011 period, that is for the total of 6 years.

3. As of the end of 2011, the range of absolute values between the most successful city of Berezniki (1.16) and Uinsky Municipal District (0.46) at the bottom of the rating makes up 252%.

Such rapid deterioration of the situation, the acceleration of shrinkage in Perm Krai rural territories points to the loss of manageability control over some rural areas and, in perspective, their disappearance as territories suitable for living.

The compression of Perm Krai rural territories is characterized not only by population decline, employee attrition and reducing share of the working age population per one pensioner, but also the degradation of the material base of agricultural producers (*tab. 5*), as well as the reduction of land under agricultural crops in Perm Krai rural municipalities (*tab. 6*).

As follows from the data of *tab. 5*, the number of all types of machinery used in krai agriculture has been steadily decreasing throughout the studied period.

In 2011, as compared to 1990, only 28.9% of milking machines and installations were left at livestock farms of agricultural enterprises.

With regard to crop production, while 2719 roll reapers were used at agricultural enterprises in 1990, only 86 units were left by 2011, that is 3.2% of the standard figure. The situation is not much better with other machines designed for harvesting. By the end of 2011 the harvester fleet comprised from 7.7% (flax harvesters) to 30.7% (balers), as compared to the end of 2011.

The tractor fleet decreased more than 5-fold to 18.5%, as compared to the reference period. The same thing happened with tillers and seeding machines.

The processes of the agricultural material base deterioration were accompanied by the reduction of sown areas (*tab. 6*).

As follows from the data of *tab. 6*, except for technical crops, the share of which in the total volume of sown areas is extremely small, the areas under grain, vegetable, forage crops and potato decreased in all categories of households. The decrease that continues up to the present moment has been significant. The areas designated for sowing grain crops, have

Table 5. Dynamics of the deterioration of the material and technical base of agriculture

Fleet of the main types of machinery in agricultural organizations	Pieces of equipment (at the year-end, units)				Ratio of the number of equipment units to the reference period, %		
	1990	2000	2005	2011	2000/1990	2005/1990	2011/1990
Tractors	26610	13695	8424	4910	51.5	31.7	18.5
Ploughs	9398	4047	2410	1496	43.1	25.6	15.9
Cultivators	9164	3513	2280	1509	38.3	24.9	16.5
Seeding machines	8939	3845	2625	1517	43.0	29.4	17.0
Combines:							
grain harvesters	6812	2616	1748	945	38.4	25.7	13.9
forage harvesters	2080	991	617	414	47.6	29.7	19.9
potato harvesters	352	106	50	34	30.1	14.2	9.7
flax harvesters	13	17	5	1	130.8	38.5	7.7
Mowers	6332	2292	1658	1021	36.2	26.2	16.1
Balers	1764	999	816	542	56.6	46.3	30.7
Swathers	2719	402	149	86	14.8	5.5	3.2
Milking machines and installations	2159	1193	844	623	55.3	39.1	28.9

Note. Information is collected and calculated independently supported by the following sources: Perm Krai. Statistical yearbook: 2012: statistical digest. Local agency of the Federal State Statistics Service in Perm Krai (Permstat). Perm, 2012. P. 241.

Table 6. Dynamics of the reduction of land under agricultural crops in all types of households, thousand hectares

Categories of sown areas	Periods				
	2000	2005	2011	2005/2000	2011/2000
<i>Households of all types</i>					
Total crop area	1265.0	999.5	793.2	79.0	62.7
Including:					
grain crops	581.7	427.1	282.0	73.4	48.5
industrial crops	2.1	0.9	4.4	42.9	209.5
potato	55.7	46.6	42.0	83.7	75.4
field vegetables	11.1	7.9	7.7	71.2	69.4
forage crops	614.4	517.0	457.1	84.1	74.4
<i>Agricultural organizations</i>					
Total crop area	1137.6	908.4	704.2	79.9	61.9
Including:					
grain crops	556.3	409.3	268.1	73.6	48.2
industrial crops	2.1	0.8	4.3	38.1	204.8
potato	3.6	2.3	4.3	63.9	119.4
field vegetables	1.5	0.7	0.9	46.7	60.0
forage crops	574.1	495.3	426.6	86.3	74.3
<i>Population households</i>					
Total crop area	76.4	56.4	48.2	73.8	63.1
Including:					
grain crops	1.0	0.8	1.2	80.0	120.0
potato	51.3	43.6	36.9	85.0	71.9
field vegetables	9.4	7.1	6.6	75.5	70.2
forage crops	14.8	4.9	3.5	33.1	23.6
<i>Peasant (farm) enterprises and sole proprietors</i>					
Total crop area	50.9	34.7	40.8	68.2	80.2
Including:					
grain crops	24.4	17.1	12.7	70.1	52.0
potato	0.8	0.7	0.8	87.5	100.0
field vegetables	0.1	0.1	0.2	100.0	200.0
forage crops	25.6	16.9	27.0	66.0	105.5
Note. Information is collected and calculated independently supported by the following sources: Perm Krai. Statistical yearbook: 2012: statistical digest. Local agency of the Federal State Statistics Service in Perm Krai (Permstat). Perm, 2012. P. 243.					

been decreased at a particularly quick rate, more than 2-fold. This is partly explained by the market laws. The area under grain crops decreased due to the fact that low-fertility sod-podzolic soils, prevailing in the structure of Perm Krai agricultural lands, make it difficult to get high yields without applying chemical fertilizers, the use of which also dropped sharply. It is more profitable to import grain from traditional grain-growing areas. Modern territorial shrinkage, defined in this case as “the increase in travel speed of cargo in space”, allows considerable amounts of grain to be

transported from more southern regions. That is why most of the remaining poultry farms in Perm Krai increase manufacture, and the settlements close to them are the small islands of relative prosperity.

Based on the above it is possible to make a number of conclusions. The unemployment level is one of the indicators of the security of population employment in the territory. The amount of wages affects the employment quality. According to these indicators the rural areas in Perm Krai fall significantly behind the large and medium-sized cities.

The lack of prospects for the socio-economic development of the territory leads to the outflow of population, first of all, of the working age population, which, in turn, is accompanied by negative social consequences, one of which is the reduction in the number of the employed per one pensioner. All that results in the production cutback, irrevocable loss of production capacities and launches the next phases of the deterioration cycle in the peripheral rural areas [9].

Territorial shrinkage processes, characterized by the reduction in the populated, developed, economically active lands, are widespread in Perm Krai. This requires the improvement of the methods managing the rural municipalities development equalization at the regional and municipal levels, in order to work out measures to conserve the processes of territorial shrinkage in Perm Krai rural territories and to eliminate negative consequences of these processes.

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