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Quality of Life in the Krasnoyarsk Territory and a Problem of Human Capital Formation

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The paper summarizes the existing approaches to the assessment of the quality of life as an objective characteristic of the living conditions of the population, and clarifies a set of socio-economic indicators of the assessment of the quality of life, the calculation of which is based on official statistics. Based on the fact that the dynamics of the human capital of the Krasnoyarsk Territory, along with other Siberian regions, is mainly caused by migration, the paper presents an analysis of the quality of life of the population of the Krasnoyarsk Territory in comparison with Siberian Federal District and Russia as a whole in order to clarify the aspects of the migration outflow and inflow of the population. The results of the study can be used to develop a monitoring system of migration processes in the region to increase the rationality of the decisions on the development of the human capital of Siberia made by the regional authorities.

Keywords: quality of life, standard of living, migration, human capital.

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Research area: economics.

Introduction

The Krasnoyarsk Territory (Krasnoyarsk Krai) is one of the largest subjects of the Russian Federation in Siberian Federal District on the area and the major macroeconomic indicators. Such federal projects as the preservation of the export potential in the energy markets, the energy security of the western regions of

the country are implemented in the Territory. However, there is an imbalance of social and economic development of the region, which is indirectly evidenced by the demographic situation that is characterized as tense. The experts predict an absolute shortage of labor resources to implement large investment projects in the Territory (E.B. Bukharova,

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I.P. Vorontsova, L.K. Vitkovskaia, 2013), which is exacerbated by the structural imbalances of the labor market. The dynamics of the average annual population of the Krasnoyarsk Territory as a whole is determined mainly by migration rather than natural flows. Therefore, the imbalance of economic and social development of the Territory, which led to its low migration attractiveness, is a key problem of human capital formation in the Krasnoyarsk Territory.

In order to develop solutions on the measures to regulate the quality of life of the population to improve its migration attractiveness, it is important to develop approaches to assess the factors of migration outflow and inflow of the population in terms of the quality of life.

The complexity of the assessment of the quality of life, as opposed to the standard of living, lies in the need for a comprehensive, multidisciplinary approach. This paper attempts to characterize the quality of life of the Krasnoyarsk Territory's residents, on the basis of the system of objective economic indicators, which can be recommended as a preliminary "background" study. The advantages of this kind of assessment lie in relatively low labor intensity, high efficiency and the possibility to ensure the comparability of data in the future. The results of an objective assessment of the quality of life can be used to design a social-psychological study of the residents' state of health as an integral characteristic of the quality of their life.

Methods

The approaches to the modeling and assessment of the quality of life in relation to the measured parameters can be divided into objective (S.A. Aivazian, 2003), subjective (G.M. Zarakovskii, 2009; the methods of the World Health Organization) and integral (I.V. Grishina, 2012; T.V. Gavrilova, 2004; B.I. Khasan, L.A. Novopashina, L.A. Vorontsova, 2015).

The approach to the assessment of the quality of life on the basis of objective indicators allows conducting a comparative analysis of Siberian residents' quality of life, as there is official statistics according to the groups of indicators, with a lesser complexity of the study in comparison with social methods.

The analysis of the approaches to the modeling and assessment of the quality of life (G.M. Zarakovskii, 2009; I.V. Grishina, A.O. Polinev, S.A. Timonin, 2012; T.V. Gavrilova, 2004; V. Bulanov and E. Kataitseva, 2011; S.A. Aivazian, 2003; A.E. Kogut and V.E. Rokhchin, 2011; E.K. Chirkunova, 2006; A.A. Shabunova and M.V. Morev, 2012) gives reason to believe that "the quality of life" can be defined as a generalized objective assessment of the characteristics of the population's living conditions, which can be grouped as shown in Table 1. The choice of a set of indicators is conditioned, among other things, by the presence of official statistical information needed to calculate them.

The characteristics of the quality of life of the Krasnoyarsk Territory's population compared to Siberian Federal District (SFD below) and Russia as a whole, presented in this paper, is based on the aforesaid system of the indicators, calculated according to the data from the official website of Federal State Statistics Service of the Russian Federation. Since most of the regional figures are published in official documents with a delay of two years, the paper analyzes the period of 2010-2013.

Results

Module 1. Well-being

The rate and structure of the income of the Krasnoyarsk Territory's population indicates a high level of well-being of its residents compared with other regions of SFD and the Russian Federation. Thus, the Territory is leading in SFD

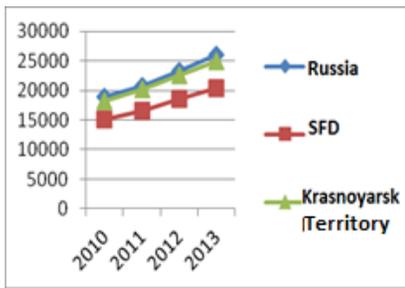
Table 1. Analyzed aspects of the quality of life and corresponding figures

Aspects of the quality of life	Indicators of the quality of life
Module 1. Well-being	1.1 The share of consumer expenditure on recreation and cultural activities, as percentage 1.2 The share of consumer expenditure on food and non-alcoholic beverages, as percentage 1.3 Average money income per month, rubles 1.4 Real money income, as percentage of the previous year 1.5 The number of own passenger cars per 1,000 people, units 1.6 R/P 10 % ratio, times 1.7 Gini coefficient
Module 2. Education Opportunities	2.1 The coverage of children by preschool educational institutions, as percentage of eligible children 2.2 The number of university students per 10,000 population, for 1 September, people
Module 3. Health & Fitness	3.1 Life expectancy at birth, number of years 3.2 Incidence per 1,000 population (registered diseases in patients with a diagnosis determined for the first time) 3.3 Population per hospital bed, people 3.4 The capacity of children's recreational institutions per 1,000 population below working age 3.5 The number of sports facilities per 10,000 population
Module 4. Housing Opportunities	4.1 The total living area per resident, sq. m. 4.2 Average prices at the secondary housing market, rubles per sq. m.
Module 5. Employment Opportunities	5.1 Unemployment rate (by ILO methodology), as percentage 5.2 The rate of the unemployed, who have been looking for a job for 12 months or more, as percentage 5.3 The number of registered vacancies per 1,000 unemployed people 5.4 Average monthly nominal payable wage of employees of organizations, rubles 5.5 Real payable wage, as percentage of the previous year
Module 6. Culture	6.1 The number of museums, per 100,000 population 6.2 The number of theaters, per 100,000 population
Module 7. Life Safety	7.1 The number of reported crimes, per 100,000 population 7.2 The rate of crimes committed by juveniles or involving them, as percentage
Module 8. Environmental Situation	8.1 Emissions of pollutants into the air from stationary sources, per 1,000 sq. m. km of land area, 1,000 tons 8.2 Emissions of pollutants into the atmosphere from stationary sources per 1,000 population, tons

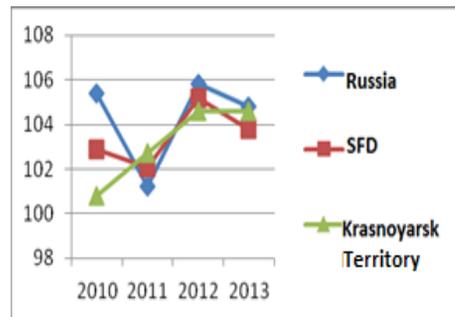
on the size of average income of the population (Fig. 1a), the number of own passenger cars per 1,000 population (Fig. 1b), shows a steady growth of real money incomes of the population (Fig. 1b); besides, the structure of our region's residents' expenditure is slightly dominated by services. However, a high income differentiation of the population, observed for many years, (Fig. 1g) does not allow concluding that the regional

economy has stable development prospects, and its territory is attractive to young people, highly qualified personnel. In our opinion, it is a high income differentiation of the population that causes the migration situation in the Territory – “The Krasnoyarsk Territory is the territory that “gives” people”.

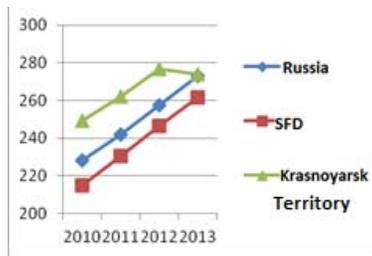
The size of average income of the Krasnoyarsk Territory's population practically



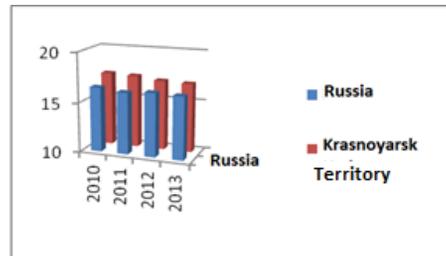
a) Average money income per month, rubles



b) Real money income, as percentage of the previous year



b) The number of own passenger cars per 1,000 population, units



d) R/P 10% ratio, times

Fig. 1. Dynamics of Well-being Indicators (Source: Federal State Statistics Service: http://krasstat.gks.ru/wps/wcm/connect/rosstat_ts/krasstat/ru/statistics/)

corresponds to the national rate; at the same time, it significantly exceeds the rate of SFD. So in 2013, the average income in the Territory amounted to 24922 rubles, while the average indicator in SFD was 20454 rubles.

The population's well-being growth rate in the Territory is relatively small, which is typical for SFD and Russia as a whole (in 2013, the growth in Russia was 4.8 % with respect to 2012, in SFO – 3.8 %, in the Krasnoyarsk Territory – 4, 6 %).

The share of expenditure of the Territory's population on food and non-alcoholic beverages is consistently lower than in Russia and SFD (The Krasnoyarsk Territory – 23.7 %, SFO – 28.6 %, Russia – 27.7 %), while at the same time, the share of expenditure of the Territory's population on recreation and cultural activities lags behind the national rate (6.1 % against 7.2 % in Russia)

and shows the rate that is roughly equal to SFD (5.9 %).

The number of private cars per 1,000 population in the Territory grew by 9.6 % (from 250 to 274) in the last 4 years. As for this indicator, here the Territory exceeds the average indicators for SFD and Russia.

High income differentiation is typical for Russia as a whole. We should note a positive decrease trend in income differentiation's indicators in the Territory. Due to high income differentiation, objective indicators of the quality of life in the Module "Well-being" are not sufficiently informative in explaining the causes of migration.

Module 2. Education Opportunities

Comfortable living in the territory is also provided by education opportunities. In terms of

the provision of kindergartens, the Krasnoyarsk Territory is at the bottom of the list of Russian regions, being the 67th there in 2013. In 2013, in Russia in general the coverage of eligible children by pre-school educational institutions was 63 %, and in the Krasnoyarsk Territory – 57.3 %, i.e. almost half of preschool-age children are not able to go to kindergarten.

The specific number of students in higher education institutions in the Territory was steadily decreasing (from 421 per 10,000 population in 2010 down to 359 per 10,000 population in 2013), but it corresponds to the national trend, caused by demographic processes.

Integral (economic, social-psychological) studies of the quality of life (I.P. Vorontsova, B.I. Khasan, L.A. Novopashina, 2015) prove that the prospects for education are a priority for the population. Thus, the situation in the regional education is a sort of driver of migration outflow.

Module 3. Health & Fitness

In terms of life expectancy in 2013, the Krasnoyarsk Territory ranked the 60th place in the rating of Russian regions, exceeding the average rate in SFD for 1.5 years (Fig. 2a). The presence of problems in maintaining the health of the population of the Territory is evidenced by the fact that the average life expectancy in Russia was steadily growing (from 68.9 in 2010 to 70.8

in 2013), while in the Krasnoyarsk Territory it fluctuated around the value of 68.6 years, despite the fact that the incidence of the population in the Territory was lower than the average one in SFO. Besides, there was the trend to incidence reduction (Fig. 2b), a satisfactory provision of children's recreational institutions (Fig. 3a) and a relatively high possibility to go in for sports (Fig. 3b).

The population's provision with health services in terms of population per hospital bed reduced (108 people in 2013), which was consistently higher than in SFD (100 people in 2013). Such dynamics of the indicator is due to the modernization of the health care system.

The Territory demonstrates a satisfactory rate of provision with children's recreational institutions; this figure is slightly below the average one for SFD, but higher than the average national rate. From 2010 to 2013, the capacity of children's recreational institutions per 1,000 people below working age in the Krasnoyarsk Territory was approximately at the same level (about 225 people).

An important factor in the quality of life is the opportunity to go in for sports. The presence of "yard" sports infrastructure is characterized by such an indicator as the specific number of sports facilities. The availability of sports facilities in the Territory is almost at the level

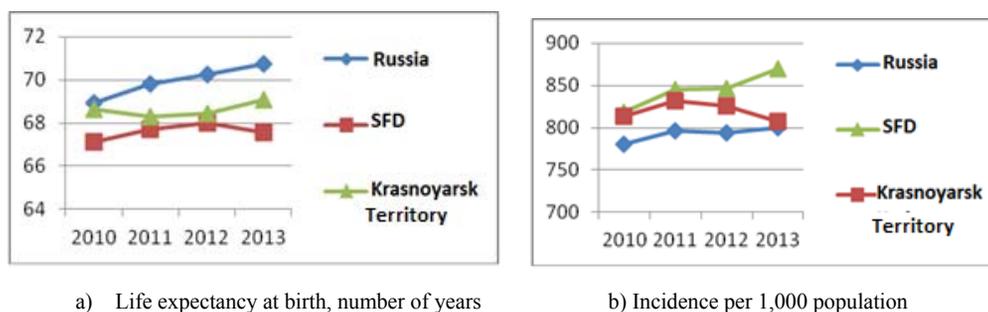
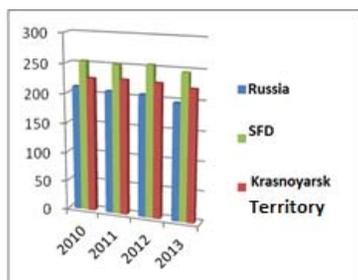
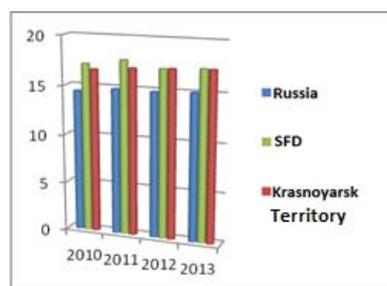


Fig. 2. Life Expectancy and Incidence Indicators (Source: Federal State Statistics Service http://krasstat.gks.ru/wps/wcm/connect/rosstat_ts/krasstat/ru/statistics/)



a) Capacity of children's recreational institutions per 1,000 population below working age, people



b) The number of sports facilities per 10,000 population

Fig. 3. Children's Health and Sports Facilities (Source: Federal State Statistics Service http://krasstat.gks.ru/wps/wcm/connect/rosstat_ts/krasstat/ru/statistics/)

of SFD (17.3 in 2013) and thus is higher than the average Russian one (15.0 in 2013).

Thus, there are good opportunities for sports and recreation, but low life expectancy in the region. In our opinion, this is largely due to the specific uncompensated natural and geographical features of the Territory, as well as adverse environmental conditions (see Module 8).

Module 4. Housing Opportunities

In terms of affordability of housing, it is necessary to note two opposing trends. On the one hand, according to the initial volume of housing and average prices for housing, the residents of the Territory have better housing opportunities in comparison with the average rate of SFD (Fig. 4). On the other hand, the growth rate of real incomes of the population is three times lower than the growth rate of housing prices and, consequently, housing for the residents of the Territory becomes less affordable.

On a total area of housing per person the Krasnoyarsk Territory is ahead of the rate of SFD (23 and 22.2 sq. m. in 2013, respectively), but is slightly behind the average national rate (23.4 sq. m. in 2013).

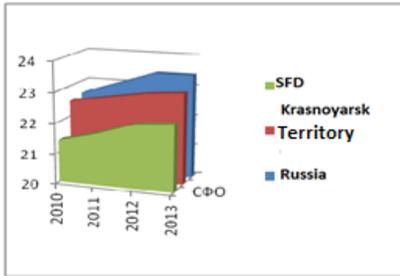
The average price for 1 sq. m of housing in Russia as a whole decreased from 59,998 to

56,478 rubles (by 5.9 %) and in the Territory it increased from 36,165 to 49,578 rubles (by 37.1 %) from 2010 to 2013. The growth in housing prices may be indicative of a high demand, as new housing is actively under construction in the Territory.

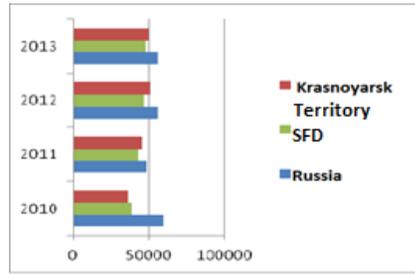
Module 5. Employment Opportunities

The Krasnoyarsk Territory has a relatively low unemployment rate: about 5.7 % by ILO methodology (Fig. 5a). According to this indicator, the Territory is in a favorable situation in comparison with SFD, the average indicator of which was 7.2 % in 2013. Besides, the Territory shows more optimistic rates in terms of long-term unemployment in comparison with Russia and the Federal District (27.5 % in the Territory, 34.6 % in SFD, 31.0 % in Russia in 2013). One more positive indicator of the Territory is also an indicator of job security of the unemployed (Fig. 5b). However, the question of the real chances of employment of the unemployed, especially of the young and qualified professionals, due to accumulated structural imbalances of the labor market, is still open.

Nominal payable wage in the Territory follows a nationwide trend to growth (Fig. 5c). It

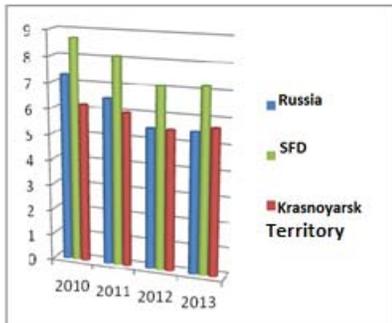


a) Total area of housing per person, sq.m.

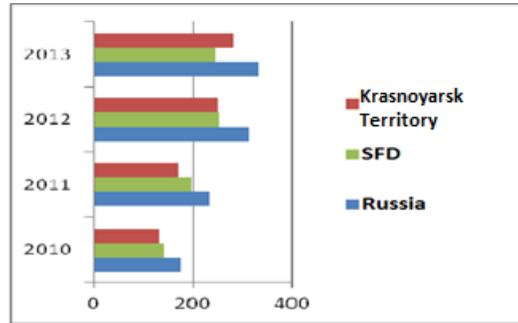


b) Average prices at the secondary housing market, rubles

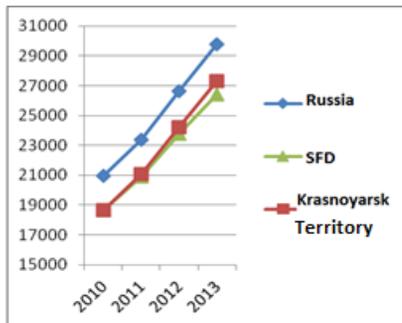
Fig. 4. Housing Market Indicators (Source: Federal State Statistics Service http://krasstat.gks.ru/wps/wcm/connect/rosstat_ts/krasstat/ru/statistics/)



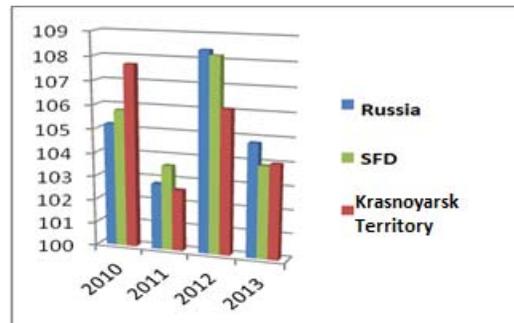
a) Unemployment rate (by ILO methodology) as percentage



b) The number of registered vacancies per 1,000 unemployed people



a) Average monthly nominal payable wage of employees of organizations, rubles



b) The growth rate of real payable wage, as percentage of the previous year

Fig. 5 – Labor market indicators (Source: Federal State Statistics Service http://krasstat.gks.ru/wps/wcm/connect/rosstat_ts/krasstat/ru/statistics/)

practically corresponds to the Federal District on its rate, but consistently lags behind the national average rate (27,279 rubles in the Territory, 29,792 rubles in Russia in 2013).

The growth rate of real wage (Fig. 5d) over the period is consistently above 100 %, i.e. the purchasing power of wage increases. In 2013, the growth amounted to: + 4 % in the Territory, +3.9 % in SFD, +4.8 % in Russia compared with 2012. At the same time there is a decline in the growth rate in 2013 compared to 2012.

Module 6. Culture

The provision of the population with museums and theaters (Fig. 6) in the Krasnoyarsk Territory is not different from other regions. The total number of museums in Russia is 3024, in SFD – 426, in the Territory – 48, and theaters – 854, 84 and 14, respectively. Per 100,000 population, the number of museums in the Territory is slightly smaller (1.7), compared with the rate of SFD (2.2) and Russia as a whole (2.1). As for the provision with theatres, the Territory's indicators are lower than the national ones (0.49 and 0.59, respectively), but higher than in SFD (0.44).

Thus, the city's culture is not a factor stimulating the outflow of the population to more "cultural and inhabited" territories, as its rate corresponds to the average rate in Russia and

does not significantly differ from the average rate in SFD.

Module 7. Life Safety

During the period under report, there is a general downward trend in the number of reported crimes. However, the Krasnoyarsk Territory, as well as SFO as a whole, is characterized by a high crime rate in comparison with the average rate in Russia (Fig. 7a). In 2013 the number of reported crimes per 100 population in the Territory exceeded the average rate in Russia by 28 %.

Furthermore, such an indicator as the number of crimes committed by children or involving them (Fig. 7b) is of interest in order to assess the quality of life. It describes not only life safety, but also the quality of the education system, and families' well-being. It is necessary to state that the Krasnoyarsk Territory demonstrates a consistently high rate of this indicator compared to the national average one, reflecting the unfavorable situation connected with juvenile delinquency.

Module 8. Environmental Situation

The environmental situation can be considered unfavorable.

If we use a traditional indicator (emissions per unit of land area, see Fig. 8a), in the Territory

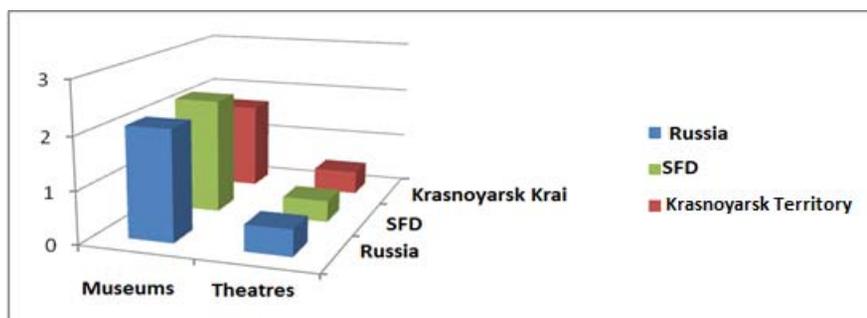
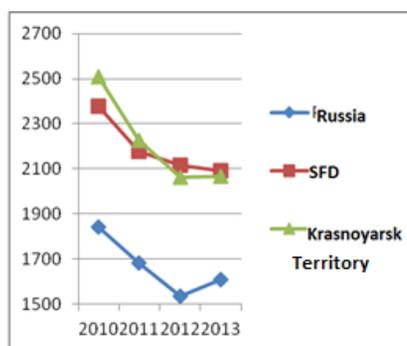
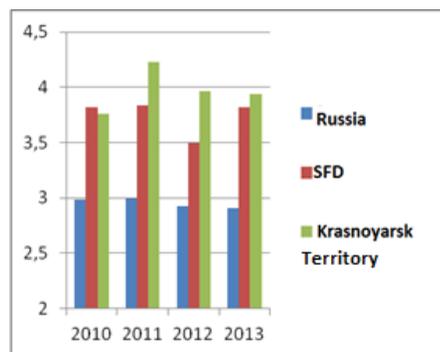


Fig. 6. The number of museums and theaters, per 100,000 population (Source: "Museums of Russia» portal <http://museum.ru> (August 20, 2015))

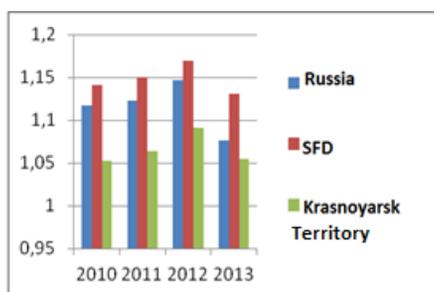


a) The number of reported crimes per 100,000 people

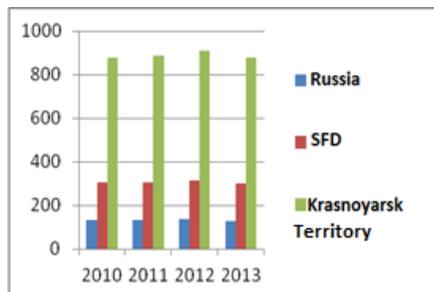


b) The rate of crimes committed by juveniles and involving them, as percentage

Fig. 7. Crime Rate Indicators (Source: Federal State Statistics Service http://krasstat.gks.ru/wps/wcm/connect/rosstat_ts/krasstat/ru/statistics/)



a) Emissions of pollutants into the air from stationary sources, per 1,000 sq. km. of land area, 1,000 tons



b) Emissions of pollutants into the air from stationary sources, per 1,000 people of land area, tons

Fig. 8. Environmental Situation Indicators (Source: Federal State Statistics Service http://krasstat.gks.ru/wps/wcm/connect/rosstat_ts/krasstat/ru/statistics/)

it is significantly lower than the average one in Russia (lower by 2 %) and SFD (by 6.7 %). However, it should be taken into account, that the density of the population in the Territory is about 7 times less than that of Russia and 3 times less compared to SFD; and the real rate of pollution can be significantly higher. Therefore, we have calculated an alternative indicator, which characterizes the number of pollutants per 1,000 population living in the Territory (Fig. 8b).

The analysis of the indicators of the environmental situation in the Territory showed that the rate of harmful substances per 1,000

population in the Territory in 2013 exceeded the national average one by 6.8 times, and the rate of that in SFD – by 2.9 times.

Thus, it will be difficult to solve the problem of low life expectancy as an element of human capital without a competent environmental policy.

Conclusion

The key aspects of migration in terms of the quality of life of the Territory's population should be divided into 2 groups: promoting the inflow and promoting the outflow of population.

In our opinion, the aspects of the quality of life, causing migration inflow, can be:

1. A high rate of population's income.
2. Good prospects for housing provision.
3. A relatively high rate of availability of

cultural objects.

The aspects of the quality of life of The Krasnoyarsk Territory's population, causing migration outflow, can be:

1. High income differentiation.
2. Relatively low life expectancy.
3. High growth rates of housing prices compared with the growth rates of real incomes of the population.
4. A high crime rate, especially in comparison with the average indicator in Russia and SFD, as well as a high rate of juvenile delinquency.
5. Environmental risks.

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Качество жизни в Красноярском крае и проблема формирования человеческого капитала

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В статье обобщены существующие подходы к оценке качества жизни как объективной характеристики условий жизни населения и уточнен набор социально-экономических показателей оценки качества жизни, расчет которых базируется на данных официальной статистики. Исходя из факта, что динамику человеческого капитала Красноярского края, как и других регионов Сибири, обуславливает преимущественно миграция, представлен анализ качества жизни населения края по сравнению с Сибирским федеральным округом и Россией в целом с целью уточнения аспектов миграционного оттока и притока населения. Результаты исследования могут быть использованы в целях разработки системы мониторинга миграционных процессов в регионе для повышения рациональности принимаемых региональными органами власти решений по развитию человеческого капитала регионов Сибири.

Ключевые слова: качество жизни, уровень жизни, миграция, человеческий капитал.

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