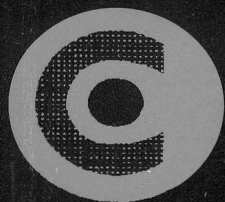


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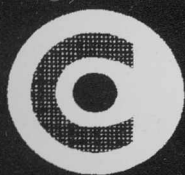
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SOCIO-DEMOGRAPHIC AND ECONOMIC ASPECTS OF ANALYSIS OF LIFE QUALITY OF POPULATION IN ALMATY REGION

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ABSTRACT

The objective of this paper is to study the socio-demographic and economic aspects of the quality of life of the population by the example of Almaty region to assess the quality of life of the population and its standard of living. The importance of this research paper lies in the fact that the socio-demographic and economic indicators have been explored and systematised in detail, the weaknesses of the region in improving the quality of life of the population were identified. Over the past ten years in the area a positive shift towards population growth occurred, which became possible by reducing of migration decrease and increasing of natural population growth. The average life expectancy of the Almaty region is higher than the average national level and in 2012 was 69.8 years. A life expectancy is an indicator of the quality of the environment, but at the same time, both the socio-demographic and ecological factors also influence on it. The adults literacy rate in the Almaty region comprises 99%. Percentage of coverage of population with primary education comprises 89.8%, and the percentage of coverage with secondary education is 96.4%. The problems of the quality of life in the Almaty region should be addressed and resolved in the aspect of socio-demographic processes. Despite the relatively high rates of economic and social development, in the area some issues in the fields of education and health still stand over.

Keywords: quality of life of the population, demography, standard of living, average life expectancy, infant mortality.

* For correspondence.

AIMS AND BACKGROUND

The Constitution of the Republic of Kazakhstan declares that the State is a democratic, secular, legal and social authority, whose highest values are human being, his life, rights and freedoms. Accordingly, the main objective of the social policy of the State and the main criterion of its effectiveness shall be steadily improving the quality of life of the people. At present, assessment of the quality of life of the population is becoming ever more topical issue that requires the development of a set of measures aimed at development a sustainable human potential in our country. The population is very sensitive to changes in the social sphere as a category of socio-demographic analysis. For this reason, the study of the basic indicators of the socio-demographic processes plays an important role in the evaluation of the life quality of the population as a whole¹.

Study of issues related to the assessment of living conditions of the population and influence of ecological destabilisation on the quality of life and human development is the most important scientific problem in the Republic of Kazakhstan. In recent decades an interest grows in studying the impact of the various factors on the life expectancy of the population. Considering factors influencing on the level of life expectancy in implementing social policies of many Western countries has led to a significant reduction in mortality and increase in the average life expectancy.

BASIC CONCEPTS AND DEFINITIONS OF 'QUALITY OF LIFE OF THE POPULATION'

Study of issues related to improving the people living standards the scientific works of many economists have been dedicated. Such theorists as Keynes, Kotler, Brue, Maslow, Fisher, etc. were engaged in research in this field. These economists have developed various national models of living standards, their performance measures, mechanisms of regulation. Currently, there are many conceptual approaches to the definition of the life quality – a standpoint according to which a life quality should be regarded as evolving category, which can be filled with different content depending on the social orientation of the given society, period of time, the approach to determining the nature of the phenomenon, etc. Analysis of different approaches to determining the essence of 'quality of life' category enables to make a conclusion on the drawing out the formulation of the unified, once and for all its formulation. This is manifested by the presence of numerous works dedicated to the quality of life of the population and its various sides, in which up-to-date there is no unity in understanding what socio-economic processes and phenomena are denoted by this term. On the one hand, there is the utmost expansive interpretation of this category, which essentially includes all the processes of life activity of the human life and society. On the other hand, the quality of life indicators sometimes include without any scientific reasoning only narrow part of life-support processes of people.

The World Health Organisation (WHO) defines quality of life as 'the perception by the individuals of their position in life within the context of culture and value

system in which they live, and in relation to their goals, expectations, standards and concerns. This is a wide range of concepts depending on physical health, psychological status, personal beliefs, social relations and their relationships with environmental or characteristic features of the environment².

The Organisation has developed an international cross-culturally comparable tool to assess quality of life, which covers 6 main areas: physical health; psychological health; level of independence; social relations; environment; spirituality/religion/personal beliefs. Quality of life can be interpreted as the integral category, characterising comprehensively the level and degree of freedom well-being, social and spiritual development of man as well as his physical health. Among its structural components the following basic components may be emphasised: health rate and life expectancy, the population standard of living, a way of life of the population.

Russian scientist Subbeto, who dedicated more than one work to the issue of the quality of life, defines the quality of life as a system of qualities of spiritual, material, socio-cultural, environmental and demographic components of life. Quality of life is one of the main categories, through which the meaning of existence of civilisations, nations, ethnic groups, humanity and human being, the target functions of social and economic policies are reflected. Quality of life reflects a synthesis of material and spiritual and creative sides of life, level of human tribal forces, his intelligence, and creative sense of life. It is not amounted only to material standards of living, although 'the material standard of life' plays a significant role. Quality of life is a complex and contradictory system of unity of spiritual, intellectual, material, socio-cultural, scientific and educational, environmental and demographic components of life of both of individual, family, people and mankind society as a whole. It embraces, therefore, both individual and public (social) quality of life, it reveals the diversity of needs and abilities of the man, his potential to the all-round, harmonious, creative development³.

Russian economist Rimashevskaya specifies that quality of life characterises, above all, the condition of the human social life subject itself. Some authors equate the concepts of 'well-being' and 'quality of life'. A German theorist Stiffen under 'quality of life' means the conscious formation of the economy for the benefit of the majority⁴. Thus, all the mentioned researchers agree that quality of life is the sum of a number of life essential values. 'Life as a man, as a higher-order needs are met, what he lives, what is the meaning of his life, whether it is satisfied with his life'⁵.

EXPERIMENTAL

In the paper were used general scientific, both traditional and modern methods of research, including systematic and comparative geographical analysis, mathematical statistics methods, cartographic and geoinformation and GIS techniques. In the work the statistical data of the Agency of the Republic of Kazakhstan on Statistics were used.

RESULTS AND DISCUSSION

ANALYSIS OF THE MAIN DEMOGRAPHIC INDICATORS OF THE QUALITY OF LIFE OF POPULATION

Over the twenty years of independence in Kazakhstan the positive developments occurred in the field of improving the standards and quality of life. This is evidenced by the UNDP human development report, in which, based on the results of the year 2013, Kazakhstan stood up one position in the human development index and ranked 69 out of 182 countries. For further development of human potential in the country, it is necessary, first of all, to improve the living conditions of the population in the regions. From this point of view, the Almaty region is of great interest as a region, taking second place in the country in terms of population (in its territory 2% of the total population of the country resides), and as a region with a rapidly developing economy – the region share of the gross regional product (GRP) in the total volume of GDP of Kazakhstan is 4.7%.

The Almaty region has significant human and economic potential, therefore, a comprehensive analysis of the living conditions of the population, improvement of the quality of its life, is the topical direction of development for Almaty region. Quality of life is a complex category, in its assessment a number of indicators characterising the living conditions and the degree of satisfaction by these conditions should be taken into account. As major indicators the following components of life quality – health of population, and life expectancy, level of educational development – are considered. For integrated assessment of qualitative indicators of the population life, first of all, the demographic situation in the region should be considered. On January 1, 2013 the population of Almaty region was 1.9 million, including urban population of 450.7 thousand (23.2%), and rural – 1495.9 thousand (76.8%) (Table 1).

Table 1. Population dynamics of Almaty region for 2002–2013 (Ref. 6)

Year	Population (thousand people)				
	total	urban population (thousand people)	(%)	rural population (thousand people)	(%)
2002	1554.6	456.5	29.4	1098.6	70.6
2003	1560.3	459.2	23.4	1101.1	76.6
2004	1571.2	464.7	23.5	1106.5	76.5
2005	1589.8	474.0	23.8	1115.8	76.2
2006	1603.8	480.0	30	1123.8	70
2007	1620.7	488.2	31	1132.5	69
2008	1643.3	383.0	23.3	1260.3	76.7
2009	1804.0	423.5	23.5	1380.5	76.5
2010	1836.6	4305	23.4	1460.1	76.6
2011	1873.4	4374	23.3	1436.0	76.7
2012	1909.4	443.5	23.3	1465.9	76.7
2013*	1946.6	450.7	23.2	1495.9	768

* Operational data.

Over the past 10 years in the region a positive shift towards population growth occurred, which became possible by reducing of migration decrease and increasing of natural population growth. The birth rate in January 1, 2013 per 1000 people was 23.8; mortality rate was 7.7. The natural population increase in the Almaty region at the beginning of 2013 year amounted to 16.1 per 1000 people. To the natural movement of population also influence directly the living conditions of the population, its well-being, level of development of social services – health and education (Fig. 1).

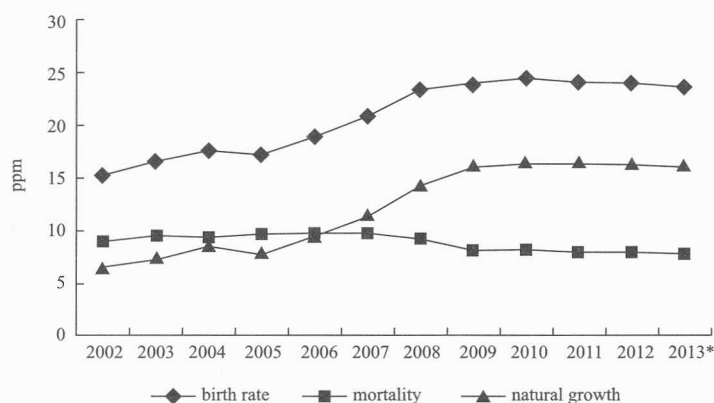


Fig. 1. Factors of natural movement of population of Almaty region for 2002–2013 (2013* – operational data)

For 2002–2013, the natural increase of the population of the region increased by 39.8% – from 6.4‰ (per thousand) in 2002 to 16.1‰ (per thousand) at the beginning of the year 2013. In the recent years, the rate of natural increase remains stable, and for its further growth the quality of life should be improved. Demographic indicators depend directly on the health status of the population, which, in its turn, serves as an indicator of the social well-being of the society⁷.

In the world practice the level and dynamics of health, life expectancy, are put in first place in determining the quality of life of the population, since they are considered as basic human need, fundamental term of its functioning. The ability to live a long and healthy life is one of the conditions of the ‘quality of life’. By definition of experts of St. Petersburg Medical Institute of Sanitary and Hygiene, a health category presents itself as a state of functions structure and adaptive capacities (reserves) of man, which provide him with the quality of life at this time and in this environment. For the characteristics of this category such indicators as a life expectancy, population mortality from diseases, infant mortality and the tuberculosis morbidity rate have been analysed. According to data for 2011, the life expectancy at birth in the Almaty region is 69.77 years, at that life expectancy for women is higher than that indicator for men – 74.17 and 65.45 years, respectively.

In the structure of the main causes of mortality from diseases in Almaty region the circulatory system diseases rank first. At the end of 2012, 4.3 thousand people

died from this disease (29.1% of all deaths), and respectively from neoplasms – 1.5 thousand people (10%), and from pulmonary diseases – 1 thousand (7%), from diseases of the digestive system – 1.2 million people (8%), from infectious and parasitic diseases – 129 people (0.9%) (Fig. 2).

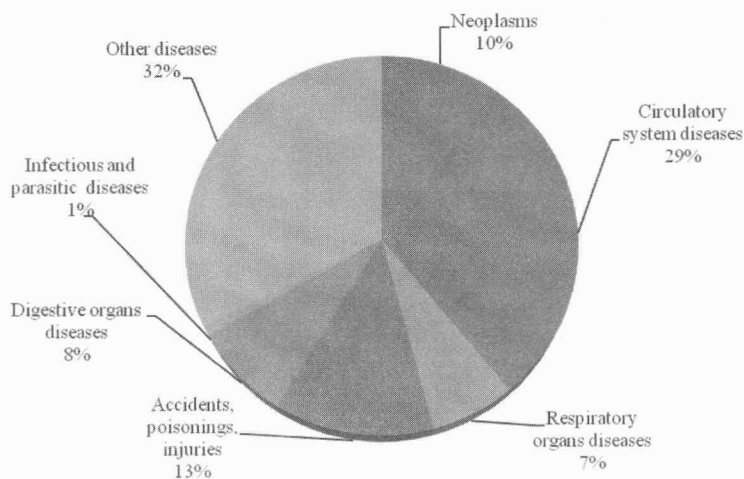


Fig. 2. Structure of mortality of the main causes of death of population of Almaty region in 2011

In the area a high infant mortality rate is observed, so in 2011 the infant mortality rate amounted to 12.04 per 1000 live births. Figure 3 shows the dynamics of change in the infant mortality rate for 2000–2011.

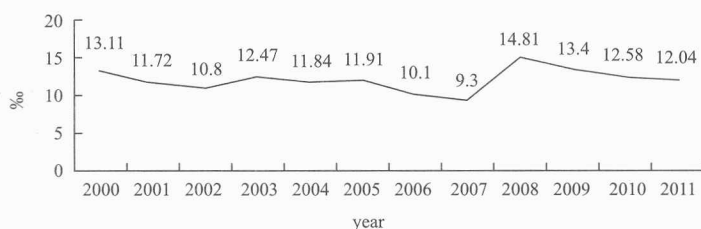


Fig. 3. Dynamics of change in the infant mortality rate in the Almaty region for 2000–2011 per 1000 live births

In the period from 2008 to 2011 a slight decrease in infant mortality is observed (from 14.81‰ (per thousand) up to 12.04‰ (per thousand) – decrease by 1.2 times), but in spite of that it remained relatively high in the Republic. It should be noted that the main cause of infant mortality in the Almaty region is perinatal mortality, which comprises almost 55% of all deaths. This shows an insufficient level of development of medicine and the qualification of medical personnel in the region. In the Millennium Declaration, signed by 147 countries in September 2000, including Kazakhstan, the main objectives of human development have been identified. So, the Goal 4 sets

as mission to reduce the child mortality rate by two-thirds in the period from 1990 to 2015. Therefore, the reduction of infant and child mortality is a priority mission for Kazakhstan.

As the severe issue in the public health remains the high tuberculosis morbidity of population. On this indicator Kazakhstan ranks one of the first places in the world. Unfortunately, this problem is vital for the Almaty region. In the recent years a gradual decline in tuberculosis (TB) morbidity is observed. Tuberculosis (TB) mortality rate is decreasing annually by a mean of 15% in 2011, and it comprised 3.5 per 100 thousand people of population at the national level of 7.2 (Table 2).

Table 2. Tuberculosis (TB) morbidity and mortality rate in the Almaty region in the period of 2000–2011 per 100 000 people of population⁶

TB rate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Tuberculosis morbidity rate	118.4	115.5	123.1	120.6	108.9	113.7	106	98.7	100.5	90.9	80.8	75.8
Tuberculosis mortality rate	17.3	17.2	11.3	9.8	8.9	10.1	7.8	8.6	7.1	4.9	4.1	3.5

The Government of the Republic adopts a policy of the healthy lifestyle that has a positive influence on the health and demographic indicators of the population life. Within the framework of the program ‘Salamatty Kazakhstan’ for 2011–2015, the funds have been allocated for the development of public health of the region, which allowed significantly improve of the medical services of the population. Financing for the region public health increased significantly – from Kazakhstani tenge (KZT) 42.4 billion in 2011 to KZT 50.5 billion in the current year, that is to say, by 16%. Cost of medical aid per one resident rose from KZT 21.997 in 2011 up to KZT 26.189 in 2012.

Population health depends not only on the level and resources of health system and social welfare in the region, but also from a number of other factors – maintaining a healthy lifestyle, protection of environment and human habitation, etc. A nature of the social and demographic development in the Republic of Kazakhstan since 1991, was defined largely by both objective processes and the level of economic development of the country. In consequence of changes have taken place in the recent years, the socio-demographic situation as a whole, can be considered as positive: fertility rates and life expectancy are improving, mortality rates are reducing, including infant mortality rates; there is a positive balance of migration.

Analysing the average life expectancy in the Republic of Kazakhstan, it should be noted that for the period from 1999 to 2011, the life expectancy in the country has increased from 65.7 years in 1999 to 69.0 in 2011 (Fig. 4). As it seen from the picture the increase in life expectancy during the period occurred unevenly. It was lower in the year 2000 and comprised 65.5 years. Beginning year 2001 the increase in the life expectancy became observable. However, the increase in the life expectancy was also

not stable and uniform. In total, for the period from 1999 to 2011, the average annual rate of increase in the life expectancy amounted to 0.3 years (Ref. 8).

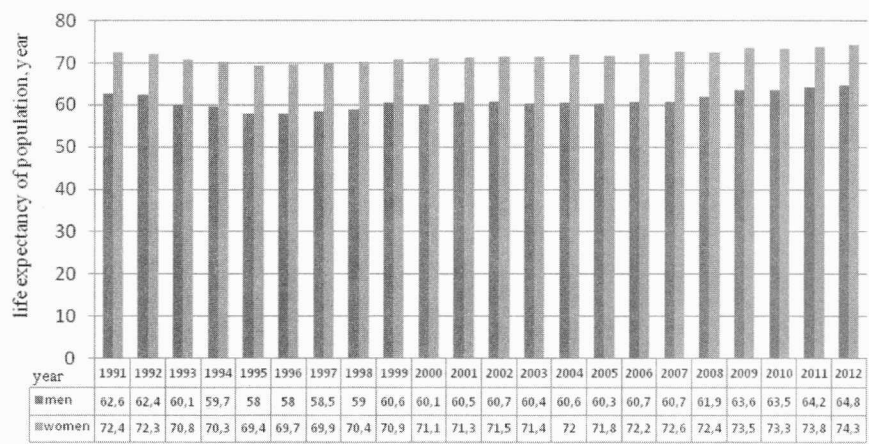


Fig. 4. Average life expectancy in Kazakhstan in 1999–2012

It should be noted that the average life expectancy by regions of the Republic among men and women is non-uniform. The average life expectancy of the population of the Almaty region is higher in comparison with the average indicator of the country. So, in 2011, this indicator on the Republic amounted to 64.2 years for men and 73.8 years for women, and for the Almaty region, it is for men – 65.5 years, and 74.2 years for women (Fig. 5). At that this is not the highest indicator of average life expectancy in the regions of the Republic of Kazakhstan and it is estimated as an average level.

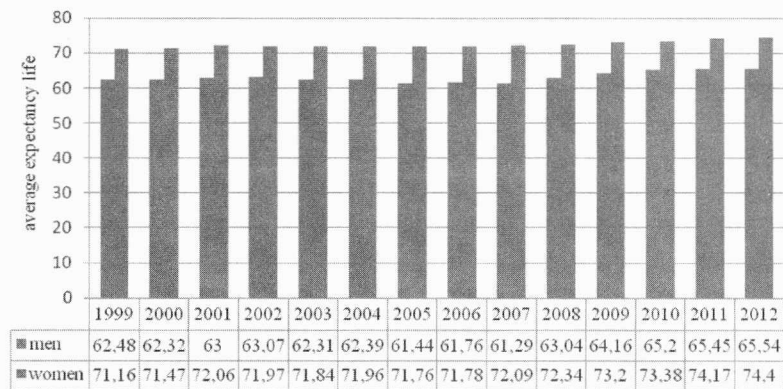


Fig. 5. Average life expectancy in the Almaty region

The man throughout his life interacts with the environment. This dependence of the man, his well-being, health and his life itself on the environmental conditions cannot remain unaccounted in examining factors influencing on life expectancy. For

example, the famous scientist-hygienist Korchesky names a life expectancy as the stability indicator of environment-man system⁹. We have conducted a scientific study of influence of environmental and demographic processes on life expectancy of population in Kazakhstan. To determine existence of relationship of the life expectancy from the environmental factor a correlation of these indicators was made.

To assess the environmental component of relationship of the life expectancy from the environmental conditions an indicator of emission volume of air pollutants harmful to the population health per capita was chosen. The study of this indicator attracts special interest because the death rate from respiratory diseases in Kazakhstan remains high¹⁰.

Figure 6 shows the relationship of life expectancy from the changes in the air emissions volume.

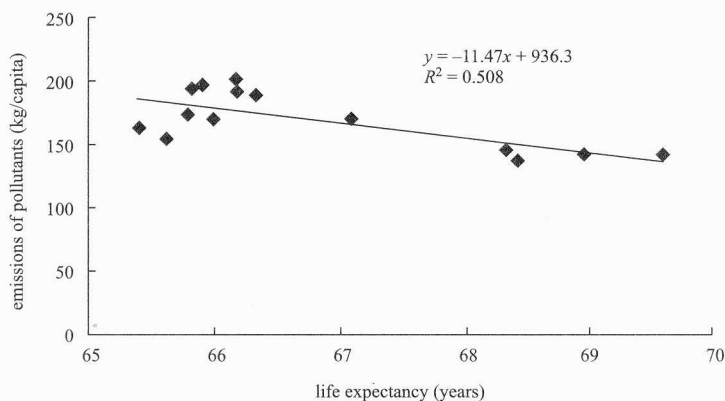


Fig. 6. Correlation diagram of relationship of life expectancy from the emission volume of air pollutants

Analysis of the figure shows that the volume of emissions of air pollutants correlates inversely from the life expectancy. Correlation factor of $r = -0.7$, which means that life expectancy in the country increases according to the reduction of emission volume of air pollutants harmful to the population health. Existence of interrelation of the life expectancy with the separate ecological and demographic indicators gives grounds for more in-depth analysis of this phenomenon. For this purpose a spatial analysis of the differentiation of level of life expectancy and level of air pollution in the different regions of Kazakhstan was made. According to the analysis, 16 regions (14 regions and Astana and Almaty cities) were ranked according to the level of life expectancy to 5 groups, the Almaty region (with 69.93 years) falls into the group with an average level of life expectancy (69.5–70.5 years). For comparison, according to the similar pattern the indicators of atmospheric pollution in the different regions of the country have been ranked, according to results of which the Almaty region was assessed as a region with low emissions of air pollutants. Therefore, according to the

studied parameters in the Almaty region a favourable ecological and demographic situation is formed.

SOCIO-ECONOMIC ASPECTS OF THE EVALUATION OF THE QUALITY OF LIFE OF POPULATION OF ALMATY REGION

Among the indicators defining the quality of life such fundamental categories as life expectancy, level of education, level of provision of food, shelter, clothing, the degree of satisfaction of the spiritual and social needs are proposed. Taken together, they reflect the standard of quality of life: a healthy and long life, extensive and accessible knowledge, developed infrastructure, a rich social and cultural life, etc.

Another important indicator of the high quality human potential is the educational level of the population. The opportunity to get a qualitative and competitive education is one of the most important components of quality of life. The education system of the Almaty region has met with a number of serious problems, such as the under-filled schools, low coverage of children by pre-primary education, low technical instrumentation of schools, lack of qualified staff, etc. In the Almaty region there are 741 public general education day schools, including 69 elementary schools, 51 main schools and 621 secondary schools. The adults literacy rate in the Almaty region comprises 99%. Percentage of coverage of population with primary education comprises 89.8%, and the percentage of coverage with secondary education is 96.4% (Table 3).

Table 3. Coverage in primary and secondary education (%)

Indicators	The Almaty region	The Republic of Kazakhstan
Net coverage factor with primary education (at the age of 6–10 years) (%)	89.8	90.9
Percentage of coverage with secondary education (at the age of 7–17 years) (%)	96.4	96.4

Source: The Millennium Development Goals, Agency of the Republic of Kazakhstan on Statistics, 2011.

The situation in the field of higher education is different. The percentage of children entering higher education is only 3.1% of the population aged 16–18 years of age, while national level is 20.3%, this indicator is the lowest in the Republic (Fig. 7). Education is the main factor in the formation of human capital, which, in its turn, becomes the most important economic resource for development. Therefore, in primary, secondary and higher education in the region the investments and quality transformations are needed. For instance, within the framework of the State programme for the development of education of the Republic of Kazakhstan for 2011–2020, in the Almaty region for 2011 the first positive results have been achieved: opened 369 pre-school institutions and doubled the number of preschool children enrolled⁹.

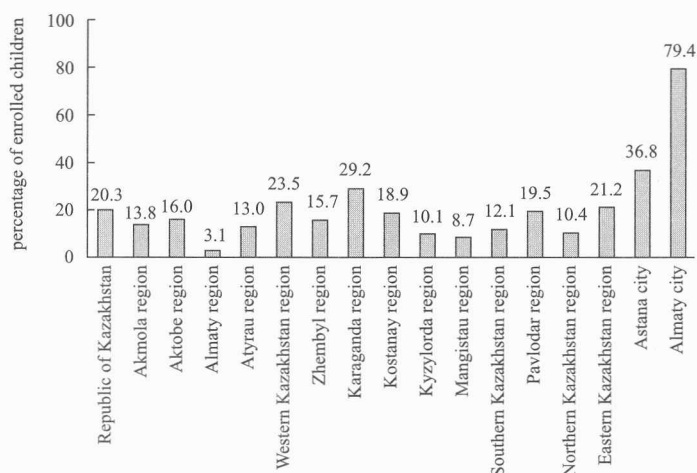


Fig. 7. Percentage of children enrolled in higher educational institutions of the Republic of Kazakhstan by the regions, 2009 (at the age 16–18)

Continuing to consider the positions characterising the quality of life in the Almaty region, such indicator as the living standard of the population should not be missed. Standard of living should be considered as a level of satisfaction of material and spiritual needs of people, defined by, first of all, the ratio of the income level and cost of living. In the world practice to characterise the welfare such indicator, as the value of gross domestic product per capita is used. At the regional level the gross regional product (GRP) is considered. Gross regional product of the Almaty region in 2011 per capita comprised KZT 680.1 thousand. In the total volume of the Republican GDP the share of region GRP takes 4.7%.

One of the most important indicators of the living standard the incomes measure of population is considered. For instance, in January 2013, the average per capita income monetary income amounted to KZT 42.596, which is 16% higher than the same indicator of previous year.

Besides the income indicators for the evaluation of quality of life and supporting the established minimum social benefits (salaries, pensions, allowances), as well as determining the directions of social policy the rate of the minimum subsistence level shall be calculated. Minimum-the minimum required income for one person, equal to the largest value of the minimum consumer basket¹¹. In the Almaty region for the period from 2007 to 2013 a minimum subsistence level per capita increased in 2 times and in January 2013 it comprised KZT 18.157 (Table 4). In addition, cost of living helps to estimate the standard of living of the population with the lowest income. The population with incomes below the minimum subsistence level can be considered as a poor.

Table 4. Minimum subsistence level in the Republic of Kazakhstan, the Almaty city and the Almaty region for 2007–2013

Region	Average minimum subsistence level (KZT)						
	2007	2008	2009	2010	2011	2012	2013
The Republic of Kazakhstan	9.653	12.364	12.660	13.487	16.072	15.817	16.983
The Almaty region	9.556	12.460	12.788	13.812	16.716	17.087	18.157
The Almaty city	12.282	15.786	15.557	16.233	18.638	19.065	19.157

In the Almaty region, the percentage of the population with incomes below the minimum subsistence level in 2011 comprised 1.7%, which is almost 3 times lower than the average Republican level, which is 5.3%. In whole, the dynamics of changes in the region develops positively – an annual decline in the percentage of people with low income in total number of employees is observed (Fig. 8).

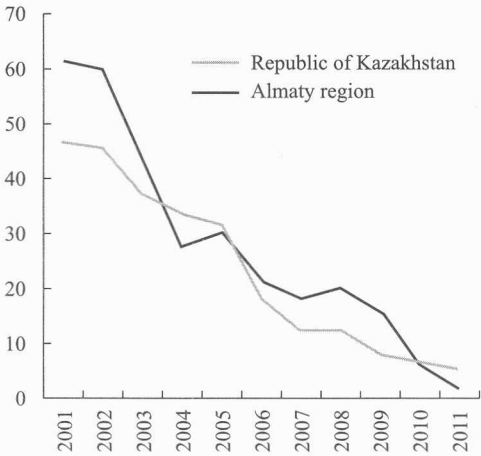


Fig. 8. Percentage of population with income used for consumption, below the minimum subsistence level for 2001–2011

Nevertheless, in the Almaty region the income differentials between rural and urban areas remains significant, that becomes a topical problem, given that 76% of the population of the region lives in rural areas. According to the Department of Statistics of the Almaty region for the 2011, the percentage of the population with low incomes in urban areas amounted to 1.3%, while in the rural areas it is 1.9%. Breakaway of quality of life of urban residents from the measures of rural population creates social instability, it becomes the cause of increased migration from urban areas to rural areas, and has a negative impact on the socio-economic development of the rural areas as a whole. Therefore, the poverty control in rural areas and ensuring the equitable distribution of incomes between urban and rural areas can significantly improve the quality of life indicators in the Almaty region.

CONCLUSIONS

As a whole, at present, the level of quality of life in the Almaty region may be estimated as the average. Despite the relatively high rates of economic and social development, in the region some issues in the fields of education and health still stand over, as well as a gap between the quality of life in urban and rural areas is large. Solution to these issues will become another step to improve the living conditions of the region population and human development in Kazakhstan as a whole. Over the past decades, Kazakhstan has managed to succeed the significant progress in improving the quality of life of the population. This was made possible, in large part, thanks to public development programmes performed in the country, as well as investments in the development of human capital. Currently, the main objective of the social policy of the State and the main criterion of its effectiveness shall be steadily improving the quality of life of the people. High indicators of life quality become an indispensable condition for sustainable development of Kazakhstan and its competitiveness in the world market.

The problems of the quality of life in the Almaty region should be addressed and resolved in the aspect of socio-demographic processes. Transition to sustainable development is one of the priorities of our country, therefore today especially topical is a comprehensive examination and assessment of ecological and demographic aspects of development of the society. In this light, the life expectancy can be considered not only as an indicator of the quality of the population life, but also as an indicator of environmental quality.

REFERENCES

1. Message of the President of the Republic of Kazakhstan 'Kazakhstan-2050 Strategy': Socio-economic Modernization Is the Main Vector of Development of Kazakhstan. 2012.
2. http://www.who.int/substance_abuse/research_tools/whoqolbref/en/ – WHO Quality of Life-BREF (WHOQOL-BREF).
3. A. I. SUBETTO: Quality of Life, Health of the Nation and the Security of the State Are the Main Functionals of Existence and Criteria of the Socio-economic Policy of the State. Trinitarism Academy, Moscow, 2003, www.trinitos.ru/rus/doc/0228/004a/02280047.htm.
4. B. A. RAYZBERG, L. A. LAZOUSKY, E. B. STARODUBTSEVA: Modern Dictionary of Economics. Infra-M, Moscow, 1999.
5. Analysis of Indicators Characterizing the Quality of Life of the Population of the Republic of Kazakhstan. Applied Economics Research Center Private Institution, Analytical Review, 2012.
6. The Living Standard of Population of Almaty Region. The Statistics Digest of Almaty Region Statistics Department, 2012.
7. G. NYUSSUPOVA, I. SARSENOVA: Modern Demographic Processes in the Urban Areas of the Republic of Kazakhstan. Bulletin of Geography. Socio-economic Series, Torun, (18), 99 (2012).
8. G. N. NYUSSUPOVA, I. A. RODIONOVA: Demographic Situation and the Level of Human Development of the Republic of Kazakhstan: Regional Aspects. Bulletin of Geography. Socio-economic Series, Torun, (16), 75 (2011).
9. Regions of Kazakhstan in 2011. Statistics Digest of Agency of the Republic of Kazakhstan on Statistics, 2012.
10. T. A. GAMM, A. Zh. KALIYEV: Differentiation Territory on Environmental Indicators of Anthropogenic Impact. Bulletin OGU (Orenburg, Russia), (9), 2004.
11. The Millennium Development Goals Indicators by Regions. Agency of the Republic of Kazakhstan on Statistics, 2011.

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