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## SOCIO-DEMOGRAPHIC ASPECT OF ANALYSIS OF LIFE QUALITY OF POPULATION OF THE REPUBLIC OF KAZAKHSTAN

One of the main indicators characterizing the development of the economy by the international community recognized as the quality of life. In process of integration of Kazakhstan into the world economy interest to this problem has been increasing as socio-demographic indicators of quality of life are also used to reflect the degree of socio-economic relations in the country. The objective of this paper is to study the socio-demographic aspect of life quality of population by the example of the Republic of Kazakhstan. The importance of this research paper lies in the fact that the socio-demographic indicators have been explored and systematised in detail, the regional difference of birth rate and death rate values, average lifetime values of the population of the Republic of Kazakhstan were identified. Gender differences of the regions of the republic according to the average lifetime level of the population lifetime of Kazakhstan were researched. Over the past ten years in the country a positive shift towards population growth occurred, which became possible by reducing of migration decrease and increasing of natural population growth.

**Key words:** Kazakhstan, socio-demographic processes, quality of life, population structure, life expectancy.

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### Қазақстан Республикасы халқының өмір сүру сапасын талдаудың әлеуметтік-демографиялық аспектісі

Халықтың өмір сүру сапасын халықаралық қоғамдастық экономиканың дамуын сипаттайтын негізгі көрсеткіштердің бірі ретінде мойындайды. Қазақстанның әлемдік экономикаға интеграциялану үрдісінде осы мәселеге қызығушылық артып келеді, өйткені халықтың өмір сүру сапасының әлеуметтік-демографиялық көрсеткіштері елдегі әлеуметтік-экономикалық қатынастардың дәрежесін көрсетеді. Бұл жұмыстың мақсаты Қазақстан Республикасы мысалында халықтың өмір сүру сапасының әлеуметтік-демографиялық аспектісін зерттеу болып табылды. Зерттеудің маңыздылығы әлеуметтік-демографиялық көрсеткіштердің зерттеліп, жүйелендірілуінде Қазақстан Республикасы халқының өмір сүру ұзақтығының орташа мәндерінде және туу мен өлім деңгейіндегі аймақтық айырмашылықтардың анықталғандығында болып табылады. Республика өңірлерінің Қазақстан халқының орташа өмір сүру ұзақтығы бойынша гендерлік айырмашылықтары зерттелді. Соңғы он жыл ішінде елде халық санының өсуінде оң өзгерістер болды, бұл көші-қонның теріс мәнінің төмендеуі мен халықтың табиғи өсімінің артуы арқылы мүмкін болды.

**Түйін сөздер:** Қазақстан, әлеуметтік-демографиялық үрдістер, өмір сүру сапасы, халықтың құрамы, өмір сүру ұзақтығы.

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## Социально-демографический аспект анализа качества жизни населения Республики Казахстан

Качество жизни населения признано международным сообществом как один из основных показателей, характеризующих развитие экономики. В процессе интеграции Казахстана в мировую экономику интерес к этой проблеме возрастает, поскольку социально-демографические показатели качества жизни населения также используются для отражения степени социально-экономических отношений в стране. Целью данной работы является изучение социально-демографического аспекта качества жизни населения на примере Республики Казахстан. Важность данного исследования заключается в том, что социально-демографические показатели были детально изучены и систематизированы, выявлены региональные различия в показателях рождаемости и смертности, средние значения продолжительности жизни населения Республики Казахстан. Исследованы гендерные различия регионов республики по среднему уровню продолжительности жизни населения Казахстана. За последние десять лет в стране произошел положительный сдвиг в сторону роста населения, что стало возможным благодаря уменьшению миграционного спада и увеличению естественного прироста населения.

**Ключевые слова:** Казахстан, социально-демографические процессы, качество жизни, структура населения, ожидаемая продолжительность жизни

**Introduction**

The subject of scientific research is spatial-temporal patterns of socio-demographic processes as a key factor of human development in Kazakhstan. The importance of scientific work is that the results permit to estimate the level of quality of life in Kazakhstan on the basis of socio-demographic processes. First of all the socio-demographic indicators defining human potential in Kazakhstan have been studied in detail and systematized.

One of tasks of this article is the assessment of quality of life of the population of regions (areas) of Kazakhstan identification their strong and weaknesses for further definition of measures for a sustainable development of the republic.

The aim of the work is to define the laws of the spatial organization of human potential and its basic spatial analyses of socio-demographic indicators of Kazakhstan. The database, created with ArcGIS, allows to monitor the changes of socio-demographic processes, to analyze, estimate and manage human potential of Kazakhstan.

Increase of a rating of the republic on an indicator of quality of life predetermines need of management of socio-demographic processes of quality of life at republican, regional and local levels.

Study issues relating to improving the living standards of people were dedicated the works of many economists. Research in this area engaged in such theorists as Keynes D.M., Kotler F., Brue S.L., Maslow A.H., Fischer S. et al. These economists have developed various models of national living standards, performance evaluation, regulatory mechanisms (Nyussupova, Kairanbayeva, 2014).

In the last decades, the meaning and content which scientists gave to the term «quality of life» have suffered a dramatic changes.

Nowadays, there are a lot of conceptual approaches which help to evaluate quality of life. There is unambiguous point of view according to which quality of life can be treated as a constantly evolving category that can have different contents depending on social guidelines of one or another society, period of time, approach to matter of the heart determination ect. Having analyzed different approaches to the «quality of life» matter determination one can make a conclusion that it is impossible to formulate single, once for all established definition of this term.

It can be proved with the help of numerous works where quality of life and its different aspects are considered and where up to now, no single understanding of which social and economic processes and phenomena should be specified by this term. On the one hand, there is a very broad interpretation of this category which in fact covers all vital processes of human and society. On the other hand, sometimes indicators of life quality can be added without scientific argumentation, narrow part of human life necessities processes.

From our point of view, the following definition given by All-Russian Research Institute of Technical Aesthetics (VNIITE) is complete and deserves

special consideration: By quality of life is meant a set of life values which specify type of activities, pattern of requirements and existence conditions of the human (community, society), its satisfaction with life, social relation and environment (All-Russian Research Institute of Technical Aesthetics, 2000).

The following researches and experts of Kazakhstan and CIS countries A.I. Alekseev, E.M. Andreev (2011), A.G. Vishnevsky (1982), A.G. Granberg, A.E. Yesentugelov, Zh.A. Zayon-chkovskaya, T.I. Zaslavskaya, N.V. Zubarevich, A. P.Katrovsky , S.A. Kovalev, V.P. Kolesov, M.B. Kenzheguzin, A.K. Koshanov, V.I. Kuznetsov, E.N. Pertsik, B.B. Prohorov, N.M. Rimashevskaya, R.V. Ryvkina, A.A. Sagradov, S.S. Satubaldin, V.S. Tikunov, A.I. Treyvish, Yu.K. Shokamanov (2003) and others have considered numerous aspects of life quality, such as modern welfare economics, principles of social development, human capital assets, living standards and have made an important contribution to the development of research methodology of life quality.

**Material and methods**

For the information base were used the official data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, Regional Departments of statistics.

Spatial analysis of socio-demographic indicators in article is based on the population quantity dynamic, age-sex structure, quantity of the natural movement of population as well as birth rate, death rate and natural growth, average lifetime values, population mechanical movement values of the country. For a comparative analysis of the data in dynamics were considered data on socio-demographic indicators of regions of the republic for 1991-2016, thus, discusses the changes over the period of independence of the Republic of Kazakhstan.

In data processing were used packages of application program: Excel spreadsheets and information-analytical system «Taldau».

During the writing the article was used as general scientific and geographical methods: historical and geographical, statistical analysis, analytical, comparative geographical analysis.

**Results and discussion**

Demographic increase is considered to be a crucial priority of the Strategy «Kazakhstan-2050» (Nazarbayev, 2012). It is related to the fact that demographic characteristics of Kazakhstan development serve as: core object of the state policy, in the first place; factor of national security protection, in the second place; and core driver of economic security, in the third place. Nowadays, the quality of human resources plays a significant role in economic growth of the countries.

Population of the Republic of Kazakhstan in 2016 amounted to 17,733.2 thousand people, including in urban areas – 10113.8 thousand and rural – 7619.4 thousand people (57% and is 43%).

In terms of population, our republic ranks fourth among the CIS countries after Russia, Ukraine and Uzbekistan. On the size of the territory - the second place (after the Russian Federation). However, Kazakhstan is one of the most sparsely populated countries in the world. The population density in the country is 6.4 persons / km$^2$.

With the acquisition of the state independence of the Republic of Kazakhstan in 1991, the beginning of the transformation processes of the former USSR and the empowerment of the individual ethnic groups return to their historical homeland – Kazakhstan, for the period since 1991 in population size and structure has been significant changes, as in many other CIS countries (fig. 1).

*Analysis of natural population movement of the Republic of Kazakhstan*

A change in the total population, primarily influenced by natural growth, is influenced by changes in fertility and mortality. During the 1991-2016 years, the natural growth of the country's population increased from 13.3‰ to 15.1‰. Kazakhstan reached the index of 1991 only in 2009, with a minimum rate of natural increase was 4.4‰ in 1999.

In general, birth rate of the republic (‰) has a tendency of moderate growth and has increased from 14.2 in 1999 to 22.2 births in 2009. In 2016 total fertility rate in republic was 22.5‰, in urban and rural area 22.6 and 22.3 per 1,000 populations respectively.

It should be noted that total fertility rate differs from region to region, although continuous growth of this factor can be noted in every region of the republic. In 2016 the highest fertility rates in the country are noted in Mangystau and South Kazakhstan regions (about 30 per 1,000 populations), whereas the average for the country fertility rate is 22.7 per 1,000 live births.

One of the main indicators of the demographic situation in the country is considered to be a mortality rate. In comparison to birth rate, mortality rate even more directly depends on the level of socio-economic development, material welfare and on level of the public health service.
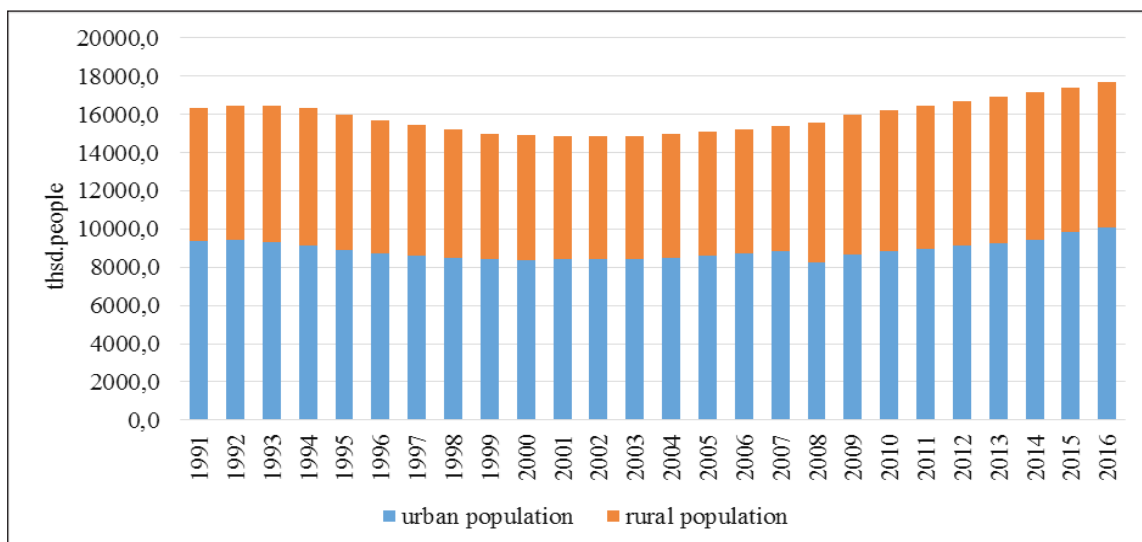
**Figure 1** – Dynamics of number of population of the Republic of Kazakhstan

Reduction of mortality in the republic is observed, most significantly the number of deceased people have decreased in 1999 from 147.4 thousand to 142.8 thousand (on 5%) – in 2009, mortality ratio has decreased from 9.9 to 8‰ respectively. In 2016 mortality rate in republic was 7.4 deaths per 1000 population.

According to the official statistics of 2016, the highest mortality rates (‰) were registered in North Kazakhstan (13.1), Akmola (10.9) and Kostanai (10.8) regions, the lowest mortality rates (‰) were registered in Mangystau (4.9), South Kazakhstan (5.6) regions and in Astana (4.4).

It should be noted that high rate of death in 2016 was caused by diseases of the circulatory system (24.2%), accidents (10.1%) and malignant neoplasm/cancer (12.2%) (Statistics Committee, 2017).

In 2016, the natural population increase of the republic was 387, 2 thousand people. Total rate of natural increase in 2016 was 15.1‰ (fig. 2).
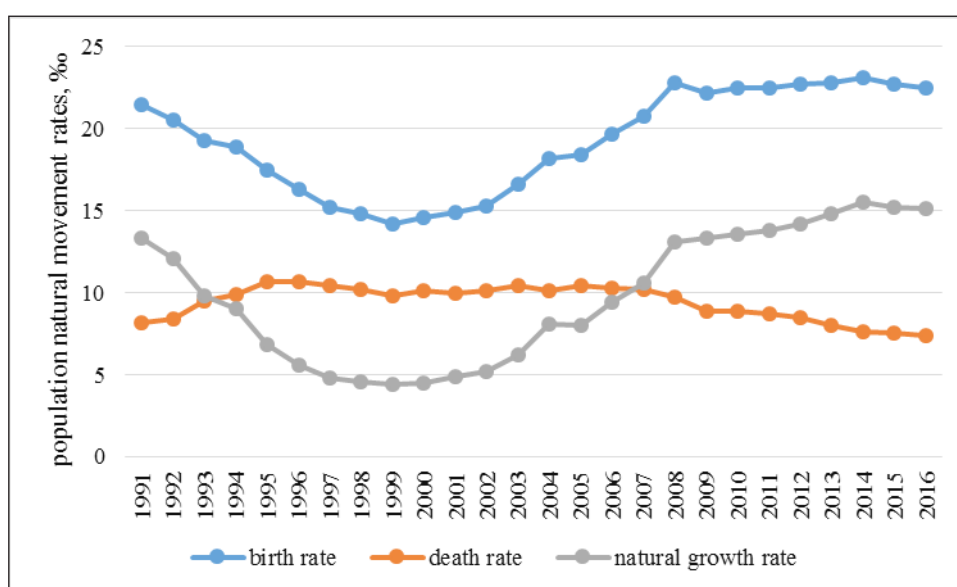


**Figure 2** – Coefficient of natural movement of population
in the Republic of Kazakhstan for 1991-2016

According to the official statistics of 2016, the highest natural growth rates were observed in Kyzylorda, South Kazakhstan, Zhambyl and Mangystau regions and relatively low natural growth rates were observed in East Kazakhstan, Kostanai and North Kazakhstan regions.

*Mechanical movement of population of the Republic of Kazakhstan*

Population migration is a complicated public process affecting many parts of social, economic and cultural life of the whole nation. Kazakhstan is referred to the countries of the world where migration processes are the most strong. The world economy globalization, irregularity of social and economic country development leading to the strengthening of migration processes in modern world (Administration of the President of the Republic of Kazakhstan, 2007).

Migration outflow from Kazakhstan after the collapse of the Soviet Union began to grow, exceeding in 1993 200 thousand people. In 1994, the external and internal migration involved 870 thousand people or nearly 5% of the population of Kazakhstan. 1994 was designated as a "peak" in the external migration of Kazakhstan In 1994 migration loss the population of country was the highest and exceeded 400 thousand people, migration balance was minus 25 per 1000 population (Nyussupova, 2010).

Since 1995 (except for 1997) in Kazakhstan started the trend towards reducing the number of migrants leaving the country (fig. 3).
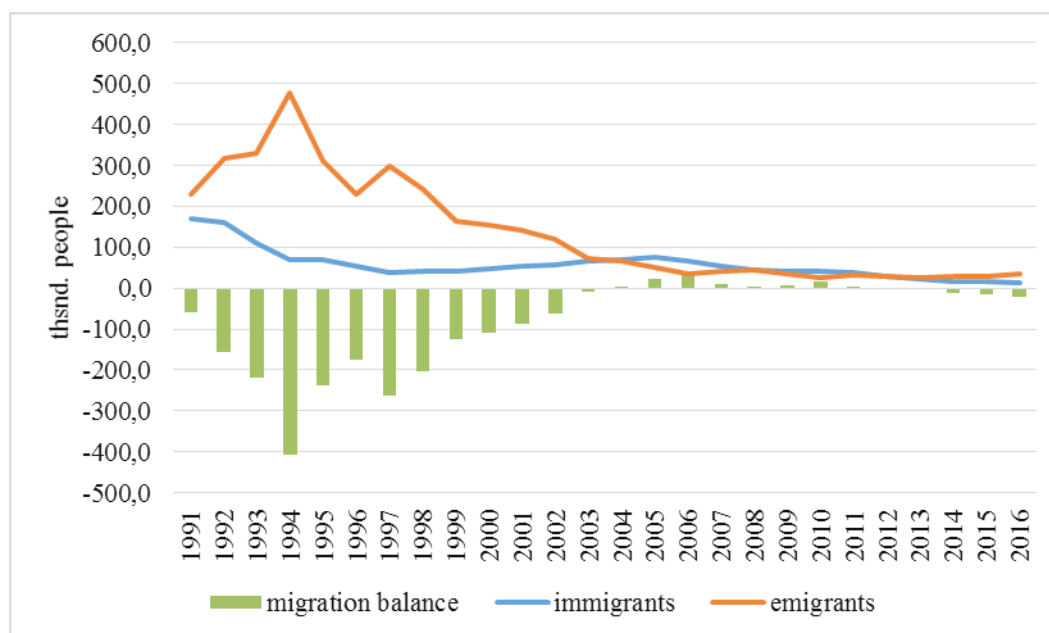


**Figure 3** – Migration of population of the Republic of Kazakhstan for 1991-2013

Analysis of the data graphics shows that from 1999 to 2016 the number of arrivals in all streams of migration increased by 32%, while the number of departures decreased by 9%.

During the study period there was a slowdown in external migration. Thus, the number of immigrants decreased from 41.3 thousand people in 1999 to 13.8 thousand people in 2016, almost 3 times. The number of immigrants decreased by 6.8 times - from 164.9 thousand people in 1999 to 34.9 thousand people in 2016. The balance of migration in 1999 was – 123.6 thousand people and in 2016 it was only – 21.1 thousand people.

The positive balance in migration have Almaty region, Mangystau region, Atyrau region, as well as the city of Astana and Almaty. Most migratory population decline observed in South Kazakhstan, East Kazakhstan and Zhambyl regions.

Today in Kazakhstan there is a significant reduction in the intensity of migration processes, characterized by a decrease in the number of immigrants and the growing proportion of regional and inter-regional migration.

*Sex-age structure of population of Kazakhstan*

Sex-age structure of the population is the basis for qualitative analysis of demographic processes and determination of labour resources structure.

The structure of population by sex is formed mainly under the influence of demographic and socio-economic factors.

In the gender aspect relation formed with a marked preponderance of the share of the female population in Kazakhstan.

In 2016, the number of men was 48.3%, women – 51.7% of the total population; per 1000 women were 936 men (Table 1).

**Table 1** – Population distribution of the Republic of Kazakhstan by gender, thousand people

| Years | 1999 | | | 2009 | | | 2016 | | |
|---|---|---|---|---|---|---|---|---|---|
| | thousand people | | men for 1000 women | thousand people | | men for 1000 women | thousand people | | men for 1000 women |
| | man | woman | | man | woman | | man | woman | |
| Total population | 7215,7 | 7756,2 | 929 | 7722,8 | 8282,0 | 932 | 8541,8 | 9128,1 | 936 |
| Urban population | 3951,3 | 4492,7 | 880 | 4050,9 | 4588,2 | 883 | 4721,5 | 5314,0 | 889 |
| Rural population | 3264,4 | 3273,5 | 997 | 3671,9 | 3693,8 | 994 | 3820,3 | 3814,0 | 1002 |

The age structure of the population has undergone some changes, because of the reasons for the decline in fertility, mortality and migration growth over the past seventeen years. The age structure of the population in 2016 is as follows:

children under 15 accounted for 27.1% of those aged 15 to 64 years – 65.8%, 65 years and older – 7% of the total population, the proportion of young people (16- 29 years), slightly more than a quarter (Figure 4).
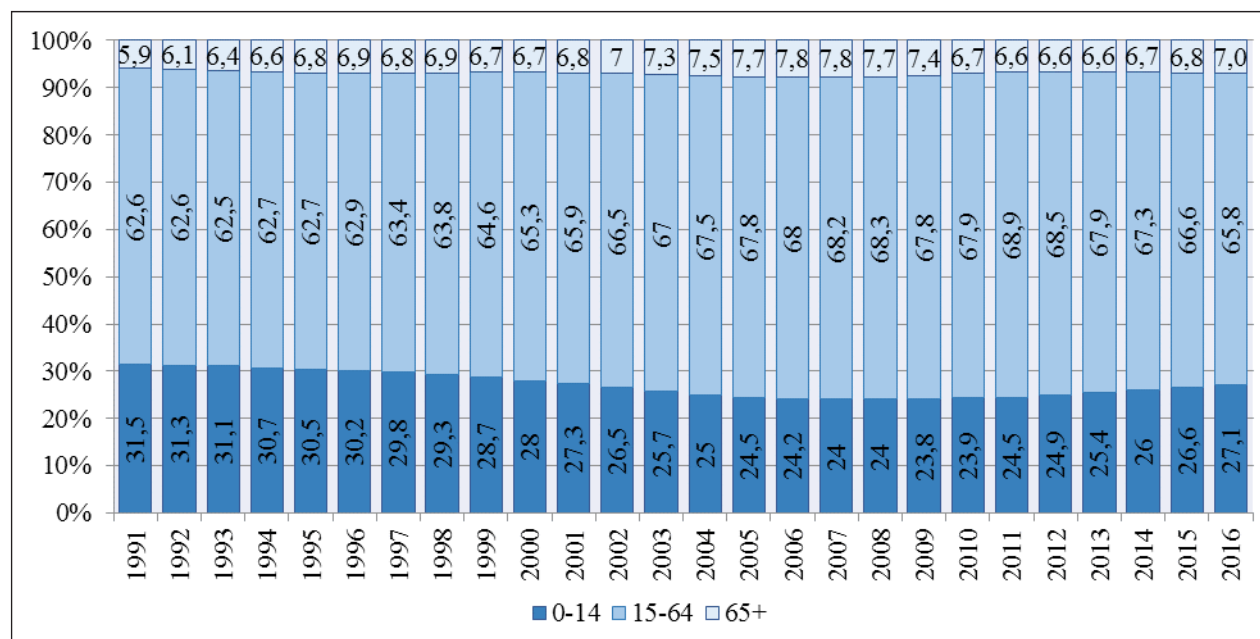


**Figure 4** – Age structure of population of the Republic of Kazakhstan

The country is «aging population», as the proportion of the population aged 65 years and older increased from 5.9% in 1991 to 7% in 2016. To some extent this is due to the presence of pronounced «demographic waves» in the age structure of the population.

**Average life expectancy**

The average life expectancy as a key factor of socio-economic development of the country is widely used in the evaluation of quality of life. The average life expectancy is one of the leading com-

ponents of the index of human development and is a generalized measure of the possibility of a long and healthy life of the population.

Analyzing the average life expectancy in the Republic of Kazakhstan, it should be noted that during the period from 1991 to 2016, the average life expectancy has increased in the country from 67.6 to 72.4 years; the decline in life expectancy during the period was uneven. The lowest it has been in 1995, and was 63.5 years. Since 1996 in the country, there is an increase in life expectancy, but it also was not stable and uniform. If from 1996 to 1999 it was increased rapidly, then after 2000 the speed of life expectancy growth was decreased. As a whole, from 1991 till 1999 annual average growth speed of average life expectancy was 0,3 was shown in fig. 5 (Nyussupova, Rodionova, 2011).

According to 2016 data a considerable differentiation of average life expectancy was observed not just according to the regions, but also to gender. Thus, average life expectancy of the population in general in the republic was 72.4 years. In Mangystau, Aktyubinsk regions, as well as in Astana city and Almaty city there were the highest values in the Republic. Low values were recorded in Akmolinskaya, Karagandinskaya and East-Kazakhstan regions. Among males of the Republic such value was 68.2 years. The highest values were in Mangystau, East-Kazakhstan regions, as well as in Astana and Almaty, low values of average life expectancy was observed in North-Kazakhstan, Akmolinskaya and Karagandinskaya regions. Average life expectancy of female population of the Republic was 76.8 years. The highest values among female population were recorded in Aktyubinskaya, Atyrauskaya, Mangystay and West-Kazakhstan regions as well as in Astana, Almaty region, as well as low values in Akmolinskaya, North-Kazakhstan regions.
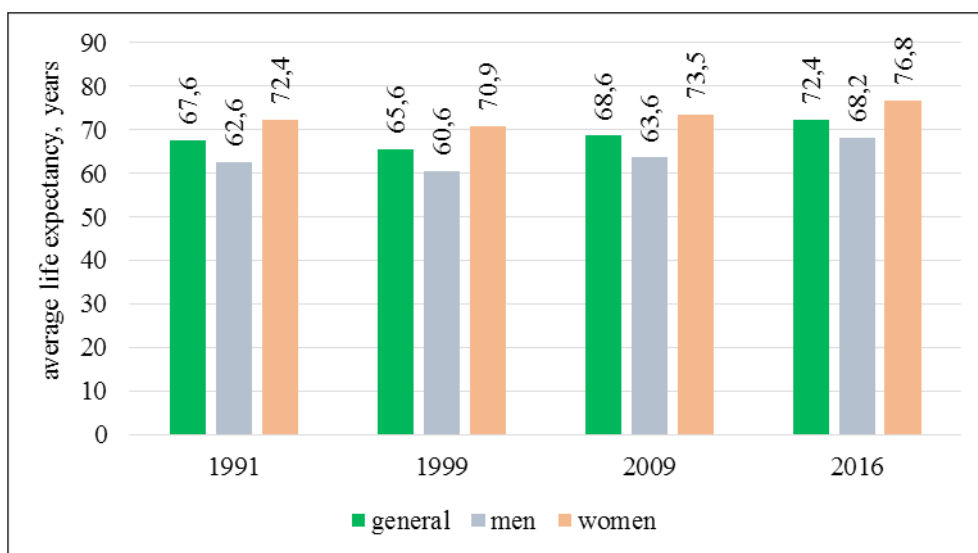


**Figure 5** – The average life expectancy of population of the Republic of Kazakhstan for 1991-2016

Kazakhstan is also characterized by differences in life expectancy among the urban and rural population. In 1999, the life expectancy of the urban population was 65 years, and rural population – 66.7 years. In 2016, life expectancy in urban areas increased by more than 5 years and reached 71.9 years, in rural areas also increased by 5 years and amounted 71.7 years (table 2). Thus, the life expectancy of the population in rural regions is higher by male than in cities, which is conditioned by the specialties of reproduction and availability of big risks for life (crime, numerous traffic accidents, production traumas, regular stresses, dangerous diseases distribution etc.). Ecologically unfavourable situation in cities is also dangerous for health and life of citizens.

The level of the expected lifetime is considerable differentiated by regions of Kazakhstan. A high lifetime in South-Kazakhstan, Mangistau regions and Almaty and Astana cities is conditioned by favourable social and economic situation facilitating the population life quality growth.

**Table 2** – The average life expectancy of the population of the Republic of Kazakhstan for 1999-2013

| Years | Total population | | | Urban population | | | Rural population | | |
|---|---|---|---|---|---|---|---|---|---|
| | general | man | woman | general | man | woman | general | man | woman |
| 1999 | 65,7 | 60,6 | 70,9 | 65,0 | 59,3 | 70,8 | 66,7 | 62,6 | 71,1 |
| 2009 | 68,3 | 63,5 | 73,1 | 68,3 | 63,0 | 73,3 | 68,4 | 64,2 | 72,9 |
| 2016 | 72,1 | 67,5 | 76,6 | 71,9 | 66,8 | 76,8 | 71,7 | 67,5 | 76,1 |

In reality, being not just a personal property of a person, health state is one of the values and components of the population well-being level. WHO experts consider health as one of the 12 most important components defining the well-being of the population.

Average lifetime of the country population superordinately depicting the quantitative potential of human resources, defines its qualitative sides. First of all , it conditioned by the fact that long lifetime is connected, first of all, with sufficiently high development level of healthcare and education in the country. It can be vividly observed in highly developed countries, in the countries where the healthy life policy was made a priority of their social and economic development.

Achieving strong and sustainable performance requires comprehensive research to improve life expectancy in the country to conduct a competent social and economic policy, the development of a complex of factors, taking into account, inter alia, demographic and environmental factors that affect the life expectancy of the population.

**Conclusion**

As the result of the conducted complex research of social and demographic indicators of life quality of the population of the Republic of Kazakhstan the following results were obtained:

1. The analysis of social and demographic indicators of quality life of the population of the Republic of Kazakhstan was made, including the population quantity dynamic, age-sex structure, quantity of the natural movement of population as well as birth rate, death rate and natural growth, average lifetime values, population mechanical movement values.

2. The regional difference of birth rate and death rate values, average lifetime values of the population of the Republic of Kazakhstan were investigated.

3. Gender differences of the regions of the republic according to the average lifetime level of the population lifetime of Kazakhstan were researched.

Since independence, the Republic of Kazakhstan has achieved 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 task of the social policy of the state and the main criterion of its effectiveness is the steady improvement of the quality of life of population.

High quality of life indicators are becoming a prerequisite for the sustainable development of the Republic of Kazakhstan and its competitiveness in the modern world.

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