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Socio-demographic Index as the Indicator of Environment Quality

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Abstract

In the condition of globalization all developed nations are placing greater importance to the human factor. Actuality of assess of human development is due to the Concept of Transition of Kazakhstan to Sustainable Development for 2007-2024, wherein highlighted that the Republic of Kazakhstan also lags behind most developed countries in terms of quality of life, which is the main criterion of sustainable development. In today's world, the quality of life is determined by the main components, namely: life expectancy, levels of wealth, education and the environment. On an index of the quality of life of the International University of society, nature and man (Dubna, Russia), Kazakhstan ranks 78th, with the coefficient of 1.17, while the leader of the ranking 3.83. Norway, Russia - 1.57, China - 0.34. To change in the total population, primarily affects the natural increase, which was formed under the influence of changes in fertility and mortality. From 1991 to 2012 the natural increase of the population increased from 13.3 per 1,000 inhabitants to 14.2 per 1,000 inhabitants. Kazakhstan reached the figure of 1991 only in 2009, with a minimum rate of natural increase was 4.6 per thousand in 1998. In the Republic, as in many developed countries, there are the «aging population» phenomena, as the share of the population aged 65 years and older increased from 6.7% in 1999 to 8% in 2009. To some extent this is due to the presence of pronounced "demographic wave" in the age structure of the population. Life expectancy of the population as one of the most important indicators of human development is an indicator of environmental quality.

Keywords: population, quality of life, human development, average life expectancy.

Purpose: to analyze social-demographic index (life expectancy, infant mortality) of the Republic of Kazakhs as the indicator of environment quality

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1. Introduction

In the conditions of globalization, all developed states are placing increasing importance to the human factor. The idea that the major goal of social progress is a man and its development was popular in the Western countries since the 80's of the 20th century. In Kazakhstan, as in all transition countries, the man has long remained in the shadow, being a tool of increasing the material production, a mean of economic growth, but not the objective, as it should be according to the concept of human development. Generally speaking, just the "human" shortcomings in the initial stages of the transformation of the country's economy, in particular, the social sphere, eventually led to the understanding that the price of ignoring the human being is prohibitive, and the sustainable development of the state is impossible without the creation of appropriate conditions for the normal life of people.

2. Methods

System and statistical methods, comparative geographical method, methods of geoinformation technologies GIS, cartographical methods.

3. Results

Actuality of the assessment of the human development is stipulated by the Concept of transition of the Republic of Kazakhstan to sustainable development for 2007-2024, where is emphasized, that the Republic of Kazakhstan is also behind the most developed countries in the world in terms of quality of life, which is the main criterion of sustainable development. In the Concept of transition of Kazakhstan to sustainable development for 2007-2024 is emphasized that our country in the current geo-economic situation of is behind the most developed countries in the world in terms of quality of life, which is the main criterion of sustainable development (Concept of transition of Kazakhstan to sustainable development for, 2007-2024). In the modern world the quality of life is determined by the main components, namely: life expectancy, level of welfare, education and environmental conditions. Under Index of quality of life of the International University of Society, Nature and Man (Dubna, Russia), Kazakhstan takes 78th place, having factor of 1.17, while the leader of the rating Norway has 3.83, Russia – 1.57, China – 0.34.

The topicality of the research is based on the provisions of the "Kazakhstan- 2030" Strategy, which presents under «Prosperity, security and improvement of welfare of all citizens of Kazakhstan» title (Nazarbayev, 1997). At the same time, one of the seven priorities of this strategy is to "health, education and welfare of citizens of Kazakhstan".

Given the high role of human potential quality in the functioning of the national economy, the President of Kazakhstan in his Address to the people of Kazakhstan dated January 29, 2010 noted about the beginning of the "Strategic plan 2020 - Kazakhstan's path to leadership", which is scheduled to actively invest in the future of the country for the sake of increasing the competitiveness of the human capital (Nazarbayev, 2010). At that he emphasized that the success of the strategy of development of the country depends primarily on the level of education, level of socio-economic development and quality of life of Kazakhstan. This is the desire practically embody state-level new paradigm of social-economic development of society, when the focus is on the people.

The Millennium development goals (MDGs) - a set of interrelated tasks, aimed at addressing the problems of poverty, illiteracy, gender policy, child and maternal mortality - 6 of 8 goals, which are devoted to problems of human development in Kazakhstan (Millennium development Goals, 2001).

Population is the main source of productive forces of society, and without the use of reliable information on number of population, its sex and age, national composition, the structure of the

reproduction, educational level and employment, it is impossible to conduct an effective socio-demographic policy.

The demographic factor, along with social and national, dominates in the development of all forms of world civilization. So without its scientific analysis at all levels, it is impossible to make real forecasts of economic and social development of the country and its regions.

Kazakhstan is one of the largest in terms of territory and economically developed state in the Eurasian continent. It has a diversified industry and agriculture.

For the number of inhabitants our Republic occupies the fourth place among the CIS countries (after Russian Federation, Ukraine and Uzbekistan. At the same time, Kazakhstan remains as one of the most sparsely populated countries in the world. Republic of Kazakhstan, being the ninth in the world by area (2724.9 thousand square kilometers), has a very low population density – 6.3 per square kilometer.

The population of Kazakhstan as of January 1, 2013 was 16,909.8 thousand people, including 9232.8 thousand in urban areas and 7677.0 in rural areas (54.6% and 45.4%, respectively). As of August 1, 2013, the Republic's population reached 17.053 thousand people (Nyussupova, 2010).

With the appropriation of state independence of the Republic of Kazakhstan in 1991, beginning of the transformation processes of the former USSR and the increased probability of the return of some ethnic groups to their historical Homeland, in Kazakhstan, as in many other CIS countries, significant changes in the number and structure of the population occurred since 1991.

To the change in total population, first of all, influences the natural increase, which is formed under the influence of changes in fertility and mortality. For the period 1991 to 2012 the natural increase of the population of the Republic increased from 13.3 per 1,000 inhabitants to 14.2 of 1,000 inhabitants. Kazakhstan has reached the level of 1991 only in 2009, at that the minimum rate of natural growth amounting to 4.6 ppm was in 1998.

The highest fertility rates in the Republic noted in South-Kazakhstan and Mangistau regions (more than 30 ppm), while the national average fertility rate makes 22.7 per 1,000 born.

In the Republic, as in many developed countries of the world, the "ageing of population" occurs, since the portion of the population aged 65 years and older increased from 6.7% in 1999 up to 8% in 2009. To some extent this is connected with the presence of pronounced "demographic waves" in the age structure of the population.

In reality, being not only a personal human property, state of health is one of the indicators and components of human well-being. WHO's experts consider health as one of the 12 key components that characterize the welfare of the population.

Health of the population determines the level of development, civilization and prosperity of society. High level of life may be considered as one of the most important factors for good health and, at the same time, only population with a high level of health is able to work, study intensively, and to achieve the material well-being.

In view of the above, it appears that at this stage the primary and decisive mean of achieving the new quality of human capacity reproduction is reduction in mortality of the population and improvement of quality indicators of the population health.

Life expectancy of the population, as one of the most important indicators of human development is an indicator of the quality of the environment.

The average life expectancy of the population, reflecting subordinately   a quantitative potential of human resources, at the same time, characterizes its qualitative sides. This is substantiated in the first place by the fact that the highest life expectancy is associated primarily with rather high level of development of the country's health and education systems. This is clearly observed in the developed

countries, in countries where the policy of healthy lifestyle, erected in a rank of the main priorities of their socio-economic development (Nyussupova & Rodionova, 2011).

Life expectancy, as a component of the human development index is a summary of the indicators of the state of the population health.

Empirical studies show that life expectancy and health status of the population by 51.2% depend on lifestyle, 20.4% on the human biological data, including heredity, 19.9% on the state of the environment and only 8.5% on the level of development of health care.

High rates of growth of life expectancy and reducing mortality which were representative for Kazakhstan in the 30's, 40's, 50's and 60's, but in 70's they slowed down. In the years of independence in the Republic in the first half of the 90's the average life expectancy declined, and since the second half of 90's there is a trend of increase is observed. At the same time, a considerable differentiation of this indicator by gender remains.

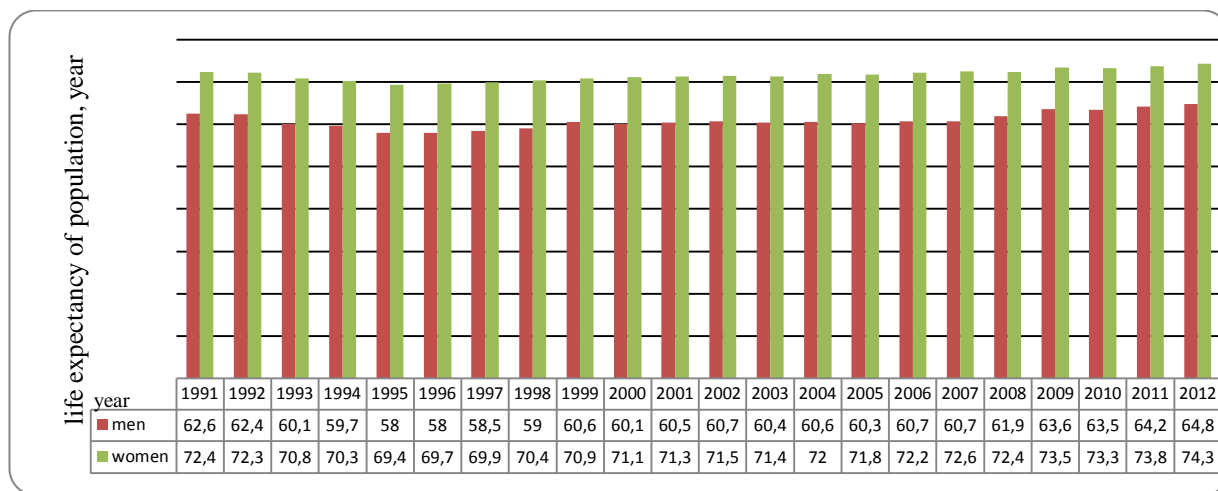| year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
men	62,6	62,4	60,1	59,7	58	58	58,5	59	60,6	60,1	60,5	60,7	60,4	60,6	60,3	60,7	60,7	61,9	63,6	63,5	64,2	64,8
women	72,4	72,3	70,8	70,3	69,4	69,7	69,9	70,4	70,9	71,1	71,3	71,5	71,4	72	71,8	72,2	72,6	72,4	73,5	73,3	73,8	74,3

Figure 1. Life expectancy of population in the Republic of Kazakhstan in 1989-2012

Analyzing the average life expectancy in the Republic of Kazakhstan, it should be noted that for the period from 1989 to 2009 a life expectancy has declined in the Republic from 68.2 years in 1989 to 63.5 in 2005, and in 2009 it reached the level of 1989 (Figure 1). As the figure shows, decrease in the life expectancy during this period having been uneven. Most low it was in 1995 and amounted to 63.5 years. Since 1996 in the Republic is observed the increase of life expectancy. However, the increase in life expectancy, as may be seen from Figure 8, was not stable and uniform. If it rapidly increased from 1996 to 1999, after 2000 the growth rate of life expectancy decreased. In general, for the period from 1990 to 2009 the average annual rates of increase of life expectancy amounted to 0.3 year.

As more in-depth analysis showed, on the low life expectancy in Kazakhstan the main influence have a high infant mortality rate. The major causes of child mortality in Kazakhstan are: various adverse conditions arising in the perinatal period (35.7%), death from respiratory illnesses (26.4%) congenital anomalies (20.1%), infectious and parasitic diseases (6.4%), accidents, injuries and poisoning (4.9 %), diseases of the digestive system (0.9%), other reasons (5.6%) (Figure 2,3).

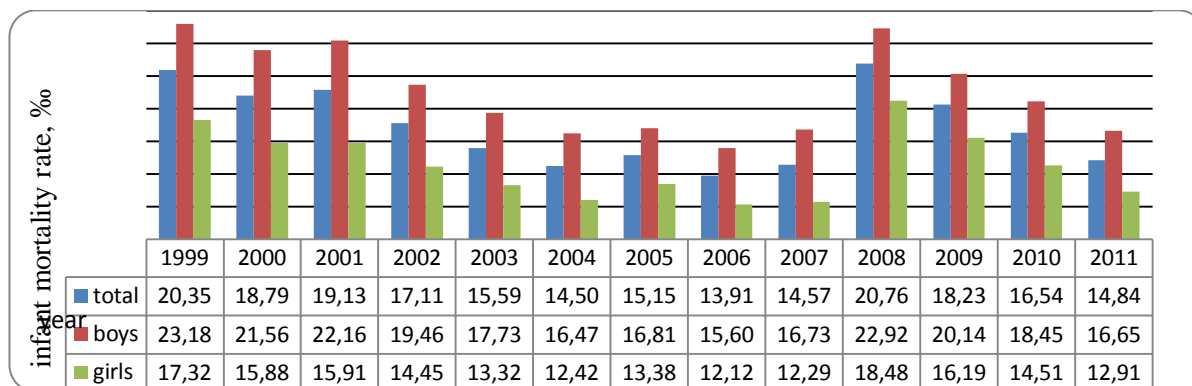| year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
total	20,35	18,79	19,13	17,11	15,59	14,50	15,15	13,91	14,57	20,76	18,23	16,54	14,84
boys	23,18	21,56	22,16	19,46	17,73	16,47	16,81	15,60	16,73	22,92	20,14	18,45	16,65
girls	17,32	15,88	15,91	14,45	13,32	12,42	13,38	12,12	12,29	18,48	16,19	14,51	12,91

(infant mortality rate, ‰)

Figure 2. Infant mortality indices in the Republic of Kazakhstan in 1999-2011

Along with the high level of infant mortality, to the low life expectancy a lower life expectancy among men affects. As can be seen from figure 5, if in 2009 the life expectancy among women was 73.5 years, the same indicator among men was 63.6 years or difference amounted to 9.9 years.
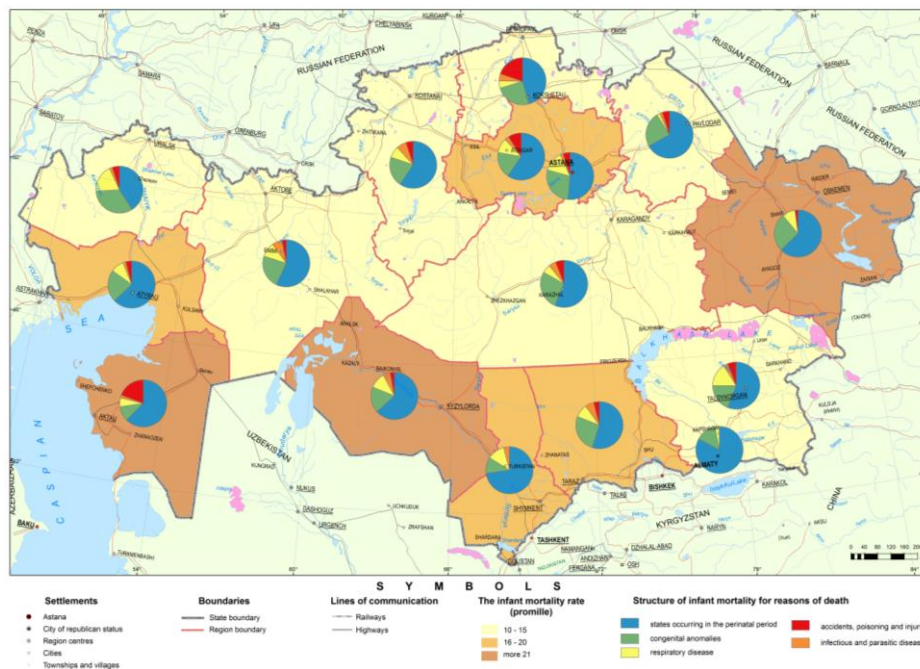

Figure 3. Indicators of infant mortality in the Republic of Kazakhstan in 2011

Over the last decade, i.e. during the intercensal period of 1999-2009, an average life expectancy has increased in the whole country for 3 years, and among men - for 3 years and among women by 2.6 years, respectively in 2009, the life expectancy of the total population – 68.6, men – 63.6, women – 73.5 years). Differences in male and female life expectancy at birth amounted to 9.3 years in 1989 and 9.9 years in 2009. The largest excess of the life expectancy of women was observed in the Republic in 1996 (11.7 years) and in 2007 (11.9 years). While in countries with high life expectancy, where in the best conditions slower processes of aging and extinction of the population occur, this difference is about 7-8 years.

Analyzing the average life expectancy in the Republic of Kazakhstan, it should be noted that for the period from 1991 to 2012, the average life expectancy has decreased in the Republic of 67.6 years in

1991 to 63.5 in 2005, and in 2009 it reached the level of 1989. Currently, the average life expectancy in Kazakhstan has reached 69.6 years, including for men – 64.8 years, for women - 74.3 years (Figure 4).
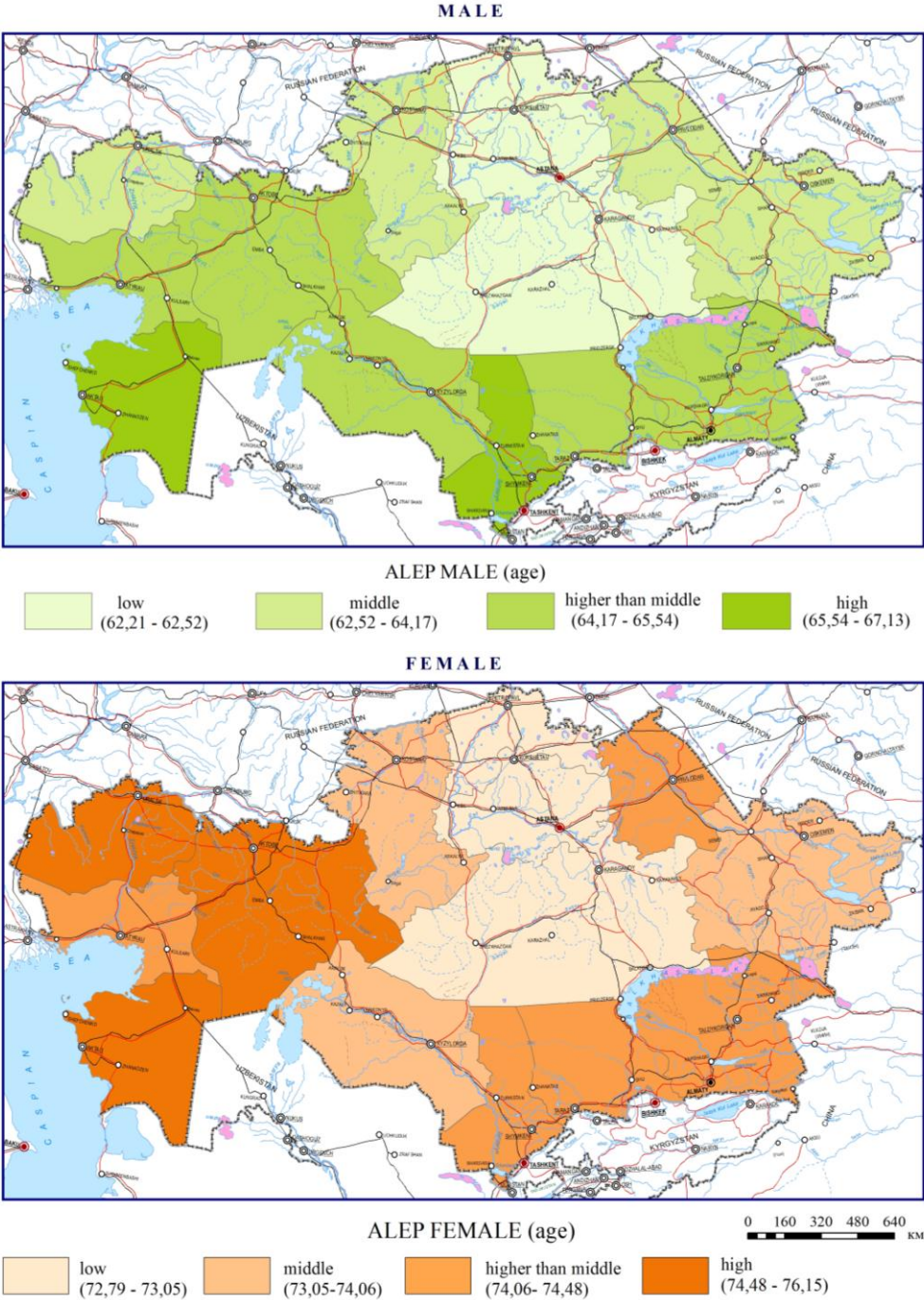
MALE

ALEP MALE (age)

| low (62,21 - 62,52) | middle (62,52 - 64,17) | higher than middle (64,17 - 65,54) | high (65,54 - 67,13) |

FEMALE

ALEP FEMALE (age)

0   160   320   480   640
KM

| low (72,79 - 73,05) | middle (73,05-74,06) | higher than middle (74,06- 74,48) | high (74,48 - 76,15) |

Figure 4. Average life expectancy of the population of the Republic of Kazakhstan in 2012

4. Recommendations

- Creation of favorable environmental conditions, including socio-economic and environmental conditions;

- Increase of scientific research and strengthening the evidence base by the regions of the Republic of Kazakhstan;

- Reduction of mortality, especially in the working-age population caused by external factors;

- Reduce the rate of maternal and infant mortality rates, the strengthening of reproductive population health, children and adolescent health;

- Preservation of and improving the health of the population and a significant reduction in morbidity;

- Increase the level of fertility through birth in the family of the second and subsequent children;

- Increase life expectancy and improve quality of life.

5. Conclusion

Nature of socio-demographic development in the Republic of Kazakhstan since 1991 was determined largely by objective processes and the level of economic development of the country. As a result of changes occurred, the socio-demographic situation in the recent years, in general, can be assessed as favorable: improving fertility rates and life expectancy, reduced mortality, including infant mortality, and there is a positive balance of migration.

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