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Dynamics analysis of medical-demographic parameters in the Kyrgyz Republic

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The article presents results of demographic status assessment of the Kyrgyz Republic, discusses trends of the main medical-demographic parameters characterizing the nation and shows that the socioeconomic changes that have been taking place in the recent decades continue having considerably effect on population health formation and change of demographic processes.

Key words: *Kyrgyz Republic, demography, medical parameters, children's nutrition, abject poverty level.*

Kyrgyz Republic (KR) is a sovereign democratic legal secular state located in North-Eastern Central Asia between the Pamir-Alay in the South-West and Tien Shan in the North-East. It is subdivided into 7 administrative divisions (regions): Batken, Jalal-Abad, Osh, Chuy, Talas, Naryn and Issyk-Kul Provinces. More than 90% of the territory lies over 1,000 m above sea level.

At the end of 2011, the resident population of KR was 5,551,900. More than 1/3 of resident population (33.9%) lived in urban settlements; ca. 2/3 (66.1%) – in rural settlements. Resident population of the capital – Bishkek – was 900,000 (16%). Average state population density – 28 per km².

At present, Kyrgyzstan is witnessing changes of demographic processes in the spheres of birth rate, mortality, natural population growth, population size dynamics and migration due to economic crises and drop in living standards of a considerable share of the population observed since the end of the XX century.

46% in 2009 and 36.8% of the population (2,043,600) lived below the poverty level and could not maintain the minimal subsistence level; the rural population poverty rate would reach 70%.

In order to assess the poverty rate we employed the poverty level recalculated on the basis of the data obtained on completion of an integrated selective study of household budgets and labor force conducted in 2007-2011 in accord with the “Poverty level determination algorithm” as a threshold value. The annual monetary value of the general poverty level was 25,849 soms per capita (2,154 soms or \$ 44.8 per month). We considered citizens with annual income less than 16,089 soms (1,340 soms or \$ 28 per month) extremely poor. The extreme poverty rate in the republic in 2007 was 6.6%, in 2009 it reduced down to 3.1%, in 2011 we observed slight increase in the rate and, accordingly, extreme poverty rate increase up to 4.5% (pic. 1) [1-4].

One of the important characteristics of nation is proportion of the three main age groups: children and adolescents, able-bodied persons and the elderly.

The demographic age structure of the population is as follows: by the end of 2011 32.4% of the nation was comprised of children and adolescents, 61% - of able-bodied persons and 6.6% - of the elderly.

Annual birth rate drop observed until 2000 resulted in reduction in the number of children and adolescents (from 33.0% in 2007 to 32.4% in 2011). The share of able-bodied persons continues to increase (from 59.0% in 2007 to 61% in 2011) as lots of adolescents born in the mid-1980s or beginning of the 1990s (when the country witnessed baby boom) enter working age. This

tendency is known around the world as “demographic window of opportunity” for the youths. The population of the 3rd group (the elderly) has been decreasing since 2007 (6.6% in 2012; 8.1% in the beginning of 2008).

We have been observing positive dynamics of resident population increase in recent years: by 2011, the total population of the republic has increased since 2007 by 307.7 thousand people (growth – 6%) to 5,551,900 (pic. 2).

Thus, natural population growth resulting from changes in birth rate and mortality considerably affects population size change. We have been observing steady birth rate increase since 2001. The crude mortality rate decreased from 7.3 in 2007 to 6.5 deaths (per 1,000) in 2011. Natural population growth increased up to 21 persons per 1,000 (pic. 3).

Steady birth rate increase is caused by recent increase in fertile female population (girls born during the baby boom of the mid-1980s) within the most favorable childbearing age (20-29 years of age). They account for more than 65% of the children born per year.

The aggregate birth rate, or female fertility rate (average number of children born to a woman within her reproductive period) increased from 2.7 in 2007 to 3.1 children in 2011; in rural women this rate is even higher – 3.4.

Positive birth rate dynamics results from increase in the contribution of the first-born children in the total amount of neonates. Thus, specific weight of first-born children in 2001 was 34.4%, and 39.6% in 2011, whereas specific weight of fifth-born and subsequent children continues to decrease (from 9.2% in 2001 to 5.8% in 2011). We may account the observed peculiarities to the current shift from large to average-sized families and childbirth at a later age, like in the economically developed countries. Mother’s average age at delivery of the first child in the republic was 23.4 years in 2011.

The minimum age of marriage established in the KR by the Family Code (2003) is 18 years both for men and women. Childbirth by women under 18 years of age is considered early.

Life style change of the modern youths presupposes decrease in the number of childbearing premarital-aged women (15-17 years); this was observed in the republic until 2006. However, there has been a steady increase in fertility rate in 15-17-year-old women: from 4.7 in 2007 to 7.2 children (per 1,000 women) in 2011. Fertility rate in 18-19-year-old women increased as well: from 61.6 in 2007 to 91.9 children (per 1,000 women) in 2011.

The given comparative data on birth rate increase among young women of 15-19 years of age necessitate thorough analysis of causes of early sexualization of adolescent females.

According to the schedule suggested by V.Yu. Albitskii et al. (2001), reproductive demographic parameters include not only reproductive loss parameters (stillbirths, infantile and maternal mortality), but also the parameters describing amount of offsprings (feto-infantile losses, neonatal morbidity).

State analysis of the given parameters indicates pronounced positive tendencies present in recent decades in the condition of reproductive health of the KR population (tb.).

Apparently, this phenomenon of decrease in reproductive losses may be explained by introduction and widening use of modern perinatal and fetus-preserving technologies and decrease in the number of abortions.

CONCLUSIONS

The process of social and economic changes in the country resulted in dramatic increase in poverty and extreme poverty rates, unemployment growth, mass internal and external migration. However, we have been observing reduction in the number of poor people and people living beyond the poverty level in recent years. Thus, 46% of population lived below the poverty level in 2007, in 2011 – 36.8%; it should be noted that 55 and 45% of rural and urban population were poor, respectively.

In 2011, 36.8% of population lived below the poverty level (income less than 2,154 soms or \$ 44.8 per month), whereas in 2007 46% of population were considered poor; it should be noted

that 55 and 45% of rural and urban population were poor, respectively. We also revealed decrease in the extreme poverty rate (income less than 1,340 soms or \$ 27.9 per month): from 6.6% in 2007 to 4.5% in 2011.

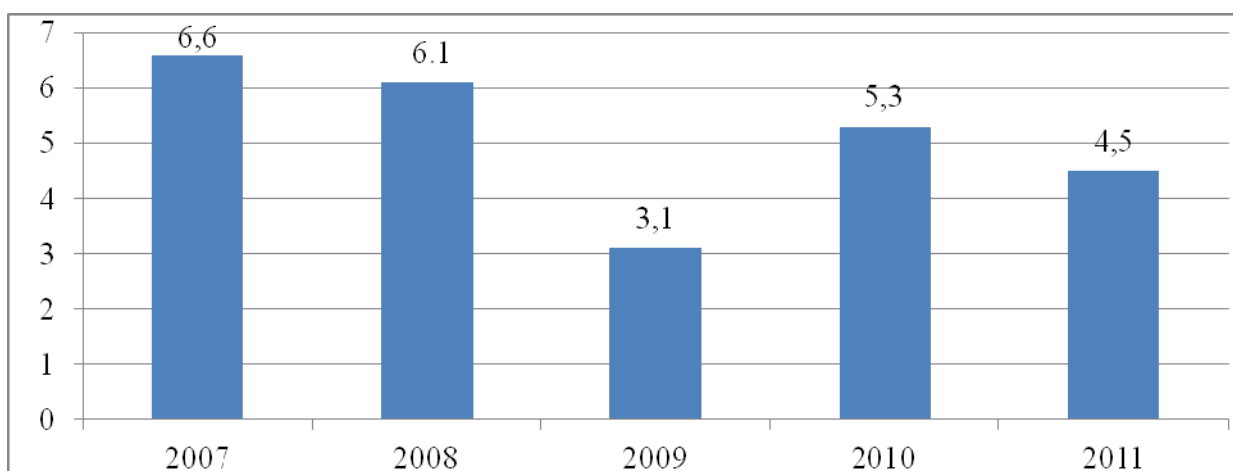
Kyrgyzstan remains a republic with high birth rate: 20-24-year-old women account for most childbirths (33.4% of all childbirths); the older the age group, the lower the rate. The aggregate birth rate, or female fertility rate increased from 2.7 in 2007 to 3.1 children in 2011; in rural women this rate is even higher – 3.4.

Reproductive behavior and reduction of reproductive losses require thorough research.

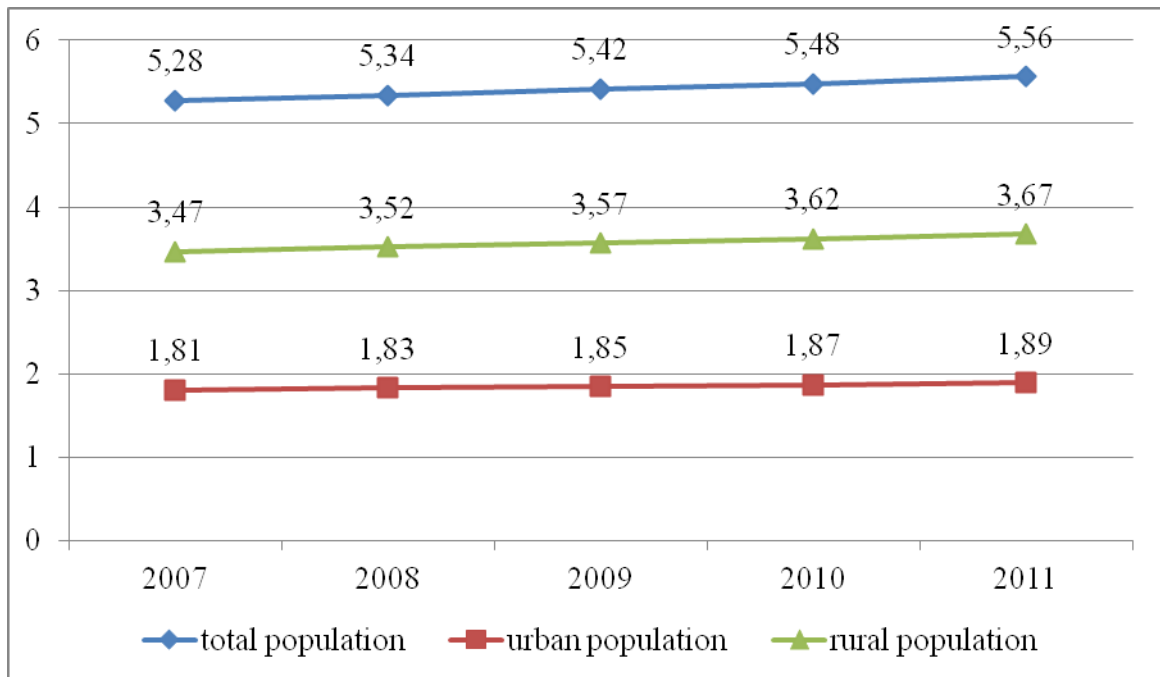
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Pic. 1. Extreme poverty rate in the Kyrgyz Republic in 2007-2011 (per 100,000)



Pic. 2. Resident population of the Kyrgyz Republic (in mn) in 2007-2011



Pic. 3. Demographic parameters of the Kyrgyz Republic, 2001-2011

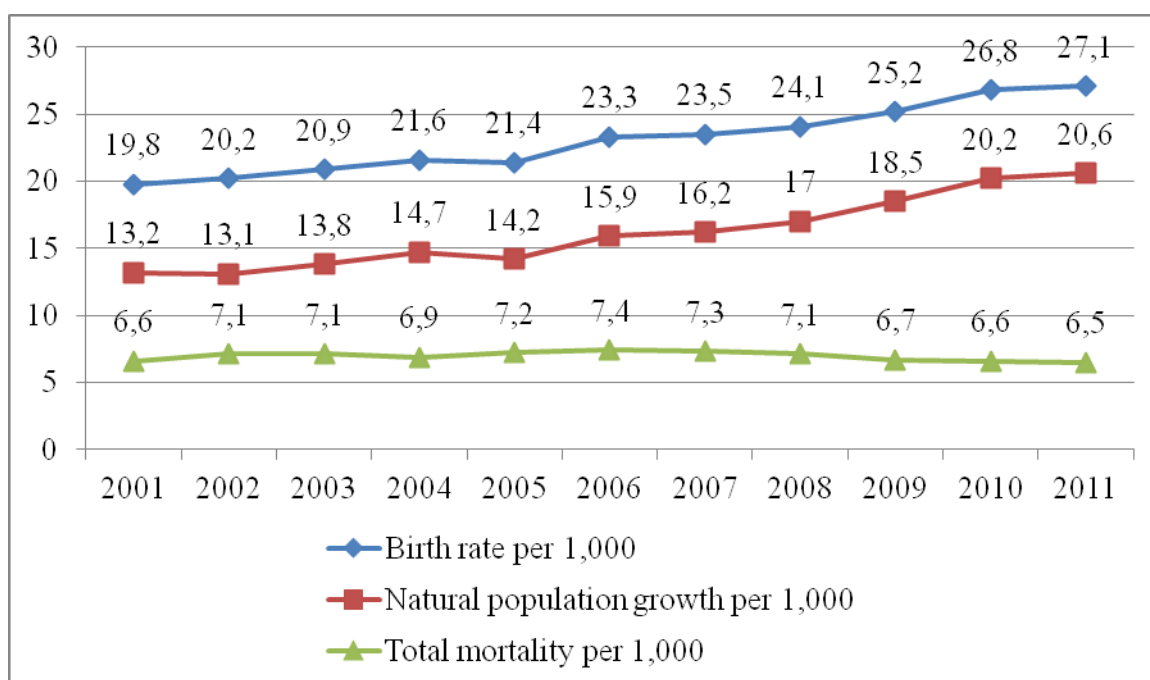


Table. Dynamics of reproduction losses and quality of progeny in the KR (per 1,000 live births)

Parameters	Years										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Stillbirths	-*	-*	-*	13.5	14.4	14.4	14.2	12.9	12.5	11.7	11.8
Perinatal mortality	-*	-*	-*	29.8	32.4	33.7	33.0	30.1	28.6	27.0	26.7
Infantile mortality	21.7	21.2	20.9	25.6	29.7	29.2	30.6	27.1	25.0	22.8	21.1
Maternal mortality (per 1,000 live births)	49.9	58.4	53.1	46.4	61.0	53.0	62.5	58.9	75.3	50.6	47.5
Neonatal morbidity (per 1,000 g)	-*	-*	-*	1,304.1	1,320.3	1,192.9	1,059.3	920.2	847.7	779.5	756.3

Note. * - the Republic adopted live birth criteria in 2004.