The Spatial Evolution of Population in Kazakhstan from the 21st Century

WUZHATI Yeerken*, LIU Hui** and LIU Weidong**

* Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, 100101 Beijing, China; University of Chinese Academy of Sciences, 100049 Beijing, China.
** Key Laboratory of Regional Sustainable Development Modeling, Chinese Academy of Sciences, 100101 Beijing, China.

Received December 25, 2013; Accepted June 10, 2014

Abstract Since the 21st century, driven by the oil trade, Kazakhstan’s economy and its society have developed rapidly. The population loss caused by the collapse of the Soviet Union has now been mitigated and there is a steady movement towards expansion of the population scale. However, environment pollution and resource scarcity weight heavily on survival in some regions. Thus, the aim of this research is to analyze the distribution, and the spatial evolution of population in Kazakhstan since the 21st century. Analysis based on the research reveals that the population of Kazakhstan demonstrates a decreasing pattern which evolves from outside to inside, from east to west. The largest population group is mainly distributed in the southern and southeastern areas, especially along the west side of the Tianshan mountain. Also, the urban population remains high in central Kazakhstan but low in north and south of the state. Another finding of this research is a clearly differentiated distribution in Kazakhstan. In the final section, this article analyzes characteristics in areas of natural environment, economic development and national policy system are discussed.

Key words population, spatial evolution, Kazakhstan, the 21st century

Introduction

The Central Asia has long been a region with convergence of different cultures and it now still plays an important transitional function for trade between the East and the West markets. It is also a region with demographic flow and a multi-ethnic population. Nations in Central Asia are mainly engaged in animal husbandry and commerce, while nomadic regions have significant seasonal migration characteristics. Therefore, in centuries, Central Asia’s population distribution is closely related to pasture location and trade routes. Secondly, under Tsarist Russia and the Soviet era, the mass migration created a more diverse ethnic composition (Wang 2003), and substantial land reclamation and resource extraction changed the original population of the spatial layout. After the Soviet Union era, the Central Asia was struck with serious economic damage and social unrest. A large number of Russian, German and other ethnic groups emigrated out of Kazakhstan, resulting in a slump in some industrial cities, especially in the northern region, leading to an imbalance in the population spatial distribution and a serious obstacle to the political, economic and social stability in Central Asia.

Although being the largest country in Central Asia, Kazakhstan has been faced with a serious problem of population loss. A decade after the independence, the population in Kazakhstan declined by several million and the northern region collapsed in population, North and south of the population imbalance became an important issue.

In order to solve the social problems caused by the loss of population, from the mid-1990s, the Government of Kazakhstan began to implement a series of policies such as childbearing policy, immigration policy and the capital relocation plan. The effort of the government successfully took effect coupled with the rapid development of economy, the population has been expanding and population structure has become optimized since the beginning of the 21st century. However, the ecological environment in some regions of Kazakhstan was under deterioration, threatening human survival. It can be seen that these policies, economic and ecological factors had a profound impact on migration, aggregation and dispersal of the population over the past decade, and gradually changed the spatial pattern of Kazakhstan.

At the present, the research on the population of Kazakhstan after independence is mainly focused on population growth description (Zimovina 2003; Pu et al. 2010; Wu 2001), migration (Wang 2003; Wu 2001; Asanbaev 2009; Galina 2012), demographic and ethnic structure (Pu et al. 2010; Galina 2012) and population policy (Zhang and Du 2005; Wang 2006).

However, there are few studies on the spatial pattern and evolution mechanism of Kazakhstan’s population. Asanbaev (2009) analyzed the population moving be-
tween different regions in Kazakhstan, and has showed the population imbalances caused by migration. From the perspective of a member from ethnic groups, Gally and Hu (2001) stated that differences in geographical conditions, population movement and socio-economic conditions of Kazakhstan resulted in the unbalanced distribution of population; Wu (2001) analyzed the size of the population and ethnic distribution of states in 1999, and considered that population policies had a high impact on demographic change.

The aim of this study is to analyze the distribution, and the spatial evolution of population in Kazakhstan from the 21st century, to find the characteristics of spatial changes, and then to analyze the mechanism of these characteristics based on the factors of economics, institutions and the environment.

The methods and procedures of this study are through historical data analysis, classification and systems analysis. First, by using the population density data, this research shows the spatial distribution of population in regions of Kazakhstan is clarified. Second, this research calculates and classifies the rates of population growth in regions of Kazakhstan during 2003 to 2009. Third, this research calculates the net inflow of population and the natural population growth of these regions are calculated revealing the source of population growth in every region. In the last part, based on the characteristics of population changes, this paper combines its findings with the ecological environment, economic development and institutional factors of each region, to analyze the mechanism of spatial evolution of population in Kazakhstan from the 21st century.

The significance of this study are: 1) Based on the background of arid zone, oil economies and social problems, this study has an significant light on the spatial variation of population in the CIS countries, that through an integrating the perspectives of environmental, economy and institutions, to systematically analyze the spatial evolution of Kazakhstan’s population from the 21st century, especially the relationship between political change, transnational ethnic and demographic changes. 2) Studying the evolution of population spatial structure helps to understand the economic, social and environmental change processes in Kazakhstan over the past decade, especially how these factors affect the concentration and diffusion of population. 3) With the economic globalization as well as the scarcity of energy resources, the Central Asia has become a focus of attention in the world, but studies in Central Asia compared to other regions are rare. Hence, this research will help to replenish the lack of regional studies.

The main data source of this research are from: The national statistical yearbook of Kazakhstan (2002–2010); Demographic yearbook of Kazakhstan (2005; 2009); Women and men in Kazakhstan (2005–2010).

Overview of Research Area

Kazakhstan is located in Central Asia, bordered by Russia to the north and Uzbekistan with Kyrgyzstan to the south, and extends east to west from the Caspian Sea to China. It is the largest country in the Central Asia with over 2,717 thousand square kilometers of territory. Most of the land in Kazakhstan’s is covered by plain, either desert (44%), steppe and forest steppe (26%) or semi-desert (14%), topography of the northwest, southeast low.
Mountains cover less than ten per cent of the territory and are found mainly in the south, the south-east and the east. Kazakhstan has a serious continental drought climate. The region of Kazakhstan is divided into states (municipalities), districts, cities, towns, villages, as shown in Figure 1, including 14 states, and 2 central municipalities (Astan city and Almaty city).

Kazakhstan is rich in natural resources and has a good industrial base, and also has the highest level of economic development country in Central Asia. As an oil driven economy, the country has developed rapidly. The GDP increased tenfold during past ten years, from $18.3 billion in 2000, rose to $188.1 billion in 2011, with a per capita GDP of $11,437, with a three production ratio of 8.3: 57.8: 33.9.

Compared with its territorial size, the population in Kazakhstan is small, at 16.68 million (2011), with a population density of six people per square kilometer. Over the past 50 years, there were three large population fluctuations in Kazakhstan. The first one is the period of rapid growth after World War II (1959–1989), with a population increase from 9.28 million to 16.26 million. The second is the negative population growth in the post-Soviet period (1992–2000), due to the large numbers of the people to moving out quickly. Thirdly, the population grew steadily period after the new century, the population increasing by 1.72 million people from 2003 to 2011, with an average annual growth rate of 1.3%.

Since the new century, the population structure of Kazakhstan has also been significantly changed. First, the number of ethnic groups is huge like before (125), but the proportion of Kazakhs increased from 54% in 1999 to 63% in 2009. Second, from 2003 to 2011 the average life expectancy in Kazakhstan rose 3.17 years to 69 years, while the average life expectancy of women is 9 years higher than men. Third, the proportion of the elderly population in Kazakhstan has declined: the proportion of the elderly population aged 65 and over was 6.5% (2011), but the aging problem still exists. In addition, the proportion of population in higher education class increases year by year, from 12.7% in 1999 to 20.4% in 2009, with an increase of 78.6% in the number of doctoral and master's education.


**Disequilibrium of population distribution**

As shown in Figure 2, we focused on the density of states’ population of Kazakhstan (2009), and found that 1) the population spatial distribution is in disequilibrium, and 2) mainly distributed in the south, southeast of Kazakhstan, especially distributed along the west side of the Tianshan mountain. Moreover, 3) population distribution presents features of decreasing, from outside to inside, from east to west.

In 2009, the average population density in Kazakhstan was about 6 people per square kilometer. According to this standard, the 16 states (including 2 municipalities) of Kazakhstan will be divided into four kinds of distribution area of population: highest density area, higher density area, lower density area, lowest density area.

Highest density areas with population density beyond 8 people per square kilometer include Almaty city (4,681 people per sq.km), Astana city (977 people per sq.km), and South-Kazakhstan region (4 people per sq.km). Almaty city has a population of 1.4 million and is located in the southeastern of Kazakhstan. South-Kazakhstan region has a population of 2.43 million located in the south, and Astana city is located in the northern Akmola with a population of 0.68 million. These three regions accounted for 28% of the country's population.

Higher density areas, between 6 and 8 people per square kilometer, include Almaty region, Zhabyl region, Nord-Kazakhstan region and Pavlodar region. These four regions have populations of 1.69 million, 1.04 million, 0.64 million, 0.75 million, respectively, and accounted for 28% of the country's population. Almaty region and Zhabyl region are located in the southeastern and Nord-Kazakhstan region and Pavlodar region are located in the north of Kazakhstan.

Lower density areas with population density are between 4 and 6 people per square kilometer, include East-Kazakhstan region, Akmola region, Kostanai region, Atyrau region and West-Kazakhstan region. These five regions have a population of 1.42 million, 0.74 million, 0.89 million, 0.51 million, 0.89 million, respectively, and account for 26% of the country's population. As indicated by the name, East-Kazakhstan region is located in the east, Akmola region and Kostanai region are located in the north, Atyrau region and West-Kazakhstan region are located in the west of Kazakhstan.

Lowest density areas with population density of less than 4 people per square kilometer, include Karaganda region (3 people per sq.km), Kyzylorda region (3 people per sq.km), Mangistau region (2 people per sq.km) and Aktobe region (2 people per sq.km). These four regions accounted for 20% of the country's population and are distributed in the central and southwestern Kazakhstan.
Distribution of urban and rural population

In 2009, Kazakhstan’s urban population accounted for 54.3%, a decline in comparison to the population in 2002 (57%).

The proportion of the urban population presents a feature of high density in central, but low density in the north and south of Kazakhstan. The proportion of the urban population of Almaty city and Astana city are 100%. In addition to these two cities, the highest proportion of urban population in Kazakhstan are found in Karaganda region (78%) and Pavlodar region (67%). Far above average, the former region is located in the central with an urban population of 1.06 million and the latter in the north central with an urban population of 0.5 million. Correspondingly, a higher proportion of rural population appears mainly in the southern and northern regions of Kazakhstan. Almaty region, South-Kazakhstan and Kyzylorda region, while located in the southern, have proportions of the rural population of 76%, 62% and 61% respectively. Meanwhile, the proportion of the rural population in the northern state of Nord-Kazakhstan is also up to 64%. The scale of the rural population of these four regions is 268 million, accounting for one-third of Kazakhstan.

Changes in the spatial distribution of population

During 2003 to 2009, the average annual growth rate of population in Kazakhstan is about 1%, and this study found that the growth rate of the population of 16 regions (including 2 cities) in Kazakhstan is clearly differentiated.

The national average growth rate of X is used as a benchmark, setting up four threshold levels: $2X$, $X$, $0.5X$ and 0, by subjective judgment (combined with the feature of regional growth in Kazakhstan). Greater than or equal to $2X$ reflects the increasing exponential growth of population; Less than $2X$ and larger or equal than $X$, reflects higher growth of population, but not exponentially; Less than $X$ and larger or equal than $0.5X$, reflects a lower growth than the average value; Less than $0.5X$ and larger or equal than 0, reflects a stagnant growth; The last, less than 0 reflects the declining growth of population.

In this study, the national average annual population growth is 1%, so the average annual population growth rates of the 16 regions are divided into five intervals: highest speed growth areas ($\geq 2\%$), higher speed growth areas ($\geq 1\%$, and $<2\%$), Low speed growth areas ($\geq 0.5\%$, and $<1\%$), population stagnation areas ($\geq 0$, and $<0.5\%$), population declining areas ($<0$). On this basis, according to the population distribution and changes in Kazakhstan, as shown in Figure 3 and Figure 4, this study analyzed the changes in the spatial distribution of Kazakhstan's population.

Highest speed growth areas are four growth poles, including two cities (Almaty, Astana) and two regions (South-Kazakhstan region, Mangistau region). From 2003 to 2009, the population of these four areas had a growth of 0.86 million, accounting for 76% of the whole population growth in Kazakhstan. As shown in Figure 3 and Figure 5-a, Astana became the fastest growing region with an average annual population growth rate of 5.18%, and from 2003 to 2009, the annual growth rate improved by 5.29, while the population growth as 0.18 million.
The Spatial Evolution of Population in Kazakhstan from the 21st Century

gistau region was the second fastest growing region with the rate of 4.54%, and over the past 7 years, the annual growth rate improved 1.57, population growth was 0.1 million. The two more ancient areas, Almaty City and South-Kazakhstan region remained at an average annual growth rate of 2% and 3%, while population grew by 0.25 million and 0.32 million.

Higher speed growth areas are secondary growth areas in the Southwestern, which distributed in the periphery for four growth poles, including Kyrgyz region, Atyrau region, Almaty region and Aktobe region. From 2003 to 2009, the population of these four regions has grown by

**Figure 3.** The average annual growth rate of population in Kazakhstan’s regions from 2003 to 2009.

**Figure 4.** The growth classification of population in Kazakhstan’s regions from 2003 to 2009.
0.33 million, accounting for 29.2% of the whole population growth in Kazakhstan. Except Almaty region, which tightly surrounds Alamty city in the southeastern, the others are mainly in the southwestern of Kazakhstan where is the major oil-producing areas are located. As shown in Figure 3 and Figure 5-b, Atyrau region and Almaty region have experienced stable population growth and increasing growth rate: over the past 7 years, population growth were 0.06 million and 0.05 million. Kyzylorda region was a stable growth area, from 2003–2008, but its growth rate sudden increased by 7% in 2009, as the natural population growth grew quickly from 3% to 11% in this year. In these four areas, Aktobe region’s population growth was the largest with 0.12 million, but its population growth rate has been declining.

Low speed growth areas include West-Kazakhstan region in the west and Zhamby region in the south. As shown in Figure 3 and Figure 6-a, the two regions had the same as the rates of population growth trend: the growth rate increased between 2003 to 2006, declined in 2007 (due to the drop in the natural population growth rate has dropped, and the increase in population outflow), and then rose again. Zhambyl region’s growth rate was higher than West-Kazakhstan region’s, but after 2008, West-Kazakhstan region’s growth began to accelerate, and Zhambyl region’s growth was stable with a rate of 1.2%. From 2003–2009, the two regions’ population grew by only 0.09 million, West-Kazakhstan’s population growth was only 0.02 million, with average annual growth of only 2,463 people.

Population stagnation areas include Karaganda region in the central and Pavlodar region in the north-central,
where population was almost at a standstill. As a region with more than 1.30 million people, the population of Karaganda region increased by only 0.02 million, that is less than 2,000 people annually year over the past 7 years, especially in Pavlodar region, where the population increased by only two thousand people. As shown in Figure 3 and Figure 6-b, the two regions remained at the same level of population growth trend. Before 2005, the growth rates of these two regions were negative, and have only gradually increased since 2005, while the current annual population growth rates remained at 0.3%.

Population declining areas, include Akmola region, Kostanai region, East-Kazakhstan region and Nord-Kazakhstan region. Before 2008, the three regions showed the same growth trend, which basically in a negative growth, but, Akmola region’s average annual population growth rate turned to increase and reached 0.1% in 2009. Meanwhile, East-Kazakhstan region’s population reduced, and after 2006, its average annual population growth rate dropped to negative growth, prominently down to −0.75% in 2008. As shown in Figure 3 and Figure 7, the average annual population growth rates of the four regions were −0.19%, −0.52%, −0.81% and −0.46% respectively. From 2003–2009, in these areas, population declined by 0.13 million, East-Kazakhstan region’s population decreased by 0.05 million, Nord-Kazakhstan region and Kostanai region declined by 0.04 million and 0.03 million people.

**Net inflow of population and Natural population growth**

As shown in Figure 8, during 2003–2009, the total population growth in Kazakhstan was 1,169,263, of which the number of the natural population growth was people, and the net migrant inflow was people.

As shown in Figure 8, in highest speed growth areas, the net inflow of population of Almaty city and Astana city were higher than the natural population growth there. This indicates that these two cities’ ability to attract population are the strongest. The natural population growth equalled the net inflow of population in Mangistau region. South-Kazakhstan's population growth mainly depended on the natural population growth. During 2003–2009, the number of natural population growth of South-Kazakhstan was 336,161, and the amount of the net inflow of population of it was negative at 18,954.

In higher speed growth areas, the population growth was mainly dependent on the natural population growth, and the net inflows of population were small. Specifically, the natural population growth of Kyzylorda region, Atyrau region, Almaty region and Aktobe region were 112,940, 53,721, 116,448 and 50,940, however, their net inflow of population were smaller, followed by −27,044, 7,751, 16,285 and −418.

In low speed growth areas, the population growth was mainly dependent on the natural population growth. Specifically, the natural population growth of West-Kazakhstan region and Zhambyl region were 27,438 and 104,401, and their net inflow of population were negative, at −5,271 and −40,673.

In population stagnation areas, the natural population growth was small, and the net inflows of population were negative, meanwhile these two values cancelled each out. Specifically, the natural population growth of Karaganda region was 26,325, and its net inflows of population was −7,981. The natural population growth of Pavlodar region was 18,105, and its net inflow of population was −15,856. So these two regions’ population growth were only 18,344 and 2,249.

In population declining areas, the natural population growth was small or even negative, and the mount of the net outflow of population was larger than the natural
population growth. Hence the reason why these areas’ population declined was mainly because of the large numbers of people moving out of the country. Specifically, the net outflow of population of Akmola region, Kostanai region, East-Kazakhstan region and Nord-Kazakhstan region were 23,534, 34,688, 66,425 and 36,055. However, the natural population growth of the first three were only 13,367, 1,430, 19,294, and Nord-Kazakhstan region was even negative growth with $-2,793$.

**Analysis**

Combined with the features of these regions, as shown in Figure 9, we find the following characteristics: 1) The highest regions of the net inflow of population were economic centers (Almaty city and Astana city) or oil development zones (Mangistau region and Atyrau region), which had higher economic level and per capita income; 2) The highest regions of the natural population growth were areas with good ecological environment or highly developed in agriculture in the southern part of Kazakhstan, such as South-Kazakhstan region, Kyzylorda region, Zhambyl region, Almaty region and Almaty city; 3) The highest growth regions of the net outflow of population were the northern regions where the ethnic Russians population as concentrated, such as Nord-Kazakhstan region, Kostani region, Akmola region, Pavlodar region, East-Kazakhstan region, and Karaganda regions.

Kazakhstan is mainly arid and semi-arid regions, and its water scarcity led to bad living conditions in some areas. However, the 21st century has been very significant to Kazakhstan that the oil industry has promoted the rapid economic growth and many new oil cities have emerged, although traditional cities are still struggling especially in the central and northern parts of Kazakhstan. Moreover, with the densified regional cooperation, border areas of Kazakhstan have gradually developed. In addition, the ethnic Russian groups are mainly in the northern regions and the major cities of Kazakhstan, and the loss of population in these areas is more serious. For

![Figure 8. The net migrant inflow and natural population growth of these five areas from 2003 to 2009 (unit: person).](image-url)
the issues of population decline and loss, since the year of 2000, the government of Kazakhstan had developed population policies using a variety of means to promote population growth. Based on these characteristics, combined with factors of the ecological environment, economic development and institutions in each region, this research analyzes the mechanism of the population features of Kazakhstan from the 21st century. The analysis results are shown in Table 1.

### The environmental factor in population distribution

**Differences in geographical conditions**

Southern and southeastern regions of Kazakhstan have a fertile environment, while the central and western areas...
are in desert or semi-desert. The feature of water distribution in Kazakhstan appears on a diminishing scale from east to the west, from south and north to the central. Tianshan Mountains and Turan Plain are in the south and southeast of Kazakhstan. These areas are rich in agricultural land resources and the forest coverage rate is high. For example, South-Kazakhstan region's forest coverage rate is over 60%. Almaty city and Alamaty region are in the watershed of the Ili River, Syr river through the South-Kazakhstan region and Tara river through the Zhambyl region. Compared to the central and western regions, these regions have more abundant water resources.

With the development of economy and society, the demand for the environment quality is increasing, accelerating the population trends to the south and southeast of Kazakhstan. For example, from 2002–2009, the population inflows of Almaty city, Almaty region and South-Kazakhstan region amounted to 0.77 million, accounting for around 29% of the total population inflows of Kazakhstan. In particular, Almaty city as the “Apple City,” is the most livable city in Kazakhstan.

Ecological deterioration

Environmental problems have become increasingly prominent in Kazakhstan. First, the ecological disaster of the Aral Sea has become a global ecological problems: from 1960 to 2006, the lake area reduced by 76% (Wu et al. 2009). Dry lakebed formed a large area of saline desert, then the dust containing a variety of compounds, constantly engulfed large tracts of arable land and pastures of Kyzylorda region and Aktobe region, in which the Aral Sea exists.

Second, traditional industrial regions and cities face serious environmental pollution problems. Karaganda region was an important heavy industry base during the Soviet era, and was known as one of the four major industrial areas in the Soviet Union, but, now, it remains as a city with traditional industries producing coal, steel, etc. This is because the backward technology lead to a lot of waste emissions. Through field research (2012) in Temirtau city in Karaganda region, industrial chimneys could be seen everywhere, and air pollution was very serious: sometimes even the snow was black. The population of Temirtau dropped to 179,520 in 1999, from 181,800 in 2008.

Third, Semipalatinsk nuclear testing ground, in the East-Kazakhstan region, had experienced 467 times of nuclear tests during the years 1949–1989, causing a nuclear contamination area of 300,000 km² (Yang and Tian 2002). Until now, the effects of nuclear contamination still exist, the population of the surrounding area has continued to decline. For example, from 2002 to 2009, East-Kazakhstan region's population decreased by 0.06 million, and the number of out-migrants was 0.32 million.

The contradiction between the water supply and demand

Water resources of Kazakhstan were in shortage and uneven distribution. Since 2000, these problems seriously restricted the economic development and the concentration of the population. First, Kazakhstan requires 1.7 billion cubic meters of domestic water every year, but, in fact, can only be provided with 1.3 billion cubic meters now, while there are 3 cities and 37 towns which cannot be guaranteed with the centralized water supply, and mainly in the west and central of Kazakhstan (Long et al. 2010). On the other hand, in the central and north region of Kazakhstan, the imbalance between the supply and demand of production water is very prominent, as in Karaganda region, Kostanai region, Akmola region and Nord-Kazakhstan regions, water production can only meet 53%—90% of the demand (Long et al. 2010).

Economic development promotes population growth

Oil economy became a driving force for the development of the western region

Since the 21st century, driven by the oil, Kazakhstan's economy and society have developed rapidly. In 2008, the gross domestic product of Kazakhstan was 107 billion dollars, of which crude oil output reached 35.1 billion dollars, accounting for 32.8% of the total GDP. Oil resources are mainly distributed in the western region around the Caspian Sea. Currently there are five oil-producing regions: Mangistau, Atyrau, West-Kazakhstan, Aktobe and Kyzylorda regions.

The largest oil-producing areas are Mangistau region and Atyrau region, annually producing 65% of the Kazakhstan's total oil production. Aktau and Atyrau are the capitals of the two regions. Due to the development of the oil industry, they have become the new poles of Kazakhstan, accelerating the collection of logistics and capital flows, with large-scale infrastructure construction, resulting in a large number of labor-force moving into these cities. For example, from 2002 to 2009, Mangistau region's population grew by 0.12 million, of which 75% of the growth came from the external population moving in.
Promotion by international trade in border cities

Over the past decade, Kazakhstan continued to internationalize, and gradually added to the global trade. With inter-regional trade’s links becoming tighter, the border areas are developing quickly and the total volume of trade reached 125 billion dollars in 2011. However, Many cities located in the border areas such as Almaty city, Shymkent city (the capital of South-Kazakhstan region), Talaz city (capital of Zhambyl region), have been promoted by the trade, resulting in these cities’ growth in economic and population. In addition, the oil cities, Aktau and Ake Lao, also are the port cities of the Caspian Sea, and with the development of maritime trade, other industries have been improved, including the oil industry.

Currently, Kazakhstan has 129 ports, including 68 international ports and 61 bilateral ports. The trade between the Kazakhstan and China, Uzbekistan, Kyrgyzstan, has increased rapidly. From 2001 to 2007, Kazakhstan’s exports to China increased by 5.6-fold, and imports from China increased by 22-fold. In Kazakhstan-China border, Kazakhstan-Uzbekistan, and Kazakhstan-Kyrgyzstan borders, some ports of Kazakhstan have developed into small towns. These posts have gradually formed the economic links, like “twin cities”, with the nearby border cities, and promoted the population gathering towards border areas.

Impact of the economic crisis in 2008

Kazakhstan suffered a very serious economic crisis in 2008, with the problems of fiscal revenue and unemployment. This was a result of industrial structure of an oil export-oriented economy.

The impact of the economic downturn resulted in many ethnic Russian emigrants coming from the northern Kazakhstan, which it caused a slow population growth or a decrease in these areas, which were already mainly include: population stagnation areas and population declining areas.

As shown in Figure 10, the net inflow of Kazakhstan’s population declined rapidly, from 10,962 in 2007, dropping to 1,117 in 2008. This also explains the changes in Figure 6 and Figure 7.

National policies and institution

Impacts of the Soviet Union’s collapse and resulting emigration

The collapse of the Soviet Union had resulted in large-scale emigration, which changed the population scale in Kazakhstan in a short period of time.

Because of the change in political system, factories that once belonged to the former Soviet Union gradually shifted back to Russia, or were abandoned and destroyed. Due to political reasons, workers in these factories left Kazakhstan with their families. These people, ethnically Russian, Ukrainian and German, had professional skills, as shown in Figure 11, and lived mainly in industrial cities in central and northern Kazakhstan. Thus, in the 1990s, immigration led to population decline in central and northern Kazakhstan. Then, into the 21st century, this trend of population movement continued, when from 2003 to 2011, the population moving from Kazakhstan to Russia reached 0.32 million.

On the other hand, emigration and immigration have changed the population structure of urban and rural regions. The emigrants living in urban areas for example were Russian, Ukrainian and German. From 2003 to 2011, the urban population in Kazakhstan increased by only 0.6 million, which is far below the overall population growth, and at the same time, the immigrants amounted to 0.4 million, most of whom were citizens.

The immigrants came to rural areas were the overseas Kazakh people for example in china. Due to national culture and job search, the Kazakh people who came from
China, Uzbekistan, Mongolia and other countries, mainly engaged in pastoralism. During 2003 to 2011, the rural population in Kazakhstan increased by only 1.13 million, meanwhile, the immigrants amounted to 0.5 million, and most of them came to rural areas.

The rapid development of the new capital

Though Almaty was the original capital, considering factors like geopolitical security, seismic hazard, the influence of important families, and the ethnic problems in the north of Kazakhstan, Kazakhstan’s government moved the capital from Almaty to Akmola region, building Astana city as the capital in 1997.

Astana city once had a population of less than 0.2 million population, but with fast development of the construction of urban infrastructure facilities, the national ministries and key industries relocated to the new city, and from 1994 a large number of national staff and industry practitioners moved into the new capital. Astana city had played a key role in recovering the population of northern Kazakhstan, and it also remodeled the urban system. Now, Astana, has become the political center, as well as the new economic center of Kazakhstan, with a rapid growth in the population: since 2000, the population of the city grew by nearly 40%.

Active population policies

Since the new century, the government has implemented some active policies in population development and immigration drive. The measures included: 1) substantial increase in maternity allowance; 2) half of the loan for young couples who have taken out loans for home purchases and have more than one child; 3) exemption from income taxes for the parent who have many children or a disabled child. The government required the whole community to make joint efforts to protect women and children, to work towards steady natural growth, improve the health of citizens and their quality of life, and take in immigrants with high levels of skill. At the same time, several social security regulations were promulgated, which increased investment in the public service system and expanded employment opportunities. These policies promoted the growth of population and reduced the number of emigrants. The natural population growth rate is increasing rapidly, and from 6‰ in 2003 to 10‰ in 2009. These policies had a positive influence on some regions of Kazakhstan, as shown in Figure 12: during 2003–2009, the average natural population growth rate of Kyzylorda (25‰), Mangistau (21‰), South-Kazakhstan (21‰), Atyrau (16‰), Zhambyl regions (15‰), Astana city (13‰) and Almaty city (12‰) were higher than the average rate of Kazakhstan.

Impact of the presidential election

In 2004, migration from population stagnation areas and population declining areas were more serious, but after 2005, the number of emigrants began to decline. As shown in Figure 13, for example, in 2004, the net inflows of population of Karaganda region and Pavlodar regions were −1,142 people and −3,381 people, but in 2005, grew to 333 people and −2,414 people.

The year of 2005 is an election year, and in 2004, some people of Kazakhstan who felt domestic pessimistic about the future of the country emigrated to foreign countries. A majority of these people were ethnic Russian groups, who came from the northern of Kazakhstan, and who had already planned to moving out to Russia. However in 2005 President Nazarbayev was re-elected, and his re-election secured national stability and development.
The Spatial Evolution of Population in Kazakhstan from the 21st Century

Conclusion

This study found that the population distribution in Kazakhstan presents a decreasing pattern, which evolves from outside to inside, from east to west. The largest population group is mainly distributed in the southern and southeastern, especially distributed along the west side of the Tianshan mountain. Moreover, the proportion of the urban population presents a feature of high growth in the central, low in the north and south of Kazakhstan.

Another finding of this research is a clearly differentiated distribution influenced by environment, economy, national policies and institutional factors in Kazakhstan. The characteristics of the population distribution are as follows: (1) Four growth poles, which include Almaty city, Astana city, South-Kazakhstan region, and Mangistau region. (2) Secondary growth areas are in the Southwestern, which distributed in the periphery of four growth poles, including Kyzylorda, Atyrau, Almaty and Aktobe regions. (3) Low speed growth areas include West-Kazakhstan region in the west and Zhambyl region in the south. (4) Population stagnation areas include Karaganda region in the central and Pavlodar region in the north-central. (5) Population declining areas are in the northern, including Akmola, Kostanai and Nord-Kazakhstan regions.

The analysis based on the research reveals following findings: (1) because of differences in geographical conditions, ecological deterioration, and the imbalance between water supply and demand, the population has been declining in the central and northeast of Kazakhstan; (2) Astana city, being the new capital, has played a key role to recover the population of northern Kazakhstan, and it also remodeled the urban system; (3) the oil development zones, such as Mangistau region and Atyrau region, in the west, are performing as the main driving force to promote the economy of Kazakhstan. They also gathered

Figure 12. The average natural population growth rate of regions in Kazakhstan from 2003 to 2009.

Figure 13. The net inflow of population into population stagnation areas and population declining areas in Kazakhstan from 2003 to 2009.
a large-scale capital flow, logistics and population, and have become the largest labor input region of Kazakhstan; (4) with the intensifying of internationalization and the expanding of trade, border areas in Kazakhstan have developed rapidly, with the border cities and ports becoming hubs of population aggregation; (5) the collapse of the Soviet Union had resulted in a large-scale emigration, which changed the population structure in central and north of Kazakhstan during the past 20 years; (6) since the new century, the government has implemented some effective policies for population growth and attractions for immigration; (7) In addition, the economic crisis and the presidential transition have affected the migration.

Acknowledgements

This research was funded by a Grand-in-aid by National Natural Science Foundation of China (41101150, 41101120) and Beijing Natural Science Foundation (8122015).

Notes

1. This field research was carried out in October, 2012.

References


(C) written in Chinese

(CE) written in Chinese with English abstract

(R) written in Russian