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Working Paper

Poverty reduction in developing countries via infrastructure development and economic growth: Mutual impact in Kazakhstan

ADB Discussion Paper, No. 62

Provided in Cooperation with:

Asian Development Bank Institute (ADBI), Tokyo

Suggested Citation: Chulanova, Zaire (2007) : Poverty reduction in developing countries via infrastructure development and economic growth: Mutual impact in Kazakhstan, ADB Discussion Paper, No. 62, Asian Development Bank Institute (ADBI), Tokyo

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ADB Institute Discussion Paper No. 62

**Poverty Reduction in Developing Countries via Infrastructure
Development and Economic Growth:
Mutual Impact in Kazakhstan**

Zaure Chulanova

March 2007

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I. INTRODUCTION

Economic growth is the basic condition for effective poverty alleviation, as it can improve the living standards of the population and promote infrastructure development.

First of all, economic growth raises the average income of households. It also has an indirect influence (not related to income) on poverty reduction by giving more attention to the improvement of social and physical infrastructure through increases in state investments for education, health care, and infrastructure development needs.

At the same time, the development of the social sphere and infrastructure is not simply a function of economic growth. They themselves are important factors behind economic growth. The economy requires the development of infrastructure, such as energy, roads, transport, information, and communication technology. A developed infrastructure promotes rises in economic activity, provides support to all industries, ensures access to markets, and increases the mobility and economic activity of the population. Developing infrastructure is crucial for the formation of an attractive investment climate.

The level of development of the social sphere and infrastructure are indicators of the level of national development of an economy. Providing appropriate infrastructure in developing countries can play a vital role in poverty reduction. Infrastructure makes it possible to overcome "natural" causes of poverty such as remoteness from material and information resources, provides access to social services, and helps to increase the mobility and economic activities of the population.

The development of social infrastructure is important in contemporary societies where education and healthcare are strategic factors for economic growth, social progress and the competitiveness of the country in global markets. Moreover, low living standards can deprive the government of support for reforms and economic policy, and become a destabilizing factor for the political situation.

This research has a complex character, involving problems of economic, social and infrastructural development. Research has been conducted at two levels: national and international.

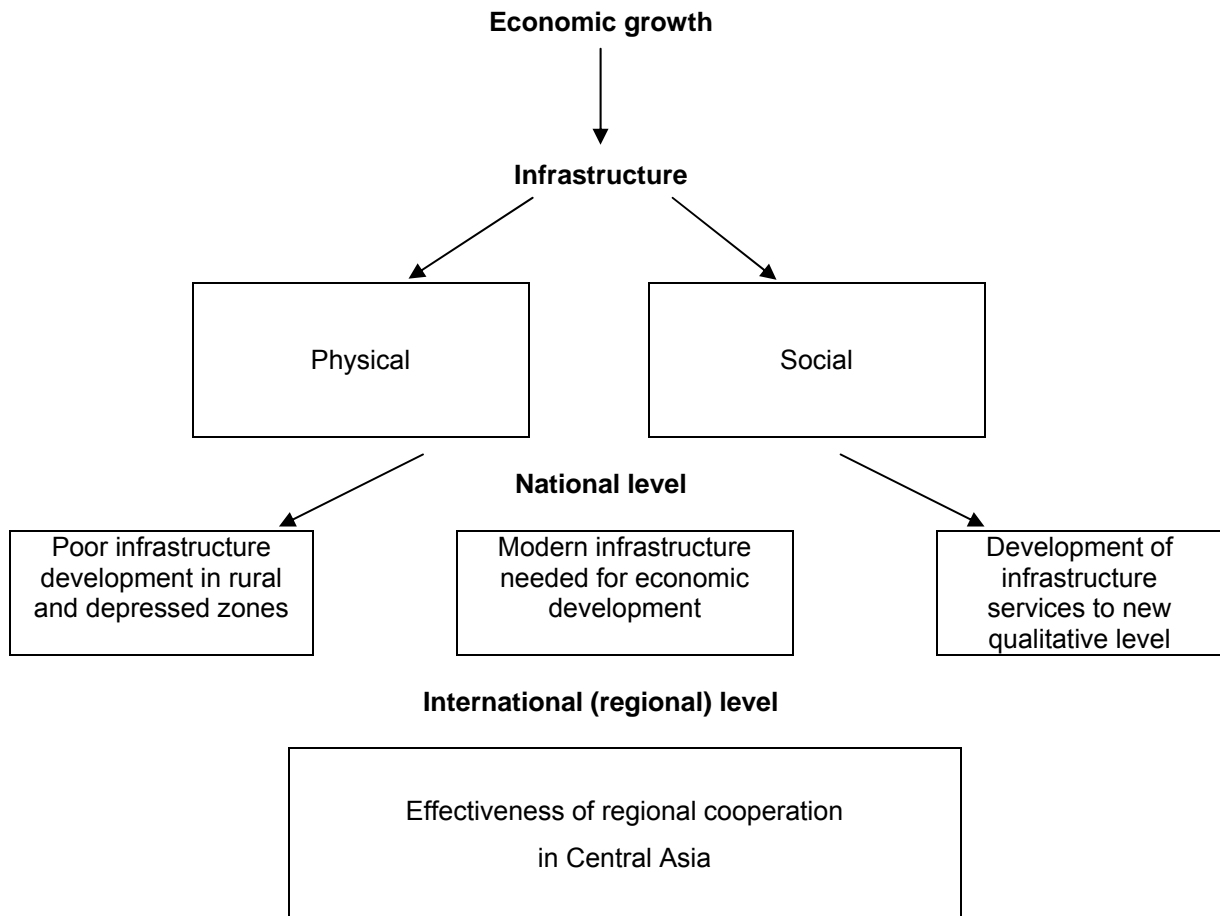
In the first part, on the basis of analysis, we examine the influence of economic growth and infrastructure development on poverty reduction. In the second part, we examine how economic growth increases the demand for infrastructure and social services development.

We will consider two aspects of infrastructure: Physical (access to good potable water, electricity and power resources, roads and communications), and Social (medical, educational, cultural services).

At the national level, three aspects of infrastructure development are analyzed: Insufficient, inadequate, and poor infrastructure development in depressed and rural zones, leading to the continuation of poverty; Growing infrastructure demand for economic development and poverty reduction; and Development of infrastructure services to a new qualitative level.

The effectiveness of regional cooperation in Central Asia in infrastructure development and its maintenance is considered at the international level.

The Research Scheme

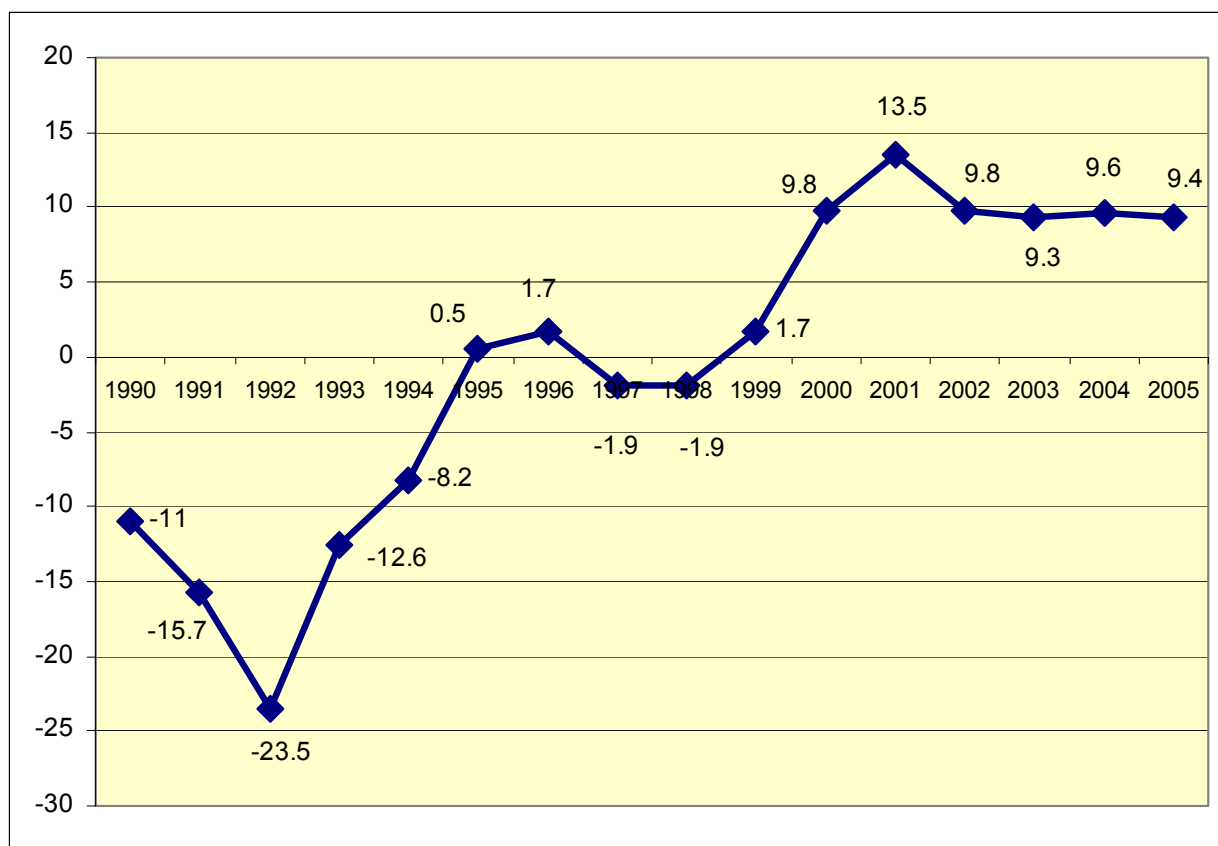


II. THE NATIONAL LEVEL

A. Economic Growth and Poverty

During 1990-1992, the beginning of the period of transition to the market economy, the GDP of Kazakhstan fell by about 40 percent. The sharp break from traditional economic relations brought about a set of economic problems. One was that most industrial enterprises stopped working. As a result, unemployment appeared as a new phenomenon, and became the main generating factor behind poverty whose parameters increased tremendously at the end of the 1990s.

**Figure 1. Real GDP Growth in Kazakhstan during 1991-2001
(% of the previous year)¹**

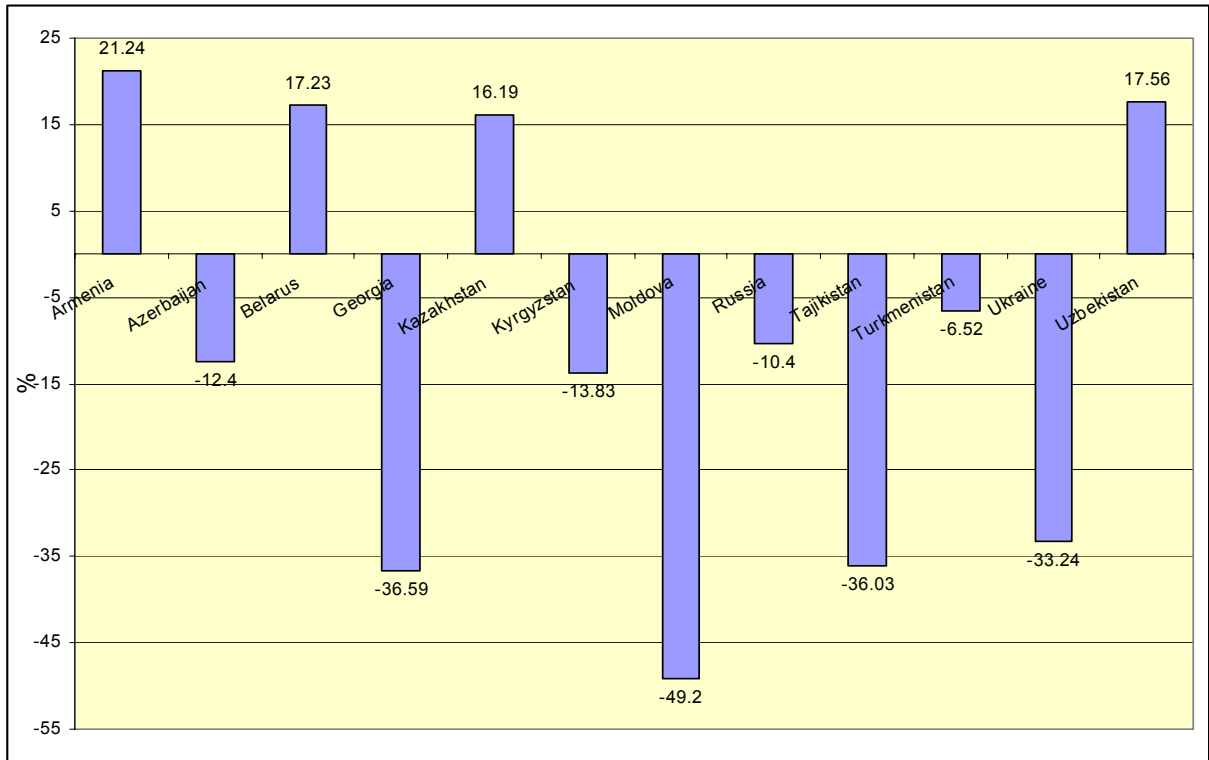


In recent years, the economic parameters of Kazakhstan, following a sharp decrease, have improved, testifying to the steady growth of the economy (Figure 1). During 2000-2005, annual GDP growth registered about 10%, a figure much higher than the majority of countries in the former Soviet sphere. Economic growth took place in the context of stability of the national currency, low inflation rates, and balanced budgets. The GDP growth was due, basically, to growth in industry, agriculture, investments into fixed capital, transport, and trade. The increase of growth rates in the real sector was positively reflected in services production, especially in such branches as transport and communication, trade, and the financial sector.

Kazakhstan is the first of the CIS countries to restore its production level to that before the crisis of 1991.

¹ Agency for Statistics of the Republic of Kazakhstan

Figure 2. Increase/Reduction of GDP in Real Terms in CIS Countries²
(1991=100)



With the economic recovery since 2000, attention has focused on reducing the scale of poverty. Two poverty reduction programs have been implemented. The first program (2000-2002) aimed merely to reduce poverty and unemployment through the realization of a vigorous employment policy, creation of new workplaces, and the targeting of social assistance toward needy citizens. That program was developed based on actual problems and priorities, characteristic for the given stage of development.³

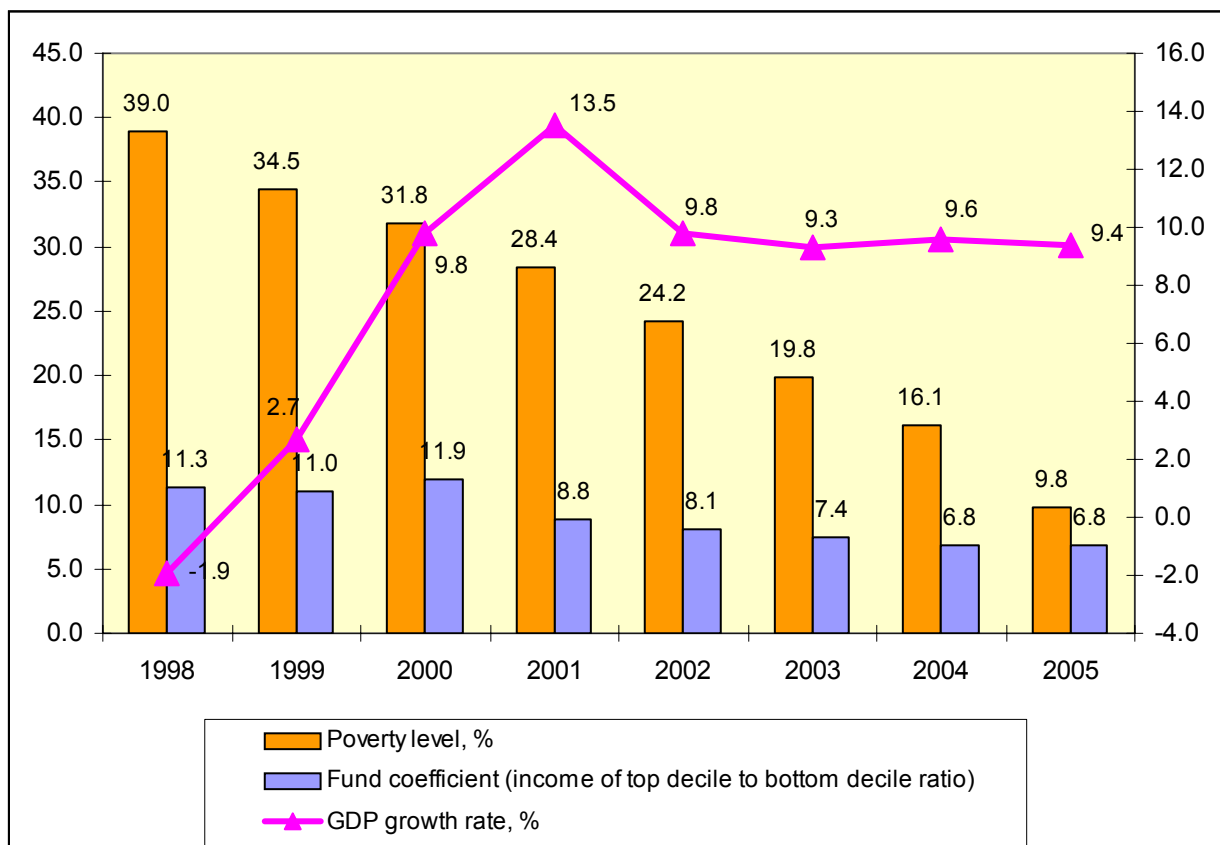
The second program (2003-2005) considered multilateral factors behind poverty and looked at the need not only for economic growth, employment, and targeted social assistance, but also the availability of basic education, primary health care, housing, transport infrastructure and public utilities; the efficiency of administrative budgetary programs; the participation of the poor in state decision-making, and increasing the availability of information. Indirect indicators of the availability of social infrastructure for the poor are parameters regarding health, education, average longevity, social degradation (alcoholism, narcotics, criminality), and parameters of migration.⁴

² Interstate Committee for Statistics of CIS; World Bank Statistics Group

³ Program for Fighting Poverty and Unemployment in Kazakhstan for 2000-2002.

⁴ State program for poverty reduction in Kazakhstan for 2003-2005.

**Figure 3. Dynamics of Economic Growth, Poverty, and Inequality in Kazakhstan
(1998-2005) ⁵**



During the implementation of the poverty reduction programs and other state and local programs connected directly or indirectly to the improvement of the situation of the poor, certain positive results have been achieved.

Real GDP growth from 1998 to 2005 was about 60%, meaning an annual average of 7.8%. During this period, the share of the population with incomes below the living wage decreased from 39% to 9.8%, so a 2% growth of GDP leads to a decrease in the share of the poor of 1%. The dynamics are well traced in Figure 1. The reduction in the level of poverty was accompanied by a decrease of inequality. Table 1 traces the dynamics of the main social indicators.

⁵ Agency for Statistics of the Republic of Kazakhstan

Table 1. Dynamics of Monetary Income and Poverty Indexes

	2001	2002	2003	2004	2005
Real income, tenge	7670	8958	10533	12817	15443
Living wage, tenge	4596	4761	5128	5427	6014
Share of the population with incomes lower than the living wage, %	28.4	24.2	19.8	16.1	9.8
Food basket cost, tenge	3217	3333	3590	3799	4210
Share of the population with income lower than the food basket, %	11.7	8.9	6.3	4.3	1.6
Poverty gap	7.8	6.1	4.6	3.3	1.7
Severity of poverty	3.1	2.2	1.6	1.0	0.5

Economic growth was accompanied by a reduction of unemployment and increase of the real incomes of the population (Figures 4, 5).

Figure 4. Unemployment Dynamics

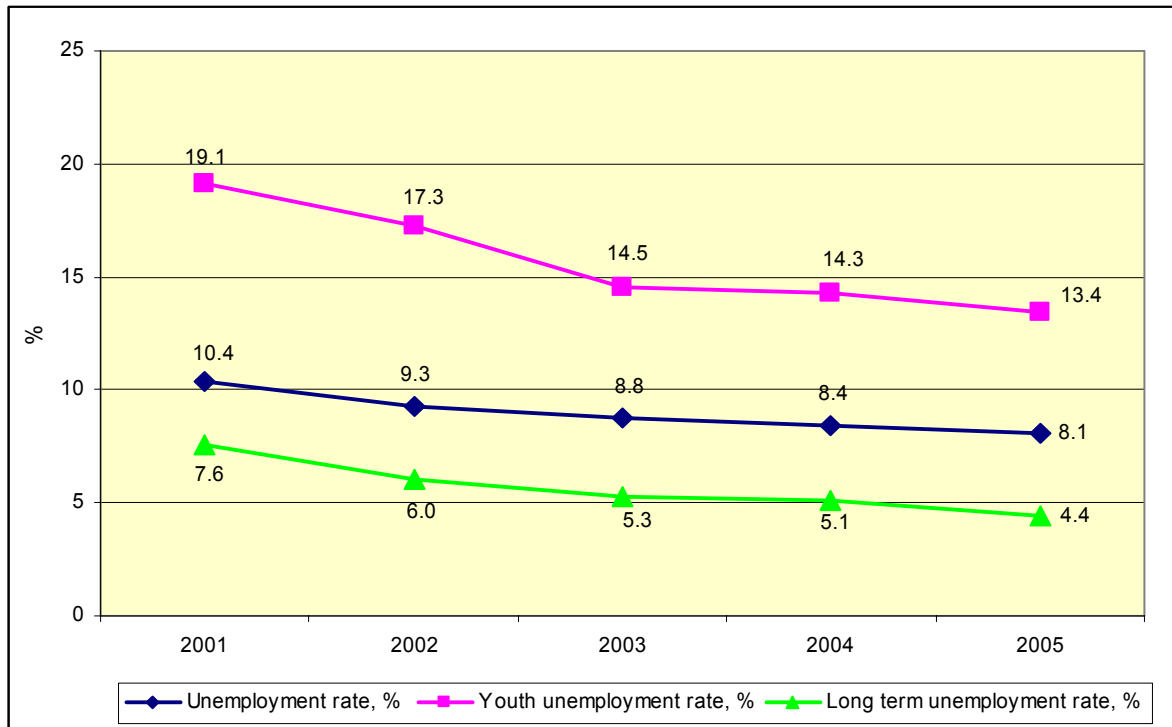
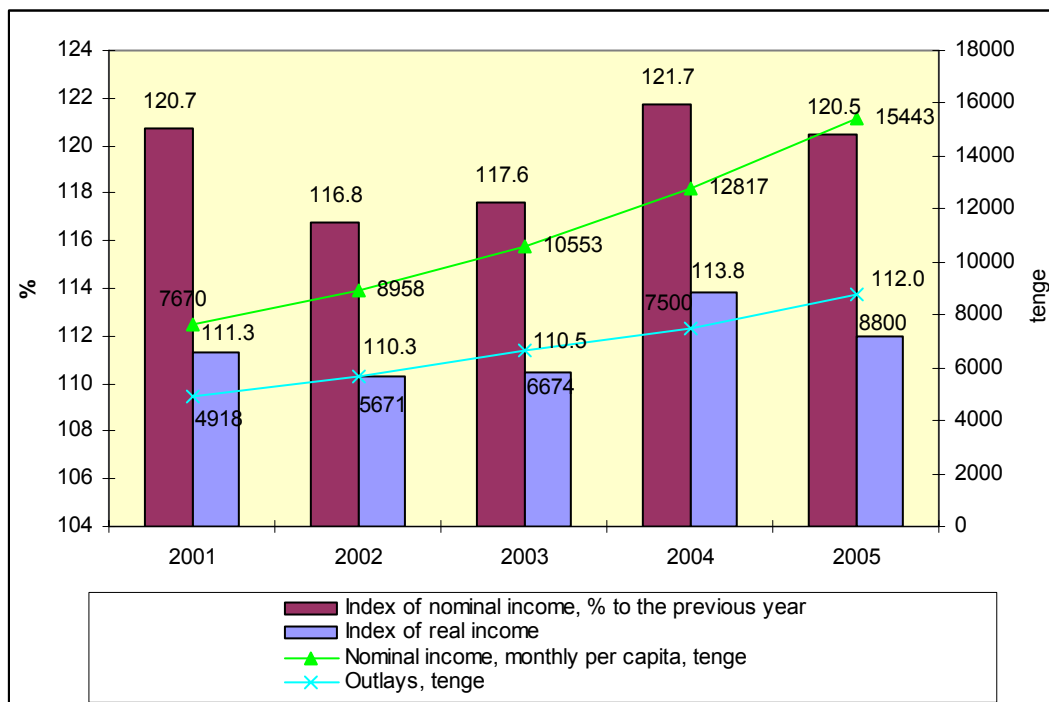


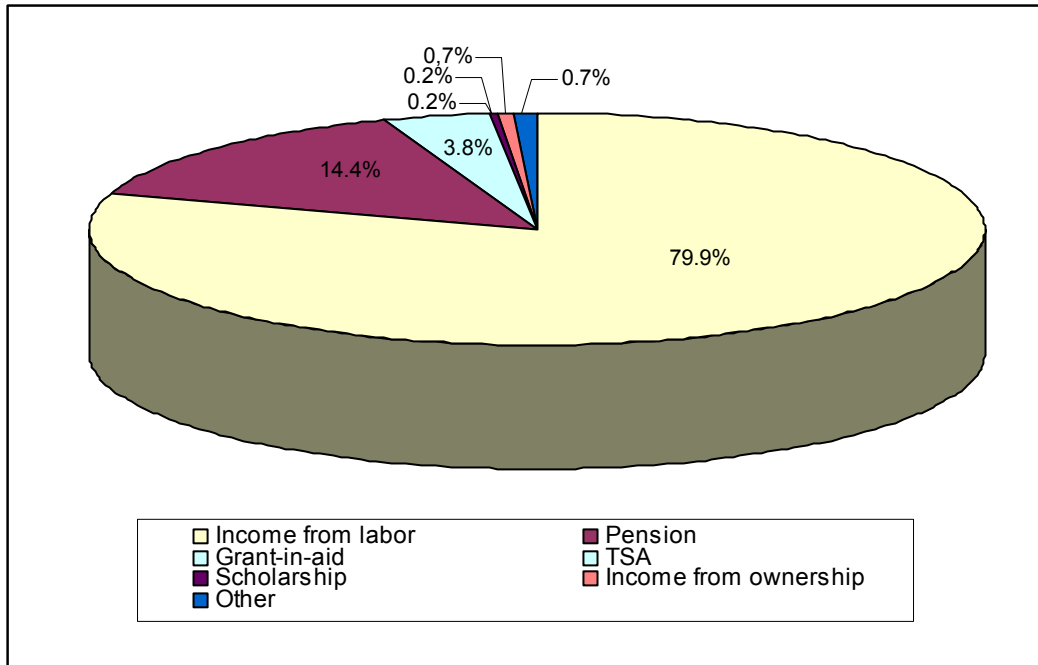
Figure 5. Monetary Incomes and Expenses for Consumption



According to the Statistics Agency of Kazakhstan, the average monthly per capita income used for consumption in 2005 was 9,751 tenge, exceeding the 2004 level by 16.3%, and the 2001 level by 70.2%. The consumption level of the population depends directly on the income level. In recent years, the dynamics of monetary expenses of the population has been characterized by steady growth. In 2005, the average monthly monetary outlay per capita was 8,800 tenge, an increase of 17.3% over 2004 and 1.8 times the level of 2001. Private consumption rose thanks to growing incomes, low inflation, increasing employment, and a revival of the demand for consumer goods, which was the major factor stimulating the economic turnaround.

Today labor incomes make up 79.9% of the monetary income structure, with social transfers (pensions—13.9%, grants—3.7%, targeted social insurance [TSA] and housing help—0.2%, grants—0.2%) making up a total of 18%.

Figure 6. Structure of Monetary Incomes of the Population⁶



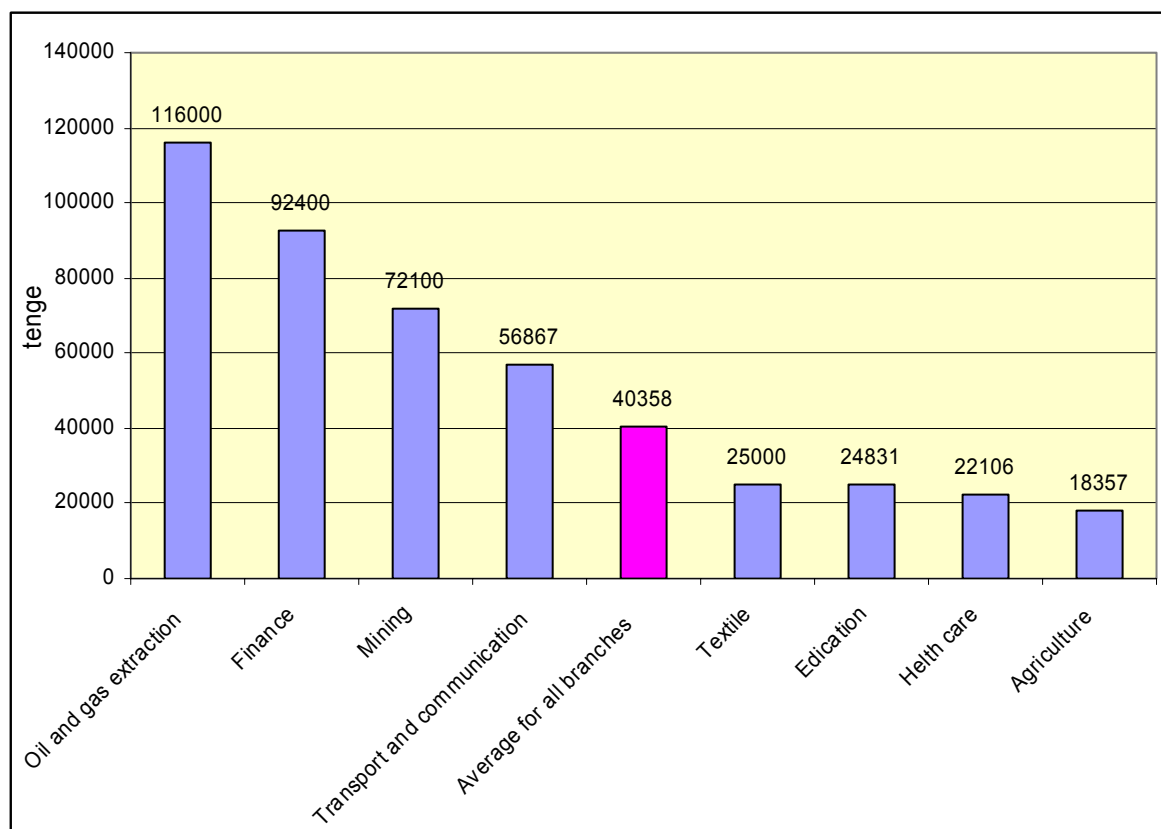
The transformation to a market economy brought with it a new problem: large differences in wages. In June 2006, the average salary of workers in the financial sector was 92,400 tenges, a figure 2.3 times the average throughout the republic. The figure in the mining industry was 72,100 tenges, 1.8 times the national average; transport and communication was 56,867 tenges, 1.4 times the average; and hotels and restaurants was 46,810 tenges, 1.2 times the average. Among the industry branches with the most highly paid workers were the tobacco manufacturing, where salaries in January-June 2006 exceeded 138,000 tenge (three times the average sectoral average), extraction of crude oil and natural gas (116,000 tenge, 2.6 times the average), and manufacturing of coke and mineral oil (62,000 tenge, 1.4 times). By contrast, in textile manufacturing and wood manufacturing, it ranged from 20,000 to 31,000 tenge, just 45-69% of the industry average.

Salaries in the educational sector were 24,831 tenges, 38.2% below the national average, and those in public health services were 22,106 tenges, 45% of the average. The lowest wage average was in agriculture, at 18,357 tenges.

A new phenomenon of "working poor" has arisen due to fact that the wages of employees with high educational levels and intellectual qualifications (teachers, scientist, and physicians) are several times less than the average in the economy.

⁶ Statistics Agency of Kazakhstan

Figure 7. Monthly Wages by Branch



Among industrial branches, the highest salaries are found in tobacco manufacturing, where in January-June 2006 they exceeded 138,000 tenge (3 times the branch average), extraction of crude oil and natural gas, at 116,000 tenge (2.6 times), and manufacture of coke and mineral oil, at 62,000 tenge (1.4 times). In textile manufacture and wood manufacture, salaries ranged from 20,000 to 31,000 tenge, meaning just 45-69% of average industries as a whole.

B. Section Conclusion

In recent years, the economy of Kazakhstan has developed positively, registering about 10% yearly growth. Economic growth is crucial for achieving steady poverty reduction and increasing living standards. GDP growth of 2 percent leads to a decrease of the share of the poor by 1%.

Some problems remain, however. Despite of favorable economic growth rates, poverty persists in Kazakhstan. As a consequence of the sharp differentiation of wages by branch, the phenomenon of “working poor” has appeared.

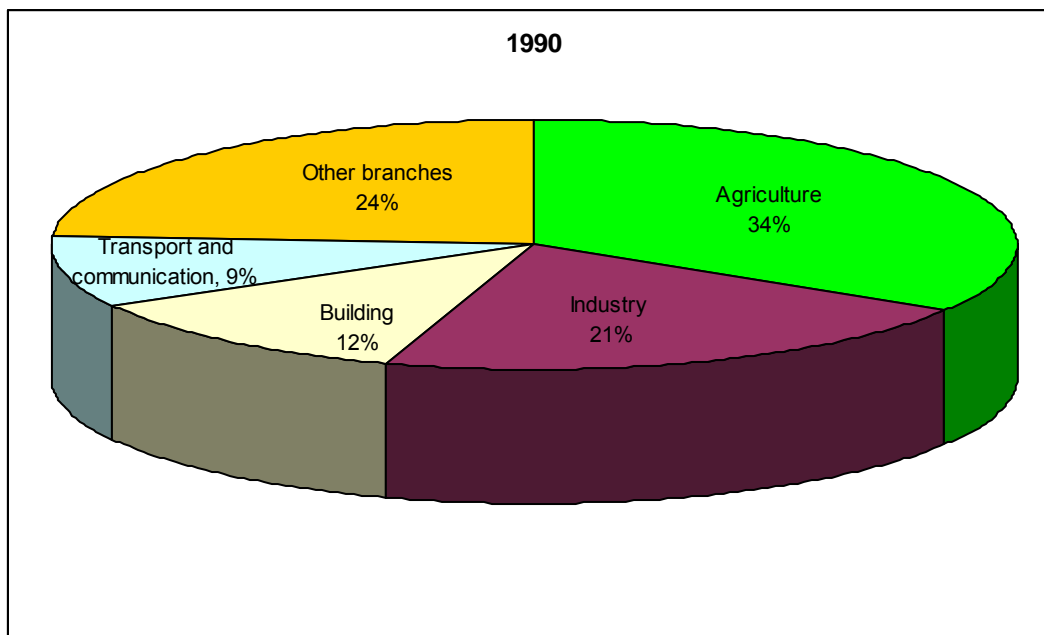
The following recommendations can be made: Raise wages of salaried workers; and Develop comprehensive measures for agricultural development and policies for rural production renewal.

III. THE BRANCH STRUCTURE OF THE ECONOMY

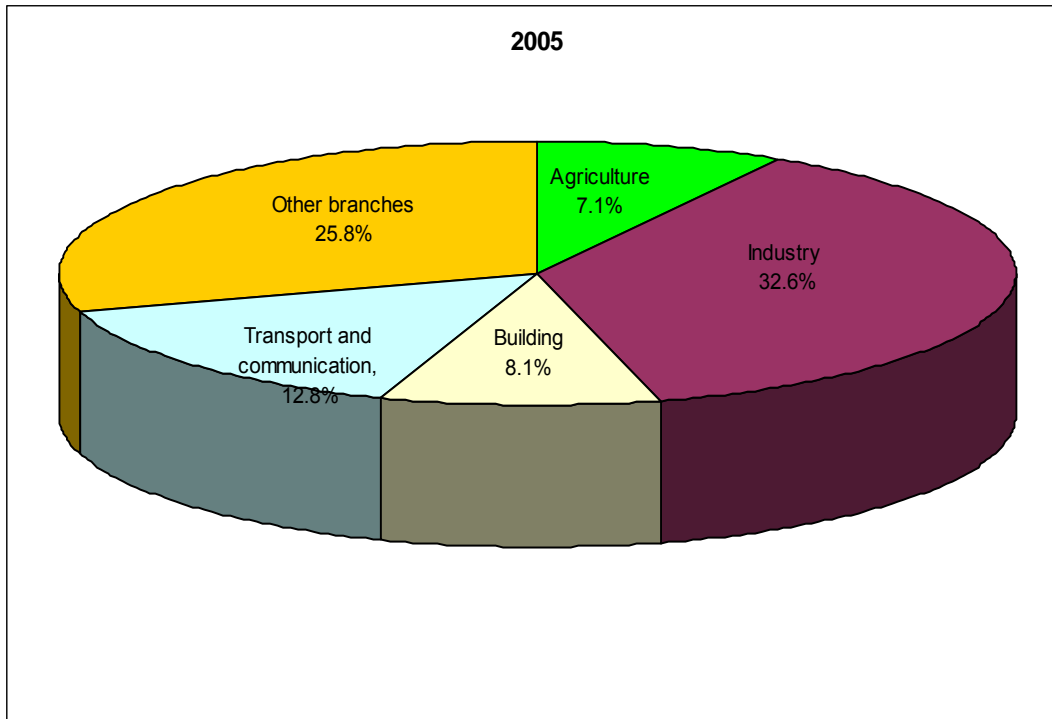
During recent years, there have been major changes in the structure of industrial production. In 1991, the main areas of industrial production were mechanical engineering, and the textile and food-processing industry (over 50% of total volume). In 1990 only 0.5% of GDP was related to the oil-gas sector. By 2003, this had risen to 24%. In the mid-90s, 23.4% was attributed to the fuel industry including oil extraction, oil refining, gas and coal, and 25.1% to the iron and steel industry. At the beginning of 2000s, 38% of volume was generated by the oil-extracting branch, which made up over 85% of the mining industry as a whole. Growth in the mining industry was double that of processing.

Today, one third (32.6%) of Kazakhstan's GDP is generated by industry, whereas transport and communication make up 12.8%, building 8.1%, and other branches 25.8%. The share of agriculture decreased from about one third of GDP till 7%, while about 40% of the population lives in rural area.

Figure 8. GDP Branch Structure, %⁷



⁷ Statistics Agency of Kazakhstan



The intensive development of the export sector is not connected with other sectors of the national economy. This situation is aggravated by the fact that activities in investment sphere development also differ by branches of the economy. 45.9% of all investments go to the oil sector. However, extraction branches are developing but do not provide essential increases in employment.

Section Conclusion

The structure of GDP and industry has changed during recent years. The high rates of national economy development in recent years were due, basically, to essential growth of industrial production, especially in the oil-and-gas sector given favorable external factors, in such regions as Atyrau, West-Kazakhstan, Manguistau areas, and spheres of services in the cities of Astana and Almaty.

The following problems exist. First, the deformation of the economy structure and orientation of exports toward raw materials are the main challenges to steady economic growth, and have generated a new problem. Second, there is economic overheating. There are places where nominal rates exceed the real growth. For example during the first six months of this year rate, the nominal growth of total GDP reached 31.4 %, a figure about 3.4 times more than the real rate of 9.3%. By contrast, in 2001-2002 the nominal rate of GDP growth rose by 1.6 times in real terms. The appearance of "Dutch disease" may increase the inequality and distribution of poverty in the country. Moreover, the oil sector is not a good source of job creation.

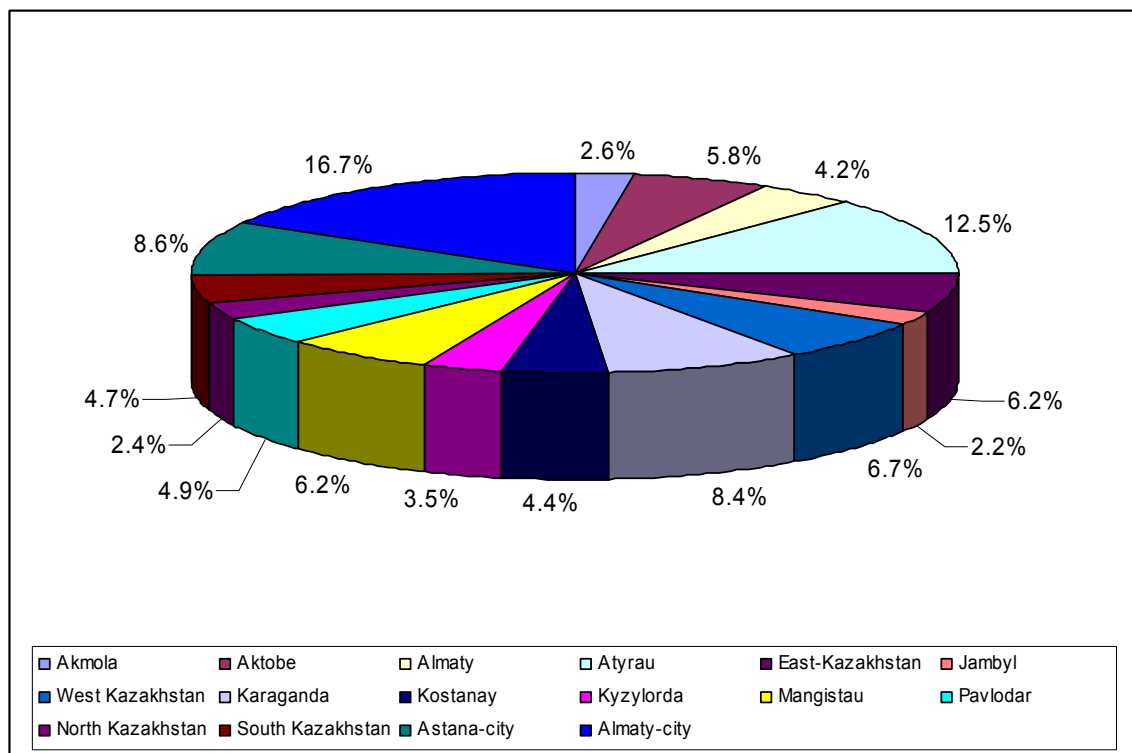
It is very important to overcome the raw materials orientation of economic development. To do this, the following recommendations should be followed. Rich natural resources can promote development, but cannot provide necessary growth. Moreover, they will place the country into a situation of high dependence on the situation of the world

markets of oil, metals, ores, etc. The choice of "locomotive branches" was justified only when the country was in a deep economic crisis, and the support and development of separate leading branches could provide support for other branches of the economy. Today, that necessity has disappeared, and any branch can develop successfully, so that people can work in private business and develop it in any sphere and any branch. Under such conditions, the state should create equal conditions for all branches and provide a competitive environment for them.

IV. REGIONAL DEVELOPMENT

Kazakhstan's regions have different specializations, leading to significant differences in the parameters of their economic potential, levels of economic development, GDP, and incomes of their populations. Those indicators are very different for the northern industrially developed regions and the southern agricultural regions; big cities, small towns, rural areas, and depressed regions. The years of reforms amplified these inter-regional disproportions and many small and medium towns and agrarian areas have fallen into decay.

Figure 9. GDP Structure, %



Examining the GDP structure in 2005, regions can be distributed into three groups. The first unites the regions constituting over 10% of GRP and includes Almaty City (16.7%) and Atyrau Oblast (12.5%). The second group includes regions that have a greater than 5% share of GDP. The eight regions whose share of total regional product is no more than 5% constitute the third group.

From the table below, it is clear that the agrarian sector plays a significant role in the economy of North Kazakhstan (36.1%), Akmola (28.8%), Almaty (23.2%), Kostanay (22.9%), Jambyl (18.9%) oblasts. In number of industrially developed regions are include Mangistau (68.5%), Aktobe (51.5%), Kyzylorda (51.1%), Karaganda (49.4%), Atyrau (45.3%) and Pavlodar (44.7%) oblasts. The volume of building work has exceeded a republican level in Astana-city (26.2 %), Atyrau oblast (11.5%), Almaty-city (11%) and West-Kazakhstan (8.6%).

Table 2. GDP Structure by Region

Region	Total	Agriculture	Industry	Building	Trade	Transport and communication	Other
Aqmola	100	28.8	20.4	1.8	10.5	14.2	24.3
Aqtobe	100	4.4	51.5	7.6	9.7	11.3	15.5
Almaty	100	23.2	26.6	11.0	9.4	13.9	15.9
Atyrau	100	1.1	45.3	11.5	2.6	7.8	31.7
East-Kazakhstan	100	11.2	32.6	4.4	18.2	12.2	21.4
Zhambyl	100	18.9	21.5	5.8	9.9	14.7	29.2
West-Kazakhstan	100	3.2	43.5	8.6	7.1	8.2	29.4
Quaraghandy	100	3.9	49.4	2.8	16.7	11.4	15.8
Qostanay	100	22.9	28.0	2.0	15.9	17.5	13.7
Qyzylorda	100	4.5	51.1	5.6	5.2	9.3	24.3
Manggystau	100	0.4	68.5	6.7	2.4	5.5	16.5
Pavlodar	100	6.8	44.7	3.1	9.0	23.1	13.3
North-Kazakhstan	100	36.1	11.8	2.7	19.6	11.0	18.8
South-Kazakhstan	100	17.6	24.4	5.0	10.1	13.9	29.0
Astana-city	100	0.6	4.5	26.2	19.6	18.7	30.4
Almaty-city	100	0.2	9.0	6.8	28.0	15.0	41.0

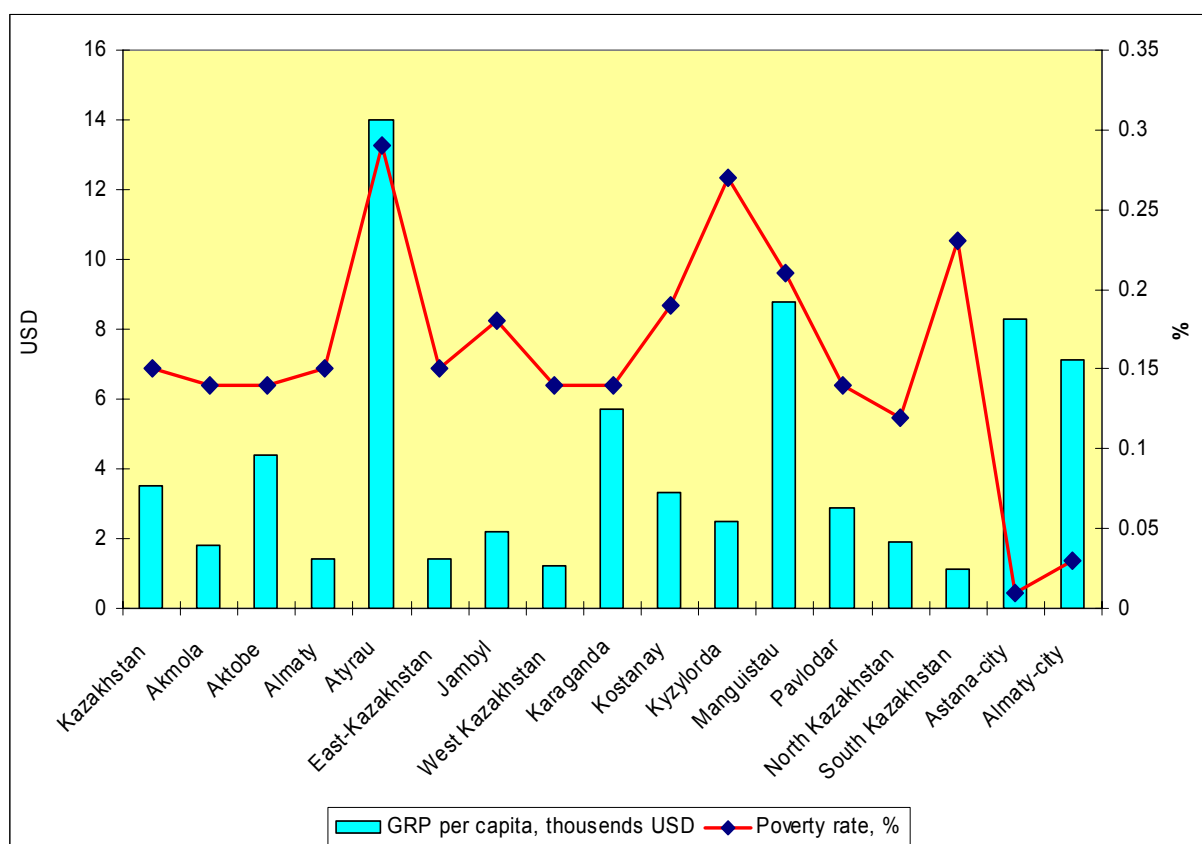
The cumulative share of services, including trade, transport, communication, formation, public health services and other branches of the economy that provide services to the population, for the country as a whole is 52.2%. The share of services is even higher in the cities of Almay (84%) and Astana (68.7%).

Regional economic development is directly connected to social indicators and influences the population's living standards. In 2005, the total regional product per capita was 4,484,000 tenge, with the highest volume being observed in Atyrau (1,814,800 tenge) and Manguistau (1,150,800 tenge) and the cities of Astana (1,079,100 tenge) and Almaty (924,200 tenge). The socioeconomic development of the regions of Kazakhstan is unequal.

A. Geography of poverty in the regions of Kazakhstan

The poverty rate also varies among different regions. As can be seen from the figure below, high poverty levels can be seen in economically less developed agriculture areas: the provinces of Qyzylorda, Zhambyl, Almay, and South Kazakhstan. But at the same time, provinces with high levels of per capita GRP (Atyrau and Mangghystau, where the basic share of GRP is formed by oil production incomes) have the highest poverty levels.

Figure 10. GRP Per Capita, and Poverty Rate by Province



In describing the level and quality of life, attention must be paid not only to differences between regions, but also inside of them. Thus, in Mangghystau province, where 21% of the population is poor, mainly in rural areas, the wage gap between the highest level in the oil-extracting industry and the lowest in agriculture is 18 times, and is nine times between the oil-extracting region of Zhylyojskiy and rural Mahambetskiy of Atyrau Province. The level of monetary outlays shows significant regional differences as well. The monetary outlay size in the cities of Astana and Almaty in 2005, as well as in recent years, was largest among the regions of the republic and exceeded the average level by 2.2 and 1.5 times. The territories with the lowest outlays were South Kazakhstan, Zhambyl and Kyzylorda, where the ratio of money outlays to the average national level was 67.2%, 71.2% and 74.8% respectively. The situation is affected by differences in price level. For example, the cost of the minimal set of goods and services in the cities of Astana and Almaty is almost 1.5 times as much as in the "cheapest" regions.

The geographic distribution of foreign investments by Kazakhstan regions shows, that the greatest interest two regions have - West-Kazakhstan and Atyrau Provinces, where they are directed 58% and 27.7% accordingly. In other industrially developed provinces, as Kustanay, East Kazakhstan, Pavlodar volume of foreign investments is insignificant.

Table 3. Per Capita Monetary Outlays

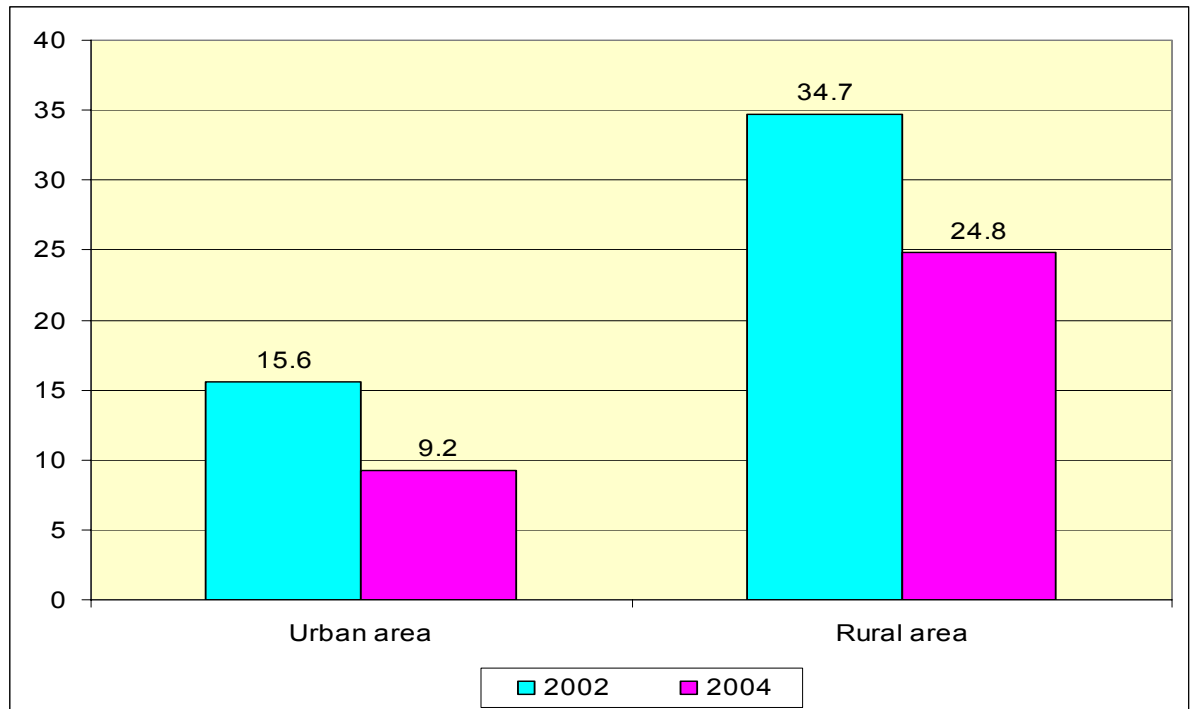
	In average per capita monthly, tenge					2005 in % to	
	2001	2002	2003	2004	2005	2004	Average republican level
Kazakhstan	4,918	5,671	6,674	7,500	8,800	117.3	100.0
Aqmola	5,117	5,650	6,770	7,409	8,623	116.4	98.0
Aqtobe	5,507	6,842	8,388	8,768	9,555	109.0	108.6
Almaty	3,620	4,279	5,418	6,726	7,882	117.2	89.6
Atyrau	5,022	6,289	6,620	7,498	8,688	115.9	98.7
East-Kazakhstan	5,480	6,174	6,835	7,824	9,432	120.6	107.2
Zhambyl	2,882	3,653	4,370	5,673	6,262	110.4	71.2
West-Kazakhstan	4,309	5,122	6,626	7,374	7,924	107.5	90.0
Qaraghandy	5,709	6,897	7,713	8,612	10,442	121.2	118.7
Qostanay	4,756	5,295	5,916	6,499	7,789	119.8	88.5
Qyzylorda	3,453	3,934	5,137	5,353	6,581	122.9	74.8
Mangghystau	5,971	7,175	8,026	9,485	12,175	128.4	138.4
Pavlodar	5,624	5,387	6,985	7,988	9,918	124.2	112.7
North-Kazakhstan	5,629	5,552	6,440	6,841	8,285	121.1	94.1
South-Kazakhstan	3,092	3,640	4,339	5,018	5,918	117.9	67.2
Astana-city	10,669	12,706	14,963	15,973	19,412	121.5	220.6
Almaty-city	8,861	10,271	11,439	11,993	13,361	111.4	151.8

In June 2006, the highest wages were in Mangghystau Province—74,755 tenge (1.9 times the national average), and Atyrau Province—71,946 tenge (1.8 times the average). The figures were below the national average in twelve areas. In Aqmola Province, it was 27,495 tenge, in Zhambyl 27,376 tenge, and in North-Kazakhstan 27,207 tenge, 32% below the average.

B. Different aspects of urban and rural poverty

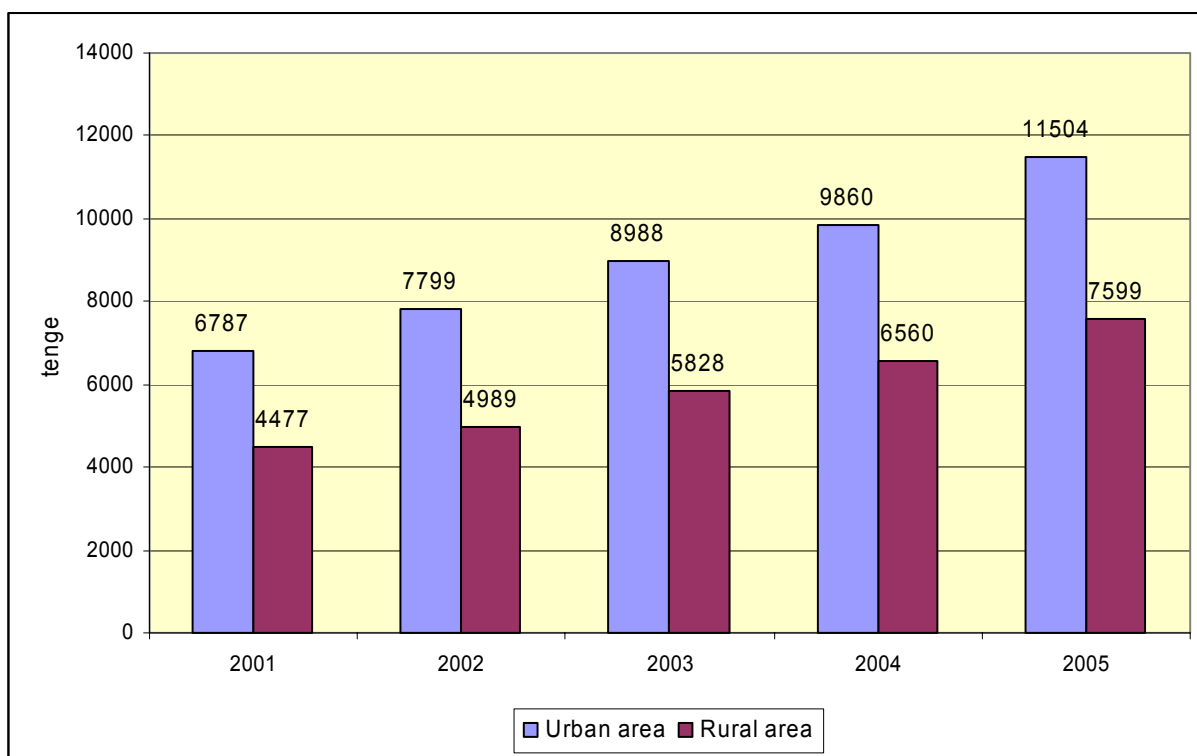
A significant reduction in agricultural production, coupled with a three-fold lag in agricultural production prices, led to a five-fold reduction of added value in agriculture, resulting in a decrease in living standards and an increase of poverty in rural area.

Figure 11. The Poverty Rate in Rural and Urban Areas



The poverty level in the countryside greatly exceeds the same indicator in towns, and its reduction has been slower. In 2005, like in recent years, the income used for consumption of city dwellers was 1.5 times that of villagers.

Figure 12. Income Used for Consumption (per capita, monthly, tenge)



In all regions, the poverty rate is higher in rural areas. The cause is the lower possibility for gaining income and the low productivity of agricultural production. For example, in Mangghystau Province in 2003, three out of five people were poor in rural areas, versus only one from five in urban areas.

C. Section Conclusion

During the years of reforms, the contribution of regions to the national economy has changed considerably. The poverty level remains much higher in the countryside than in cities, and the reduction has been slower. However, GDP growth has not yet led to high living standards. Much depends on the distribution and redistribution of the incomes that have been created. In addition, greater incomes in the oil extraction branch deform the poverty picture.

The following problems can be cited: The raw materials orientation of the economy of separate regions, narrowness in their developments; Large regional differences in economic and social indices; Insufficient budget for financing social programs and investments in regions.

The following recommendations can be made. In order to overcome poverty, a specifically developed complex strategy is needed to close the income gaps between social groups and regions in accordance with local conditions. Overcome the raw materials-oriented development of several regions.

Cluster Development

For Kazakhstan, overcoming this one-sided development is a very important. To this effect, a strategy of industrially-innovative development aiming for the creation of a competitive economy on the basis of the diversification of the national economy and an exit from a raw materials-oriented development was elaborated in 2003.

As a whole, Kazakhstan's development strategy aims for the development of a balanced competitive national economy rich in raw materials, in view of dynamic growth in non-primary industries.⁸

Based on an understanding of the gravity of the problem, the Kazakhstan management has developed an appropriate economic strategy.

One of the factors promoting economic efficiency in recent years was the definition of cluster development.

The term "cluster" is not really a new concept among the post-Soviet countries, but as development practice shows, a country reaches success not in a separate branch, but in a group of interconnected branches or economic sectors on the basis of a cluster mechanism, which in turn provides significant economic benefits.

Production within clusters represents the process of production from raw materials up to end products. Clusters are based on the premise of unifying within themselves all participants, related and supporting branches, and also sets of other attendant institutions.

In principle, all branches of Kazakhstan's economy can be competitive.

Last year, seven branches of the Kazakhstan economy have been defined as the most prepared for cluster development. They have potential both in the domestic and external markets. They are: Tourism, Food processing, Oil-and-gas mechanical engineering, Textiles, Transportation services, Metallurgy, and Manufacture of building materials.

The social effects of cluster development can be seen from the example of activities in the building cluster.

The efficiency of a cluster can be seen from the example of the building cluster. In addition to building housing, demand for labor was increased, not only in building but in the building material industry as a whole and in attendant services (financing, insurance, rental, etc.)

During 2005, 2,041,000 square meters of housing were built, and 183,000 square meters of communal housing were built.

⁸ Strategy of Industrial-Innovative Development of the Republic up to 2030.

During 2003-2005, Employment in the branch rose by 117,000 workplaces, and the number of small enterprises double, and number of workers rose by 140,000.

Multiplicative effects

- In 2005, production of building materials rose by 25% to 2004.
- Modernization of three cement plants:
- Production rose to 40 million tons
- Number of jobs rose by 140,000.
- Investment in the branch is US\$153 million.
- Development of attendant services (financing, insurance, rental, etc)

The long-term priorities for sustainable economic development are: Manufacture of high-quality goods with high technological level; Increase exports of goods and services due to ready production, not raw materials; The development of export tourism, which will become an important source of investment opportunities, and promote employment and the living standards of the population.

This strategy certainly requires the creation of favorable conditions—the creation and development by the state of corresponding modern industrial and social infrastructure, creation of a modern and effective system of development for science, education, and professional qualification, and the development of small and medium business.

However, some problems have appeared to hamper the attainment of these goals. First, there is insufficient, inadequate, and poor infrastructure development in depressed and rural zones, leading to the persistence of poverty. Second, there is growing infrastructure demand for economic development and poverty reduction. And finally, infrastructure services must be developed to a new qualitative level.

V. INFRASTRUCTURE ASPECTS OF POVERTY

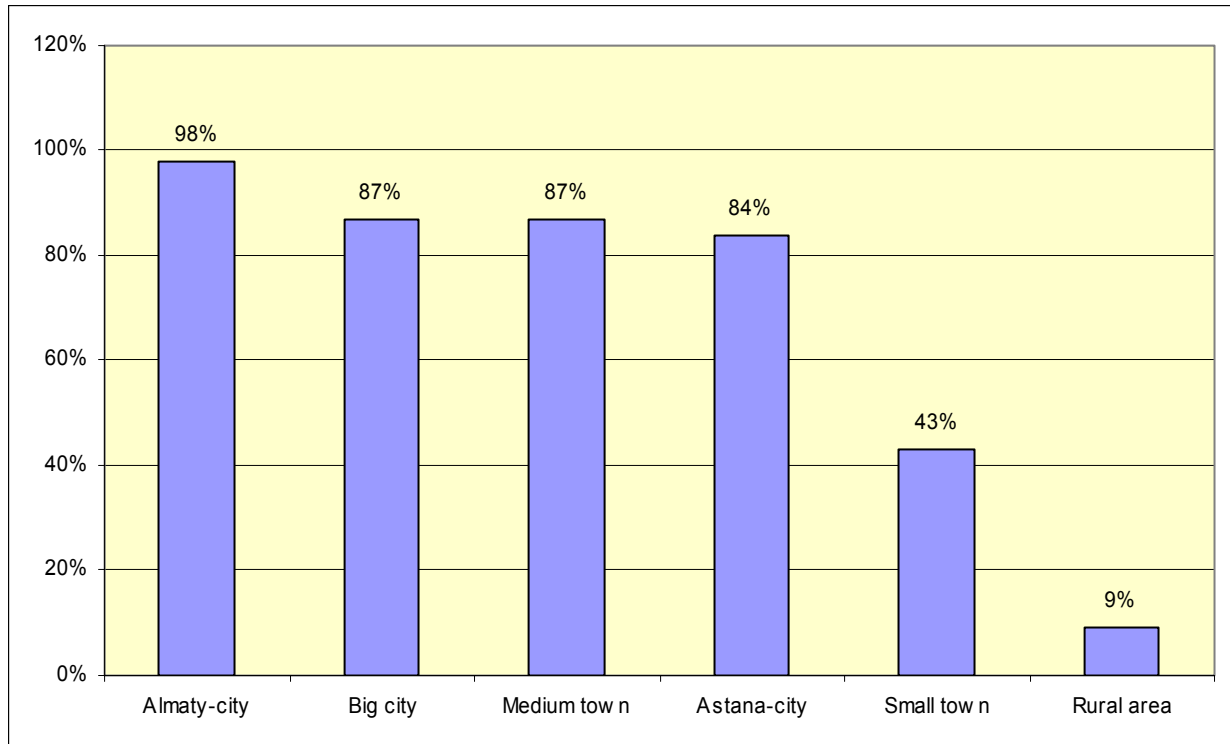
Not only does economic growth have an impact on the development of social and physical infrastructure, but also a country's economic development and the welfare of its citizens depend in large part on the level of infrastructure services.

The level of infrastructure development—stable electricity, gas, water, and heat supply—is important for the living conditions of the population and for business activities, and creates favorable conditions for the activities of the population. Infrastructure, which is also roads, buildings, good potable water that reduces the quantity of illness, ecological improvement, telephones, computer development, better communication between the countryside and cities, and access to hospitals, helps to reduce poverty.

A. Water

Approximately 74% of all households in Kazakhstan have access to a centralized water supply. As shown by the Sandzh Agency survey, access to water supply depends upon the type of settlement, the area (urban or rural), and the type of house.

Figure 13. Access to Water and Sanitation Services by Type of Settlement⁹

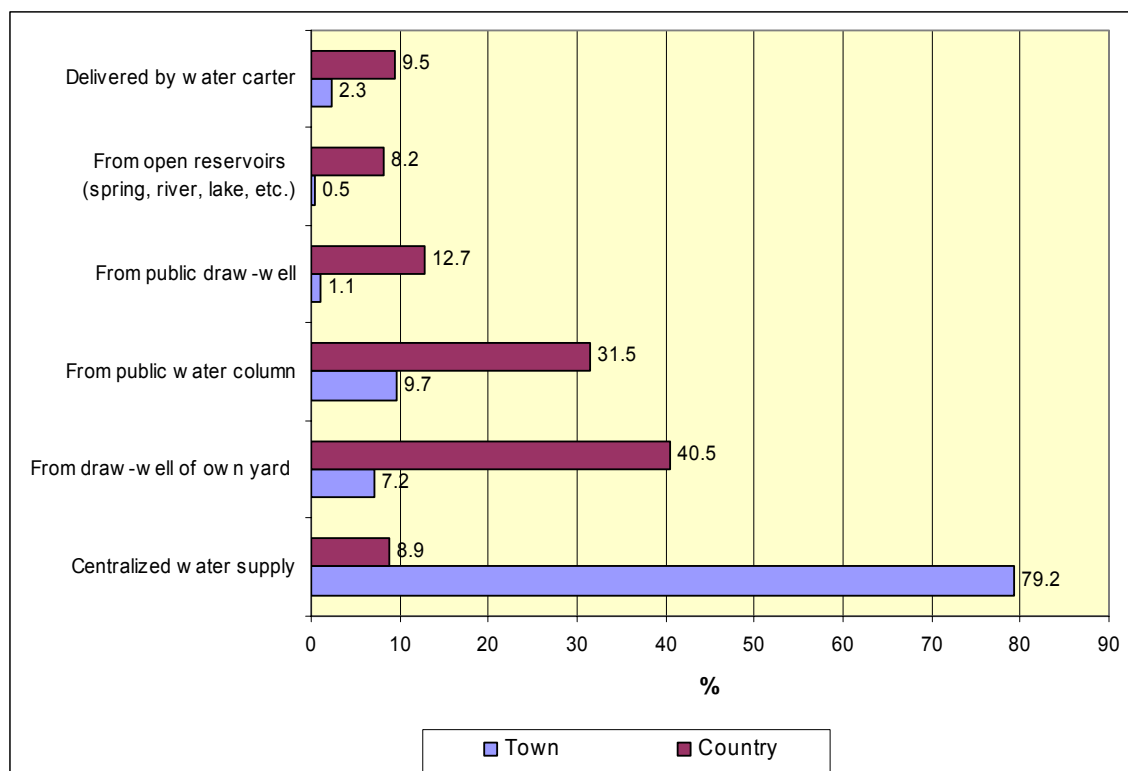


In the cities, the water supply situation is satisfactory in comparison with small towns and rural areas. In Almaty City, 98% of households have access to centralized potable water, whereas for Almaty Province the indicator is 30%, and in rural area the average is only 9%. In urban areas, 90% of high-rise buildings have a centralized water supply, whereas for small “private” houses the figure is only 17%.

About 50% of the population uses the potable water that does not meet specifications for mineralization and rigidity, and 3.9% of potable water does not meet the standards for bacteriological parameters.

⁹ Sandzh Agency Survey, 2003.

Figure 14. Types of Provision of Water



The provision of potable water is a vital necessity for rural settlements. Water pipes provide potable water to 22.7% of settlements, while 31.5 % receive water from street columns, 44.8% from wells, 8.2% from open reservoirs, and 9.5 % from imported water. According to the State Agency, in recent years the provision of water to villagers from water supply systems has grown by 2.8%, and from columns has risen 3.3%. However, the consumption of potable water from open reservoirs and imported water still remain at its former level.

Under these conditions, the situation facing poor families is serious, not only because of a lack of money income, but also because of their situation in regions where there are no centralized water supply systems or where the water provided is not of adequate quality water. Poor people who lack access to a centralized water supply are forced to buy water at water carters or to fetch from open springs and waste time and money storing and boiling the water.

Inadequate access to water is a basic indicator of poverty. In terms of the provision of water, Kazakhstan ranks at the bottom of the Central Asian countries. For many regions of Kazakhstan, providing pure potable water is very difficult. The lack of underground water and limited number of open sources of drinking water in many areas are deterrents to livelihoods and economic development in rural areas and company towns.

The lack of pure potable water and water resources for irrigation is characteristic of Kazakhstan. In the southern regions, the absence of water leads to inefficient land use. The increasing pollution of underground water has led to a loss of drinking value of springs.

The frequent failure of networks and pump stations leads to the spread of infectious diseases (in Atyrau there are 20-25 outbreaks every month). Water is polluted physically, chemically, and biologically by enterprises and by the communal services of cities, etc.

Many diseases are to no small degree caused by the deterioration of drinking water condition. The reduction of river water flowing from the territory of adjacent states, and reductions in river volume caused by climate change represent real challenges for steady social and economic development and the environmental security of the republic in the long term.

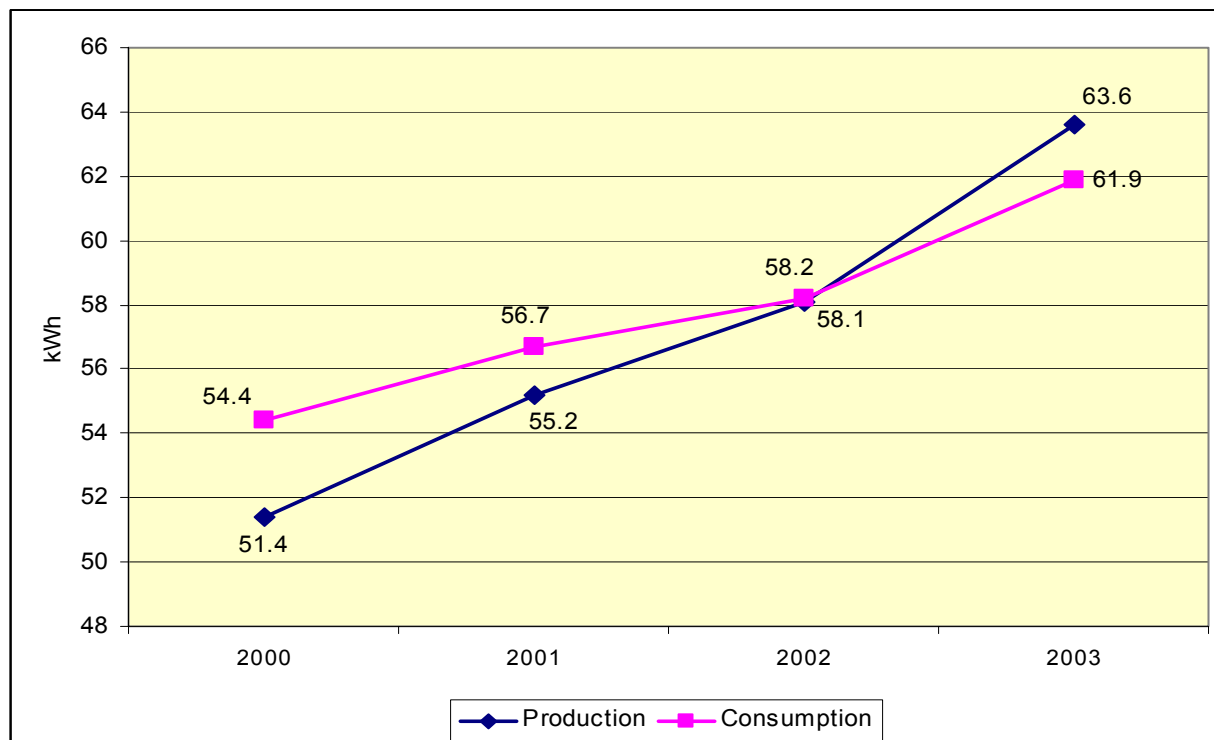
The following recommendations can be made. In the branch program "Potable Water" for 2002-2010, the basic priorities for the use of water resources are providing the population with good quality potable water. It is premised on carrying out complex repairs and regeneration of existing systems of water supply of different cities and regions, along with many other things.

The effective water delivery in conditions of limited distribution of water resources assumes, first, a transition to intensive methods of use. In addition, the following should be carried out: Development of an integrated approach to water resource use; Balanced development and distribution of manufacturing enterprises in the republic's territories, based on available water resources; Realization of a water conservation policy through the accelerated introduction of rational and economical use of water resources, and the improvement of economic attitudes to water use; Wider use for drinking purposes of underground waters located in immediate proximity to consumer, considerably reducing operational expenses; Speeding up work on the desalination of mineralized underground waters; Construction of a water pipes factory; Development of local water supply systems to promote the rational use of water resources in the countryside.

B. Electro-Energy and Heating

Electro-energy production in Kazakhstan exceeds consumption.

Figure 15. Production and Consumption of Electro-energy¹⁰

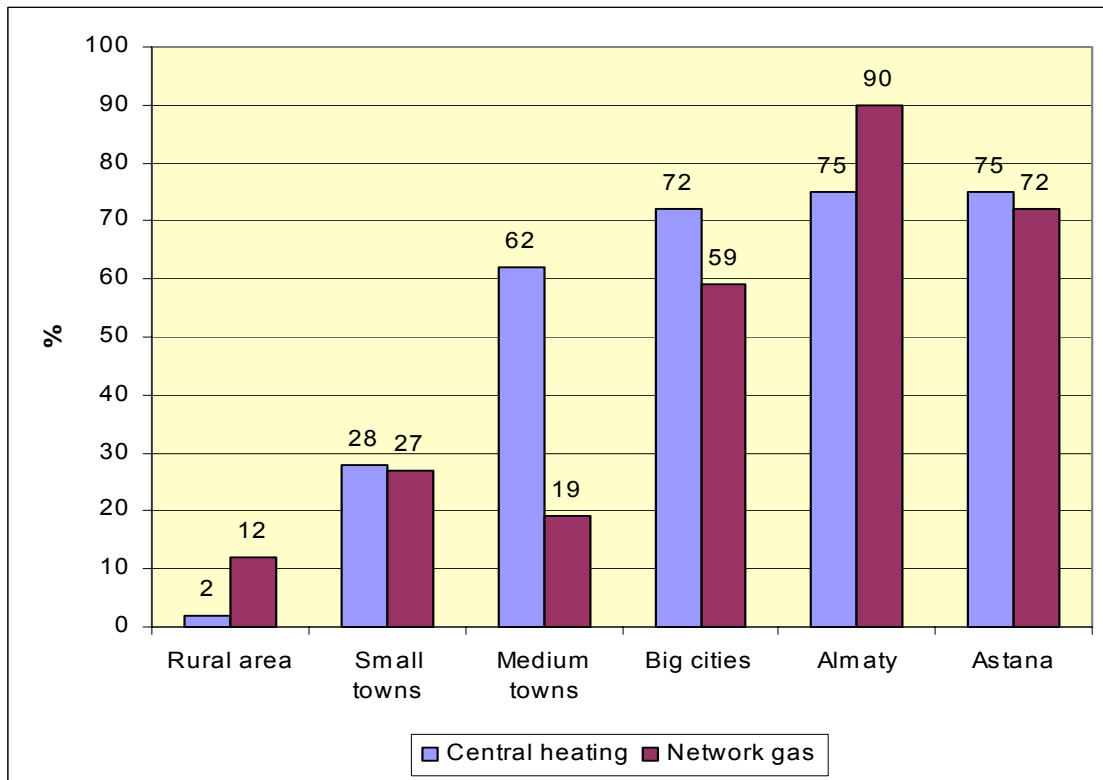


Kazakhstan's electric power industry is characterized by: A high concentration of energy production capacities - up to 4000 MWt at one power station; A high share of combined electric power and heat production; and An insufficient share of hydroelectric stations (about 12%) in the balance of electric capacity;

The ratio of households served with electricity is 99.9%. Among rural settlements, 96.7% are served by the central electrical supply and 1.5% by a local supplier. Compared with the previous year, the ratio of villages receiving central and local power in 2005 rose by 3.8% and 0.1%, respectively. The quality of service does not depend on social status. However, as shown by the Sandzh Agency survey, there are some differences in electricity provision between urban and rural areas caused by conditions of electric networks and physical deterioration of the equipment. Small "private" houses also have a lower level of service than high-rise houses, for the same reason.

¹⁰ Statistics Agency of Kazakhstan.

Figure 16. Provision of Heating¹¹



Most citizens are still using individual heating (99.4% versus only 1.5% using centralized heating). The number of rural settlements provided by natural gas for cooking from the centralized network increased by 1%, from 346 to 483.

The following problems exist. First, the main problem is the physical deterioration of fixed capital. In addition, there is a maldistribution throughout the territory of power production and volume of consumption; insufficiency of investments into power that limits modernization and the development of fixed capital; relative losses of electric energy during transportation that are inadequate for the transferred capacity according to the normative design of electric networks; and imperfect mechanisms for the regulation of the electric power market.

As a means to resolve these problems, the concept for the territorial development of Kazakhstan until 2015 is based on the following conditions for the development of electro generation capacities. In addition, the following recommendations can be made: Wider use of local fuel and energy resources; Construction of new and development of existing power stations; Development of sources of non-conventional energy; Construction of electrostations in regions with electricity shortages, such as Western and Southern Kazakhstan; Restoration and construction of small hydroelectric power stations: and Development of thermal power stations.

¹¹ Sandzh Agency Survey, 2003.

The following recommendations can be followed to increase the effectiveness of heating systems: Major overhaul and development of city heating systems; Renovations to allow households to independently adjust the volume of received heat; Appropriate supply of settlements by coal and firewood; and Grants on fuel for the poor.

C. Roads

The maintenance of good road conditions is very important, especially for rural areas. A good transport infrastructure creates new opportunities for development in all branches of the economy, increases the mobility of the population, promotes social and business activities, opens the way to new markets, and increases the export potential of industrial production. A road network promotes development of villages and auls (nomad villages). Initially, freight traffic for agricultural production uses local highways and roads. Serviceable road conditions make it possible to raise the incomes of the population in rural regions from agricultural and other activities. Access to transport services also promotes increases in the incomes of the rural population through access to non-agricultural employment.

In addition to the economic effect, there are social effects such as the creation of new workplaces, increases in living standard, and poverty reduction.

Kazakhstan has 65,034 km of roads: 59,880 km (92%) with hard (bituminous) covering, and 51,154 km (8%) with no covering. There are nearly 70,000 meters of bridges. Among them, 67% are in good condition and 29% in unsatisfactory condition, and 4% require emergency repairs.

The provision of bituminous roads to rural settlements has decreased from 2,078 to 1,950 (6.2%), road metal from 1,077 to 1,037 (3.7%), and unmetalled roads from 2,217 to 2,074 (6.5%) in rural settlements.

Transport communication in rural settlements has developed at an insufficient rate. Bus service is available only at 65.8% of the country's rural settlements, and railways 8.4%.

Looking at telecommunications, 75.1% of settlements have service by telephone, 63.1% by post, and 7.0% by radiotelephone communication. The number of villages with access to telecommunication has increased by 6.7% and radiotelephone communication by 0.9 %, but due to security issues, mail service has decreased by 2.4%.

Many problems exist. The poor condition of roads and breakdown of bridges has led to damage and a loss of production at transportation (6-8% by weight of vegetables, milk, live weight of cattle), as well to destruction of crops along the broken roads. The poor condition leads to a decrease in the average speed of movement to 15-20 km per hour, which increases transportation costs by 20-30%. There are also the backwardness of transport communications and the absence of outputs to foreign markets. The poor road conditions reduce the serviceable life of cars by 35-40%, increasing their cost of operation by 2.5-3 times. The poor conditions of local roads impede the development of tourism, especially in mountain areas where access is difficult.

There is a social aspect to the problem. Because of impassability of roads, there are high unproductive expenses in terms of time for inhabitants of rural areas to receive socially guaranteed minimum services at place. The difficulty of social and cultural

communications for people in remote settlements is one of the reasons for the outflow of population, especially of youth.

Recommendations are as follows. First, we recommend investments into transport infrastructure. Functioning roads should be restored and renewed. The investments will return to the budget in the form of tax revenues that will exceed the state funds that were originally spent. According to ERI calculations, maintenance and repair on the 43,360 kms of local roads will require US\$2,168 million during 2006-2015.¹² International experience shows that the repair of roads is half the price of construction. In addition, we recommend attracting private investors. International experience shows that it is best to conduct periodic repairs of roads, charging private enterprises on a contractual basis in combination with partial allocations from the budget or deliveries of building materials by the state. A survey carried out in 42 developing countries shows that where road services and repairs have been charged to local bodies, the conditions are much better.

Conclusion Regarding Roads

Poverty is geographically concentrated in remote rural areas, small economically depressed towns, and areas that face ecological disaster. Statistics shows that even if growth occurs in the whole republic, the situation in some remote rural areas, small depressed towns and areas facing ecological disaster is still complicated. Many of these areas experience huge difficulties providing their populations and enterprises with important life-support resources such as water, fuel, and electric power. During the years of reforms, many of those areas were designated as depressed and especially depressed.

Looking at company towns, small and medium sized towns have been formed, mainly based around mining enterprises, and as a rule they are located in desert and semidesert zones. Their remoteness from major industrial centers and markets, along with their severe climatic conditions, are the main reason for the difficulty they face in acquiring vital resources.

At present, the situation in most small towns can be characterized as follows: the main enterprises have ceased operations or gone into long production slumps; investment activity has been low; and economic diversification has been weak in the absence or near absence of other spheres of work, and infrastructure has fallen into decay. Small towns with growing populations of elderly people are characterized by empty residential and industrial buildings and a stagnant economic situation.

Under a program for the maintenance of company towns during the past five years, a tendency toward improvement of the situation in small town infrastructure has been seen. At the same time, individual towns experience difficulties with the maintenance of roads, water pipes, water-purifying facilities, and electric mains.

Falling production and the end of state subsidies led to the destruction of infrastructure, social enterprises, and communications in rural areas. The level of social and infrastructure development is quite different between urban and rural areas, and the gap in living standards has widened in recent years.

¹² Development of Productive Forces of Kazakhstan up to 2015. Economic Research Institute.

For rural settlements, the availability and development of life-support system, the provision of the population with various goods and services, and the rendering of medical services, etc., is affected by their remoteness from administrative centers and railway stations.

According to the Statistics Agency of Kazakhstan, between 2004 and 2005, the number of rural settlements consisting of 50 persons decreased from 915 to 661, and the number with populations from 1,000 to 5,000 persons grew from 1,681 up to 1,694.

Among 5,009 rural settlements 70.7% are up to 20 km away from district centers, and 26% are from 20 to 60 km away. The number of settlements located more than 60 km away from district centers fell from 219 to 164. Nationwide, 39.9% of rural settlements are over 60 km away from the nearest railway station.¹³

Looking at areas of ecological disaster, the Aral and Semipalatink region have been declared to be areas of ecological disaster, where natural ecological systems have been disturbed, and the health of the population has deteriorated.

As one reason, due to irrational water use for cotton cultivation, the surface of the Aral Sea has shrunken to one third of what it once was. This disaster resulted in such problems as a high level of unemployment and poverty and a rise in diseases and migration, and this has had a tremendous negative impact on the economy and environment of the region as a whole. Very serious for the environment and health of the population are the consequences of nuclear tests, development of uranium mining, etc.

The development of natural resources has led to a critical situation for the ecological system as whole. In particular, the pollution level in the region of the Caspian Sea exceeds the norm by 11 times.

As a recommendation for resolving that problem, it is necessary to review ecological laws, and revise rules, norms, and penalties for violators.

The principal cause of the unsatisfactory condition of infrastructure in those areas is the absence of adequate means for its maintenance and development. As a result of the transfer of facilities of local infrastructure and the social sphere from enterprises to local public budgets, the amount of funds allocated by enterprises for their support has fallen considerably.

As recommendations, investment into infrastructure is very important especially in view of realizing the new policy. The fruits will return to the budget in the form of tax revenues that will exceed the original expenditures by the state. The social effect is the creation of new workplaces, increasing living standards for the population, and poverty reduction

D. Social Infrastructure

Economic growth is impossible without the development of human and intellectual potential, which form the basic resource of the society. At the same time, it itself represents the means for human development. Thus, investments into human

¹³ Statistics Agency of Kazakhstan.

development represent the unconditional priority of social politics for all countries, and especially for developing ones.

Table 4. Human Capital Development Indices¹⁴

Country by human capital indices	HDI rank		Life expectancy index	Education index	GDP index
	1990	2003			
High			0.87	0.95	0.91
Medium			0.70	0.74	0.62
Kazakhstan	54	76	0.68	0.96	0.70
Turkmenistan	66	87	0.69	0.91	0.63
Uzbekistan	80	101	0.74	0.91	0.53
Kyrgyzstan	83	102	0.72	0.92	0.55
Tajikistan	88	113	0.72	0.90	0.41
Low			0.41	0.50	0.41

In terms of human capital development indices, Kazakhstan now ranks 76th place among 175 countries of the world, having fallen from 54 in 1990. However, it is ahead of the other countries of Central Asia, and has a medium level of development of human potential.

The following recommendations can be made. First, measures directed to the improvement of poor living conditions should be closely coordinated. Second, economic growth creates good favorable conditions for the realization of an active social policy.

E. Health Care

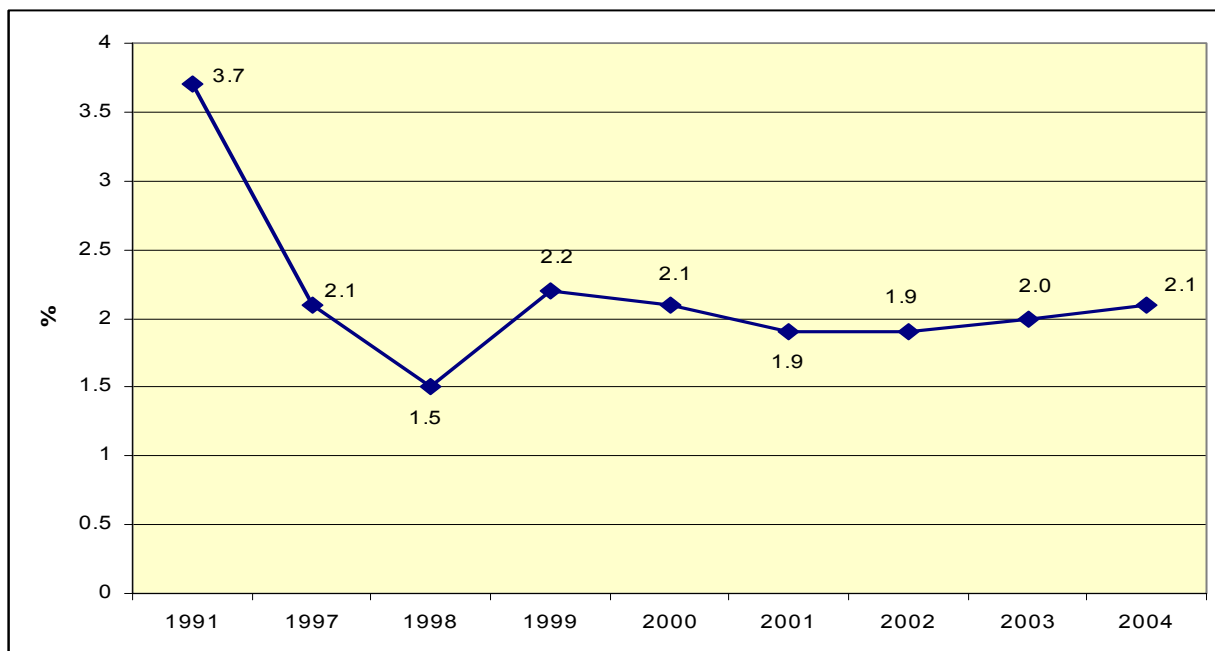
With regard to social health, the wellbeing of society as a whole should be judged on the basis of the physical health of the population. The state of health of the nation is reflected in the standard of living and efficiency and productivity.

Eighty percent of medical institutions in Kazakhstan are under state ownership. For this reason, the state plays an important role in questions of health care development. The share of private medicine is higher in specific sectors (for example, 70% of stomatology clinics are private), but in general, public health services are under the control of national and municipal public bodies.

One significant factor behind the persistence of poverty is the low access to basic social services, in particular, public health services. Today the size of public health financing does not match the free-of-charge medical services guaranteed by the state.

¹⁴ UNDP Human Development Report, 2005.

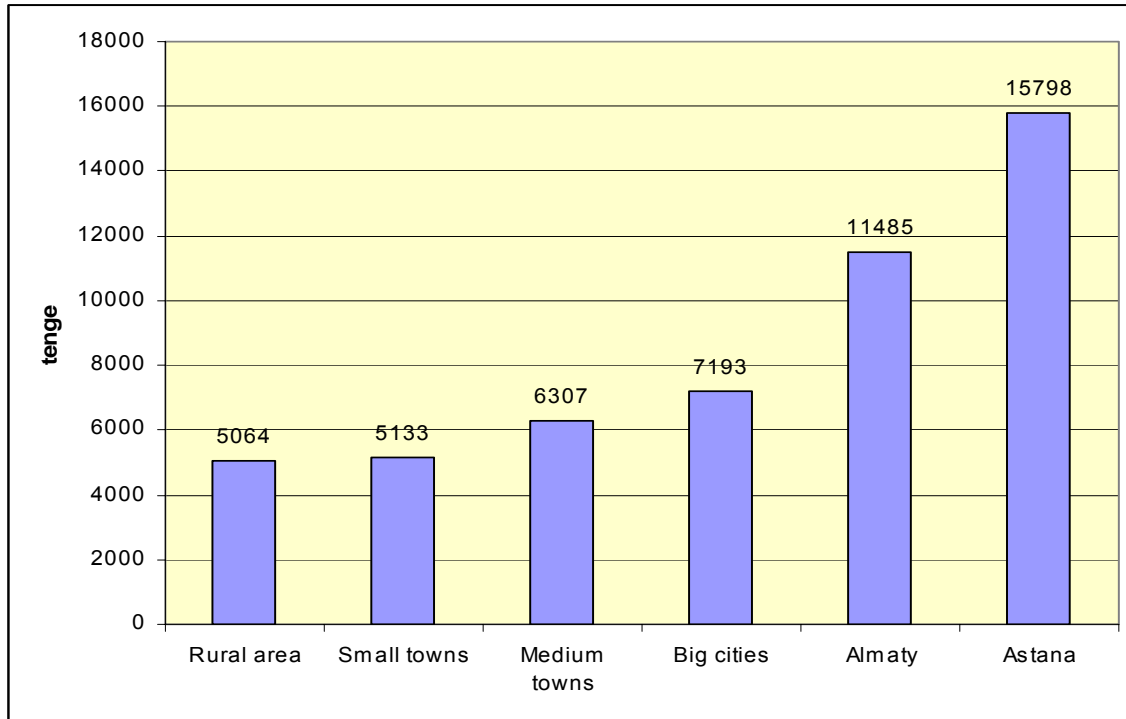
Figure 17. Expenditures from the State Budget for Public Health



The problem is that the state guarantees free medical care, but does not have adequate means to finance it.

The development of private sector health services and the levying of some fees in public polyclinics have led to a sharp reduction in the volume of free medical services for many categories of population. As result, medical services have become inaccessible for many people. This factor is in addition to the low quality of health services.

Figure 18. Health Care Expenditures



This has resulted in an increase in the disease level, especially among children and teenagers, a high death rate, and low life expectancy. Last years was registered high level of tuberculosis and drug addiction, leading to an increase of AIDS. By prevalence Kazakhstan is situated in 4th place among the CIS countries, after Russia, Ukraine, and Belarus.

Today the situation of public health services in small towns is ambiguous both in terms of organization and medical plans. During the optimization of system of public health and budgetary cuts, the quantity of medical establishments and medical staffing decreased. In many cities, there was major outflow of medical personnel to private clinics. However, the expansion was basically due to the creation cosmetic and stomatology clinics.

A lack of qualified medical personnel, shortage of experts, poor conditions at polyclinics and hospitals, weak material infrastructure, obsolete diagnostic and medical equipment, and the lack of medical products represents the principal reasons for the dissatisfaction among the population regarding the guarantee of medical services. People frequently mention the inaccessibility of necessary medical preparations for chronic diseases, owing to their high price.

The state of health of the rural population varies in accordance with the remoteness of the place of residence from medical institutions, and is made worse by the high fees for medical services, insufficient number of highly skilled doctors at medical institutions, especially in specialties, long waiting lines, etc.

The total number of medical institutions in the countryside, according to an inspection, has grown by 3%, from 5,990 to 6,003. The number of beds has increased from 16,900

to 17,800 (5%), and the number of medical personnel from 25,600 to 26,200 (2.4%). However, the number of doctors in these establishments fell from 6,720 to 6,616 (1.6 %).

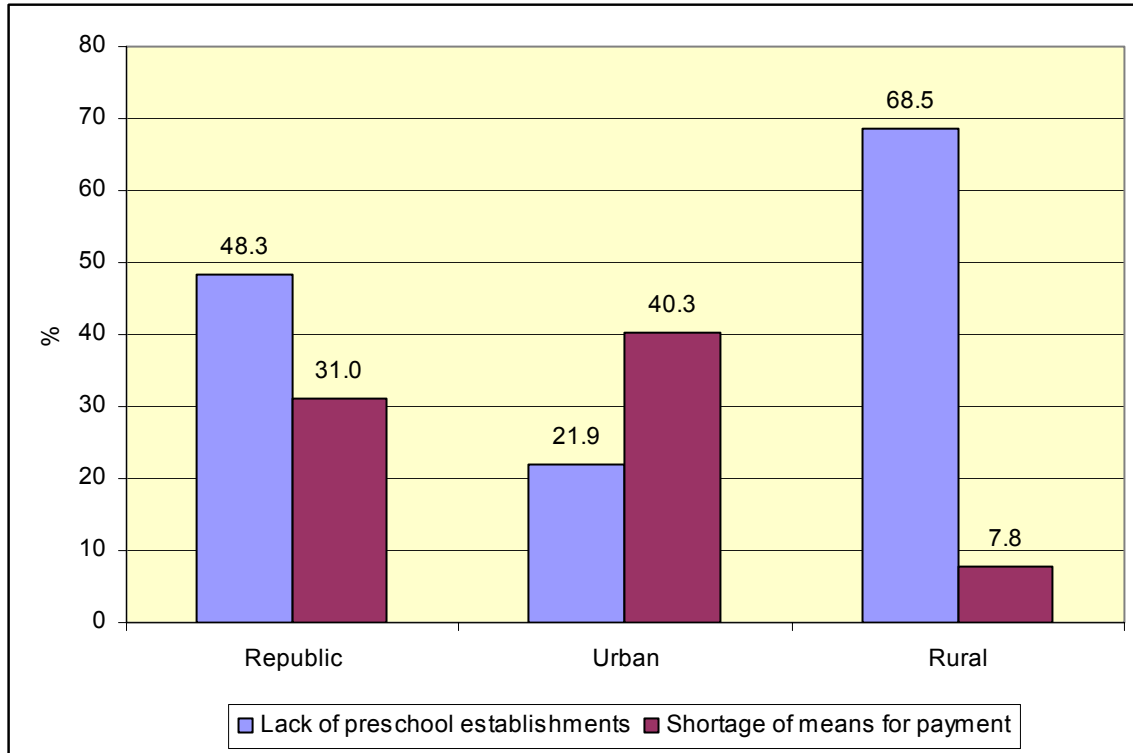
The following recommendations can be made. Protecting the health of citizens is a complex problem, and decisions depend not only on the development of networks of establishment of public health services, the quantity of medical workers and the level of their qualification, but also on such social problems as the level of availability of qualitative medical services to socially vulnerable groups. Particular attention must be paid to environmental problems. Health has an influence on such factors as lifestyles, behavior, and attitudes to life among the population. They define the quality of life and life expectancy, and have an effect on the demographic situation.

F. Education

Despite of all difficulties connected with the social and economic transformation, Kazakhstan has maintained a high level of public education, which is characterized by the following: A literacy level of almost 100%; Secondary education is free and obligatory; In practice, one out of every three inhabitants of Kazakhstan is receiving some form of education; Women of all ages and in all regions have higher levels of education than men; More than half of children receive advanced studies in different areas; All pupils in the countryside have easy access to schools; and The market for educational services is widening owing to the development of private universities, but they do not yet play a major role in the education system.

Problems do exist, however. There is a decoupling between primary education and preschool education. Approximately half of all children do not attend preschool establishments, due to the lack of such establishments near their homes. Another important problem is the tuition fees, which not all can afford. As a result, children with a lack of preparatory skills have difficulties in understanding the school program, and this has a negative influence on the quality of their further training.

Figure 19. Situation with Preschool Organizations



Conditions in the social sphere act as a barometer of the development of small towns. The decrease in the number of pupils in deteriorating cities testifies to the negative demographic effects of social problems, which lead to a decrease in the rates of growth of manpower in small cities.

A serious problem for small cities is of the cutback in the quantity of preschool establishments and the decrease in the availability of such services owing to the high tuition fees.

The changes in preschool establishments and comprehensive schools in rural territories have not been positive. In one county, the number of preschool establishments, which was 325, has decreased by 16, while the number of children attending them has increased by 1,275, and tutors by 236. In cities, 46.5% of children enrolling in primary school did not attend preschool establishments. In rural area the ratio is 77.1%.

VI. DEMAND FOR INFRASTRUCTURE AND SOCIAL SERVICES GENERATED BY ECONOMIC DEVELOPMENT

A. Social Infrastructure and New Labor Market Demand

The level of qualification of the population and labor market demand are not quite matched. The diversification of the economy and new information technologies require a new quality level. Several problems can be identified.

First, there is the low level of technical education. The training of experts who can promote technological progress and qualified workers has been very slow. Engineers and qualified workers adapt poorly to imported technologies and to new forms of organization of work and employment. Today, for example, foreign oil companies operating in Kazakhstan operate plants with new technologies, and in key workplaces bring in highly skilled foreign experts. In 2005 in the mining industry, there were 762 foreign experts, making up 19% of such experts in the country. In processing, the number is 230 persons, or 5.7%.

Second, Private universities produce experts in prestigious professions—lawyers, managers, and economists—without a consideration for labor market needs. As a result, there is an excess of economists and lawyers.

Finally, in Kazakhstan, the reorganization of the economy has been accompanied by a modification of models of education and general educational standards. As a result, in some cases there is a quantitative misbalance between graduates in various professions and their professional skills. For example, in 1998 higher educational institutions graduated 51,800 persons, and colleges 51,900. In 2004, these figures were 61,300 and 123,900. In 1998 the number of high school and college graduates was the same. In 2004 this ratio was 1:1.4. The structure of labor contingent can be judged according to the table.

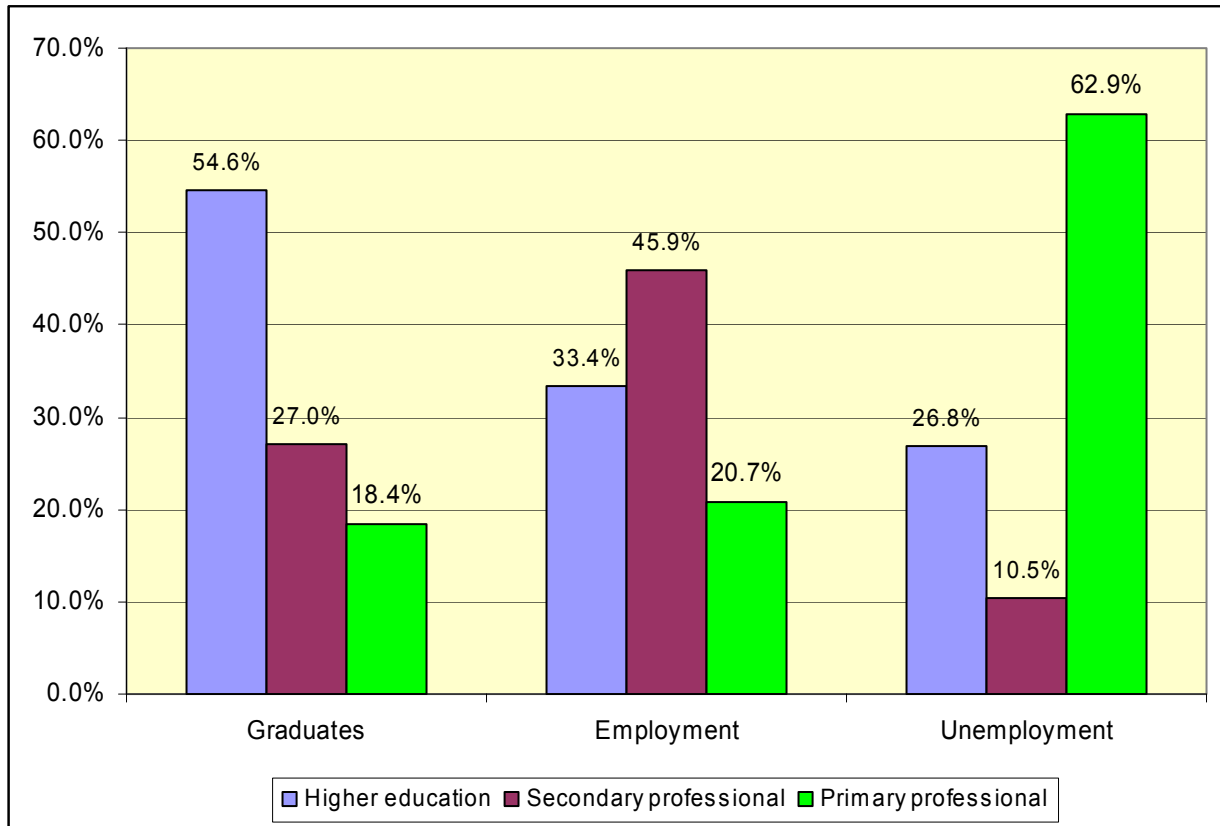
Table 5. Structure of Preparation and Employment of Experts¹⁵

Graduated				
Educational institution	2000/2001 school year		2004/2005 school year	
	1000 people	%	1000 people	%
Professional schools	36.0	24.9	41.6	18.4
Colleges	43.7	30.3	61.3	27.0
Universities	64.6	44.8	123.9	54.6
Total	144.3	100.0	226.8	100.0
Employment				
Education	2001		2004	
	1000 peoples	%	1000 peoples	%
Primary professional	504.8	14.6	900.5	20.7
Secondary professional (special)	1790.5	51.8	1991.3	45.9
Higher	1159.5	33.6	1452.0	33.4
Total	3454.8	100.0	4343.8	100.0
Unemployment				
Education	2001		2004	
	1000 people	%	1000 people	%
Primary professional	57.7	17.3	164.2	62.9
Secondary professional (special)	200.3	60.0	27.3	10.5
Higher	75.7	22.6	69.3	26.6
Total	333.7	100.0	260.8	100.0

¹⁵ Statistic Agency of Kazakhstan

The rapid growth of professional schools and universities graduates does not mean that the level of professional training corresponds to international standards and to the needs of the labor market. In 2000 the share of experts with higher education in the employment sphere was 33.6%; in 2004 this share had fallen to 33.4 %. Thus, the percentage of jobless experts has increased from 22.6 % to 26.6 %.

Figure 20. Structure of Preparation and Employment of Experts with Higher, Secondary and Primary Professional Education



An analysis of the situation in processing branches of the economy shows that in many, there are complexities involving the development of hi-tech plants. Already in some branches, such as mechanical engineering, metalworking and others, the need to upgrade fixed capital has collided with a sharp need for qualified experts which cannot yet be produced by the national labor market.

The problem of employment and staff quality will only increase with the forthcoming entrance in the WTO. WTO membership will widen prospects for access to the newest technologies, on the one hand but, will also require an opening of the labor market that will aggravate competition from foreign experts. Diversification requires that greater attention be given to the situation developing in the labor market.

The following recommendations can be made: A differentiated approach to decisions on problems involving youth, which are complex, based on coordinated measures to improve comprehensive schools, professional educational institutions, national

education, the mass media, public institutes and other social institutes; Reorganization of the process of professional training of skilled experts to make it meet world standards; Establishment of the correct ratio (correlation, parity) between graduate experts having higher, secondary, and primary professional education; Development of systems for the advanced training of experts in new techniques and technologies; Contracts for the preparation of experts between enterprises and educational institutions, along with the conclusion of contracts between young experts and business people; and Maintenance of youth business as a factor for effective employment creation.

Consideration must also be given to the fact that the scientific and technical potential that the country once had has clearly been exhausted or become obsolete, and the creation of new potential will take a long time. Powerful scientific and technical potential is necessary for the development of a high-level industrial infrastructure. Without it, the operation of and support for new imported technologies and means of production will be impossible.

Kazakhstan, as a small country with a "narrow" interior market, will only be able to reach a high level of economic development in the globalized and integrated world by promoting human development, meaning a high level of accumulation of human capital.

The main priorities of national development and national economic growth in forthcoming years should be the creation of knowledge, science, and human development. They must be financed today, because it takes 10-15 years for the results of scientific development to return.

B. Distribution of Manufacturing Production and Physical and Social Infrastructure, and Creation of New Workplaces

The following recommendations should be implemented. First, favorable conditions should be created for the development of enterprises through infrastructure improvement. Enterprises should be developed mainly in zones with the most favorable climatic conditions for the complex development of enterprises in various branches of industry, services, recreation and residence. In areas around large enterprises processing raw materials or engaged in the assembly of machines end equipment, numerous small and medium enterprises and infrastructure facilities should be located and developed, depending of a potential available in these zones. For example, in development on the Caspian Sea cost, leading enterprises specializing in oil extracting and refining should be surrounded by food-processing industry enterprises, and firms manufacturing complete articles, processing agricultural raw materials, and providing services, trade, tourism, techno-parks, etc.

There is also a need to carry out a policy of rational territorial concentration of economic and labor potential sufficient to activate regional economic potential. State investment should be made in the development of complexes of industrial infrastructure and industrial enterprises, especially in small and medium towns.

In addition, a migration policy should be developed that provides: A system of migratory streams with an orientation from regions with ecological problems and depressed economies to points of economic growth; and Development of special stimulus for the attraction of population to points of economic growth, small towns and rural settlements, by providing housing and grants for the indemnification of moving expenses.

C. New Quality of Infrastructure Services

There is a close relationship between not only the quality but also the quantity of infrastructure services, and economic growth.

For example tourism—one of the most dynamically developing economic branches, a generator of workplaces, and a sector where millions of people around the world are engaged—as a rule is created in the least developed regions, and promotes economic growth there.

Geographical features, developed transport networks, favorable natural conditions, the presence of nature sanctuaries, architecture, history and cultures, and therapeutic mud and mineral resources are all favorable conditions for the formation of a highly profitable tourist-recreational sphere. Kazakhstan has over 102 resort establishments and establishments which accept and serve tourists. Specifically, there are 90 sanatoria, boarding houses and rest houses, and children's health resorts, 12 bases for rest, and hotel facilities where up to 150,000 people receive services annually.

Kazakhstan has great opportunities in this sphere. Giving priority to the development of tourism is of great importance for the development of culture and strengthening international communications

However, the development of tourism requires improvements in infrastructure, such as new airports and roads. Tourism is premised on the development of hotel and restaurant businesses, as well as an infrastructure of cultural and educational establishments and public utilities. In many countries tourist industry development has included high-class hotels, special services using motor transport, translators and secretaries, modern communication, and computer maintenance. Thus, tourism represents a complex and versatile industry that operates as an integration of means of accommodation, food providers, carriers, show businesses, and various tourist enterprises.

The tourist business, as a rule, involves small and medium businesses.

The following problems exist: Absence of economic incentives and stimuli for the development of the tourist-recreational sphere or a favorable investment climate, including stimulating tax laws; Low, and in many cases unsatisfactory infrastructure level (transport infrastructure, communications, water supply, public catering, household services, etc.); Information and advertising for the tourist business does not meet world standards; Lack of highly skilled staff for the tourist-recreational industry; The sanitary-ecological situation in many tourist-recreational centers is strained despite demands for improvements and additional investments; and The population lacks preparation and skills for conducting tourist-oriented business.

The following recommendations can be made: Create conditions for the effective and rational development of natural, historical and cultural recreational resources; Provide for the effective utilization of infrastructure facilities through the reconstruction and modernization of operating facilities; Raise the quality and increase the variety of tourist services; Create a system for the training of qualified personnel for tourist-recreational and resort branches; Create favorable organizational, legal, and economic conditions to attract the private sector into the sphere of the tourist-recreational business; Strengthen international cooperation in the tourist and resort spheres; and Expand advertising and

information for the popularization of regional tourist-recreational zones in the domestic and world markets.

VII. INTERNATIONAL ASPECTS

This final section looks at differential aspects of regional cooperation in Central Asia and poverty reduction. The answers to many questions regarding sustainable country development will come from effective economic cooperation in the region.

International experience shows that the level of competitiveness of a national economy is defined by a degree of its integration with other economies. In addition, world practice during the last decades shows that the most successful and competitive countries are, as a rule, those that participate in large integrated structures. Closer integration with neighboring countries promotes the creation of a more attractive image of a region, and this in turn promotes investments into developing countries.

The urgency of economic integration in the Central Asian region can be seen from the deep interdependence and complementarities of the regional economies. In addition, they are very close in cultural and ethnic aspects. Initially, cooperation should be deepened in the following basic spheres: Economy and trade; Use of the natural resources of the region: Effective water use; Power resources use; Development of transport and communications; Construction of gas and oil pipelines; Ecological problems whose solution will be in the interest of all the countries of Central Asia; and Increase the efficiency of irrigated agriculture and introduction of modern agricultural technologies.

A. Economy and trade

Integration of trade is one of the most pressing questions for the Central Asian region in order to become competitive and become economically integrated. Since all of the region's countries are landlocked, they depend on one another in questions of access to the markets. The development of regional trade will allow countries to develop specializations in accordance with their own comparative advantages. For developing countries, trade attracts investments, provides access to modern technologies, and this influences economic growth and allows improvements in the sphere of human development.

B. Water

In Central Asia, water resources have always been considered the basis of the economy as well as the social processes development and the maintenance of favorable ecological conditions. Central Asian countries share common rivers. As a result, the problems of deficiencies of water resources, pollution, and degradation of fishing grounds are also shared. There are also major ecological and social problems connected with the drying up of the Aral Sea.

Kazakhstan is located downstream along the transboundary rivers, and experiences a reduction of rivers water from the territory of adjacent states and climatically induced reductions of river volume. Annual agreements on the use of water resources are signed between Central Asian countries, but they are not always respected.

C. Power

In spite of the fact that the Central Asia region is one of the world's richest in power resources, there are still deep problems with energy and the supply of heating and gas to settlements, even though measures have been taken. Solving those problems is very important. The development of the industrial sector in the countries in transition will require additional investments into energy.

D. Transportation

Kazakhstan is gaining importance as a country at a geographical crossroads in the middle of the Eurasian continent, with value as a bridge between the East and West as Kazakhstan represents a geographical crossroads. For the states of the region, there is an enormous need in particular for small ground transport. In addition, Central Asia possesses huge transportation potential, and its effective use will be an important factor for the formation of a global communication infrastructure for the region.

E. Integration

Integration has been promoted through the activities of such organizations as SCO (Shanghai Cooperation Organization) and EurAsEC (Euroasian Economic Community). Today, EurAsEC is the most active and effective structure in the entire post-Soviet area. International experience shows that the greatest effect is achieved by economic cooperation groupings with an aggregate population of 300-400 million persons.

In this context, the following initiatives are very important for Central Asian integration: Integration of the Organization of Central Asian Cooperation (OCAC) with EurAsEC; and Acceptance of Uzbekistan into EurAsEC. This is crucial of course, considering that Uzbekistan was the missing link which was necessary for the creation of a common transit territory from the East to West and from the South to North. Uzbekistan is also a key player in the distribution of water resources in the region. Quite naturally, its membership in EurAsEC will create a real opportunity for the creation and successful operation of a regional consortium of water-users.

The most important aim of EurAsEC is the creation of three joint consortiums:

Water-power consortium. The importance of interaction in this sphere is shown clearly by the shared rivers uniting all five countries of the Central Asian region. The rational use of water resources is also directly connected to the maintenance of the ecological security of this region, which now faces serious environmental problems. Among them are the high degree of impurity of water, degradation of soil and desertification, and a major water shortage. In addition to a number of social and economic problems facing the countries of Central Asia is the ecological disaster connected with the Aral Sea. All this demands a complex approach as well as joint efforts under the initiative of all adjacent states.

Transport-communication consortium. The formation of a transport-communication consortium will allow the creation of reliable transport infrastructure and the movement of output from the participating countries to seaports and to the world markets, which is crucial in view of the enclave character of the region. The Central Asian region, which has huge transit potential by virtue of its geographical position, can become a

component of intercontinental transport corridors. The decision to make transport and communications into one of the major factors in integration will make it possible, in turn, to solve many discrepancies involving customs and frontiers. Cooperation and integration of economies, as well as reducing expenses for transport and transit, will allow Central-Asian countries to create larger markets for manufacture, trade and investments in order to receive wider access to neighboring and international markets.

Food consortium. The interstate food consortium assumes the creation of favorable economic and legal conditions for national companies and for the management of agrarian complexes through joint interaction in the sphere of foreign trade in agricultural production. The creation of these consortia will be accompanied by the formation of a uniform infrastructure in such spheres as trade and tourism.

F. Social policy

In the social sphere, this work will lead in the following directions:

First, under the Program “Coordinated Social Policy of the State Members of EurAsEC,” the following will be promoted: Poverty reduction; Social protection of labor migrants; and Harmonization of state social standards.

There are barriers to overcome, however: Different achievements in economic reforms and development; Different economic levels; Distinctions in development priorities; Significant differences in national legislations; and Extremism, illegal labor migration, drug trafficking.

The following recommendations can be made: Decrease barriers between countries, promote the effective utilization of regional resources, and develop communications between neighboring countries and the world; Creation of a general legal basis for the economic sphere; Develop new and improve existing forms and mechanisms of cooperation in different areas; Develop trade and investments to promote interconnected infrastructure, joint use of water and power resources, general protection of the environment and health, and the free distribution of information and knowledge; Expand investment and foreign trade channels for interstate economic cooperation; Deepen industrial and scientific and technical integration; Accept international certificates on the harmonization of foreign trade, taxes, customs, currency legislation, legislation on power and transport, and social policy; and Cooperate with other world countries and international cooperation organizations.

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