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Social and economic development of monotowns in Kazakhstan

The article is devoted to the state of monotowns in the Republic of Kazakhstan. The condition of settlements in the administrative-territorial areas included in the category of monotowns has been studied. The main characteristics of the mono-industry classification, i.e. monotowns with the developed manufacturing enterprises, monotowns with the developed processing industry and scientific and industrial monotowns are grouped into monotowns. The current situation in the monotowns and the current state of the regions are analyzed. In the monotowns, engineering and utilities sectors, including heat, water, electricity network and housing degradation rates have been studied. The main objectives and tasks of the State Program for Regional Development till 2020 are considered. Within the framework of the objectives of defining investment priorities for each macro region, improvement of the territorial development of the country and the development of engineering infrastructure, housing and communal services, the achievable indicators of development of engineering networks in monotowns for 2019 are estimated. The problems of monotowns, concentrated in the largest industrial centers of the republic, have been identified and the solutions are presented. The experience of the countries such as USA, Sweden, Germany, etc. is considered in addressing monotowns. The focus on the state policy on regulation of the problems of domestic monotowns is highlighted.

Keywords: monotown, economy, region, housing, communal services, social infrastructure, industry, production.

Today, there is a need to resolve a number of complex issues in the domestic economy. One of such issues is to identify prospects for development of monotowns and to consider opportunities for solving existing problems.

According to the State Program for Regional Development up to 2020, monotowns are the towns where main part of industrial production and working population (more than 20 % and more) are concentrated in an enterprise or enterprises (not many) which are town-forming, one-profile and raw material oriented (mono-industry), and which identify the economic and social processes carried in the town [1].

The monotowns are classified by one of the following criteria and with a population between 10,000 and 200,000:

- in the manufacturing sector of the town, the production of the town-forming enterprises constitutes more than 20 % of total town manufacturing production, i.e., mono-specialization;
- more than 20 % of the employed population work in town-forming enterprises.

The problem of monotowns has been officially attracted the public attention since recent years, and work is underway to restore the status of settlements at the national level. The problem of the Kazakhstani monotowns is the exact result of the decision on the organization of small towns near the production facilities specialized in the production of one product. This way of organizing the cities once again shows that the dependence on the economic environment is high. Increase of the level of dependence leads to reduction of production volumes, full or partial dismissal of employees, increase of unemployment in the region. The experience of monotowns in many countries proves that the whole town can become stagnant. The situation in monotowns reflects the unresolved issues of the state, local executive power, population and entrepreneurs. The solution to such situations is much complicated.

Characteristics unique to monotowns [2]:

- one or several enterprises of one type which serve the narrow segment of the market or owned by one industry;
- the revenue part of the town budget directly depends on one or several large enterprises;
- apart from enterprises that serve domestic needs of the town, enterprises oriented to serve single market interlinked by the technological chain;

– most monotowns are located far from major cities. It increases dependence on infrastructure (automobiles or railways).

One of the legacy of dictative and administrative planned economy in the Republic of Kazakhstan is the formation of settlements of mono-industry on the principles of developing territorial-industrial complexes, of which social and ecological responsibility of the enterprises to the public are the inextricably linked and the production cycles are not divided.

The population of monotowns is 1.53 million people, or 27 cities, representing 16.8 percent of the total population in regional towns are considered as monotowns. Of these, 16 cities are the administrative centers of the respective counties, and 11 cities are not county centers. Part of monotowns is of regional significance, some lost the status of the county center because of the unification of counties in the process of the optimization policy conducted in the regions.

The list of monotowns in Kazakhstan is consisted of small towns with a population of up to 50,000, excluding 4 cities (Temirtau, Rudnyi, Zhanaozen, Ekibastuz) with a population of more than 100,000. Developed monotowns with manufacturing industries include Abay, Saran, Shakhtinsk specialized in coal mining in Karaganda oblast, and Ekibastuz in Pavlodar region; towns of Aksai (West Kazakhstan oblast), Zhanaozen (Mangystau oblast) and Kulsary (Atyrau oblast) are specialized in oil and gas production; monotowns specialized in metallic ores production including Arkalyk (Kostanay oblast), Balkhash (Karaganda oblast), Zyryanovsk (East Kazakhstan oblast), Karazhal (Karaganda oblast), Kentau (South Kazakhstan oblast), Lisakovsk (Kostanay oblast), Ridder (East Kazakhstan oblast) Rudnyi (Kostanay oblast), Tekeli (Almaty oblast), Khromtau (Aktobe oblast); monotowns specialized in other types of raw materials production including Zhanatas (Zhambyl oblast), Karatau (Zhambyl oblast), Zhitikara (Kostanay oblast); monotowns with processing industry including Serebryansk (East Kazakhstan oblast) oriented to the chemical industry by sectoral specialization; monotowns with developed mechanical engineering and metallurgical industries, specifically gold, uranium mining including Stepnogorsk (Akmola oblast) and ferrous metallurgy industry centers including Aksu (Pavlodar oblast), Zhezkazgan, Satpayev, Temirtau (Karaganda oblast).

By analyzing economic bases of industrial structures of monotowns, sectoral specialization of towns can be systematized (Table 1).

Table 1

Sectoral specifications of monotowns

Monotowns with developed manufacturing enterprises	coal mining — Abay, Saran, Shakhtinsk, Ekibastuz; oil and gas production — Aksai, Kulsary, Zhanaozen; production of metal ores — Arkalyk, Balkhash, Zyryanovsk, Karazhal, Kentau, Lisakovsk, Ridder, Rudnyi, Tekeli, Khromtau; production of other types of raw materials — Zhanatas, Karatau, Zhitikara
Monotowns with developed processing industry	chemical industry — Serebryansk; mechanical engineering, metallurgical industry (gold), uranium production — Stepnogorsk; metallurgical industry — Aksu, Zhezkazgan, Satpayev, Temirtau
Scientific-Industrial monotowns	Kurchatov

Note. Composed on the basis of the literature source [2].

Out of 27 monotowns in Kazakhstan 19 are included in the group of populated area, and businesses in this areas continue to function. For example, oil production in the Ozen oil field in the town of Zhanaozen is expected in the next 20 years, the production of non-ferrous metal ore in Zhezkazgan and Satpaev is expected in the upcoming 10–12 years [3]. That is, when the work of the town-forming oil production facilities become stagnant, it is clear that there will be a number of social and economic issues in these towns.

Most industrial potential of Kazakhstan is concentrated in monotowns. If we analyze the current status of monotowns by analyzing the level of infrastructure development, social status of the population, the

monotowns are classified as towns (20 towns) along railways and towns located far from the railway or at the railway deadlock (7 cities). Among the country's monotowns, 7 towns are located along the highways of international importance, 14 — are along the highways of national significance and 7 are along the highways of local significance.

Per capita cash income of small towns is only 65 % of the average republican level, while per capita income of many monotowns does not exceed the average oblast level. For instance, the average per capita income in the towns of Arkalyk, Kentau, Balkhash, Saran is 80–85 % of the average oblast level. The wage earners in single-industry town population are people in enterprises and organizations, their income consists of a share of 50–60 % of total income, 20–30 % of income comes from pensions, scholarships, various benefits, and 10–15 % of income comes from subsidiary farming.

In many small and monotowns, a number of issues has emerged, largely due to the state of the former town-forming enterprises or the dominant industry. The state of engineering and social infrastructure in monotowns is unsatisfactory. Residents of monotowns are left far from the possibilities to use the quality services of vital infrastructure networks. Meeting the demand for social services will allow to increase settlement indices in these populated areas. High wear and tear of water supply, sewerage, heating and electricity supply require substantial financial investment. In half of monotowns (11 towns) the wear and tear of electric and thermal networks is 70 % (Table 2).

Table 2

Indicators of housing and communal services in monotowns, %

Degradation of thermal networks	Aksai (95), Tekeli (80), Zyryanovsk (80), Serebryansk (78), Kurchatov (68)
Degradation of water supply networks	Zhanatas (95), Zyryanovsk (82), Serebryansk (75), Kurchatov (74), Karatau (60), Kentau (60)
Degradation of housing	Arkalyk (84.7), Abay (36.7), Zhanaozen (10.9), Karatau (8.4), Zhanatas (7.1)
Degradation of powerlines	Aksai (94), Ridder (82), Zhitikara (81.3), Zyryanovsk (82)

Note. Composed on the basis of the literature source [1].

Degradation of sewage, heating, water supply and electricity networks remains high, their renewal and exchange efforts require significant financial investment. In half of monotowns (14 towns) the wear of electric networks reached 70 %. Analyzing the statistical data, there is a high degree of wear of electric networks in Aksai (94 %), Ridder (82 %) and Zhitikara (81.3 %). Degradation of thermal networks in Aksai (95 %), Tekeli (80 %), Zyryanovsk (80 %), Serebryansk (78 %), Kurchatov (68 %), the water pipe degradation in Zhanatas (95 %), Zyryanovsk (82 %), Serebryansk (75 %), Kurchatov (74 %), Karatau (60 %) and Kentau (60 %) are at critical levels. At the same time, the share of decrepit houses in single-industry housing stock remains high. The share of decrepit houses in the total area of housing stock is high in Arkalyk (84.7 %), Abay (36.7 %), Zhanaozen (10.9 %), Karatau (8.4 %) and Zhanatas (7.1 %).

Specialization of the economy of monotowns in one sector raises problems concerning the development of those populated areas. Specialization in one sector in economic term creates the dependence on the external environment, and a low level of resistance to the consequences of any changes in the external environment. It is worth noting that it has been evident in the years of independence and subsequent economic crises years, as a result of the decline in demand and prices for products of the town-forming enterprises, and the changes in foreign economic situations, the economic downturn in the monotowns can remain for a long period.

There appeared a number of social issues related to unemployment, a decline in the well-being of the local population, migration of urban populations as a result of the industrial decline in monotowns. Decrease in population was observed in Arkalyk (33.5 %), Karazhal (19.5 %), Abay (19.3 %), Zhanatas (18.2 %) and Serebryansk (16.3 %).

The above analysis shows that optimal solutions to monotowns should be addressed at the state and local levels.

Complete or partial renovation of public utility networks in monotowns is required. Regional plans for the development of monotowns are being worked out and implemented in the localities. For example, to the development plan 2015–2017 of Kurchatov, which is recognized as a single-industry town of scientific and

industrial center, will be invested 9459.3 million tenge for upgrading the infrastructure, including 2534.9 mln tenge for 2015, 3281.1 mln. tenge for 2016, and 3643.3 mln. tenge for 2017 [4]. Capital repair and construction are intended for water, heating, sewage for well-being of the population, i.e. life-sustaining infrastructures; and repair will be conducted for illumination and landscaping of streets, garbage removal, destruction of unregistered waste dumps, destruction of ownerless objects, installation of children's playgrounds; heat supply systems, social facilities, water supply systems, sewerage system, intraregional roads will also be undertaken.

One of the main problems that hinders socio-economic development of small and monotowns is the quality of manufacture infrastructure. The distance of the highway and the quality of the highways are very important. The development of transport deadlock Arkalyk and Zhezkazgan are hindered as they are far from big market and big cities. Their connection with regional centers is directly dependent on motor roads.

In accordance with the State Program for Regional Development up to 2020, the purpose is to create a favorable territorial organization of the regions, create conditions for the development of socio-economic potential of the regions by stimulating population and capital concentration in the centers of economic growth. The following indicators have been identified for achieving these goals:

- population in the regions;
- size of investments into the fixed capital per capita;
- share of modernized / built networks, including heating, electricity and gas supply;
- increasing access to centralized systems.

The following objectives are to be achieved for the goals set out in the Program:

- determination of investment priorities for each macro-region;
- improvement of territorial development of the country;
- modernization of engineering infrastructure and housing and communal services. Within the framework of these tasks, the following directions of monotowns development were identified (Table 3).

Table 3

Development of third-level towns (small and monotowns) by 2019

Indicators	2017	2018	2019
Length of the updated lines (km), including:	110,4	68	68
1) heat supply	114	68,8	68,8
2) power supply	279,4	475,3	475,3
3) gas supply	6	6	6
4) water supply	190,3	182,2	239,0
5) drainage	27,5	10,6	159,0

Note. Composed on basis of the literature source [2].

In 2017–2019, the length of renewable networks in monotowns is 246.4 km. Renewable heating networks are planned to be 251.6 km, electricity networks are 1230 km, gas supply networks are 18 km, water supply networks are 611.5 km and water disposal networks are 197.1 km.

These tasks are being solved, the local population will have access to quality engineering-communal services. Accordingly, the living conditions in the settlements will be improved. It is necessary to consider foreign experience of development of similar cities in solving problems in monotowns.

Taking into account the nature and peculiarities of the situation in small towns, attention should be paid to the adaptation and application of the experience of the United States, Sweden, and the common European Union to Kazakhstan. As a result of reduced coal and textile industries volume, Big Stone Gap town in the United States has undergone severe socio-economic challenges. As a result of the city's economic restructuring and its proximity to recreational facilities, the region's unemployment rate has been stabilized and the city's population has grown.

Due to the reduced iron production and reduced employment in Kiruna, Sweden, the settlement was facing a bankruptcy. For the development of the city's economy, the state invested in the aerospace industry and tourism industry.

There are many examples of improving and solving the accumulated problems of monotowns at the expense of the state budget. Theaters and conventional palaces have been built in Glasgow, the UK, which

allow the organization and holding the world-class cultural events. And in Corbi, a free zone was created. The state has exercised limited participation in business regulation and exemption from property and income taxes for 10 years. Improvement programs of single-industry towns in the Rur region of Germany have been carried out. In the regions, the State Program for the Development of Higher Education Institutions at the expense of the federal budget has been adopted.

The world experience shows that in the case of coordinated actions from both the state and the city-forming enterprise, the success of solving the problems in the single-industry town can be achieved.

As the main priorities for development of «third level» cities in the Republic of Kazakhstan, i.e. small and monotowns: development of small and medium-sized businesses and development of small and monotowns infrastructure in the framework of the programs of economic diversification and entrepreneurship development in small and monotowns. In accordance with the State Program for Regional Development, the volume of allocated funds for the development of small and monotowns will amount to 7.2 bln. KZT. But according to the draft law on the republican budget for 2018–2020, the level of financing «third level» cities will increase by 5 times, i.e. by 2019 — 55.4 billion tenge will grow. Thus, measures are taken to stimulate the capitalization of socio-economic development of the regions, stabilization of the population and economic growth through the development of infrastructure [5]. By 2018 the development of engineering infrastructure will increase by 10 %, and the degree of degradation will be reduced by 15 %. Nine monotowns have been identified for which the most of the financing is provided. The first was reconstruction of boilers and heating networks in Shakhan village of Karaganda oblast for 1,3 billion tenge, for the reconstruction of heating networks in Prishakhtinsk settlement, 1.2 bln tenge has been allocated. The second is in the East Kazakhstan oblast — 1.5 billion tenge, and the third is in Zhambyl oblast — 1 billion tenge. At the state level, the amount of funds allocated to address emerging issues in monotowns will allow for the improvement of residential settlements, improvement of life infrastructure, access to quality housing and communal services of the local population.

At the state level measures will be taken to improve the legal and regulatory framework aimed at addressing the emerging issues in monotowns and co-ordination of support for small and monotowns by other business entities.

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А.Т. Омарова, Р. Шоқан, А. Хойч, М.Ф. Грело, Г.Н. Сраилова

Қазақстандағы моноқалаларды әлеуметтік-экономикалық дамыту

Моноқалалар санатына енгізілген әкімшілік-территориялық аумақтардағы елді мекендердің жағдайы зерттелген. Моноқаланы жіктеудің негізгі белгілері, яғни өндіру өнеркәсіптері дамыған моноқалалар, өңдеу өндірісі дамыған моноқалалар және ғылыми-өнеркәсіптік моноқала санаттары бойынша моноқалаларға топтастыру жүргізілген. Моноқалаларда қалыптасып отырған мәселелер мен өңірлердің қазіргі жағдайы талданған. Моноқалалардағы инженерлік-коммуналдық шаруашылық салалары, оның ішінде жылу-, су-, электржелілерінің тозу дәрежесі мен тұрғын үй қорының тозу көрсеткіштері зерттелді. Өңірлерді дамытудың 2020 жылға дейінгі мемлекеттік бағдарламасының негізгі мақсаты мен міндеттері қарастырылған. Әрбір макроөңір үшін инвестициялық басымдықтарды айқындау, елді аумақтық дамытуды жетілдіру мен инженерлік инфрақұрылымды және тұрғын үй-коммуналдық шаруашылықты дамыту міндеттерінің аясында моноқалалардағы инженерлік желілерді дамытудың 2019 жылға дейінгі қолжеткізілетін көрсеткіштері бағаланады. Республиканың ірі

өнеркәсіп орталықтары шоғырланған монокалалардың мәселелері айқындалып, шешу жолдары көрсетілген. Монокалалардың мәселелерін шешудегі шетелдік, оның ішінде АҚШ, Швеция, Германия тәрізді мемлекеттердің тәжірибелері қарастырылған. Отандық монопрофильді қалалардың мәселесін реттеудегі мемлекеттік саясатқа назар аударылған.

Кілт сөздер: монокала, экономика, өңір, тұрғын үй, коммуналдық шаруашылық, әлеуметтік инфрақұрылым, өнеркәсіп, өндіріс.

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Социально-экономическое развитие моногородов Казахстана

Изучено состояние поселений в административно-территориальных районах, включенных в категорию моногородов. Основные характеристики одноотраслевой классификации, т.е. однопрофильные города с развитыми предприятиями обрабатывающей промышленности, однопрофильные города с развитой обрабатывающей промышленностью, научно-промышленные однопрофильные города, сгруппированы в однопрофильные города. Проанализированы текущая ситуация в моногородах и состояние регионов. В однопрофильных городах изучены инженерные и коммунальные услуги, в том числе затраты на деградацию износа сетей тепла, воды, электроэнергии. Рассмотрены основные задачи и задачи Государственной программы регионального развития до 2020 года. В рамках целей определения инвестиционных приоритетов для каждого макрорегиона, улучшения территориально-го развития страны и развития инженерной инфраструктуры и жилищно-коммунального хозяйства оцениваются достижимые показатели развития инженерных сетей в однопрофильных городах на 2019 год. Были рассмотрены проблемы однопрофильных городов, сосредоточенных в крупнейших промышленных центрах республики. Изучен опыт таких стран, как США, Швеция, Германия и другие. Сделан упор на государственную политику по регулированию проблем отечественных моногородов.

Ключевые слова: моногород, экономика, регион, жилье, коммунальные услуги, социальная инфраструктура, промышленность, производство.

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