

Indicators for assessing the development potential of monotowns of the republic of Kazakhstan

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Abstract. In Kazakhstan, the problem of the development of monotowns is one of the most urgent. The purpose of the article is to propose indicators for the development of monotowns in the Republic of Kazakhstan. The article applied the method of system analysis, which made it possible to identify additional indicators of the development of monotowns. The experience of foreign countries in the revival of monotowns is analyzed. A very fruitful and innovative approach to the revival of monotowns was applied in the Netherlands in the single-industry town of Helmond, where a Volvo plant was built, which led to a construction boom. To solve the problem of the development of monotowns, we need our own approach, which involves assessing the development potential of monotowns. This article discusses the main indicators of the development of monotowns in the Republic of Kazakhstan, proposed by various authors. Statistical indicators of the development of monotowns are given. A system of indicators characterizing the development potential of single-industry monotowns of the Republic of Kazakhstan is proposed. Suggestions for the development of monotowns of the Republic of Kazakhstan are given.

1 Introduction

In modern conditions of development, the problem of the development of monotowns is of particular relevance. But due to their one-sided development, monotowns are systematically at risk, as they have insufficient stability and often a backward economic base. In the Republic of Kazakhstan, a program for the development of monotowns was adopted (Program for the development of single-industry towns, 2021). However, this program does not solve the development of single-industry to monotowns. The search for ways to develop monotowns, change the situation, determine the effectiveness depends on the methodology for assessing the development potential of monotowns. In Kazakhstan, there are currently 27 monotowns, of which 21 have manufacturing, 5 mining, 1 has research center. Methods for assessing the development potential of monotowns for the Republic of Kazakhstan are

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of a certain value and have practical significance, which makes it possible to identify the strengths of development.

2 Literature review

Many scientists were engaged in the assessment indicators of monotowns, in particular Manaeva I.V. proposes to carry out a methodology for assessing monotowns based on a comprehensive socio-economic analysis of their activities (Manaeva I.V., 2013).

Rastvortseva S.N. offers an author's methodology for assessing monotowns based on the selection of a block of indicators - economics, finance, labor resources, social sphere, demography and single-industry (Rastvortseva S.N., 2016).

Erinkton J.L. evaluated monotowns in terms of their diversification, safety, ecology and technology (Arrington L.J. *The Company Town in the American West*. By James B. Allen, 1967).

Kazakh scientists, in particular, Karimova A.B., Alisherova M.B., Tursynova T.T. offer to evaluate monotowns based on environmental, economic and cultural components (Karimova A.B., Alisherova M.B., Tursynova T.T., 2021).

Bozhko L, Leskova L.G. consider the main indicators of the development of monotowns from the position of management (Bozhko L., Lesakova L.G., 2016).

Stupak, Y., Syzdykova, E., Jazykbayeva, B., ...Issayeva, A., Niyazbekova, S., (Stupak, Y., Syzdykova, E., Jazykbayeva, B., ...Issayeva, A., Niyazbekova, S.2023) state that monotown development is necessary.

The following authors state that the development of transport systems in monotowns is needed: Niyazbekova, S., Mottaeva, A., Kharesova, M., Tsurova, L. (Niyazbekova, S., Mottaeva, A., Kharesova, M., Tsurova, L., 2023).

Some authors propose to evaluate monotowns according to the following stages: the perceived need for the state, increasing production volumes, achieving maximum production volume, stabilizing production indicators to increase production volume, achieving maximum production in a given mode, stabilizing production indicators, decline, depression, coordination, revival (Bekhterev D.V., 2018).

Foreign experience in the development and evaluation of single-industry town monotowns was studied in their works by scientists Kulai S.V. (Kulai S.V., 2019) and Larchenko O.V. (Larchenko O.V., 2019). These authors give examples of the successful development of monotowns in the Republic of Kazakhstan.

In our opinion, these criteria are not enough to assess the development of a monotown. We propose to expand the criteria for assessing the development potential of single-industry monotowns.

In general, despite the fact that there are a sufficient number of methods for assessing monotowns, they do not provide for such indicators as the population, the number of self-employed. Although the development of monotowns depends on these indicators. Thus, it can be argued that the above methods do not fully assess the development potential of a monotowns.

3 Research methods

In order to determine the main parameters required to be included in the assessment of the development potential of monotowns, it is necessary to apply the methods of system analysis. The use of the method of system analysis to solve this problem is necessary because it is necessary to make a choice under conditions of uncertainty. Indicators for assessing the specialization and economic profile of monotowns in Kazakhstan can be

considered through a systematic analysis, which is necessary for economic assessment and determining the level of possible losses and smoothing out negative factors that depend on the conditions of the external and internal environment that affect the effective development of monotowns.

4 Results and discussion

Developed countries are increasingly faced with the problem of advancing monotowns. Almost all countries are faced with the problem of assessing monotowns. In particular, there was a crisis in the coal industry in Germany. A feature of the German program was the regulation of the coal industry. The crisis was resolved by creating the modernization and technological renewal of innovative industries, the use of alternative energy sources, stimulating the development of high-tech industries, the development of small and medium-sized businesses, the development of the education system, and the creation of a technology park. The German government placed its main bet on the development of human potential.

In the United States, in the northern industrial cities, deindustrialization and migration outflow of the population to the southern cities began. In 1950, this problem affected the monotown of Mitesburg. The problem was solved by attracting investments. In the United States, the problem of the crisis of monotowns was solved in the following way: the inclusion of a monotown in the larger Pullman-Chicago agglomeration. Attracting the headquarters of large national corporations. Development of service industries - tourism, healthcare, education, banking, development of innovations, ecology.

In the UK, the problem of development and assessment of monotowns is carried out according to the following indicators: engineering, textile industry. In the UK, a project was launched to identify the entrepreneurial inactivity of the population. Large projects were launched for the development of small and medium-sized businesses. As a result, the share of small companies approached 40.

After the Second World War in France, the program "Territorial Reorganization" was launched in order to eliminate neglected regions. The French authorities have succeeded in solving the problems of the development of monotowns by realizing the primary role of the state in solving this complex problem.

A national feature of Japan is the system of lifetime employment, according to which permanent employees are provided with work until retirement. Consequently, the problems of monotowns ns fall on the shoulders of city-forming enterprises. The main success of the revival of Japanese monotowns was the cooperation between the enterprise and local authorities, which made it possible to ensure an employment policy.

Australia has experience in restructuring monotowns specializing in mining. In the city of Tennat Creek, mines were closed due to the depletion of coal reserves. In parallel, the construction of a railway began to attract tourists and develop logistics, which led the city to successfully diversify the structure of the economy. The administration of the city of Woodkathers - mining lead-zinc ore. Since its stocks were depleted, the products were uncompetitive and the industry began to decline.

In Canada, intergovernmental transfers are used, which resembles a pension.

In China, the problem of monotowns is being solved through the Industrial Revival program.

In the Netherlands, the problem of monotowns, in particular the Helman monotown, was solved by creating a technology center, activities of which were funded by the state and the European Union, a Volvo plant was built, innovations began to be introduced, and an industrial boom arose (Kulai S.V., 2019).

In Sweden, in order to solve the problems monotowns, a service economy is being developed (Larchenko O.V., 2019).

Let us consider the main characteristics of the development of monotowns. The data are shown in table 1.

Table 1. Main characteristics of the development of monotowns in the Republic of Kazakhstan

№	Monotowns of the Republic of Kazakhstan	Main characteristic	Population	Percentage of self-employed
1	Abai	Coal mining	283 65	5%
2	Saran	Coal mining	520 20	5%
3	Shakhtinsk	Coal mining	157 182	5%
4	Ekibastuz	Coal mining	143 414	8%
5	Aksai	Mining of oil and gas	404 00	8%
6	Kulsary	Mining of oil and gas	604 72	9%
7	Zhanaozen	Mining of oil and gas	150 700	3%
8	Arkalyk	Extraction of metallurgical ores	282 39	21%
9	Balkhash	Extraction of metallurgical ores	791 67	7%
10	Altai	Lead plant	361 16	8%
11	Karajal	Extraction of metallurgical ores	182 46	7%
12	Kentau	Extraction of metallurgical ores	213 163	44%
13	Lisakovsk	Extraction of metallurgical ores	401 50	21%
14	Ridder	Extraction of metallurgical ores	570 97	7%
15	Rudny	Extraction of metallurgical ores	129 517	23%
16	Kurchatov	nuclear center	731 0	5%
17	Khromtau	Extraction of metallurgical	267 37	7%

		ores		
18	Zhanatas	Extraction of raw materials	23383	8%
19	Karatau	Extraction of raw materials	30124	7%
20	Zhitikara	Extraction of raw materials	34637	29%
21	Serebryansk	Chemical industry	8429	6%
22	Stepnogorsk	Mechanical engineering, metallurgical industry, uranium production	67851	23%
23	Aksu	Metallurgical industry	44717	11%
24	Zhezkazgan	Metallurgical industry	91633	7%
25	Satpaev	Metallurgical industry	69766	5%
26	Temirtau	Metallurgical industry	186620	4%
27	Tekeli	Mining and processing	33000	29%

Note - developed by the authors on the basis of statistical data of the Agency for Statistics <https://old.stat.gov.kz/region/247783/dynamic>

Table 2. The system of indicators for the development of a monotown

№	Sphere	Index
1	Economy	Production, retail, profit
2	Finance	Local budget, investment volume, deficit
3	Human Resources	Unemployment
4	Social	Health care, education, living wage
5	Demography	Birth rate, death rate, migration increase,
6	monoprofile	Share of city-forming enterprises, share of employees in city-forming enterprises
7	self-employment	Number of self-employed
8	Population	Number of self-employed

Note - developed by the authors.

The formed system of indicators for assessing the development of the potential of monotowns will make it possible to objectively assess the level of their competitiveness, identify the advantages of the territory and weaknesses in development, and formulate recommendations aimed at improving the development of monotowns.

In addition, we offer directions for the development of Kazakh monotowns. (Table 3).

Table 3. Proposed directions for the development of monotowns in the Republic of Kazakhstan

№	City	Justification
1	Stepnogorsk	Introduce new technologies and investments to increase and extract ores. Build shopping and entertainment centers.
2	Khromtau	Improve the infrastructure of the city to improve the well-being of citizens.
3	Tekeli	It is possible to build an international ski resort. Lead can be used to make figurines of the city and sell them to tourists.
4	Kulsary	Build an oil refinery for the purpose of selling gasoline and motor oils to the market.
5	Altai	Development of tourism.
6	Kurchatov	Build a modern nuclear power plant to generate electricity
7	Ridder	Develop tourism. Attract investments to increase the extraction of ores.
8	Serebryansk	Build additional facilities to increase the performance of air purification filters at the Serebryansk Plant of Inorganic Substances.
9	Zhanatas	To increase the extraction of bauxites and phosphorites. Allocate investment for the recovery of the phosphate industry.
10	Karatau	Restore the enterprise for the production and sale of fur products
11	Aksai	Increase production and sale of oil
12	Balkhash	Build a fish processing factory. Reconstruction of the Balkhash copper smelter.
13	Zhezkazgan	Development of logistics.
14	Karajal	Introduce new technologies and investments in ore mining
15	Saran	Develop agriculture, develop tire production.
16	Satpaev	Develop metal rolling.
17	Temirtau	Develop small and medium business
18	Shakhtinsk	Develop coal mining.
19	Abai	Development of the coal industry
20	Arkalyk	To develop the deposit of white and black marbles.
21	Zhitikara	Build a factory for the production of asbestos products and establish markets.
22	Lisakovsk	Restore the chemical fiber plant.
23	Rudny	Introduce new technologies in the production and extraction of ore
24	Zhanaozen	To build an oil and gas refinery, to set up the production of machine oils.
25	Aksu	To increase the capacity of the power plant by building power units with the subsequent sale of electricity to neighboring states, as well as the possibility of supplying electricity to the railway for the development of electric trains.
26	Ekibastuz	Increasing electricity generation and selling to neighboring countries. Increase coal production.
27	Kentau	Develop robotics. Build a copper souvenir factory.

Note - developed by the authors.

Thus, the proposed measures, taking into account the adaptation of foreign experience, will allow to revive individual monotowns of the Republic of Kazakhstan. Since the proposed recommendations are aimed at modernizing the economy of monotowns.

5 Conclusion

For the development of monotowns, it is necessary to accurately determine their main performance indicators. The indicators for evaluating monotowns include: the sector of the economy, finance, labor resources, the social sphere, demography, mono-industry, self-employment and population. There are many areas that can be improved in monotowns, such as the service sector, small and medium-sized businesses. Recommendations are given for the development of monotowns in the Republic of Kazakhstan. The analysis and development of the proposed indicators will help monotowns get out of a protracted depression, give a new impetus to socio-economic development and allow them to achieve key indicators.

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