Problems and Limitations of Sustainable Development of the City of Baikalsk: Formation of a Modern Digital Economy

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Abstract. The problems of Russian single-industry towns are the main threats to the national social and political instability. Currently, the problems of development of single-industry towns remain one of the most discussed issues. Due to their location and specialization, single-industry towns are an integral part of the national and regional economies. In many single-industry towns, the situation is tense due to high unemployment rates, bankruptcy of many town-forming enterprises, and poor economic diversification. Currently, in Russia there are 320 monotowns, where 10% of the country’s population live. These are large industrial centers and small settlements. Most of them are located in industrial regions. All-round support for single-industry towns is provided by a special fund, which is part of the VEB Group. For example, for investment projects, loans are provided at 0% interest rate. The cost of projects was reduced 20 times. Therefore, small and medium-sized enterprises can become main recipients of funds. Under the new program, investors will be able to return tax payments from new enterprises.

1. Introduction

The first Russian factory towns were built in the eighteenth century after the reforms of Peter the Great, who encouraged the production of linen and industrial forges. With the opening of textile factories, the second wave of rapid development of factory towns began. Most of these cities were founded in the 1930s as part of Joseph Stalin's industrialization plans, which focused mainly on the defense issues. Among other things, it is necessary to implement digitalization technologies in monotowns. Digital technologies are rapidly changing our economy and society. The digital revolution offers enormous opportunities for people: in the coming years, they will become one of the most powerful drivers of growth, job creation and well-being. The main reason for the low digitalization performance is ignorance of digital technologies by companies. Government services are not provided online. Poor digital skills hinder the further development of the economy and society. As technologies make our life easier, they complicate the relations in the labor market. Institutions and businesses must tackle digitalization challenges. Currently, the Government of the Russian Federation aims to diversify the life of monotowns. The state program is aimed to transform the economy of single-industry settlements that were built in the Soviet era. The roadmap is a continuation of the 2016-2018 program.
The President of the Russian Federation, the Government of the Russian Federation, the government of Irkutsk Region and VEB.RF have approved the project aimed at developing the territories of the Baikal Pulp and Paper Mill. The Government of the Russian Federation ordered the Ministry of Economic Development of Russia, VEB of the Russian Federation, the government of Irkutsk Region and the administration of Baikalsk to approve the promising project aimed at the integrated development of the single-industry town, including the project aimed at the development of the BPPM territories. [1]

2. Methodology

About 13.2 million inhabitants live and work in one of 320 single-industry towns. All of them have one thing in common - their livelihood is completely dependent on one company for which a quarter of the population work. They all formed around factories, large industrial centers created near the sources of raw materials (wood, gold, iron, coal, oil, gas, etc.).

The closure of the plant became an unprecedented socio-economic challenge, a new stage in the life of Baikalsk. It increased the unemployment rate in the town. In addition, the town was designed considering the needs of the industry rather than residents. The problems of pollution and poorly developed infrastructure and health care have not been solved. Attempts to reduce the unemployment rate and social costs associated with job relocation and create new jobs remain a top priority. The workforce needs to be trained. It is necessary to adapt low-skilled and older workers to new conditions. In single-industry towns, the labor market crisis is evidenced by the migration outflow of people who are forced to search for jobs in other regions. Active people leave towns, and only passive ones stay due to their dependent mood, depression, and pessimism caused by the lack of alternatives. All this leads to an even greater decrease in the prospects for the development of entrepreneurship and diversification of these towns.

The digitalization changes the economy, and this digital evolution is gaining momentum every year. The transformative capabilities of artificial intelligence, mobile technologies and blockchain technologies are on the way to the industrial revolution. This development is overwhelmingly beneficial, improving living standards, life expectancy and quality of life. However, the digitalization can be devastating, especially in the labor market. The Asian Social Science report highlights the scale of challenges faced by single-industry towns, including: social failures, smaller living spaces, fewer number of hospital beds and doctors; lack of public facilities such as swimming pools and sports grounds; aging of engineering and social infrastructures due to the local budget deficit (Fig. 1); lack of opportunities for small and medium-sized businesses due to the decline in the living standards; the outflow of young people. [2]

Unfortunately, the tourism resources of the town (proximity to Baikal lake) and the investment potential have never been used in the interests of residents.

Nevertheless, there are prerequisites and opportunities for the creation of a “city of the future”.

In 2020, within the instructions of the President and the Government of the Russian Federation, the state development corporation Vnesheconombank of the Russian Federation began to develop a project for the integrated development of Baikalsk, including the former industrial site of the BPPM. Vnesheconombank of the Russian Federation is a national development institution that promotes the implementation of state socio-economic policies, enhances the competitiveness of the national economy and its modernization. They carry out their activities through financing national investment projects. These projects contribute to the diversification and efficiency of the Russian economy. As part of the Strategic Master Plan, it is planned to conduct a comprehensive study of the town's territory, including the historical, geographical, spatial, and socio-economic aspects of its development. In particular, it is planned to forecast the size and socio-demographic structure of the population of Baikalsk (Fig. 1).

At the same time, all requirements for the development of a modern urban economy will be taken into account: housing, urban environment, transport, social infrastructure. The key priorities are the quality of life of the population of Baikalsk, business activity, new jobs, environmental protection
based on the principles of "sustainable development", investment and tourism attractiveness, modern tourist infrastructure. [3]

![Municipal program "Diversification of the economy in the city of Baikalsk"](image)

**Figure 1.** Municipal program "Diversification of the economy in the city of Baikalsk".

3. Results and discussion
In order to prevent the negative socio-economic trends and predict social consequences of the state policy aimed at the development of single-industry towns, government agencies monitor the socio-economic situation in single-industry towns and assess various statistical indicators. This differentiated evaluation of statistical parameters does not allow for a comprehensive assessment of the level of development and competitiveness of a single-industry town by territory, which is especially important in the modern conditions of globalization. Of particular scientific and practical interest is a comparative analysis of the level of development of single-industry towns based on an integral indicator that takes into account various social areas and allows for an objective assessment of competitive positions of towns. [4] The Monotown Development Fund works with teams of entrepreneurs, city and regional administrators. In most towns, development programs were approved, taking into account their territorial, climatic, socio-economic and production characteristics. They were included into regional strategic development plans. Socio-economic plans are developed with the participation of various groups: residents, authorities, businesses, and experts. The master plan synchronizes specific priorities, general directions of urban development and available resources. It is aimed at solving pressing social, economic, and environmental problems through the creation of infrastructure, construction, landscaping and effective use of territories. The result is expressed in real measurable indicators of the quality of life of citizens and business activity. The master plan as a document of long-term, strategic development enables lasting, fundamental changes. However, it provides for certain stages - priority measures whose effect can be observed immediately, in the near future. Moreover, an indirect effect for the urban economy occurs at the stage of master plan development - all interested parties receive a platform for exchanging information and forming a common vision of the integrated development of the territory, which will be reflected in the document (Fig. 2).
The problem of single-industry towns is crucial for the economic development of Russia. It will take six months to prepare the strategic master plan for Baikalsk. The project office based on VEB.RF will be located in Baikalsk. The best specialists in urban planning, employees of the Strelka KB company that specializes in the integrated development of cities will develop the project (Fig. 3).

According to the governor of Irkutsk region, Irkutsk region and VEB.RF will develop a roadmap for implementing the master plan. This will help attract investment and create new business opportunities and new jobs. [5][6] The master plan will increase the competitiveness and attractiveness of Baikalsk in the Russian and international markets. The renewed green and public spaces will make the town more comfortable. The master plan will be prepared “behind closed doors” by all participants in urban development (residents, government, businesses) taking into account their interests. At all project stages, it is planned to hold strategic sessions, conduct surveys, interviews, and discussions. In the near future, the Internet resource BAIKALSK.RF will be launched. It will be an online space providing information on the process of creating and implementing the master plan, communication and feedback opportunities.

It should be noted that the preparation of the master plan for Baikalsk involves three stages. A comprehensive analysis of the current state of Baikalsk will be carried out at the first stage. At the second stage, meetings with stakeholders will be held. At the third stage, the document will be compiled. It will include a final list of projects and activities, mechanisms and a schedule for their implementation, taking into account the cost of works and potential sources of funding. The document will be available online. The residents of Baikalsk will be able to participate in its discussion. [7] [8] [9]

According to the Minister of Economic Development of the Russian Federation, the joint task of the federal and regional executive bodies and VEB.RF is to help Baikalsk formulate a vision of the future. The town can become one of the points of attraction for the entire Baikal natural territory. The master plan will identify promising niches for attracting investors, creating incentives for the development of small and medium-sized businesses. In fact, the start of development of the master plan can be considered the beginning of implementation of the Baikalsk development project. The master plan is based on a comprehensive study of the town, including its historical, geographical, spatial and socio-economic aspects. In particular, it is planned to forecast the size and socio-demographic structure of the population of Baikalsk to model its development. According to the recommendations given by Senior Vice President of VEB.RF, the development of the master plan involves an analysis of the current state and data social infrastructure facilities, including healthcare, education, culture, and sports ones, as well as utilities and transport infrastructure, and an analysis of key proposals for their development.

Active and planned investments will be analyzed. It is also planned to carry out an analysis of the tourist potential in terms of the structure of services provided, the volume and methods of movement.
of the tourist flow. The Russian Federation will fund the development of the strategic master plan, involve residents of the region and Baikalsk, businesses, the public, the scientific and expert community, development organizations supervised by VEB.RF, regional and federal executive authorities in the development of the master plan.

The Fund is ready to implement various support measures. In particular, these are soft loans in the amount of 5-250 million rubles at 0% and in the amount of 250 million to 1 billion rubles at 5%. Concessional loans are also provided for PPP and MPP, modernization of housing and communal services infrastructure and leasing companies for projects on the renovation of urban public transport.

In addition, the Fund is ready to co-fund the construction and reconstruction of engineering and transport infrastructure facilities (networks of electricity, gas, heat, and water supply, sewerage, roads, overpasses and railways) for the implementation of investment projects in the amount of 95%.

It should be noted that the participants in the first session (representatives of urban communities, city entrepreneurs, residents of Baikalsk, town authorities, experts) discussed problems affecting the development of the town. They are associated with the legal regulation of protection of Lake Baikal, electricity, health care, staff shortage, etc. It is necessary to improve the appearance of the town, build a waste recycling plant, leisure and entertainment centers, control the urban planning policy, expand the powers of the municipality, hold events aimed to popularize sport, and reconstruct sports facilities.

Figure 3. Municipal program "Provision of housing for young families in the city of Baikalsk" (thousand roubles)

4. Conclusion
In October, the expert session “Problems and Limitations of Sustainable Development of Baikalsk” was held in Irkutsk. Representatives of the administration of Baikalsk and Slyudyanka district, the Government of Irkutsk region, VEB.RF, representatives of Irkutsk National Research Technical University, businesses and experts discussed the federal agenda, investment projects, legal regulation, issues on the development of science, ecology, tourism, digital development.

The development of a single-industry town in Irkutsk region is associated with both socio-economic and natural and climatic factors. Most of them date back to the Soviet industrialization, which explains their uniformity. For the same reason, the economy of this single-industry town bears high risks of boom-bust (expansion / slowdown) cycles and associated social problems. However, the digitalization raises serious questions about its economic impact and social consequences. The rapid and continuous development of technologies is transforming the skills required for the existing and new jobs and making some job functions obsolete. Digitalization is a general term for the digital transformation of society and economy. This concept is about the transition from the industrial era with analog technologies to the era of knowledge and creativity with various digital business innovations that does not exclude a monotown. It is essential for the social cohesion and sustainability of our social models, as well as for strong democratic institutions, to manage the rapid technological change in order to maximize benefits and minimize negative impacts. This includes the equipment of our citizens with tools and capabilities that can help participate in this digital transformation.
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