

PROBLEMS AND SUCCESS OF REBIRTH SMALL TOWNS: BRIEF RESULTS OF CASE STUDY OF RUSSIAN SINGLE-INDUSTRY TOWNS AND CITIES)

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Abstract

Under the concept of ecological and urban management development we mean a system of measures and mechanisms aimed at environment improvement for existing towns & cities and the introduction of innovative technologies of new construction. Environment development of towns is determined by the social and economic development and the region (country) as a whole. Therefore, the transition to an innovative economy is differentiated by space and time. Already in the 60-70 years the construction of new towns with large chemical enterprises was accompanied by an environment plan, when the industrial and residential area were significantly separated in space. For example, Nizhnekamsk, Zarinsk and others. The basis of constructing differentiated by region concept can serve as a forecast of social and economic, environmental development, made both area and by region with the forecast of development of the network of settlement and innovation infrastructure. In this evaluation of development prospects are depending on the initial conditions, a system of measures for the regions of different types. Although the problems of single-industry towns are very specific, it's the part of common challenges. Mechanisms of implementation are legal, economic and organizational. They may be the planning, the technological solutions, new materials, energy-efficient homes and new technology in the utilities sector. There are a number of unresolved problems re-emerging at each new stage of development of the cities that prevent environmental improvement and innovation development. They need to be reflected in the concept, and the same factors manifest themselves differently in large and small cities. Take-out (closing) polluters are the loss of employment and loss of able-bodied population of the small towns. Limiting the growth of metropolitan cities (from choking traffic jams), and keeping the population in small towns, maintaining a network of rural settlements in sparsely populated areas. The development of measures to promote balanced development between urban population, economic base (providing employment) and infrastructure, both social and engineering. The vast number of municipalities are not able to develop the infrastructure at the expense of budget revenues. The thesis reviews the present situation of Russian single-industry towns and cities, it makes factor analysis of problems of settling, simulates and forecasts towns of future on the basis of Russian settlement theory. The results are reasonable and precise. At last, the acute problems are given to obtain feedback information for the future researches.

Keywords: industry-single, development, cities and towns, mechanisms, innovation.

INTRODUCTION

What is a single-industry town (city)? Is it an error of Soviet Union planning system or a necessary element of the settlement framework? How could we create a ghost town? Why does economic crisis the most evident in the single-industry town? What could we do with the crisis towns (cities)? The article analyzes and compares the problems of the single-industry towns (cities) and their city-forming enterprises that appeared during the crisis periods

of 1996-1999, 2009-2011 and 2014-2019. The possibility of their revival is under consideration. Single-industry towns are the settlements with a single-industry economic base. As a rule, these are small and medium-sized towns in terms of population from 10 thousand people to 100 thousand people, as well as urban type settlements with a population of 1 thousand people to 10 thousand people. They usually have from one to

several city-forming enterprises of the same or different industry. They united by cooperative ties, so it is a monospecialized industrial towns (rarely cities). At the same time, city-forming enterprises are large enterprises that produce exported products that are consumed outside the town. And city-servicing enterprises are those whose products are produced for the needs of the town itself. Lappo G.M. describes a single-industry town as the settlement of unsufficiently developed that didn't pass all the stages of development [1]. However, this view of the single-industry town is debatable. Another popular opinion in Russia that the rural settlement (called in old Russian language "Pochinok") is a prototype of modern single-industry town (city) [2].

The research shows that in big countries where parts of the territory with poor climate conditions are sparsely populated, the mostly single-industry urban settlements, mainly engaged in mining, and this is the most effective form of organization until this field runs out. Thus, the single-industry settlements are an essential part of the settlement system, and, in this case cannot turn into the large polyfunctional centres. When the mine is closed, the main working-age part of the population independently moves to other places, the remaining ones are also forced to leave such town, as life there gradually fades. Examples of such settlements – the ghost towns are found throughout the world: the American town of Bodie, California in the Sierra Nevada, where in the mid-19th century began to mine gold during the gold rush lived here up to 10 thousand people, and the mid-20th century, gold ended and its inhabitants left and the railway line leading to it was dismantled ; the town of Kolmanskop in the Namib desert was founded in 1908, in connection with the start of diamond mining, 20 years later the field dried up, and by 1956 the residents finally left it, there was no water in the desert, and its delivery after the closure of the mine became unprofitable [3,4,5,6]. In Russia the villages of Khadykchan in the Magadan region and Halmer-Yu in the Komi Republic became the Ghost towns in the 90's. Both settlements are ties to coal industry. Coal mines were closed. The locations didn't have good transport access, and being in the Arctic circle and permafrost made it meaningless to maintain life support in places where the heating season lasts 11 months of the year. At the same time, in Western Siberia, there are the towns Langepas and Kogalym, Nizhnevartovsk, Strezhevoy, Nefteyugansk which provide production of oil fields, while Nadym and Novy Urengoy are gas fields. They will not experience crisis problems until they run out of oil and gas fields [7]. A number of Russian single-industry

towns experienced several crisis periods in 1996-1999, 2009-2011 and 2014-2019, accompanied by social and economic tensions. In 1996-1999 after the collapse of the Soviet Union, the crisis was associated with the General decline of the Russian economy, the heavy transition of enterprises to the market mode, the rupture of cooperative ties, sales and supply routes. During this period, the most critical situation was in the logging and coal industry. Forest villages, small Northern cities, and mining towns all experienced difficulties with stopping businesses, and lack of wages and employment. The problem of coal cities was that in Soviet times coal mining enterprises could be planned unprofitable, they were paid a subsidy to maintain production. In the 90's, unprofitable coal mines were closed in the Donetsk basin, the Moscow region, in the Komi Republic, in Eastern Siberia, from the two most Northern settlements, people were officially relocated.

Unprofitable coal mines were gradually closed, forest settlements, although with losses, were rebuilt and cooperated. The program of restructuring of the coal industry, which was in effect from 1996 to 2007, was adopted. In addition, the World Bank helped implement the program with its loans until 2002.

As a part of the program the miners of the closing mines were paid arrears of wages and severance payments. Local development and employment programs were developed and implemented as support measures.

Support was provided for the establishment of small agricultural processing enterprises and subsidized the purchase of equipment. For business projects, subsidies were issued in the amount of an annual unemployment benefit, and if there were three adults in the family, the annual unemployment benefit of 3 people served as the starting capital for the organization of the family business. Employment services organized retraining and community service to employ dismissed employees. Under the North resettlement program 7,300 families were relocated to the Central regions of the country [3]. The crisis of 2009 – 2011. The global financial crisis that broke out in the United States in 2008 due to massive mortgage lending, which led to a drop in real estate prices and non-repayment of loans, upset the entire financial sector of Western countries. Non-payments, layoffs, and a decrease in effective demand led to overstocking and a decrease in production in the automotive, pharmaceutical, and furniture industries, which along the chain affected related industries of mechanical engineering, followed by metallurgy, chemical, and woodworking industries, and also spread to infrastructure industries: transport,

tourism, hotel services, and retail. Stagnation of production led to a drop in oil prices on the world worrisome. The Ministry of economic development of Russian Federation monitored the social and economic situation of single-industry towns and city-forming enterprises during 2008-2009. The surveys covered all 7 Federal districts and 62 federal regions, 43 administrative centers, 156 towns and 36 countrysides of monostructural specialization. In total, 382 enterprises belonging to system-forming and city-forming industries were surveyed: non-ferrous and ferrous metallurgy, engineering, timber industry, chemistry, and

market which affected the financial system of our country. Single-industry towns were particularly construction materials industry (tab.1). To assess the situation on the labor market we used the indicator. It is the level of tension in the labor market (K).

$$K = \frac{S}{Na}$$

S - the employees affected by the crisis (the amount of part-time workers who are idle and on administrative leave, scheduled for dismissal and dismissed), Na - the average number of employees.

Table 1. The amount of settlements of Russian districts with industry specialisation

Specialization (industry)	Federal district							
	Central	North-Western	Volga region	South	Ural	Siberia	Eastern	Total
light manufacturing	45	4	21	1	0	1	1	73
coal mining	5	6	4	12	7	15	15	64
engineering	37	12	45	13	20	12	5	144
ferrous metallurgy	7	4	7	1	16	13	0	48
nonferrous	0	6	6	3	13	23	26	77
oil and gas production	0	4	7	5	19	2	0	37
chemical	11	0	13	7	1	3	3	38
lumber	25	67	64	7	32	82	35	312
food	43	8	19	17	2	15	10	907
Total	173	111	186	66	110	166	95	907

In total, 71 towns and 20 urban-type settlements were identified with a tense situation on the labor market, including 34 towns and 3 small settlements where the social and economic situation was assessed as close to a crisis. The List of single-industry towns with high tensions (close to crisis) includes Azov, Aleksin, Baikalsk, Belebey, Verkhny Ufaley, Votkinsk, Gavrilov-Yam, Dorogobuzh, Kamensk-Uralsky, Kanash, Kandalaksha, Kataysk, Kolomna, Kolchugino, Kulebaki, Kyshtym, Magnitogorsk, Elektrostal, Malgobek, Manturovo, Naberezhnye Chelny, Navoloki, Nizhny Tagil, Onega, Pervouralsk, Pikalevo, Roslavl, Rubtsovsk, Rybinsk, Segezha, Seltso, Tolyatti, Cherepovets, Chusovoy; village Parfino, proletarian, Deputatsky.

METHODOLOGY AND APPROACH

Solving problems of modernization of city-forming enterprises, the leading place is given to industry expertise and technology audit.

The algorithm for developing an anti-crisis program of single-industry towns consists of two iterations:

- 1 - analysis of its components,
- 2 - fusion of a new functional definition of a post-crisis town. The analysis consists of a sequential

Regional anti-crisis programs were developed. 34.7 billion rubles were allocated from the budget of the Russian Federation in 2009 by programs. These programs were a kind of aid. We did not solve the main problem of diversification of production and development of the economic base of towns [8]. Among mechanisms designed to support township enterprises and the backbone enterprises and small and medium sized businesses, in some cases by the decision of the Federation was provided to subsidize interest rates on loans to enterprises. The inclusion of a number of backbone enterprises put in the Lombard list of the Central Bank. However, companies that have debts on taxes and wages could not use this support, and therefore it did not solve the problems of crisis single-industry towns.

problem-diagnostic analysis of the settlement's spheres of life with suggestions for their resolution (diagnosis of problems – possible solutions). Here we consider the economic base of the town, demographic characteristics of the population, the state of the social and engineering infrastructure, characteristics of the recreational and environmental components of the nature

environment. Thus, internal constraints and prerequisites for development are evaluated. At the same time, assessments of existing problems are spread out in the range from the town (the existing problems are not related to the financial crisis) to the development impulse set at the previous stage (external management is necessary), intermediate positions when internal development resources are partially exhausted in certain areas or areas of industrial specialization. The fusion of a new vision of functional specialization of a single-industry town is based on attracting unused internal and external resources (in the settlement system and transport network), links with the surrounding countryside, opportunities for intra-regional cooperation, attracting investment, and placing new enterprises. Evaluation of possible scripts in the economic and social development of the town taking into account forecasts and programs of development of the country and their subject of the Russian Federation. For example, determine the town's role in the future development of their region and the country as a whole - "the mission city". Special importance is attached to the evaluation of the city-forming enterprise.

As a result, the most likely forecast of the future of the city-forming enterprise is selected from 3.

1) It is not competitive. It can hold out for some time on the state order, but then it will still go bankrupt. We must decide what to do with the settlement around the enterprise.

2) Company will remain in a truncated form with smaller production volumes and the number of employees. Measures are needed to organize public works in order to gradually reduce the number of people employed (Assistance to the unemployed, retraining, partial relocation of the unclaimed part of the economically active population or placement of new production facilities).

3) Company should be helped to survive the crisis period after which it will be able to move to pre-crisis production volumes. It needs to find new functions of the town.

In cases when determining the prospects for the development of the main city-forming enterprises, it is necessary to consider the development of other activities of the settlement. If there are no alternatives to providing employment, there is a question of maintaining a locality with a smaller population (partial relocation) or closing it completely (resettling citizens). In this case, the

CONCLUSIONS

Analysis of the situation in single-industry towns showed that:

1. The overwhelming number of city-forming and

latter option applies exclusively to small urban-type settlements located in harsh natural conditions outside the system of transport routes.

A very important point for determining the possible ways of development of the enterprise and the level of the decision-making Commission is to establish the causes of the crisis situation in the enterprise.

For example, the problems of AVTOVAZ existed long before the crisis, and were not even in the backward model range, but primarily in the low quality of products. The problems of the Baikal pulp and paper mill were laid down during its design and placement, where the system of water supply and discharge of waste water included lake Baikal, which belongs to the category of world natural heritage and has a unique supply of clean fresh water, a resource that has become limited in the modern period. Thus, in these enterprises, the crisis only exacerbated the problems that existed before, for which adequate measures were not taken in a relatively prosperous time. The problems of these enterprises should be solved with the participation of the Federal level.

In 2014 in connection with the sanctions, it was decided to create a single-industry towns development Agency, which should support projects to modernize the economic base in single-industry towns. For example, the activities of the Nadvoitsky aluminum plant, a branch of RUSAL, that produced metal only for the United States, were mothballed due to sanctions in 2018.

The list of single-industry towns that can benefit from support has been significantly expanded, mainly by including large towns (but not cities) ranging from 100 thousand people to 500 thousand people. Among them are Tolyatti, Magnitogorsk and others. The entry threshold has been lowered from 25% to 20% towns where in the previous 5 years 20% of all those employed in the municipality worked at the city-forming enterprise are recognized as single-industry towns. Nowadays, the list includes 313 single-industry towns, 75 of them with the most difficult social and economic problems and critical situation of functioning of city-forming enterprises.

To increase the attractiveness of single-industry towns as sites for investment and the creation of new enterprises, are organized in their territories tax and other preferences. At the same time, conditions are put forward that if no new enterprise project is involved in the TOP within 3 years, the preferences are canceled.

city-servicing enterprises reduced production volumes.

2. The problem of stopped enterprises according to

the law, the city-forming enterprise of a single-industry towns cannot be declared bankrupt and liquidated.

3. Modernization of the enterprise requires a lot of costs, increases production efficiency, but usually reduces employment, which in times of crisis will increase tensions.

4. Reducing production at city-forming enterprises, in turn, leads to a decrease in tax revenues to budgets of all levels and, above all, to regional and local ones.

5. Financial problems of city-forming enterprises (non-payments for delivered products-raw materials, components, and finished products are also transferred to enterprises of city-servicing industries, and debts for gas and electricity are growing).

6. The decrease in the level of income of the population leads to a reduction in the consumption of paid services offered by small businesses, the number of individual entrepreneurs and small businesses is decreasing.

7. Financial problems of the enterprise are shifted to the shoulders of employees, and wage arrears are growing.

What is possible to do with these towns? May we create a lot of specialized towns? The reproduction of a large number of single-industry towns in the 20th century is a consequence of the interaction of two historical processes on the territory. First is to form a system of settlements. The second is to

develop industries. The development of industries was characterized by a change of technological patterns (Kondratiev cycles) and leading industries from textile (end of the XVIII century) to robotics (end of the XX century), and the placement of new enterprises in new places (both in existing localities and in new ones). These are not only mining that gravitate to deposits (in the North-East of the country), but also new enterprises of high-tech industries that do not want to be located in old environmentally disadvantaged industrial centers.

In the territorial system, sectors and belts with different population density of settlements alternate (the main towns (cities) are surrounded by settlements of 2 orders (large and medium in number), which in turn are surrounded by small towns and countryside.

The reason for reproducing monoprofile lies to the growth opportunities of the town, its position in the system of populated places. Monoprofile is inherent in most small and medium-sized towns and villages (and in some large industrial cities) from 100 to 250 thousand inhabitants. Just as in a hierarchical settlement system all settlements cannot grow to large towns and cities, so all single-profile settlements cannot become multi-profile. The existence of single-profile settlements for a long period indicates the objectivity of the phenomenon and is due to the peculiarities of economic and spatial development of the territory.

REFERENCES:

- [1] Lappo G.M. Geography of the towns. – Moscow: Vldos, 1997, pp (in Russian);
- [2] Saharov A.N. The history of Russia, Vol.1, pp 177, 221-222 (in Russian).
- [3] Crisis towns of Russia: ways and mechanisms of social and economic recovery and development / Lyubov V. Ja., Kuznetsova G.Yu., etc., Moscow: MONF. Local government library, issue 5, 1998, pp 90 (in Russian).
- [4] Lyubovniy V. Ja., Kuznetsova G., Methodology for the formation of special region programs to promote employment of single-industry towns, Moscow: MONF, Local government library, Vol.41, 2002, pp 128 (in Russian).
- [5] Halseth G., Sullivan L., Ryser L. Service provision as part of resource town transition planning: A case from northern BC. Prepared for NRE/CRFE Conference, Mirimichi, NB, Canada, October, 2002. URL: https://www.unbc.ca/sites/default/files/assets/greg_halseth/nre_mirimichi_services_paper.pdf.
- [6] Allen, J.C. and Dillman, D.A. Against all Odds: Rural community in the Information Age. Boulder, Colorado: Westview Press, 1994.
- [7] Lubovniy V.J. The single-industry towns: origin, evolution, development and regulation. 247.
- [8] Kuznetsova G.Y., Erachin S.O. Methodological approaches to analyze single-industry towns/ Collection of articles social and economic geography in the post-industrial and post-Soviet Union development: Moscow state pedagogical university, 2010, pp 32-39 (in Russian).