Role of the state in solving the environmental problems of the industrial monoprofile cities

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Abstract. Nowadays the problem of sustainable socio-economic development of monotowns refers to one of the priority issues of the state policy. The author analyzes monotons state policy support in Russia with main focus on programs aimed at ecological restoration of industrial monoprofile cities. The processes of program control in monotowns within the state economic policy are analyzed. In order to evaluate the results of programs (of city-forming enterprises and monotowns level) the principles of development of criteria development system have been substantiated. The environmental situation of monotowns depends on a complex system of interaction between the city (represented by its people and municipal authorities), private capital and the state. Long-term sustainable development of monotowns requires the interests of all three parties to be in balance. This is possible to achieve by increasing the social responsibility of businesses, increasing the development of local government and urban identity and active influence of local communities on the activities of the municipal authorities.

1. Introduction
Mono-profile towns were created in Soviet times with the command economy, when everything was predictable and scheduled. In market conditions the system of "one enterprise — one city" proved to be unstable. The cities were built for industry, not for people, this is poorly suitable for life. In order to improve the quality of life in the industrial centers the combination of social responsibility of businesses with the development of local self-government and increase of citizens' participation may be needed. This is unlikely to be effective unless the level of industrial pollution is decreased.

Every ninth Russian, a total of about 15.6 million people, lives in a monotown. There are 319 such cities in the country. At least a quarter of their population works in the city-forming enterprise. Most of the monotowns in Russia are in Kemerovo region (19), followed by Sverdlovsk (15), Chelyabinsk and Nizhny Novgorod region (12).

The main problems of monotowns is their dependence on market conditions, unemployment, environmental pollution, lack of infrastructure, including education and health, the outflow of the young population.

Modern state of the greater part of the Russian monotowns of the Urals and Siberia is characterized by extremely high level of industrialization, a predominance of nature intensive industries and obsolete technologies (raw- and semi-raw materials for export). The ecological conditions of those cities are critical and to overcome the environmental crisis is a crucial issue. Environmental problems
of the regions are a consequence of the previous unsustainable policies of productive forces and desire
to create the country's largest industrial enterprises at the expense of the excessive concentration of
production [1].

Monotowns overcoming environmental crisis is possible under the condition of the implementation
of sustainable development strategy that combines the economic, environmental and social principles.
The most important issue in the transition to the sustainable development is the mechanisms of
realization of ecologically oriented strategy [2]. The priority one is the economic mechanism of local
administration activities, providing sufficient funding to environmental protection measures and
effective influence on the improvement of the ecological situation in the cities.

2. The problem statement
The provisions on environmental protection, developed at different times by G. Motz, R. Wettmann,
E. Gerelli, M. Eland, R. Cellerino, G. Panella and others [3]. Consideration of issues of economic
management in the municipalities is based on the works of such researchers as B. Burkhard, F. Müller,
and others [4]. The issues of improving the economic mechanism in the field of environmental
protection are considered in the works of Y. Vasileva, O. Shalina, G. Tokareva, E. Baykova, and
others [5]. The information base is statistical materials, regulatory documents, reporting of business
entities.

3. Results and discussion
Considerable attention to the modernization of monotowns is paid by the Government of the Russian
Federation and development institutions. According to the approved by the government of the Russian
Federation (Order No. 1398-R) on 29 July 2014 updated list of mono-profile municipal formations in
Russia include 313 monotowns in 62 constituent entities of the Russian Federation.

In order to develop proposals for the provision of monotowns of Russia with state support under
the Government Commission on economic development and integration the working group on
modernization of monotowns has been working since 2010; it comprises authorized representatives of
Federal Executive authorities, development institutions, public organizations and other interested
parties.

Aiming the economy diversification and creation of alternative work places in new and modernized
industries in 2014-2016, 49 monotowns of Russia received state support for a total amount of 24
billion rubles, including the creation of objects of engineering and municipal infrastructure, stipulated
by the comprehensive investment plans for the modernization of 17 billion rubles. Support was
provided to 35 monotowns in 2014 and in 2015-2016.

As per assessment of “Vneshekonombank” it allowed to reduce the average unemployment rate
from 2.6% to 1.8 % for the period from 31.12.2010 till 30.06.2017 and created 100 279 additional
permanent work places [6].

To assess the socio-economic situation in monotowns analysis of all monotowns of the Russian
Federation was carried out in 2016 with consideration of negative forecasts for the suspension
(closing), the transfer of employees to part-time in a number of industries in such sectors as nonferrous
and ferrous metallurgy, car industry, forestry, light industryIt involved participation of the Ministry of
industrial trade of Russia, the Ministry of economic development of Russia and Ministry of labor of
Russia.

The list approved in 2014, provides for the gradation of monotowns into 3 categories, including
category 1, representing towns with the most difficult socio-economic situation (75 monotowns of
Russia). The subparagraph "b" of clause1 of the List of Orders of the President of the Russian
Federation V. Putin dated May 21, 2014 № PR-1146 provides for the provision of possible 2015-2017
state support to monopol towns included in category 1 of the List.

There are 6 single-industry municipalities (towns) in the Republic of Bashkortostan in accordance
with the Decree of the Government of the Russian Federation dated July 29, 2014 No. 1398-R. At 1st
January 2017 there are more than 400 thousand people living there, which represents almost 10% of the total population of the Republic:

Belebey and Kumertau, with the most difficult socio-economic situation (the first category); Neftekamsk Beloretsk with the risk of deterioration of the socio-economic status (second category); Uchaly and Blagoveschensk with a stable socio-economic situation (the third category) [7].

The objectiveness of the analysis of socio-economic situation of the above-listed municipalities raises doubts about the conducted classification and justification for the exclusion of certain municipalities from the list of monotowns.

So, the inclusion of the city of Uchaly in the number of monotowns with a stable socio-economic situation is very conditional. In the industry structure 50.1% of the total volume of production is accounted for the chemical industry represented by OJSC "Uchalinskiy Azot" and JSC "Arnas". This indicates that the city's economy continuing to be mono-profile. Sectoral structure of the economy of the city along with the passage of the Р316 route through the city causes the unfavorable situation in the city. 1,204 tons of solids 0.037 tons sulfur dioxide, 3,976 tons of carbon monoxide and 4,705 tons of nitric oxide were released into the atmosphere in 2016 in the city of Uchaly. The general level of atmospheric pollution is assessed as high and is determined by the value of the standard index equal to 2.775.

The result is an incidence rate. The level of general child incidence of disease in the city of Uchaly in the last 6 years has grown by 48.6 %, among teenagers - by 60.2 %. Moreover, among the environmentally caused diseases there are respiratory, oncological pathology, neoplasms, congenital anomalies, diseases of the skin, subcutaneous tissue and diseases of the digestive system. The presence of these diseases exceeds regional indicators by 1.7 and 1.3 times in Uchaly.

Another point indicating the instability of the situation in the city is the decline over the last 10 years in the population of the city by 11 %. Thus, according to the social indicators, the city belongs to the category of high social risk and needs government support. This means that when considering issues on state support of monotowns attention should be paid not only to the development of relevant industries, but also to the social sphere.

The city of Blagoveschensk of the Republic of Bashkortostan was excluded from the new list of monotowns; the share of the petroleum and petrochemical industries in the economy exceeds 50 % [8].

Solving many problems of monotowns of Russia is seen through the activities of the Fund development of monotowns by the Government. It will operate under the auspices of “Vnesheconombank”. About 25 billion rubles from the Federal budget will be allocated for the implementation of investment projects in monotowns of the Russian Federation in 2015-2017. Official media reported that the Fund will be established as a nonprofit organization, in which “Vnesheconombank” will make a starter asset contribution of 16.4 million RUR.

To help the problem of single-industry territories funds will be granted on the following conditions: up to 90% of financing is ready to be provided by the Fund with the condition that the remaining 10% will be allocated by the regional or municipal budgets. In addition, the Fund of development of monotowns is going to prepare the investment projects documentation and will also provide training of management teams [9].

It is not really clear how to find the funds in the conditions of high subsidization of a number of regions and municipalities. The actual volume of expenditures of regional budgets per capita in rubles in the Republic of Bashkortostan 1.5–2 times lower than the national average level. Expenses on national economy needs, in 2016 were, respectively, 16.8 and 17.9% of costs of the regional budget. It should be noted that this subsection includes the costs on transportation and a number of areas necessary for proper functioning of the regional economy.

Municipal educational organizations are even more limited in spending their budgets.

The conducted analysis gives the grounds to formulate recommendations for improving state regulation policy of development of monotowns. Special attention should be paid to attracting private investment. This should expand the responsibility area of regions regarding this issue. Regional lists of monotowns taking into account the specifics of the socio-economic situation in situ must be created to
develop the legal framework outlining the status of monotowns in the regions. For example, the regional law on the status of monotowns was already developed and adopted in the Kemerovo region. However, this document poorly spells out specific measures of state support of monotowns. It is necessary to develop regional programs promoting the development of monotowns in the regions of their presence.

It is expedient to consider foreign practices in this field for the rational organization of Russian monotowns development. The experience of Germany is of significant interest in reorganizing monotowns. It should be noted that the development of comprehensive plans of modernization of monotowns in Germany often involves large consulting firms, with significant analytical and organizational capabilities, as well as authority in state bodies and financial circles. AS&P (albert Speer & Partners) dealing with issues of restructuring of monotowns for several decades can be referred to such large structures. The main stages of restructuring of monotowns used by the Corporation AS&P are as follows [9]: the study of a particular situation (the spectrum of issues of a monotown); comprehensive analysis and assessment of all factors; study of international experience in development and modernization of similar monotowns; the development strategy of the city; the determination of a set of short-, medium - and long-term measures on modernization of a monotown; the determination of the amounts and directions of targeted subsidies and grants; development of a system of state-private partnership in the field of modernization of a monotown. After substantiation of such a comprehensive reform program of a monotown, it is further transferred to the State. It goes through wide public discussion and after its adoption, AS&P is responsible for its implementation at all stages of realization. The most successful project of the company AS&P in the field in Germany is Ruhr, transformation from a depressed coal-mining city into diversified post-industrial city.

In accordance with the developed plan for 1980-2002 the number of employed in the service sector increased by 300 thousand people. At the same time new mobile and competitive businesses in the car industry, precision mechanics industry, and electrical engineering industry were created. Conditions for accelerated development of telecommunications and information technology were created in this direction, this reoriented educational programs of the Ruhr Region. As a result, by 2009 the Ruhr was not a single-industry town anymore. Another successful project is Frankfurt — Gerst. Until the end of 1990 it was a depressed industrial area. In the 2000s it was a small town and a national industrial park was established, focused on the development and commercialization of advanced technologies, development of technical and technological basic and R&D Projects. As a result, 22 thousand jobs were established within the industrial Park. The scientific town of Agneshof (a suburb of Berlin) is also an example. On its territory there was previously located a military base and a military airfield. At the end of the conversion of the territory science and technology park, tele- and film- studio were established, and also the buildings of the Humboldt University were placed. Now there are about 800 firms, including 14200 employed on the territory of the town.

The problem of functioning and development of monotowns substantially escalated in the early 1980s in the UK, in the areas heavily dependent on coal and steel industry. Within the 1981-1997 period, 124 coal mining were closed, resulting in a 193 000 workers losing their jobs and thus, 25% of men out of work [6]. The main problems that existed in single-industry UK cities were: significant levels of environmental pollution and, consequently, less satisfactory state of health of people living in these towns comparing to the average for the country; internal migration. A comprehensive solution of the problem of monotowns in the UK included the construction of new houses (including social housing). It also included the formation of efficient transport infrastructure with the aim of increasing mobility of the population, giving them a chance to work in neighboring towns territories; long-term consistent modernization of coal mines and steel plants; encouraging the establishment of new forms of economic activity (for example, organization of the famous music festival). There is a form of public-private partnership in the field of modernization of single-industry towns, as the formation of "urban development corporations". As an example of a single-industry city we use Cardiff Bay, Wales [6]. After the Second World War the coal industry gradually degraded, and the area went into decline. In 1987 the Cardiff Bay Development Corporation was founded. The aim was to create the structure to
attract private investment in the development of a monotonw, by 1997 Cardiff Bay became a rapidly developing leading center of tourism and leisure of the province of Wales.

We believe that with regard to the Republic of Bashkortostan, the creation of regional industrial parks may be the effective mechanism of support of monotonws at the regional level. Those considered promising institutions for attracting private investment. A key direction of improvement of state policy of support of monotonws should be the extension of the degree of involvement of regions in these processes in order to maximize the multiplier effect of the investment of public funds. The number of industrial parks as institutions for attracting private investment at the regional level should be increased. Residents of industrial parks should have the rights to have tax incentives and administrative preferences, the subsidization of interest on loans, lease incentives, etc.

Another important area of economic diversification in monotonws is the development of small businesses. The low level of entrepreneurial activity in monotonws of the Republic of Bashkortostan can be explained by low entrepreneurial competence. Most of the implemented programs of support of businesses are formal. It is necessary that these programs act as a platform for interaction between employers, governments and financial institutions.

4. Conclusion

Suggestions and recommendations based on the analysis of the results of implementation of state support measures of monotonws in the Republic of Bashkortostan and can be universally applicable in Russia:

- intensification of support not only of economic development of monotonws, but also of the social sphere;
- active environmental policies in monotonws;
- the possibility of replacing the mandatory co-financing by the regions or municipalities in the amount of 10% of the Fund;
- development of regional programs of monotonws, including further dissemination and development of the practice of creating industrial parks;
- implementation of practice-oriented educational programs on training of personnel for small and medium businesses on the design approach basis.

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