

The research of problems and prerequisites for the development of housing programs for the socio-economic development of depressed regions

Tatyana A. Pershina
Volgograd State Technical University
Institute of Architecture and Construction
Volgograd, Russia
tatpersh@yandex.ru

Tatyana P. Lymareva
Volgograd State Technical University
Institute of Architecture and Construction
Volgograd, Russia
tlymar1968@yandex.ru

Natalya A. Kalentieva
Volgograd State Technical University
Institute of Architecture and Construction
Volgograd, Russia
KalentevaName@yandex.ru

Andrey B. Zhypetsky
Volgograd State Technical University
Institute of Architecture and Construction
Volgograd, Russia
bmeclck@bk.ru

Abstract — One of the basic values for a person is housing. It provides economic stability, security. In our country, the number of dilapidated and emergency housing is growing at an alarming rate. Developed federal, regional, municipal programs for the overhaul, reconstruction of housing stock at the moment cannot stop the process of growth of such housing, especially in depressed regions of the country. In this regard, the purpose of the study is to develop the theoretical and methodological approach to the development of housing programs in depressed regions (using the example of Volgograd), which will solve the problem of the growth of dilapidated housing. The main methods of research were the methods of modeling, logical, comparative and statistical analysis, analytical information processing and expert assessments, graphical and tabular presentation of information. As a result, in order to automate the operations of evaluating the housing stock for recognizing its dilapidated or emergency, to select and substantiate the type and form of its restoration, the authors developed the "AORV" software product, which allows to increase the accuracy and efficiency of analytical work, the reliability of the results obtained by exclusion of the human factor, to reduce the duration of the recognition procedure. The creation of a department for the restoration of obsolete housing will allow to accumulate all the money for the restoration of obsolete housing, to solve the problem associated with the restoration of such housing, to improve the quality of the housing stock.

Keywords — *depressed regions, the restoration of obsolete housing, the standard of living, population*

I. INTRODUCTION

According to the Constitution of our country, Russia is a country consisting of 85 regions. Their development is directly dependent on the economic development of the country [1]. To improve the socio-economic situation of the regions in 2008, the system of development of the Russian Federation until 2020 was adopted. One of its main tasks is to increase the comfort of the housing stock, the lack of dilapidated and emergency housing. In recent decades, the increase in the volume of obsolete (dilapidated) housing has been observed [2, 3]. Existing federal, regional and municipal programs currently cannot stop the growth of the share of such housing.

The main reasons for the failure to fulfill the targeted federal program "Housing" are the failure of the terms of its implementation and the low quality of work. By the end of 2017, in 72 regions of Russia, the program was implemented at 100%, in 5 regions more than 50%, in 4 regions less than 50%.

Among the regions 18 subjects of the Russian Federation were unable to achieve the target indicators of the program execution. By the end of 2018, in the Volgograd region, the program was fulfilled only by 65.1%. Officially, emergency and dilapidated housing in the Russian Federation recognized 2.7% of the housing stock. According to sociological survey, in fact, the number of such housing is 3 times more the official data. Unrecognized official dilapidated housing is not included in the program "Housing", which excludes its restoration. The reason for this discrepancy is associated with the lack of the effective model for the implementation of programs for the social and economic development in regions. In Volgograd,

the problem of dilapidated and emergency housing is particularly important. The growth of such housing is observed annually in all regions of the Russian Federation, with the exception of the Moscow region [4, 5, 6].

Problem solving of increasing the effectiveness of implementing programs for the socio-economic development of depressed regions, based on theoretical-methodological approach, has the great scientific and practical importance and predetermines the relevance of the research topic.

Problems of regional development are considered in the works of M.E.Buyanova, O.V.Inshakova, T.Yu.Ovsyannikova, A.I.Romanova, O.A.Sabrekova, G.V.Khomkalova and others.

The problems of reconstruction and renovation of built-up residential areas were investigated by A.N.Asaul, S.A.Bacharina and others.

Among the foreign scientists who have studied this sphere, there are B.Asheim, J.Brown, F.Valent, A.Weber, C.Gassert, G.V.Khomkalova and others.

The purpose of the study is to develop the theoretical and methodological approach to the development of housing programs (using the example of Volgograd).

Research tasks are:

- considering the classification of regions;
- systematizing and supplementing the classification of the housing stock, taking into account the types and forms of restoring obsolete housing;
- considering the classification of regional programs;
- proposing tools for improving the efficiency of housing programs in depressed regions

The object of the research is the restoration programs of obsolete housing stock (based on materials from the city of Volgograd).

The subject of the research is organizational and economic relations in the implementation of programs of the socio-economic development of depressed regions.

II. MATERIALS AND METHODS (MODEL)

The theoretical and methodological bases of the study were the works of domestic and foreign scientists in the field of the theory and practice of socio-economic development of regions [7,8,9]. The methods of modeling, mathematical, structural, technical-economic, logical, comparative and statistical analysis within the process approach are used, the information is presented using graphs and tables.

Regions are evaluated on the development of industry, construction, availability of finances and investments, the standard of living of the population, its employment and other indicators. The regions are classified according to the level and rate of economic development, socio-economic development, the availability of dilapidated and emergency housing and other indicators.

According to socio-economic development, regions are divided into crisis, backward, depressive, donors, subsidized. Depressive regions are considered to be backward in the main socio-economic indicators [10]. One of the main indicators of the development of the region is people's satisfaction with living conditions. The classification of regions in 2014-2017 by socio-economic development is presented in table 1.

TABLE I. THE CLASSIFICATION OF REGIONS ON SOCIO-ECONOMIC DEVELOPMENT IN 2014-2017

№	Depressed regions	Reduction of the index of economic sentiment by year (item)				Rate of increase, %
		2014	2015	2016	2017	2017 to 2016
1	Volgograd region	5.4	5.7	5.8	5.9	101.7
2	Saratov region	4.6	4.8	5.3	5.5	103.8
3	Smolensk region	4.9	5.0	4.8	5.0	104.2
4	Orenburg region	5.1	4.9	5.0	5.2	104
5	Kaliningrad region	4.9	5.1	5.2	5.3	101.9
6	Vladimir region	5.0	5.2	5.4	5.6	103.7
7	Primorsky region	6.0	6.1	6.3	6.5	103.2
8	Bryansk region	5.8	5.9	6.4	6.7	104.7
9	Arkhangelsk region	9	10	12	14	116.7

According to the data of 2017 presented in the table, the Volgograd, Arkhangelsk, Bryansk, Primorsky regions are considered the most problematic. There is the decline in production in many industries, a significant amount of dilapidated and emergency housing. Much attention is currently paid in the country to create the programs for the socio-economic development of regions.

The deference of regions by levels of development and the availability of natural resources determine the strategy of regional development of the state. The government is developing for the socio-economic development of depressed regions. The programs include problems of population migration, reduction of redundancy of social infrastructure, the reorganization of resettlement.

The economic reforms have recently shown that regions applying advanced development management methods are less prone to crisis phenomena. Regional development programs are divided into: intergovernmental, federal, regional and complex. Targeted federal programs are divided into highly specialized ("Housing", "Resettlement of citizens of the Russian Federation ...") and others.

Regional programs have several classification criteria (target direction, small amount of work, resource costs, time constraints, and are linked to the state development policy of the region). The unavailability of housing, the presence of a significant amount of obsolete housing served as the main reason for the development of housing programs. These programs solve the problem of restoring obsolete housing through capital repairs, renovation and construction of new housing, although there are other effective types of restoration (reconstruction and modernization).

The concept of “dilapidated housing” in the regulatory literature is nominally present, but in fact there is no clear distinction between the terms “dilapidated” and “emergency” housing. In addition, there are several variations of classifications of the housing stock, that causes difficulties when using the results of scientific research on this topic [11,12,13]. As a result of the study, the classification of the housing stock (including emergency and dilapidated) was clarified according to the “results of the introduction of new technologies and the use of new materials”, “form / type of restoration”, “coefficient of fitness of residence”, “energy efficiency class”. The need to include in the classification of 3 degrees of decay is mathematically proved, that will extend the life cycles of different parts of a residential house.

The author's software product “AORV” was developed for the procedure of recognizing a residential building as dilapidated or emergency, determining the need for its reconstruction or modernization, determining the degree of dilapidated housing (the certificate of state registration of computer program No. 2016618068, state registration July 20, 2016).

From an economic point of view, restoration works performed in accordance with the degree of dilapidation will have a different monetary value (5% of the value of a residential building for grade 1, 5-10% for grade 2, up to 50% for grade 3). As a result of the work, the life of the residential house will increase by 30-50 years, safe and comfortable, energy-efficient, ecological living conditions will be created for the population.

Little attention is paid to the reconstruction and modernization of obsolete housing; these restoration methods are not widespread. In European countries, 50% of the performed works are new construction, 50% – the reconstruction of existing housing [14]. Based on Rosstat data in the Central and Southern Federal Districts, the share of dilapidated and emergency housing in 2017 was the minimum value of 1.7%. The maximum share was noted in the North Caucasus and the Dalnevostochny Federal District. Every year, 7 million square meters of total area is eliminated. The log of normative terms during the overhaul by 7-10 years increases the cost of its implementation by 2.5-3 times as compared with the scheduled repair [15].

In the years 1960-1980, the reconstruction of housing was not relevant. The country carried out large-scale construction. In the 90 years, the construction of new housing was absent, the problem of housing reconstruction became relevant. The expediency of housing reconstruction is considered in table 2.

TABLE II. THE EXPEDIENCY OF HOUSING RECONSTRUCTION

The expediency of housing reconstruction	The result
Economic	The housing stock of the country remains without special capital investments
Social	Social tensions are reduced
Political	Leadership success at different levels

Volgograd region belongs to the third group in terms of socio-economic development (is a depressed region). Table 3 presents the assessment of the investment attractiveness of the housing market in Volgograd.

TABLE III. THE ASSESSMENT OF THE INVESTMENT ATTRACTIVENESS OF THE HOUSING MARKET IN VOLGOGRAD

№	The name of indicators	Value of indicators
1	Provision of housing for the population	22,2 square meters (low)
2	The annual volume of building housing	330700 square meters
3	The price of residential property per 1 square meter	39702 rubles
4	Average monthly nominally accrued wages	23089 rubles per person
5	Housing affordability for the population	12,9 years
6	Activity of potential buyers (number of transactions per 1 thousand people of the local population)	1,9 of deal

According to the “Housing” program in Volgograd, in 2018 490159.8 thousand rubles were allocated for resettlement of citizens from emergency housing, using the budget of Volgograd 193078.7 thousand rubles and the regional budget 297081.1 thousand rubles. The amount of funds allocated from the regional and city budgets is planned to increase every year. The growth of funds every year gives hope that by the end of the implementation of this program the problem with obsolete housing in the city will be solved.

As a result of the performed analysis, the general and distinctive features of the management of obsolete housing restoration that are grouped into blocks (social, economic, regulatory, legal, organizational, environmental) were identified. It is substantiated that the imperfection of the regulatory base for managing the restoration of obsolete housing at the municipal level leads to litigation and failure of the deadlines for the implementation of the federal program “Housing”, the return of funds of financial support, which are allocated to them in case of violations, to regions.

To solve the problem of outdated housing, it is proposed to develop the subprogram “The restoration of outdated (dilapidated) housing”. There is a need to create a department for the restoration of outdated (dilapidated) housing on the basis of DNA “The Regional Fund for the Overhaul of Apartment Buildings”, which will be the operator, whose functions will be to collect funds for the restoration of outdated (dilapidated) housing.

III. RESULTS AND DISCUSSION

A. *The classification of regions according to various indicators characterizing its state is considered.*

The characteristic of the regions by socio-economic development is presented including one of the main indicators determining the level of development in the region. Particular attention is paid to the classification of regions according to the economic sentiment of the population. 9 depressed regions of the Russian Federation with the reduction of the index of economic sentiment for the 2014-2017 year are considered. The most problematic regions of 2017, in which a decline in

production in many industries was observed, a significant number of dilapidated and emergency housing were marked.

B. The housing stock classification of a depressed region is investigated and clarified, taking into account the types and forms of restoring obsolete housing.

The proposed classification is different from the existing classifications in criteria "results of the introduction of new technologies and the use of new materials", "form / type of restoration", "coefficient of residence suitability", "energy efficiency class". The need to include 3 degrees of dilapidation of the housing stock in the classification is mathematically proved, that will extend the life cycles of different parts of the apartment building.

C. Suggestions for the formation of directions for the restoration of obsolete housing

Problems with housing, its inaccessibility, the presence of a significant amount of outdated housing, were the main reason for the development of housing programs. These programs provide the opportunity to restore obsolete housing.

For this, the authors evaluated the expediency of developing housing programs for socio-economic development in depressed regions. The author's software product "AORV" was developed for recognizing and classifying a residential building as dilapidated or emergency, determining the need for its reconstruction or modernization, determining the degree of dilapidated housing (certificate of state registration of computer program No. 2016618068, state registration July 20, 2016). The monetary value of works is determined depending on the degree of dilapidation. The common and distinctive features of the management of the obsolete housing restoration are identified. They are grouped into blocks (social, economic, regulatory, legal, organizational, environmental).

In order to solve the problem of outdated housing, it is proposed to develop the subprogram "The restoration of outdated (dilapidated) housing", to create a department for the restoration of outdated (dilapidated) housing on the basis of the UNO "Regional Fund for the Overhaul of Apartment Buildings", which will be the operator. Its functions will include the collection of money for the restoration of obsolete (dilapidated) housing.

IV. CONCLUSION

The classification of the programs for the socio-economic development of regions is presented, the analysis of the state and problems in the sphere of restoring obsolete housing (in the Russian Federation) is carried out. The general and distinctive features of managing of obsolete housing restoration in the analyzed regions are systematized and the prerequisites for increasing the efficiency of this management are defined.

One of the directions of socio-economic development of the country and regions is improvement of the quality of the housing stock, reforming the housing sector. The housing stock classification of a depressed region is studied and refined, taking into account the types and forms of restoring

obsolete housing, which is different from the existing classification in criteria "results of the introduction of new technologies and the use of new materials", "form / type of restoration", "coefficient of residence suitability", "energy efficiency class". The concepts "emergency", "dilapidated" housing, "reconstruction", "modernization" were added, delimited and refined.

The unavailability of housing, the presence of a significant number of outdated housing, was the main reason for the development of housing programs. These programs are aimed at solving the problems of restoring outdated housing through overhaul, renovation and construction of new housing, although there are other effective types of restoration, such as reconstruction and modernization of outdated housing. The analysis and evaluation of the expediency of the development of housing programs of socio-economic development in municipalities of depressed regions.

As a result of the performed analysis, the general and distinctive features of the management of the restoration of obsolete housing that are grouped into blocks (social, economic, regulatory, legal, organizational, environmental) were identified. It is substantiated that the imperfection of the normative base for managing the restoration of obsolete housing at the municipal level leads to litigation and breaking deadlines for the implementation of the federal program "Housing", the return of financial support allocated to regions in case of violations.

With the author's program "AORV", the Program of measures to restore the housing stock was developed, the operational lifetime of obsolete houses will increase by 13% - 15% (25-30 years), the comfort of living will increase, the energy costs of the house will decrease by 6.4% - 7.8% as a result of Program implementation. It is proposed to develop the subprogram "The restoration of obsolete (dilapidated) housing" within the program "Housing", to create the department for the restoration of obsolete housing, which will allow to accumulate all the money for the restoration of obsolete housing, solve the problem of housing restoration, improve its quality.

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