Organizational and economic mechanism for managing the apartment buildings’ overhaul repair system in the Russian Federation

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Abstract. A necessary way to maintain housing in good condition and reduce its wear is overhaul. Regional capital repair systems for the common property of apartment buildings are a means of implementing a new policy to improve the quality of housing and communal services in the Russian Federation, which provides the approximation of capital repair management institutions to the interests of municipalities residents through the creation of regional operators, the development and implementation of regional programs for overhaul of the apartment buildings based on monthly contributions to the specially created funds of the residential buildings’ individual accounts or on the basis of the “common pot” principle. As the operators of the overhaul system for the apartment buildings, regional Overhaul Funds, that coordinate this activity on their territory, have been established. They collect and accumulate the financial resources from the homeowners in the apartment buildings of municipalities; develop a list of the required repair and construction work for each of the buildings, the priority for the repair of which is suitable in the current year; form and approve an estimate for these works’ implementation, organize, accompany and monitor their implementation. The importance of the functions and locations of the regional operators determines not only the scientific interest in studying the regional capital repair systems’ effectiveness for the apartment buildings, but also the practical significance associated with identifying the most effective practices of the Russian regions in this regard and transferring them to other territories.

1. Introduction
One of the main tasks of modern society is to ensure decent living conditions for the population, taking into account modern requirements and standards of quality and living standards. At the same time, significant attention is paid to the living conditions of the population — the degree of comfort and improvement of the municipalities housing stock, the level of their preservation and the reduction in the wear degree [1]. An effective solution to the problem of high-quality and comfortable housing is impossible without efforts to maintain it in proper technical condition. For this purpose, a system of the housing major repairs has been developed, the implementation of which requires the effective measures on the part of the authorities, investors, professional associations, public organizations, property owners, as consumers of the housing and communal services, as well as the use of the latest engineering and economic-management developments [2].
The list of services and work on the overhaul of common property in the apartment building, the provision and (or) the implementation of which are financed by the owners, which they transfer to a specially created capital repair fund, is established by the regulatory legal act of the constituent entity of the Russian Federation [5]. Thus, a significant role in ensuring the overhaul of apartment buildings in the Russian Federation is assigned to the regional authorities, which actualizes this research topic, which is devoted to the consideration of the regional systems’ organization and functioning features and results for the apartment buildings’ overhaul.

The scientific and methodological problems of managing overhaul and modernization of the housing stock are devoted to the works of such Russian scientists as I.V. Gentzler, S.B. Lykova, V.Yu. Prokofiev, D.P. Gordeev [6], R.M. Gazizov [7], K.V. Demyanov [8], L.N. Chernyshov [9], M.I. Davletova and L.G. AbdRakhimova [10], S.N. Bukin [11] and others. The works of these scientists, revealing the theoretical and methodological foundations of the overhaul system development, as the most important element of the housing stock’s reproductive cycle, constituted the scientific basis of our study.

The objectives of this study were:
- identification of the nature, role and importance of overhaul in maintaining and operating the housing stock in the region;
- identification of the apartment buildings regional system functioning overhaul institutional structure and organizational and economic mechanism, analysis of its effectiveness.

2. Results
The Russian system of the apartment buildings’ overhaul underwent the reform in the 2010s and was legally enshrined through the amendments to the Housing Code of the Russian Federation adopted at the end of 2012. The system of the apartment buildings’ overhaul is based on monthly contributions of homeowners to a capital repair fund specially created in each region of the Russian Federation. In relation to the region of our study - the Rostov Region - in 2013 the “Rostov Regional Fund for Assistance to Overhaul” was created and operates in the form of a non-profit organization. Its founder is the Ministry of Housing and Communal Services of the Rostov Region, and the Fund itself acts as an operator to ensure the overhaul of the common property in the apartment buildings in the region.

Note that there are two possible systems of apartment buildings residents’ accumulating funds in Russia for the implementation of their overhaul - a special account or the so-called “common pot” [6]. According to the first system, the homeowners in an apartment building open a special account with an authorized bank to transfer funds to it to repair their home. The second system provides that the apartments residents in the apartment buildings transfer the funds for overhaul to the general account of the regional operator (this is the so-called “common pot”), and from there finances are spent on repairing the houses of municipalities according to the established sequence [7]. In this regard, the above-mentioned powers of the regional operator apply only to those apartment buildings that use the “common pot” system and are included in the regional capital repair program.

The fundamental difference between the two capital repair systems consists not only in the funds accumulation for its implementation, but also in the organizational and managerial mechanism [10]. When opening an individual special account for the accumulation of funds for the overhaul of an apartment building, all the money goes only for the maintenance of a particular house and the meeting on the housing owners of this apartment building will make a decision on the complex of repair work and their terms. The owners delegate authority to organize and control the repair work of a service management company. When using the system of allocating funds to the “common pot”, the decision on the need for repairs, the list of work and the amount of finance allocated for this are determined by the regional authorities. At the same time, the apartment owners do not have the right to choose a contractor to carry out the repairs in their house - this is the prerogative of the regional operator [5].

Each of the two systems for the capital repair funds’ formation for the apartment buildings in the Russian Federation is based on the homeowners’ funds accumulation. At the same time, the subject of the Russian Federation subsidizes a certain amount of construction and installation work when
carrying out the repair activities from the regional budget. For this, in each constituent entity of the Russian Federation, regional overhaul programs that are designed for 30 years and determine the list of houses to be repaired, are developed, as well as the year of the repair measures and their types, based on the operational condition of the building. In general, the analysis of the considered systems for the apartment buildings’ overhaul in the regions of the Russian Federation makes it possible to establish a general principle for their functioning in the form of a cumulative scheme for their financial support from the homeowners’ targeted contributions [4].

The characteristics of the considered schemes of financial support for the apartment buildings’ overhaul makes it possible to formulate the following problems associated with the organizational and economic mechanism for managing the system of the apartment buildings’ overhaul:

- the accumulated cash contributions for overhaul (both to the account of the regional operator and to the individual account of the apartment building) has significant risks of depreciation in the face of inflationary processes;
- the scheme of accumulating funds “into the common pot” is contrary to the principle of private property, as it increases the capitalization of other people’s real estate;
- this scheme does not allow the homeowners in an apartment building to make an independent selection of a contractor for repair and construction work in their house and deprives them of the ability to monitor the progress of repairs, which in turn leads to poor-quality repair work;
- the binding of the tariff for the overhaul to the total area of a dwelling in an apartment building is unreasonable, since the list of works carried out as a part of overhaul is not directly related to it, but relates to the building as a whole;
- a systematic increase in the building materials’ cost leads to more expensive repairs, and, consequently, a regular review of the contributions tariff rate for the overhaul;
- increase in tariffs in the system of the apartment buildings’ overhaul leads to an increase in the total value of the consumer expenditures of the population, which may cause payments’ refusal and increase the debt amount;
- an increase in overhaul reduces the disposable income of the population, which negatively affects the general standard of living;
- an increase in the burden on household budgets will lead to a further increase in government spending (federal and regional) on subsidies and social support (benefits) for them to pay for utilities.

In the context of an increasing need for housing stock overhaul, the existing schemes for accumulating financial resources for its implementation, as well as the mechanisms for managing expenses and controlling the quality of work performed, need to be improved. Taking the high differentiation in the revenues of both regional budgets and the population into consideration, it would be useful, in our opinion, to provide the subjects of the Russian Federation with greater freedom in this matter while strengthening their targeted support.

3. Discussion
Contributions for the apartment buildings’ overhaul were introduced in the pilot regions of Russia in 2013, and in the country as a whole in 2014-15. The minimum contribution depends on the area of the dwelling, its type and is established by the legislative act of the subject in the Russian Federation. For example, in the Rostov region from October 2018 to the present, the established minimum contribution for overhaul is 9.92 rubles per 1 m² total area of premises in an apartment building. For the period 2015-2020 this contribution in the Rostov region increased significantly, with the largest increase in September 2018, when the monthly overhaul fee increased by 38% compared to the previous value (Table 1). So, for example, starting in October 2018 for a standard three-room apartment with an area of 65 m² its owner pays contributions for the overhaul in the amount of 644.8 rubles compared to 466 rubles until 2018 [13].

Table 1. The amount of the overhaul contributions in the Rostov region, 2015-2020.
Despite the constant increase in fees for the apartment buildings’ overhaul, its economically sound tariff is much higher than the existing contribution. Therefore, a systematic increase in the tariff value is dictated by the need to fully fulfill the Overhaul Fund of the Rostov Region obligations to the homeowners whose apartment buildings are included in the overhaul program for the current and subsequent years. At the same time, the leadership of the region is taking constant measures to restrain the growth of contributions to overhaul. In addition, the financial support for the common property overhaul in the apartment buildings is annually provided from the budget of the Rostov Region. Over the past three years, it amounted to almost 1.5 billion rubles. In the Capital Repair Fund of the Rostov Region itself, everything possible is also being done to reduce the cost of overhaul without compromising the quality of repair and construction measures. In particular, a thorough examination of the design estimates is carried out, the domestic construction materials are purchased [13].

In general, in the Rostov Region, 18.6 thousand residential buildings are included in the overhaul system, and their total area exceeds 43.1 million m². Of these, about 90% chose the account of a regional operator as a system for allocating funds for major repairs, i.e. “Common pot”, and 10% use the management companies or the homeowners’ associations accounts [12].

As a result of the overhaul financing system development, over the past two years, regional operators and governing bodies of the constituent entities of the Russian Federation have been able to effectively work out the overhaul scheme fixed by law and relieve tension in its implementation. However, a number of problematic issues should be noted with such a system for organizing the repair process. So, in particular, the system of benefits was adjusted for a number of categories of the citizens who were completely or to some extent exempted from paying funds to the overhaul fund. The regions are forced to make up for the shortage of funds through subsidies from the federal budget.

Linking the size of the apartment buildings residents’ contributions for overhaul to the total area of the apartment, in our opinion, and the opinion of many analysts, also causes a certain negative effect. This approach, developed in 2012 and currently in force, is associated with the fact that the overhaul process is statistically estimated in relation to one square meter of the repaired buildings’ total area, and therefore, the allocated funds for repairs are formed based on this standard. Thus, the relative costs of the overhaul of apartment buildings are determined by dividing the amount of funds spent by the amount of work expressed in square meters. However, these normative indicators are of an estimated form and may not always be in demand for establishing payments by the population.

It should be borne in mind that the list of construction and installation works on overhaul approved in each region of the Russian Federation, as practice shows, is not related to the size of the apartment located in an apartment building that falls under the capital repair program, but refers to the restoration of common property, which tenants own in equal shares. Consequently, the contribution amount for the overhaul should be determined based on the meter of the total area occupied by the citizens in the apartment, but on the area of the entrance, basement, attic and other common areas. In relation to certain types of construction and installation works included in the overhaul system, where the frequency of use and, consequently, the total load on them (for example, elevators are the most expensive type of common house property, stairs, porches); the collection of fees for their repair according to the number of inhabitants in the entrance, apartment or in the house as a whole would be advisable.

The principle of a “common pot” should also be critically evaluated. At its core, it contradicts the private property institution foundations. The owner of a dwelling in an apartment building should bear a burden on the maintenance of his real estate, and not the property of a neighbor in the street, city and

| Payment period                | Overhaul fee rate, [rubles per 1 m²] | Rate increase, [%] |
|-------------------------------|---------------------------------------|-------------------|
| 2015                          | 6.2                                   | –                 |
| 2016                          | 6.4                                   | 3.2               |
| 2017 – September 2018         | 7.17                                  | 12.0              |
| October 2018 – Until now      | 9.92                                  | 38.4              |
region. According to the experts in this field, the cost of an apartment in a fully renovated apartment building increases by approximately a third. As a result of this, when paying contributions to the regional capital repair fund, the owner advances his funds in the capitalization of someone else’s living space.

Summarizing the two schemes for financing the overhaul system discussed above, based on the work of the Russian scientists, a draft of the best option for this process of collecting payments to the regional fund can be presented. Based on the fact that at present, any long-term savings, including the funds allocated to the regional capital repair fund or accumulated on the individual account of an apartment building, are subject to many risks, their minimization is possible only by saving them from inflation. An instrument of such anti-inflation protection can be deposits opened by the banks authorized to conduct such financial and economic activities, that is, to accrue interest on the amount of funds deposited (on their balance). This should protect the funds from inflation, increase them by a certain amount, act as a kind of guarantee.

A specific mechanism for resolving such contradictions can be based on a credit scheme. The overhaul implementation according to the bank loan scheme by specially authorized financial institutions enables the residents to implement all the scheduled repair and construction works in full according to the developed and adopted estimates, without saving in urgent cases when the revealed hidden defects and without waiting for the deadlines stipulated by the regional capital repair program. From this point of view, a loan can be considered as an optimal means of balanced spending of the owners’ funds accumulated for overhaul, and the costs of budget bills in this case will be minimal.

Among other things, with the accumulative scheme of collecting and spending funds for major repairs, in any of its variants there always arises the problem of the developed estimate’s inconsistency for the construction and installation work with the amount of accumulated funds in the fund for their implementation. In the proposed credit model, the payment for the overhaul carried out exactly corresponds to the actually completed repair measures. In this case, the state authorities could legislatively develop and approve credit privileges for the borrowers that fall into certain categories. For them, it would be possible to envisage an extension of the loan repayment terms, a decrease in the down payment and subsidized part of the costs intended for major repairs. Under such a scheme, it would be very important to involve the Housing and Communal Services Development Assistance Fund as a creditor, since its funds could be a kind of collateral for loans attracted by the owners to carry out the overhaul of their house. In this situation, funds for the apartment buildings’ overhaul can be allocated in the form of an interest-free loan, excluding the down payment.

In such a scheme, in the concentrated form, an individual approach is applied to the overhaul of each particular house, taking into account its real condition, age, climatic factors of the area in which it is located, the degree of wear of communications and other factors. The differentiation of the contribution rates for overhaul, which is directly proportional to the condition of the building, is also important, and the credit scheme automatically isolates this need, since the owners at the general meeting themselves determine the need for repair measures, their list and cost. Separate structural elements of an apartment building (roofing engineering networks, elevators, etc.) have different useful lives and may gradually come under renovation, which makes it possible to replace them successively as they wear out and based on the need to exchange for new ones using borrowed funds of the bank and the Owners’ funds. In the case when the overhaul is not so relevant for a particular building in the near future, it is possible to use another scheme for it - accumulative with the funds’ accumulation in the house account.

4. Summary
Quality control and the cost of repair and construction work, systematic outreach through the constant contact with the apartment buildings’ residents, strengthening their payment discipline on contributions to the regional capital repair fund are the main tools to ensure high performance of the regional capital repair systems of apartment buildings, contributing to an increase in the satisfaction degree of the population with their activities and the quality of their housing at the end of the overhaul.
The results of the current state and development prospects’ analysis of the regional overhaul system on the example of the Rostov region allow us to state the fact that, on the whole, the practice of implementing the regional overhaul programs and the results achieved are positive and give grounds to conclude that the regional capital repair system is organizationally and economically viable. At the same time, ensuring its effective work requires support at the federal and regional levels (financial, informational, public control), which will provide an incentive for further development and the construction and installation works’ improvement, improve the quality of housing stock of the region’s municipalities and the comfort of living conditions for the population.

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