METHODSOFTHEREGIONALLANDEDPROPERTYUNITY MANAGEMENTEFFECTIVENESSDEFINITION

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Criteria and results of landed property unity effective management at the regional and municipal levels in the Russian Federation are presented. The way of effectiveness definition and general management control estimation as well as methods of landed property unity use forecasting are given.

The instruments of analysis is understood as a combination of algorithms and methods expressing the development regulations of the LPC management system in mathematical form along with the expression of the influence of different factors on the production results and the expression of the effect estimation. Analysis should be done by completing certain tasks of it. That will provide reaching the aim of the complex analysis of the effectiveness of the LPC management system.

The indicators characterizing the structure of the LPC are as follows:

- capital assets per head or per one employee;
- gross regional product production per employee;
- region territorial development (motor roads and train connections per territory unit).

The following basic criteria should be determined for the LPC management effectiveness definition:

a) consumer's level, from the point of which the regional demand satisfaction is measured based on the analysis of three comparative LPC (at the levels of Russian Federation, federal district and analyzed region);

b) number of indicators of the LPC functioning results (including landed resources as a system forming element);

c) indicators of consumption parameters.

During the analysis it should be taken into consideration that contradictive parameters of different categories are combined into a united complex in the process of consumption. To solve this problem the methods of analysis, providing a way of calculation of heterogeneous (stretch) indicators, should be chosen. The formula for LPC complex estimation calculation based on the LPC, FD and analyzed region analysis looks his way:

$$ЗИК_{регион} = \sum_{j}^{i} (У_j \cdot в_j + П_j \cdot о_j),$$

$ЗИК_{регион}$ - LPC complex estimation; $У_j$ - the demand for j-th service, formed during the LPC products (services) consumption approved by the citizens of RF, FD and analyzed region as a mark; C_j - LPC production efficiency estimation; $в_j$ - weight of j-th parameter in the services complex provided by LPC; $о_j$ - weight of j-th indicator in the LPC production.

The volume of the gross regional product, corrected by the factor of profitability is presented as the main use of assets activity indicator. The necessity of this correction was caused by the fact that the use of assets activity as an indicator of the produced products volume doesn't represent the gauge of its competitiveness and because of that pretty conditional. The efficiency of the LPC by the criterion of assets activity is right to define by the formula:

$$E_{aa} = E_{grp} \cdot F_{prof,}$$

E_{aa} – comparative efficiency of the *i*-th territorial LPC by the parameter of assets activity; E_{grp} – comparative efficiency of the LPC assets by the indicator "the volume of gross regional product"; $F_{prof,}$ - comparative factor of region' assets profitability.

At another turn, F_{prof} is defined by the relation of the profitability indicator of the *i*-th territory (R) with the region profitability indicator, which had better results in gross regional product producing or better profitability (R_{max}).

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The LPC management effectiveness definition should be done in the following steps:

1) definition of the type of effectiveness and effect;

2) effectiveness criterion estimation;

3) the choice of the effectiveness definition method;

4) the list of indicators definition;

5) information acquisition and processing;

6) definition of effect estimation directions;

7) analysis instruments development;

8) selection of factors influencing the landed resources management;

9) effect rate estimation and the analysis of acquired results;

10) system of indicators and/or methods of research specification;

11) counter calculation and the analysis of the results;

12) management decision making, use of LPC forecast.

Let's take a closer look at the mentioned stages.

Stage 1. Definition of the type of effectiveness and effect. LPC managing procedures of the region can have economic, social, ecological and other kinds of effectiveness and effect. It's hard to emphasize the LPC functioning effectiveness in the common effectiveness indicators of the managing system of the Russian Federation or municipal organization at the stage of social, ecological or other types of effects defining.

The easiest way is to define the economic effect of landed resources management, which can be characterized by a full informational system, while it's hard to acquire such information for defining other types of effects.

Stage 2. Effectiveness criterion estimation. One of the three indicators can be chosen as an effectiveness criterion: 1) maximum income from the landed resources management system operations; 2) minimum income to execute "Rosnedvizhimost" functioning; 3) maximum income from the LPC management system operation at the appropriate financing.

The most objective is the criterion of the LPC management system effectiveness, which is defined as a difference between maximum sum of incoming landed payments and the level of landed register operations financing, nature protection financing.

Stage 3. The choice of the effectiveness definition method. The following methods can be chosen at the stage of LPC regional management effectiveness definition: comparison, graphical, cluster, calculative-correlation analysis, method of neuron nets. And for the organizational structure of management effectiveness estimation – method of comparison, graphical and calculative-correlation analysis.

Stage 4. The list of indicators definition. The following indicators can be used as basic for the management system effectiveness analysis:

♦ at the level of Russian Federation (for each of the subjects of the federation) – the information on the landed registry and other landed operations financing from the federal budget; nature protection expenditures; social-economic indicators of the region development; gross regional product; the information of the budget financing of the landed registry automated system creation, information on landed payments, insurance and other payments, registry information;

♦ at the level of subjects of Russian Federation (for every municipal organization) – nature protection expenditures, social-economic indicators of the region development, the information on the landed registry and other landed operations financing, the information of the landed payments collection, payments for the use of the landed registry informational base, of the insurance and other payments for registry information.

Stage 5. Information acquisition and processing. To execute a proper analysis of the LPC management system effectiveness at the level of the Russian Federation subject it is necessary to have information on two levels: the level of the Russian Federation subject and the level of federal district which includes this subject. Average statistics is required.

Economic and social conditions of the Russian Federation subjects have strong differences. That's why it is necessary to use relative indicators (per square unit, per citizen, etc).

While using the parameters for a number of years it's necessary to use corrective inflation factors, make the calculations in conditional measures or use the indicators index dynamic. The methodic of defining the inflation influence on the indicators of economic effectiveness in

present (constant) prices is interesting for taking the inflation processes into consideration[1].

Stage 6. Definition of the effect estimation direction. For the analysis of the present conditions of and the development of the perspective conditions of the management system the following methods can be applied: method of expert estimation, questioning, factor analysis, cluster analysis, grouping method.

Stage 7. Analysis instruments development. The instruments for the financing and the LPC management system effectiveness estimation should represent the dynamic of system stable functioning formation. Acquired data should be mathematically processed for the landed registry and other landed operations effectiveness estimation during the process of landed resources management.

Stage 8. Selection of factors influencing the landed resources management. This stage can be divided into the following parts:

- the selection (classification) of factors influencing the landed resources management effectiveness;
- the definition of influence of the factors on landed payments income and landed registry operations as a part of it;
- the choice of the most significant factors.

Stage 9. The effect rate estimation and the analysis of acquired results. This stage can be divided into following parts:

- the model of effect rate estimation construction;
- the trials of the model and its following corrections;
- the LPC management system analysis.

Stage 9.1. The construction of the model of the effects rate estimation.

To model the estimation of the economic effect of the landed management system a multiple correlation-regressive analysis can be applied. E.g. to define the dependence of the landed payments from the specific weight of the landed registry and other landed operations and from the number of management employees a line form with step-by-step calculation method can be chosen (with consequent entering of the most significant factors in the equation).

Stage 9.2. The trials of the model and its correction. After the analysis of the equation characteristics it is necessary to except the "falling out" data, which distorts the form of founded multiple correlation dependence.

During the analysis of the LPC management system effectiveness the landed resources system effectiveness factor (E_{lrm}) can be defined as a relation of the real landed payments estimation (Pl_r) to the calculated one (Pl_c):

$$E_{lrm} = Pl_r / Pl_c.$$

If the factor's estimation is larger than 1, it means that the landed resources management system operates effectively, if it's less than 1 – it's ineffective.

Stage 10. Management decision making, use of LPC forecast. The forecast othe use of LPC has a complex character and includes: 1) economic forecast; 2) forecast of use of landed resources as a part of LPC; 3) spcial forecast; 4) demographic situation forecast.

The objective forecast methods are those, that are based on extrapolation and modeling. These methods are well applicable in practice of middle-term forecasting. E.g. with the help of PC and the Coreg program a data evenness (a number of real estate transactions) calculation was executed at a limited period of research, and a forecast data estimation for 5 and 10 years was executed by the formula:

$$y_0 = a_0 + a_1 \cdot t \pm m,$$

y_0 – the forecast estimation of number of buildings in a quarter; a_0 – basic rates of buildings in a quarter; a_1 – the regression factor; t – ordinal number of the quarter of the research, ± m – forecasting mistakes ($m_{5\ years} = 5\%$, $m_{10\ years} = 10\%$).

The results are represented in the table.

According to the forecast calculation we can make a conclusion of the real and forecasted development of the real estate market in years and quarters; of the present and future tendencies in the structure of transaction, of he reasons, explaining the real estate market tendencies.

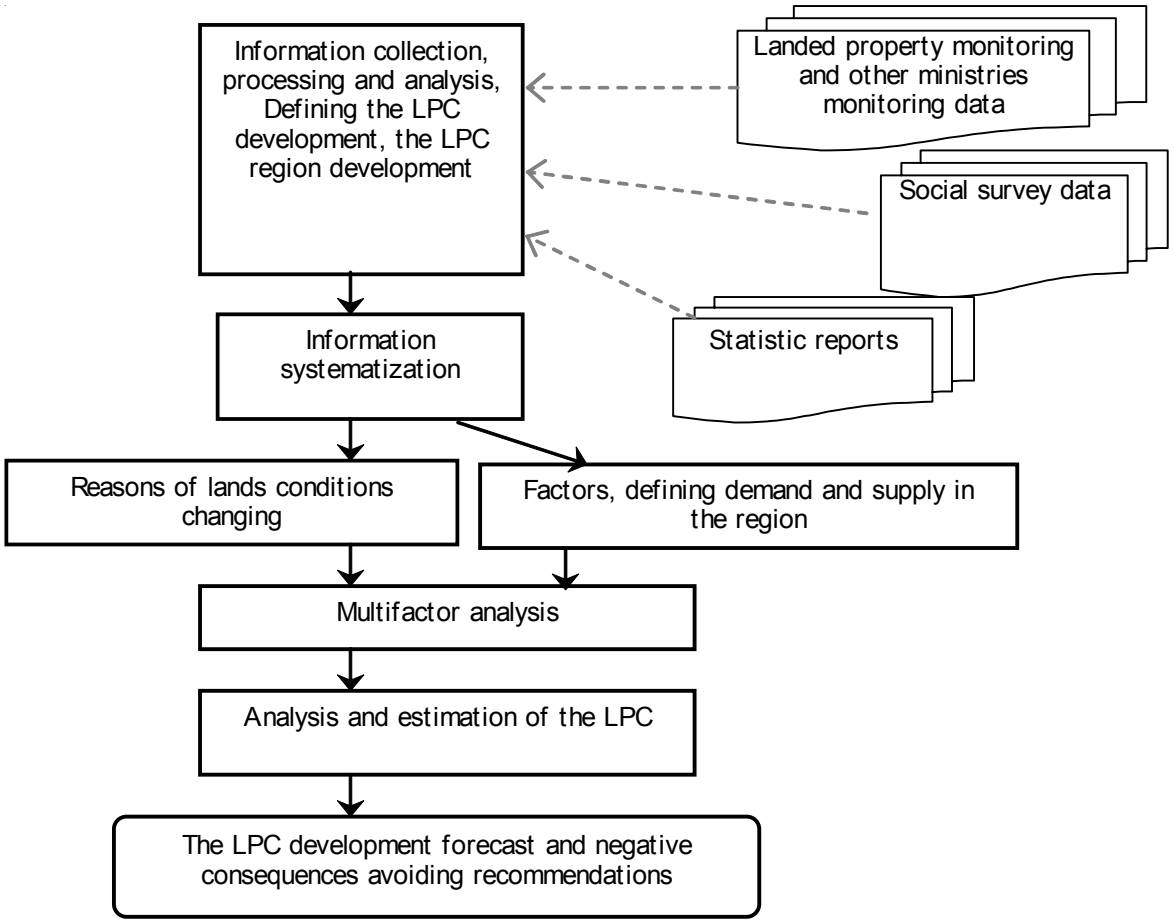
The subject methods are those that are based on experts' estimations.

The formation of the region LPC development forecast must take into consideration the forecast of conditions and the use of landed assets for a period of 10 years, and also the development of production and consumption of the LPC products for a period of 5-7 years.

The scheme of landed property complex development is presented in the picture.

Thestatisticestimationoftherealestateobjectstransactions

Real estate object	a_0	a_1	$y_{0\,2010}$	$y_{0\,2015}$
Flat	132,175	2,035	187± 11	125± 10
Private house	88,491	5,040	225± 14	245± 20
Country house	79,105	3,447	172± 10	186± 15
Landed property	22,368	2,532	91± 5	101± 8



Pict. **TheschemeoftheregionLPCdevelopmentforecast**

According to the LPC features the process of forecast includes the following steps:

♦ the strategic problem and the necessity of strategic acts is defined after the strategically oriented inventory taking and the LPC price increasing actions and after the analysis of the environment according to the aims of the LPC;

♦ all the relevant strategic alternatives are examined to solve the problem;

♦ the estimation of the strategic alternatives is based on the criteria, which come out of the determined goals. The strategy that meets the aim criteria (first of all, the LPC price growth in short terms) is chosen;

♦ strategic plan as a result of the previous work forms the basis for future operations of its realization including the development of strategic programs, short-term plans and budgets.

As a result of the regional LPC effectiveness definition the problems in development of the landed property complexes of different directions will be obtained (in agricultural sector, industry, social sphere). The more detailed analysis should be executed at the level of local LPC from the position of production.

[1] *Rimer M.I.* The construction of the correct estimation algorithm of the inflation influence on the economic effectiveness of the project/ M.I. Rimer, A.Y. Nikiforov // Samara State Economic University newsbook. Samara, 2007. ц 5(31). P. 144-149.