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**CLASSIFICATION OF PROCESSES OF REPRODUCTION OF FIXED CAPITAL  
OF THE AGRICULTURAL ORGANIZATIONS**

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**Abstract:** *It is described that questions of economic growth, the advancing investments, preservations of food security of the country demand from economy of the Russian Federation of an exit to the new level of functioning that is impossible without effective management of process of reproduction of fixed capital in the agricultural organizations.*

*Materials and methods. In work the analysis of the treatments of the concepts "reproduction type", "type of reproduction", "reproduction method", "reproduction form" existing in the Russian scientific community was carried out, the conclusion is drawn on considerable confusion in terminology, need of identification of these concepts is noted. Authors analyzed essence of these concepts, author's treatments of the studied definitions are given. It is separately emphasized that from the point of view of authors ascertaining of existence of certain types, forms and types of reproduction can be made only after carrying out the corresponding analysis of real processes.*

*Results. In the article the problem of a typologization of processes of reproduction of fixed capital on the basis of change of indicators of the general and average power of elements of fixed capital on the basis of these forms 17-APK annual accounting reports of the agrarian and industrial complexes organizations of the Nizhny Novgorod Region for 2010-2013 were solved. On the basis of the cluster analysis of their values the main 9 types of the organizations for these indicators were allocated.*

*Discussion. On the basis of the analysis of change of types of the organizations 8 types of reproduction of fixed capital on change of indicators of power were allocated, their prevalence is analyzed. It is noted that the agricultural organizations of the Nizhny Novgorod Region generally increase as average, and the specific power of the fixed capital.*

*Conclusion. In the conclusion authors noted the further perspective areas of work on this subject.*

**Keywords:** *capital, fixed capital, reproduction of fixed capital, reproduction purpose, object of reproduction, subject of reproduction, reproduction source*

**JEL Classification:** B41, E22, O13

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### **Introduction**

Questions of economic growth, the advancing investments, preservations of food security of the country are particularly acute for economy of the Russian Federation more than ever today. Today the need for increase in efficiency including agricultural production that it is impossible without increase in quantity and improvement of quality of the economic resources which are at the disposal of the agrarian and industrial complexes organizations is obvious.

**Table 1. Types, forms and methods of reproduction of fixed capital in the Russian literature**

<b>REPRODUCTION FORMS</b>	
<b>Author</b>	<b>Reproduction forms</b>
Abakumov R. G. [1, page 2]	Simple, expanded, narrowed, innovative
Trubin A. E. [2, page 16]	Compensation, expansion, modernization, replacement
Hlynin E. V., Vasin L. A. [3, page 1]	Narrowed, simple, expanded (is divided into extensive expanded and intensive expanded)
Buttayeva S. M. [4, page 7]	current, average and capital repairs, modernization, reconstruction, expansion, modernization, new construction, replacement technically worn-out and outdated
Ashmarina T. I. [5, page 7]	Acquisition, technical arms, restoration
Hlynin E. V., Gorodnichev S. V. [6, page 3] Cherepanova M. V. [7, page 9]	Reduced, simple, expanded
Tyupakov K. E., Papakhchyan I. A. [8, page 3]	Restoration by repair (current, capital or repair with modernization), replacement of equipment (acquisition of the supported machines, new analogs, qualitatively new equipment)
Onufriyeva A. S. [9, page 12]	Monetary, productive, commodity
Ableeva A. M. [10, page 4]	Simple, expanded
<b>REPRODUCTION TYPES</b>	
Sazonov S. G. [11, page 12]	Discrete, continuous
Trubin A. E. [2, page 16]	Simple, expanded, innovative
Abakumov R. G. [1, page 2]	Extensive, intensive, mixed
<b>REPRODUCTION METHODS</b>	
Ashmarina T. I. [5, page 7]	Replacement, modernization, repair
Ableeva A. M. [10, page 4]	Accumulation (increase in kind), updating
Abakumov R. G. [1, page 2]	Capital and maintenance, modernization, modernization, reconstruction, creations of the new capital

Questions of use economic resources, their updating, always were the focus of attention of the Russian scientists - however, like the western colleagues, they are more accented on studying of theoretical regularities, investigate these processes at the macro level. Meanwhile researches at the level of directly organizations, classification of processes of reproduction of fixed capital as important economic resource are of a great interest.

Materials and methods. The treatment of reproduction of fixed capital as the process of change of set of the qualitative and quantitative characteristics of fixed capital for the most effective achievement of the objectives put before the organization directed by the management of the organization, proved in other works of authors demands separate consideration of a question of a typologization of processes of reproduction in the agricultural organizations.

The analysis of scientific literature allows to claim that the present remains disputable a question of the content of the concepts "reproduction type", "reproduction form", "type of reproduction", "direction of reproduction", there is no uniform treatment of these definitions.

At the first stage we will carry out the analysis of all terms given above. In the table the types allocated in literature, types, forms and methods of reproduction of fixed capital are described below.

The analysis of the presented treatments allows drawing a conclusion on considerable confusion in terminology. The same terms are selected with one scientist as reproduction methods, others - as forms or types of reproduction; besides, according to authors, the given classifications are not able to capture all variety of the existing processes.

It is necessary to decide, first of all, on treatment of concepts of type, types, forms and a method of reproduction that will form the basis for creation of system of classification of these processes.

The following definition is standard: the type is unit of a partition of the studied reality, ideal model of historically developing cultural objects. On other treatment, the type defines the general signs of a number of objects, the phenomena or actions on the basis of their similarity and similarity. Proceeding from the aforesaid, we define the concept "reproduction type in the agricultural organization" as the certain ideal model of reproduction possessing some distinctive features characteristic of reproduction processes in a certain part of the agricultural organizations.

The concept "look" is other than concept of type. In taxonomy (science about classification) the look is understood as the minimum taxon, i.e., the group consisting of discrete processes, objects united on the basis of the general properties and signs.

The concept of a look is broader concept of type. Respectively, the allocated type of reproduction can include several its types. We consider as the poet that the types of reproduction given above cannot be recognized as those and need revision which is possible only after the analysis of practice of reproduction process.

One more important category is the concept of "a reproduction form". In explanatory dictionaries, as a rule, the form is understood as the internal organization of contents which represents set of parts of a subject and their interaction among themselves.

Therefore, the form of reproduction of fixed capital can be defined as a certain way of interaction of elements of reproduction process. In our opinion, as forms of reproduction it is impossible to allocate the simple and expanded form and other forms describing result of process of reproduction - it can be accepted as type, but not a form of reproduction.

We consider that it is possible to understand external result of process of reproduction as this term - namely quantity of the elements of fixed capital which were carrying out some volume of technological functions before and after the act of reproduction. Proceeding from this treatment, it is possible to allocate 4 forms of reproduction - single, extending, compact and combined. The single form of reproduction is characterized by the existence of the only object of fixed capital before and after the act of reproduction extending reproduction is called if emergence of group of the elements of fixed capital intended for execution of similar functions instead of one element of fixed capital became a result of the act of reproduction. The compact form of reproduction is opposite extending, combined means existence both to, and after the act of reproduction of a certain group of the elements of fixed capital which are carrying out similar functions.

Also in literature the concept of a method of reproduction often meets. A method is the systematized sequence of actions which are aimed at achievement of a definite purpose.

Defining a method of reproduction of fixed capital as a certain sequence of actions for reproduction of fixed capital, we agree with opinion of Abakumov R. G. who allocates capital and maintenance, modernization, modernization, reconstruction, creation of the new capital as methods of reproduction of fixed capital. Content of these concepts is disclosed in Art. 1 of the Town-planning code of the Russian Federation:

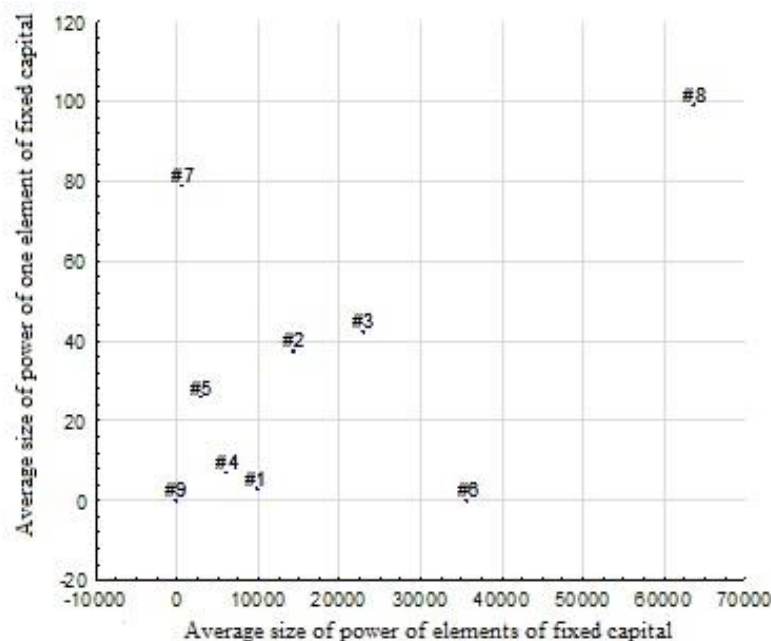
- construction - creation of buildings, structures, constructions (including on the place of the taken-down capital construction projects);
- reconstruction of capital construction projects (except for linear objects) - change of parameters of a capital construction project, its parts (height, the number of floors, the area, volume), including a superstructure, reorganization, expansion of a capital construction project, and also replacement and (or) restoration of the bearing building constructions of a capital construction project, except for replacement of separate elements of such designs by the similar or other improving indicators of such designs elements and (or) restoration of the specified elements;
- reconstruction of linear objects - change of parameters of linear objects or their sites (parts) which involves change of a class, category and (or) originally established indicators of functioning of such objects (power, loading capacity and others) or at

which change of borders of strips of branch and (or) security zones of such objects is required;

- capital repairs of capital construction projects (except for linear objects) - replacement and (or) restoration of building constructions of capital construction projects or elements of such designs, except for the bearing building constructions, replacement and (or) restoration of systems of technical providing and networks of technical providing capital construction projects or their elements, and also replacement of separate elements of the bearing building constructions by the similar or other improving indicators of such designs elements and (or) restoration of the specified elements;
- capital repairs of linear objects - change of parameters of linear objects or their sites (parts) which does not involve change of a class, category and (or) originally established indicators of functioning of such objects and at which change of borders of strips of branch and (or) security zones of such objects is not required. [12, Art. 1]

Thus, we consider that types, forms and types of reproduction can be identified only after carrying out the corresponding analysis of real processes.

Results. Within this research the problem of a typologization of processes of reproduction of fixed capital on the basis of change of cumulative average power of elements of fixed capital on the basis of these forms 17-APK annual accounting reports of the agrarian and industrial complexes organizations of the Nizhny Novgorod Region for 2010-2013 was solved. The indicator of power of one OK element is offered to be counted as the relation actually of power OK to work of quantity of elements of the OK different groups. Using designated above a quality and quantitative index, on the basis of the cluster multidimensional analysis of their values the main 9 types of the organizations were allocated. Graphic display of their average values is given in drawing below.



**Figure 1. Average values of the allocated 9 types of the agrarian and industrial complexes organizations**

The analysis of the allocated 9 types of the organizations allowed characterizing them as follows:

- the organizations of types No. 9, 1, 6 are characterized by low value of average power of elements of fixed capital and differ from each other in the general power OK (as a rule, these

organizations are characterized by a large number of the OK elements and a big structural share of not power elements of fixed capital);

- the organizations of types No. 9, 5, 7 are characterized by low value of the general power of the OK elements at different values of average power OK - at the same time the organizations of type 7, as a rule, has small quantity of the OK elements

- the organizations of types No. 4, 2, 3, 8 are characterized by different quantity of elements of fixed capital at their invariable structure on power, at the same time the organizations 8 of type are characterized by the biggest general and specific power OK.

Numerical values of average different types of the organizations and dynamics of their distribution are given in the table below.

The analysis of the submitted data allows to state the greatest prevalence of the organizations of types No. 5,7,4 that allows to state an unfavorable tendency of a prevalence of the organizations with the low size of the general power of the OK elements. At the same time It should be noted that in 2013 the structure of the organizations for types of fixed capital towards uniformity of distribution sharply changed - the number of the organizations of types No. 2,3 sharply increased, the number of the organizations of types 5,7 was reduced.

**Table 1. Numerical values of average sizes of indicators of power for the allocated types of the organizations and the loudspeaker of prevalence of types in the agrarian and industrial complexes organizations of the Nizhny Novgorod Region for 2010-2013.**

cluster No.	The average size of power of elements of fixed capital in a cluster	The average size of power of one element of fixed capital in a cluster	2010	2011	2012	2013
1	9836,79	2,51	48	48	47	55
2	14406,07	37,35	19	20	19	63
3	23061,98	42,04	10	6	5	40
4	6275,43	6,52	79	81	80	87
5	3095,00	25,46	164	147	128	96
6	35987,65	0,01	6	3	0	11
7	831,45	78,76	187	176	178	95
8	63925,78	98,69	3	3	2	1
9	0,00	0,00	36	45	48	59

Further we will address the analysis of processes of reproduction, i.e. processes of change of the general and specific power of fixed capital through change of belonging of the organizations to this or that type (see the table below).

The analysis of data of table 2 allows noting that for the analyzed period were the most widespread:

- transition of the organization from type No. 5 to type No. 4 (72 organizations) that means considerable decrease in specific power of elements of fixed capital at increase of the general power that is a consequence of acquisition of a significant amount of elements of fixed capital of not power appointment;
- transition of the organization from type No. 7 to type No. 5 (59 organizations);
- transition of the organization from type No. 4 to type No. 2 (34 organizations), confirming growth and the general, specific power of elements of fixed capital.

**Table 2. Balance of transition of the organizations from one allocated type to another for 2010-2013.**

		Type of the organization in 2013								
		1	2	3	4	5	6	7	8	9
Type of the organization in 2010	1	3	13	25	0	1	1	0	0	2
	2	0	1	10	0	0	4	0	0	1
	3	0	1	0	0	0	6	0	0	0
	4	26	34	0	3	0	0	0	0	4
	5	22	7	0	72	22	0	7	0	3
	6	0	0	0	0	0	0	0	0	1
	7	1	1	1	6	59	0	60	0	19
	8	0	0	0	0	1	0	0	1	0
	9	0	0	0	1	3	0	7	0	14

**Discussion.**

On the basis of the analysis of change of types of the organizations the following types of reproduction of fixed capital were allocated (It should be noted that the type of the organization for the power of fixed capital is the static characteristic of the organization on a separate time point, and type of reproduction of fixed capital on change of indicators of power - a dynamic characteristics) on change of indicators of power:

- stable (the type of structure did not change) - 24%;
- averativno-deklivny (decrease in average power OK at stability of the general power) - 18%;
- averativno-reyzyngovy (increase in average power OK at stability of the general power) - 4%;
- modular askensivny (increase in the general power OK at an invariance specific) - 1%;
- modular and reductive (decrease in the general power OK at an invariance specific) - 1%;
- lifting (increase and the general, and specific power) - 21%;
- decreasing (reduction and the general, and specific power) - 1%;
- mixed - 30%.

In general, it is possible to note that the agricultural organizations of the Nizhny Novgorod Region generally increase as average, and the specific power of the fixed capital.

Conclusion. Questions of a typologization and classification of real economic processes of reproduction are an indispensable condition of the correct and effective public administration by all complexes of agrarian and industrial complex today. Further researches in this direction can be conducted:

- regarding development of a technique of the analysis of prevalence of the reproduction methods applied by the agrarian and industrial complexes organizations;
- regarding identification of forms of reproduction of different economic resources;
- regarding creation of uniform classification of types and types of reproduction of economic resources of the organization;
- regarding development of a technique of the analysis of efficiency and other parameters of state regulation of processes of reproduction.

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