

## MECHANISM OF TRANSFORMATION OF LAND RELATIONS IN THE AGRICULTURAL SECTOR OF RUSSIA

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### **Abstract**

*The purpose of the study is to form a mechanism for developing the framework of land relations in agricultural sector based on the designing an institution of land relations management. The theoretical concepts of institutionalism, management, communication as well as situational approach, general scientific and specific scientific methods were used within the study. Mechanism of transformation of land relations in the agricultural sector of Russia is functioning on the basis of the principles of optimality, limited rationality, quality, stability of norms and rules. Integration of the new institution with the existing institutions of legislative authority, federal property management, regulation of real property title, monitoring and supervision, agricultural sector development, land ownership within the framework of the norms are its specific features. The developed mechanism assumes inclusion and application of the mechanism of transformation of the land relations environment as well as the mechanism of supervision over the observance of norms and rules which action is performed with the use of monitoring of agricultural land turnover. The support of management by the functioning and development of institutions and coordination of actors' interaction assume high-quality institutional management. Assessment of efficiency of land relations transformation should be carried out on the basis of the introduced integrated index which includes the coefficients of implementation of managerial decisions, use of authority, compliance of results with the expectations, information collection. The practical relevance of the development lies in the possibility of using the mechanism elaborated by the authors in the areas of targeted measures.*

**Key words:** actor, agricultural land, development, effective management, institution, monitoring.

### **INTRODUCTION**

Land relations transformation in agricultural sector of Russia is a complex process which is characterized by inertness, emergence of institutional traps, underdevelopment of the land market, presence of large areas of unclaimed agricultural land. Long-term experience in the reformation of land relations in agricultural sector indicates the failure to achieve the stated goals. Dispersion of management functions into various ministries and departments adversely affects institutional transformation (Dankevych et al., 2017; Shynkaruk et al., 2020; Zavorotin et al., 2015). Often formal institutions of land relations become ineffective and need legislative improvement.

Theoretical and methodological basis for the study of institutional transformation of land relations were the scientific works of Alchian, Demsets (Alchian et al., 2015; North, 1997) and others. North defines institutions as rules,

mechanisms ensuring their implementation and standards of behavior which structures repetitive interactions between people. Sukharev (Sukharev, 2014) gives basic definitions of institutions, their dysfunction and types as well as characterizes adaptive efficiency. He understands institutions as formal rules formed by society and government, acquiring the meaning of norms and having legal significance as well as informal rules. Dysfunction is a violation, breakdown in the functions of any organ, system, economic institution, mainly of a qualitative nature. Adaptive efficiency is the efficiency of rules functioning, restructuring of the system is directly related to the possibility of adaptation (Sukharev, 2014). Tambovtsev, in 1997, regards it necessary to consider institutions in terms of changes. Kleiner (Kariuki et al., 2018) considers designing and transplantation of institutions as constituent elements of the institutional change process. In his opinion, the framework of the institution

expresses the essence and basic provisions of the norms and rules and is preserved throughout the life cycle of the institution. Aoki (2007) describes some common mechanisms for institutional consistency and change. From Maze's (2007) perspective, in addition to coordination and governance issues, the choice of standards and limits is important to define multilateral governance mechanisms in the agricultural sector. Kariuki, Birner and Chomba (2018) recommend to integrate the mechanisms which coordinate the formal (distribution of title to land) and informal institutions (cultural practices).

Formal and informal institutions affect the efficiency and ability of the market to ensure constructive interaction of economic agents in terms of meeting needs (Shpykulyak et al., 2015). Mamchur (2014) singles out the level of institutional and legal security as an institutional criterion, considers measures of financial regulation, legal, antimonopoly, organizational, production-consumer and other measures as institutional factors of the functioning of the agricultural market.

Bizoza, Opio-Omoding (2021) considered institutional and economic considerations to strengthen long-term impacts in context of theory of change of land tenure security activities. Khlystun (2019) assessed land management system as inefficiency, offered institutional change of system. Ariti, van Vliet and Verburg (2019) studied institutional network which is consists of different administrative levels institutions, showed important of higher administrative level in land management. Kononenko (2019) proved the existence of a strong relationship between the quality of political-legal and land institutions.

In Russia, it is necessary to carry out a qualitative transformation of the institutional

environment of land relations (formal and informal institutions), to ensure the transition from an obsolete stage of development to a new one. It must be accompanied by the interaction of institutions in order to comply with the interests of actors in the rational use of agricultural land.

Insufficient development of the issues of land relations transformation in agricultural sector was the basis for the development of a new institution.

## **MATERIALS AND METHODS**

### **DEVELOPMENT OF THE FRAMEWORK OF LAND RELATIONS INSTITUTION**

#### **Designing of a new land relations institution**

Designing of a new institution of land relations management elaborated by the authors is aimed at developing the strategy and tactics of the actors' activities (subjects of land relations) in the regulation of the processes of ownership, use and disposal of agricultural land.

For practical use the authors propose the original mechanism for development of the framework of land relations institutions in agricultural sector (Figure 1).

The purpose of the mechanism designing is in the integration of its elements to make them interact and as a result be effective at the final stage of managerial decision-making.

The institutional aspect of land relations should take into account transformation as a process becoming and development rules and regulations. The norms (institutions), which are required to be applied when developing the mechanism of land relations, can be of an imperative, dispositive, encouraging or recommendatory nature.

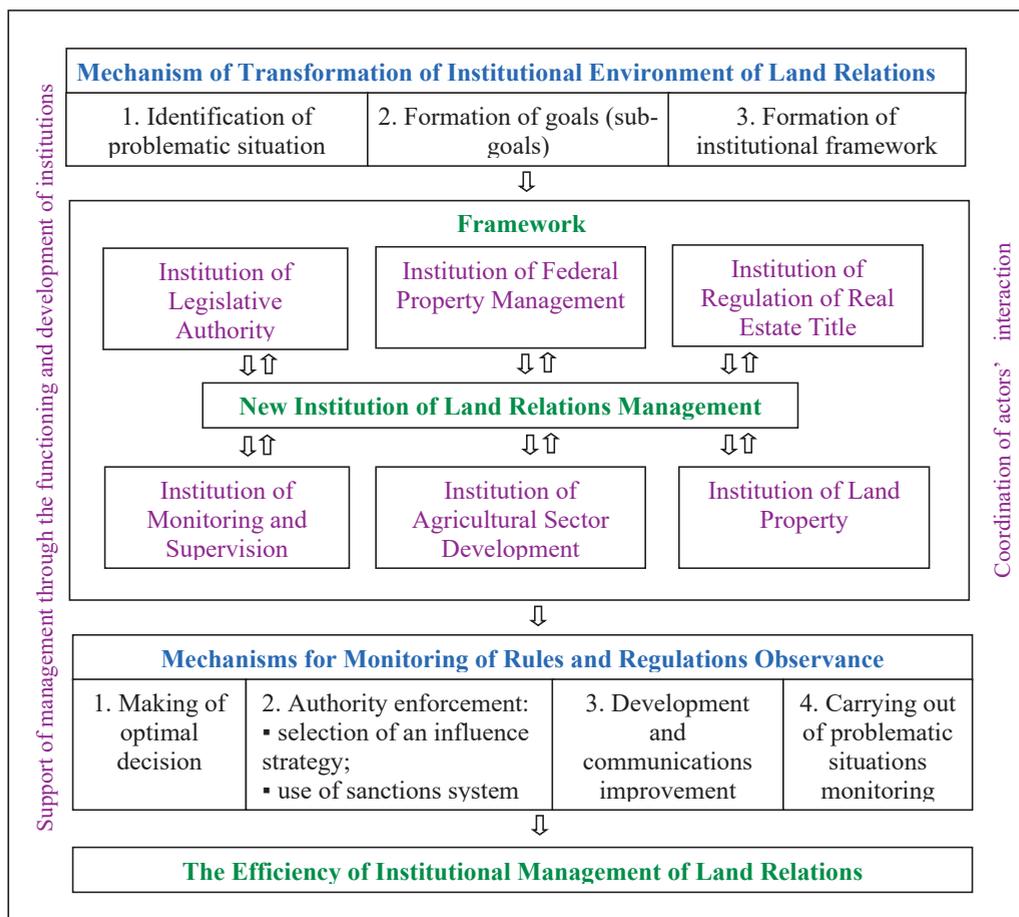


Figure 1. The proposed mechanism for the development of the framework of land relations institutions in agricultural sector and their interactions in Russia Source: Author’s own elaboration

The imperativeness is manifested in the strict regulation of normative prescriptions that empower state governing bodies and establish the appropriate legal status and responsibilities of owners, land users, landowners, tenants. Dispositive ness involves informing about the possible lawful behavior of the subject agricultural land use. The use of the incentive system regulates the responsibility of participants in land relations through the approval of special benefits, incentives, etc. The implementation of the recommendations that establish the options for optimal actions is preferable, but not mandatory. The transformation of the institutional environment involves identification of unstable institutions and sorting of system or emerging problematic situations. For example, the high

level of transaction costs in the market and non-market turnover of land shares will prevent the positive institutional changes and the transition of land from inefficient actors to efficiently working owners (Uzun et al., 2019; Zavorotin et al., 2018).

By the significance the situations can be ranked as follows:

- 1) non-use of agricultural land (first of all - arable land) for the intended purpose accessing by a loss of profit;
- 2) shrubbing and afforestation of agricultural land characterized by the cost of uprooting and land reclamation;
- 3) commercial failure of agricultural businesses leading to an increase in the area of unused agricultural land;

4) increase in the prices for material resources, limiting the opportunities of agricultural businesses to involve unused land in economic turnover, etc.

Figure 2 shows the share of arable land in the total area of agricultural land by Russia, European Neighborhood Policy (ENP)

countries in Eastern Europe: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

The largest share of arable land in the total area of agricultural land takes Ukraine (79.0%), Russia is in fourth place (56.5%).

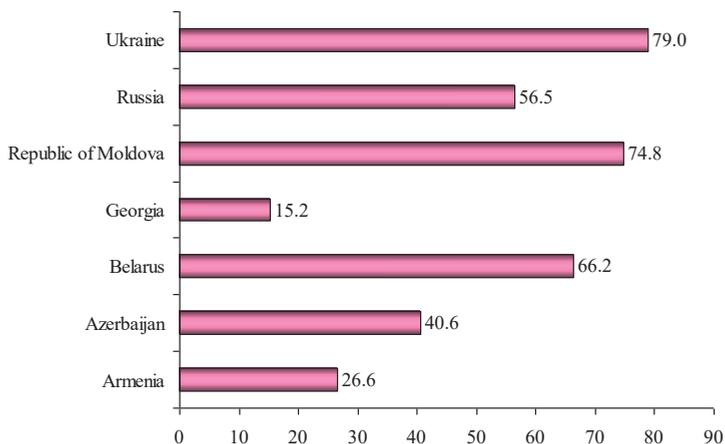


Figure 2. Share of arable land in the total area of agricultural land by Russia and ENP-East countries, %  
 Source: Author' calculations from FAO (2020)

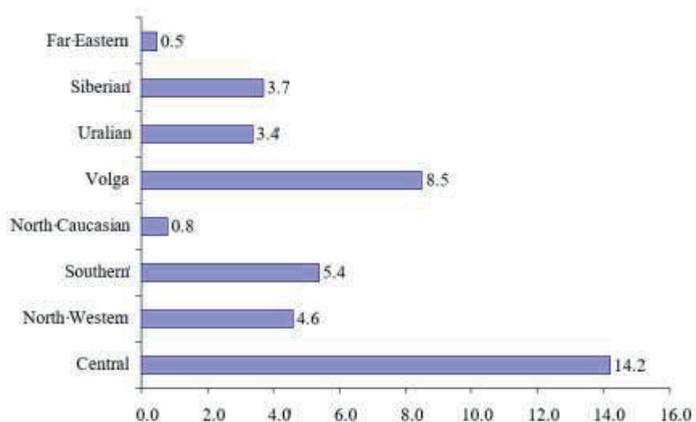


Figure 3. Share of unclaimed arable land in the total area of agricultural land by federal districts of Russia, %  
 Source: Author' calculations from Report on the status and use of agricultural lands of the Russian Federation, (2015)

Figure 3 shows non-use of agricultural land: the share of unclaimed arable land in the total area of agricultural land by federal districts of Russia. The largest share of unclaimed arable land in the total area of agricultural land takes Central federal districts of Russia (14.2%), the smallest - Far Eastern (0.5%). A certain period

should be given to the elimination of the problem within which goals are set and adjusted depending on changes in the internal and external environment of the land relations state and land resources use. It is necessary to apply a situational approach for implementation of these purposes (Zavorotin et al., 2015).

In the mechanism elaborated by the authors, the framework of institutions is formed from interrelated institutions of legislative authority, federal property management, regulation of real property title, monitoring and supervision, agricultural sector development, land property and a new institution of land relations management. With that the principle of differentiation is maintained as institutions perform different functions and have different powers. The solution of the problems coordinated by the institutions is based on the principle of integration of joint managerial activity and use of a dispositive method of legal regulation.

The main element of the framework is the proposed institution of land relations management, which ensures the consolidation of institutions for searching the optimal solutions, the implementation of which stipulates the formation of mechanisms of administrative, judicial, social supervision over observance of norms and rules as well as identification of their violations. For example, in accordance with the regulations a Permanently Functioning Meeting under the Deputy Chairman of the Saratov region Government (Russia) holds meetings for the collegial study of operational issues within the scope of its competence, monitors the implementation of legal acts, federal and regional programs, etc. Members of the Meeting participate in preparation of materials as well as draft resolutions and orders which require a decision of the Governor or the government of the region.

A selection of an influence strategy which involves the formation of new rules and regulations is made for effective management. Constitutional rules include state regulation of land relations, supervision over their observance as well as the imposition of sanctions against inefficient agricultural land users. Economic rules provide motivation and incentives for the rational use of land resources. Interaction of actors and institutions is based on the provisions of the communication theory, which determines the methodological approach to the coordinated solution of problematic issues, monitoring of institutional traps. Communication system is presented by the repeated complementary, met complementary, symmetrical, reciprocating matrices. The first two types of relations are present in the

implementation of managerial decisions. For example, in the case of obtaining full, accurate, scientifically valid and up-to-date official statistical information on agricultural land, the communication model will have the form of "economic entity - department of municipal statistics - territorial body of Rosstat - Federal State Statistics Service". Symmetrical communication can be observed at the general meeting of land shares owners. Reciprocating matrices are developed in the non-market turnover of agricultural land.

Within the mechanism of development of the framework of land relations institutions in agricultural sector, support for the management through their functioning and development in conditions of overcoming transformational barriers (high costs, associated risks, opportunistic behavior) is provided.

### **Monitoring of problematic situations in land relations**

The implementation of complex managerial decisions in the sphere of land relations must be accompanied by monitoring of institutional traps. The authors propose an information-analytical system for monitoring of agricultural land turnover, which is a part of the mechanism of land relations management (Figure 4).

Information collection on the state of market and non-market of agricultural land turnover is made at the first stage of monitoring. Market turnover assumes the study of materials on transactions of purchase and sale of state, municipal, private land, right for possession, use, lease, life care contracts; non-market - on land plots, shares of citizens, inheritance, donation, assignment for ownership, use, lease on the basis of contracts.

The second stage stipulates analyzing and forecasting of information, including the identification of risk factors in the land market, risk assessment by the method of developing the weighted average, basic, periodic, operational indices, institutions. The basic index is the level of cadastral valuation of 1 hectare of land. Periodic indexes include the proposal concentration, potential demand, total area of the proposed lands, price level of the proposals by the areas, areas with the largest range of land proposals, areas that are bestselling in potential buyers.

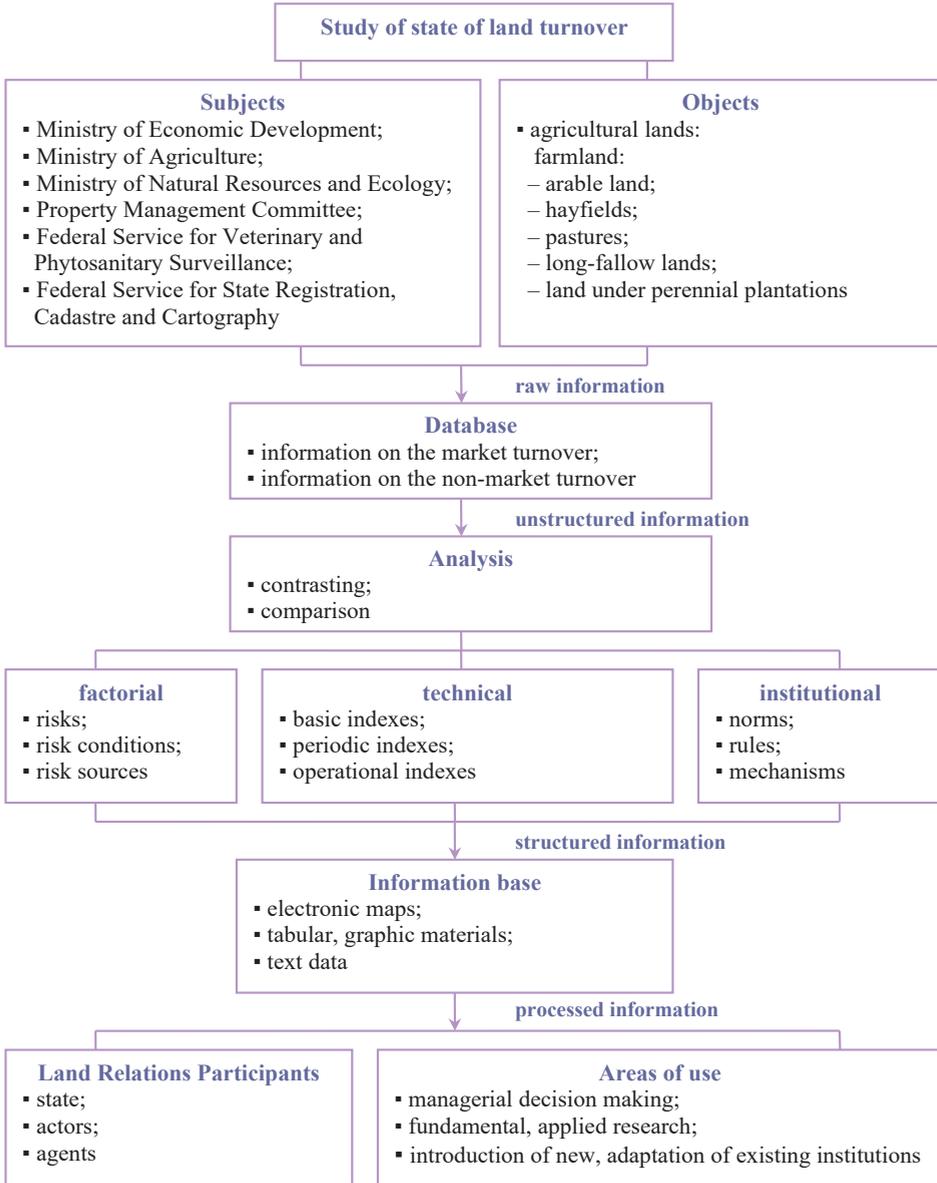


Figure 4. Monitoring of agricultural land turnover in Russia Source: Author’s own elaboration

Operational indexes characterize the interest to the plots, sales equivoques, competitiveness of the area by the price, attractiveness and reasonability of sales, market prospects, possible level of increase in market prices for land. Institutions are analyzed in legal, economic, social aspects: provision with correct, logical, consistent norms and rules; positivity of changes in land legislation; observance of the

principles of legal regulation stability, legitimacy, consistency; ratio of actual and nominal carriers; efficiency of mechanisms (Zavorotin et al., 2015).

At the third stage, the results of the survey are interpreted and an information base that facilitates the coordination of actors' interaction is formed. Analysis data on soil profiles, humus content, degree of run-off processes will

include in information base, it will possible to model of erosion processes for implementation in precise farming (Koliada et al., 2018; Kucher et al., 2015). Land monitoring allows identifying the main factors of specific crop production, area of agricultural land introduced into economic turnover. It will help evaluate number of implemented of managerial decisions to introduce land into economic turnover, to reduce agricultural depletion. Thus, monitoring enables actors to control enforcement of managerial decisions, make norms (institutions) of land management.

**Assessment of efficiency of institutional management of land relations**

Institutional management is a targeted impact on the constraints and norms in the activity of organizational systems participants (Novikov, 2005). The integrated index of efficiency of institutional management of the land relations (C<sub>Int</sub>) is calculated by the formula developed by the authors:

$$C_{Int} = \frac{1}{n}(C_{Imd} + C_{AE} + C_C + C_{IC}), \quad (1)$$

where: C<sub>Imd</sub> - coefficient of implementation of managerial decisions;  
 C<sub>AE</sub> - coefficient of authority enforcement;  
 C<sub>C</sub> - coefficient of compliance of results to the expectations;  
 C<sub>IC</sub> - coefficient of information collection;  
 n - total number of management quality coefficients.

This integrated index varies from 0 to 1. The highest value of the C<sub>Int</sub> is compliant with the optimal values of its components.

Coefficient of implementation of managerial decisions (C<sub>Imd</sub>):

$$C_{Imd} = \frac{Q_{ID}}{Q_{MD}}, \quad (2)$$

where: Q<sub>ID</sub> - number of implemented decisions;  
 Q<sub>MD</sub> - number of made decisions.

Coefficient of authority enforcement (C<sub>AE</sub>):

$$C_{AE} = \frac{S_{Ial}}{S_{Ual}}, \dots\dots\dots (3)$$

where: S<sub>Ial</sub> - area of agricultural land introduced into economic turnover as a result of the influence of the executive authorities;

S<sub>Ual</sub> - area of unclaimed agricultural land.

Coefficient of compliance of results to the expectations (C<sub>C</sub>):

$$C_C = \frac{T_{SI}}{T_{SUI}}, \quad (4)$$

where: T<sub>SI</sub> - number of scheduled inspections;  
 T<sub>SUI</sub> - total number of scheduled and unscheduled inspections.

Coefficient of information collection (C<sub>IC</sub>):

$$C_{IC} = \frac{V_{RI}}{V_{ISA}}, \quad (5)$$

where: V<sub>RI</sub> - amount of the required information;  
 V<sub>ISA</sub> - information-search array.

The criterion of efficiency is the observance of established formal and informal norms and rules (Table 1).

Table 1. Calculation of integrated index of efficiency of institutional management of the land relations in Russia

Indicators	Years	
	2016	2017
Number of implemented decisions (fulfilled the instructions of the state land supervision to eliminate violations of land legislation)	5270	5490
Number of made decisions (issued instructions of the state land supervision to eliminate violations of land legislation)	12441	14559
Area of agricultural land introduced into economic turnover as a result of the influence of the executive authorities, ha	199000	252100
Area of unclaimed agricultural land, ha	51850000	56000000
Number of scheduled inspections	20519	16375
Total number of scheduled and unscheduled inspections	50852	44800
Amount of the required information	819.2	547.5
Information-search array	26800	17000
Coefficient of implementation of managerial decisions (C <sub>Imd</sub> )	0.424	0.377
Coefficient of authority enforcement (C <sub>AE</sub> )	0.004	0.005
Coefficient of compliance of results to the expectations (C <sub>C</sub> )	0.404	0.366
Coefficient of information collection (C <sub>IC</sub> )	0.031	0.032
Integrated index of efficiency of institutional management of the land relations (C <sub>Int</sub> )	0.216	0.195

Source: Author' calculations from Report on the status and use of agricultural lands of the Russian Federation (2015)

According to calculations, in 2016-2017 years there was a weakly expressed degree of efficiency of institutional management of land relations in Russia. This confirms the need to create a mechanism of transformation of land relations in the agricultural sector.

## RESULTS AND DISCUSSIONS

The areas of implementation of the developed mechanism are consistent with the Strategy of socio-economic development of the Saratov region until 2030, State program "Development of agriculture and regulation of markets for agricultural products, raw materials and food in the Saratov region", plans for involving the unused land in the economic turnover of municipal districts of the Saratov region.

The materials of the study on the development of the mechanism of transformation of land relations in agricultural sector "Economic aspects of improving the efficiency of agricultural land use" were reported and discussed at the meetings of the Bureau of the Department of agricultural sciences of the Russian Academy of Sciences (Moscow, Russia) and a Permanent Functioning Meeting under the Deputy Chairman of the Government of the Saratov region (Saratov, Russia).

## CONCLUSIONS

The institution of land relations management, which is part of the framework of the norms, consolidating sectoral institutions and providing communication of actors, functioning of the mechanism of transformation of the institutional environment, supervision over the implementation of norms and rules was developed on the basis of the conceptual approach.

The process model of problematic situations monitoring was developed and that makes it possible to accumulate, structurize and process the information on the agricultural land turnover.

Monitoring of agricultural land turnover hold great perspectives for more productive analysis and improved data access. Integrate the data in information base will enable to make managerial decision, investigate fundamental,

applied research, introduce of new, adapt of existing institutions.

The degree of achieving the efficiency of institutional management from the introduction of the new institution is accessed by the proposed integrated index, including the coefficients of implementation of managerial decisions, authority enforcement, compliance of results to expectations, information collection. There was an assessment of land management to the integrated index. It is equal 0.216 in 2016 year, 0.195 in 2017 year. Consequently, degree of efficiency of institutional management of land relations in Russia character as weakly.

The significant role of new institution of land relations management consists of active development land policy in Russia and move to a higher level of efficiency of institutional management, that confirms the relevance of future research.

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