

Development of Land Relations in the Agroindustrial Complex

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Abstract—This article is devoted to the results and consequences of land and agrarian reforms in Russia and to defining the main guidelines for improvement of land policy. The dynamics of the ownership structure, ratio of management forms, and structure of land use of agricultural organizations indicate the incompleteness of land transformations. Assessment of the modern public land policy indicates its uncertainty as regards a number of critical positions and the inadequacy of the land management system concerning the requirements of the country's socioeconomic development. Its inefficiency has led to a lack of information on the composition and quality of land potential, accelerating degradation of agricultural land, criminalization of land relations, insecurity of small agribusiness, unprecedented growth of latifundia, and other negative trends.

The proportion of agricultural land areas involved in cadastral registration is a little more than 20%, and the boundaries of administrative-territorial units have not been established, which gives rise to many land disputes and nonobservance of the rights of agricultural producers. The destruction of institutions for forecasting and planning the use and protection of land, land management, monitoring, detailed design for land improvement, and anti-erosion organization of the territory have led to desertification of large areas, development of water and wind erosion, soil salinization, and other negative processes. The implementation of a system of urgent measures is proposed to improve the current situation.

Keywords: land relations, agribusiness, agricultural land, regulation, land policy, land management, soil degradation.

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One of the main factors in the consistent development of the agro-industrial complex is organization of the rational use of land resources, which is closely linked with land relations and largely determined by them. The reform that started in the 1990s continues to this day. However, the incompleteness of transformations creates a lot of economic and social problems not only in the field of agriculture, but also in the economy as a whole.

At the beginning of the reform of land relations, the Law of the Russian Soviet Federative Socialist Republic “On Land Reform” that was adopted in November 1990 defined the following goals of transformations:

- Creation of a multiform agrarian economy.
- Development of a variety of land ownership forms.
- Improving land use efficiency.

- Development of institutions for the effective regulation of land relations.
- Creation of the conditions for the redistribution of land, which must be appropriate for the needs of the economy.

Unfortunately, each of these goals has not lost its significance even today. However, the land and agrarian reforms have also yielded a number of positive results: the formation (although incomplete) of the necessary legislative framework for the regulation of land relations in most of the constituent entities of the Russian Federation; the introduction of a real variety of land ownership and management forms; creation of a competitive environment that stimulates the progressive development of the agro-industrial complex; the forward development of the land market, which is slow and incurs significant costs, but is nevertheless progressive; improvement in the efficiency of land use in many regions, on agricultural enterprises and peasant plots (farms) (consistent increase in yield, etc.); the beginning of the transformation of land plots into assets and their involvement in financial turnover

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Table 1. Structure of ownership of agricultural land

Forms of ownership	As of January 1, 2006		As of January 1, 2018		In 2018 with respect to 2006
	mln ha	%	mln ha	%	
In the ownership of citizens	120.7	30.1	108.5	28.3	90%
In the ownership of legal entities	5.0	1.2	19.2	5.0	Increase by a factor of 3.8
In state and municipal ownership	275.8	68.7	255.5	66.7	95.4%
Total	401.5	100	383.2	100	—

(land mortgage); emergence of a class of effective land owners.

Nevertheless, the reforms cannot be regarded as successful since there are many negative consequences, one part of which was a continuation of the pre-reform difficulties and other provoked errors and inconsistency of the transformations performed [1]. Let us consider the main unresolved problems in the field of land relations that cause difficulties in the socioeconomic development of the agro-industrial complex.

THE ABSENCE OF A CLEAR STATE LAND POLICY

Today there is no official document in the country that would determine the principles, content, and vectors of development of land relations. There is no clear position on a number of critical issues:

- Should the privatization of land should be continued, or should the existing ownership structure should be preserved? Should nationalization of all or part of the agricultural land be implemented?
- Does the state intend to influence the structure of land tenure? What should it look like in the long term? Will small and medium businesses receive further development? Will the state put up with the development of latifundia, etc.?
- How does the state intend to build an effective system for regulating land relations and land management?
- Does the state intend to develop the land market institutions and what are its priorities in the area of land turnover?
- Will the state actively or passively influence the processes of accelerating degradation of agricultural land?

“The Fundamentals of the State Policy on the Use of the Land Fund of the Russian Federation for 2012–2020 that were approved by the Government of the Russian Federation [2] do not contain answers to these questions. The main position in the document is occupied by the transition from dividing the land fund into land categories that are to be classified according to the types of permitted use. The goals and objectives

of land policy are defined generally; the priorities of the state and instruments of implementation are not established.

The essence of the state land policy was not defined by the “Plan of Measures to Improve the Legal Regulation of Land Relations” adopted by the Government of the Russian Federation in November 2018 [3], which contains only a list of draft laws and other regulatory legal acts that are to be developed. In the meantime, we have a land ownership structure that we believe is far from optimal (Table 1). At present 66.7% of all agricultural land remains in state and municipal ownership; this share has decreased by only 2% over the past 12 years [4]. It should be noted that it is these lands where we observe the greatest mismanagement, degradation, overgrowing with shrubs, waterlogging and other negative processes. The share of land owned by citizens has declined since 2010. It has decreased over the past 12 years by 12.2 mln ha or by 10%. Land ownership of legal entities accounts for only 5% of the total agricultural land, although it has increased.

No optimism is caused by the dynamics of land distribution by forms of management (Table 2). The data indicate that the land management structure has not changed over the past 12 years. A serious concern is caused by the tendency toward a reduction in the land area of small business, although the volume of production in peasant plots (farms) has increased by almost 40% over the past five years. In 2017, farms produced 29.1% of grain, 11.6% of sugar beets, 31.5% of sunflower, whereas their share in land use is only 5.7% [6].

Tables 1 and 2 show the data of the Federal Agency for State Registration, Cadastre, and Cartography. They are very different from the data of the Ministry of Agriculture of Russia, especially from the data of the All-Russia Agricultural Census of 2016. Thus, according to the data of the Federal Agency for State Registration, Cadastre, and Cartography, in 2016 there were 259 200 farms in Russia, but, according to the census, there were 136 700 farms. According to the Federal Agency for State Registration, Cadastre, and Cartography, the total area of farms is 18.5 mln ha; however, according to the census, it is 37.9 mln ha. There are significant discrepancies in the majority of the most important indicators, which indicates the absolute

Table 2. Dynamics of distribution of agricultural lands by forms of management (for all types of ownership)

Form of management	2006		2018		In 2018 in % with respect to 2006
	mln ha	%	Mln ha	%	
Agricultural organizations	410.3	91.0	414.7	91.4	+0.4
Peasant plots (farms)	26.0	5.8	26.2	5.7	-0.1
Individual entrepreneurs	3.4	0.8	3.3	0.7	-0.1
Personal subsidiary farms and other households of citizens	9.7	2.2	8.0	1.8	-0.4
Nonprofit organizations of citizens	1.2	0.3	1.6	0.4	+0.1
Total	450.6	100	453.8	100	-

Table 3. Change in the land management structure for different forms of ownership

Forms of rights on land	Agricultural organizations, %		Peasant farms and individual entrepreneurs, %		In 2018 with respect to 2006	
	2006	2018	2006	2018	agricultural organizations	peasant plots (farms)
Private ownership	3.1	3.8	53.0	33.7	122.6	86%
Lands from public ownership	54.6	15.0	23.6	25.3	27.4	107%
Rent of state and municipal lands	9.1	38.5	18.9	38.9	Increase by a factor of 4.2	Increase by a factor of 2.2
Use of state and municipal lands	32.4	38.1	5.4	2.1	117.6	38.9%
Use without providing a land plot	0.8	4.5	-	-	Increase by a factor of 5.6	-
Total	100	100	100	100	-	-

inadequacy of information support for land management.

The area of super-large land tenure is growing. According to data of the BEFL consulting company [7], in 2017 the 55 largest companies accounted for 12.6 mln ha, and the five largest ones had 3.2 mln ha, including Prodimex and Agrokultura with 790000 ha, Miratorg controlling 676000 ha, Rusagro with 675000 ha, the Tkachev Agrocomplex with 644000 ha, and Volgo-Don Agroinvest with 452000 ha. Ultra-large land tenure continues to grow rapidly. Over the past year, the possession area of Miratorg, Agrocomplex, and Rusagro has increased by 82000, 188000, and 81000 ha, respectively. Understanding the danger of growth of latifundia, all developed countries have a strong opposition to this process. In our country, on the contrary, the state provides the largest agro-holdings with the lion's share of subsidies for the development of agribusiness.

Concern is also caused by the emerging structure of land tenure of agricultural organizations and farms, which was established according to the latest report of the Federal Agency for State Registration, Cadastre, and Cartography as of January 1, 2018 (Table 3). The share of lands of agricultural organizations is only

3.8%; the rent of land that is in public and state ownership accounts for 53.5%. The proportion of land owned or leased by small business is 33.7% and 64.2%, respectively. The land area that is in free use of organizations and unauthorized use accounts for more than 38% and 4.5% or 14.5 mln ha, respectively (which is absolutely unprecedented). The land area that is in legitimate use of small businesses accounts for only 2.7%, i.e., in fact, the ratio of free land is 10:1, which indicates the clear preferences of local authorities to provide free land to large business, although in fairness this ratio should be equal, if not reversed.

A special theme is the fate of land shares, which were introduced as an institution for the equitable distribution of agricultural lands in the process of their privatization. In the ideology of the reform, they were to function only in a transitional period (1.5–2 years), during which they had to be transformed either into land plots or into shares of capital of corporate structures. However, they continue to exist and have become a tangible obstacle to the further development of the land tenure and land use system, since they constantly become a cause of uncertainty of land ownership and many other problems. For the period 1998–2016 (there is no later information), their total area

Table 4. Information on the establishment of boundaries of territorial entities as of January 1, 2018 [1]

Name of the object	Total number of boundaries between administrative and territorial entities and other objects	Established boundaries		
		Total	% of the total number	Including in 2016
Boundaries of individual constituent entities of the Russian Federation with other constituent entities of the Russian Federation	380	26	6.8	—
Municipal entities	22406	10232	45.6	1976
Settlements	155955	22169	14.2	3120

decreased from 115.4 to 86.2 mln ha (by 25.3%) [4], but the process is extremely slow and is in no way regulated by the state. All the given data indicate either the absence of a purposeful land policy, or its inconsistency with the principles and goals of a fair distribution and organization of rational use of land resources in Russia.

THE INADEQUACY OF INFORMATION ON THE QUANTITY, STRUCTURE, AND DYNAMICS OF THE STATE OF LAND RESOURCES IN THE COUNTRY

The destruction of the systems for land cadastre, agricultural cartography, land management, land monitoring, and other information tools for land management has led to the absence or inadequacy of information on land, which is necessary to make grounded management decisions on the organization of its rational use.

It is obvious that the absence of established exact boundaries of administrative-territorial entities makes it impossible to determine their legitimate jurisdiction in the sphere of regulation of land relations and to establish the exact area of land in their jurisdiction. The data in Table 4 show that the share of delimited lands is small at all levels, and therefore, the characteristics of land funds are not accurate.

The situation with the delimitation of agricultural lands that are in state and municipal ownership is even worse. Of the total area of 255.6 mln ha, 6.2 mln ha are in ownership of the Russian Federation, 10.1 mln ha are owned by the constituent entities of the Russian Federation, and 11.4 mln ha are in municipal ownership; i.e., their total area is 27.7 mln ha, which is only 10.8% of all land. This means that the authorities at all levels do not have legitimate rights to dispose of land plots that do not have borders, are not involved in cadastral registration, and have not been legally registered.

The objectivity of information on land rights and spatial characteristics of plots must be reflected in the documents of the cadastre of real estate objects. With-

out this, the legitimacy of use is constantly being questioned, with inconstancy of land use, raiding, and other criminogenic situations. It is the cadastre that must provide the most accurate information on the availability, distribution, and state of land plots. The number of owners of agricultural land plots is more than 70 mln, but the state cadastre of real estate objects has included only a little more than 20% of the plots. This figure increases every year, but only slightly.

AMORPHISM AND EXTREMELY LOW EFFICIENCY OF THE LAND MANAGEMENT SYSTEM AND DESTRUCTION OF ITS MAIN INSTITUTIONS

Today, there is no single governing body in the country that would have all the functions, powers, and responsibilities to control the state, organization of use, and protection of the unified state land fund in Russia. From 1990 to 2000, the State Committee of the Russian Federation on Land Policy was such a governing body. In 2000, it was transformed into the Federal Land Cadastre Service, and, as a matter of fact, land administration functions began to be distributed over a multitude of ministries and departments. Today they are divided among 18 ministries. Even the state control over the use and protection of land is divided between four controlling bodies, the activities of which in this area are not coordinated. The division of powers destroyed the unified land management system, which was followed by the elimination of a number of areas, such as land use forecasting and planning, remote sensing and monitoring, planning, and cartographic support. The network of project institutions for land management (hyprozems), the Institute of Agricultural Aerogeodetic Surveys, and many other institutions were liquidated. As a result, the problems of territorial (interobject) land management were supplemented by the problem of the destruction of intrafarm land management of agricultural enterprises, which previously determined the optimal structure of sown areas, effective soil protec-

tion crop rotations, and erosion control measures, which are absolutely necessary for organizing the rational use and protection of agricultural land.

ACCELERATION OF LAND DEGRADATION PROCESSES

The destruction of land exploration institutions, planning of land use, and management have also led to the acceleration of water and wind erosion, desertification, salinization, waterlogging, and other negative phenomena. According to expert estimates (there are no objective monitoring data), the annual increase in the length of the ravine-gully network is more than 20000 km. About half of the total arable land area is subject to water erosion to varying degrees. A terrifying example of land degradation is the formation and rapid growth of the desert in the Astrakhan region. This was caused by the unsystematic and uncontrolled grazing of unregistered sheep flocks without complying with the rules and regulations of the livestock load per unit area of pastures. In 27 constituent entities of the Russian Federation, more than 100 mln ha have been covered by desertification. Huge areas of productive land have fallen out of circulation for many years, and the restoration of their grass stand will require significant costs.

According to the clearly underestimated data of the Federal Agency for State Registration, Cadastre, and Cartography, 17.8% of the agricultural land area is subject to water erosion, which annually carries away millions of cubic meters of fertile soil, and the land area that is subject to wind erosion, excessive moistening, and waterlogging accounts for 8.4%, 12.3%, and 20.1%, respectively.

THE GROWING CRIMINALIZATION OF LAND RELATIONS

The above statistics indicate a number of unfavorable trends in the distribution of land resources. Unfortunately, the illegitimate provision of land, raiding, and speculative transactions have become the norm in many regions. This refers to the greatest extent to the municipal level at which official misconduct in the sphere of land relations ranks first in the general list of offenses. The development of these phenomena is largely promoted by the lack of proper accounting for land resources, weak state control over their use and protection, gaps and discrepancies in land and civil legislation, and other factors resulting from weak land policy and unsystematic land management.

The results of analyzing the state and development trends of land relations indicate the need for a substantial adjustment of the state land policy, which must include a number of urgent actions based on the concentration of efforts of agrarian science, government, and business. These include the following:

- Development and adoption of a fundamental document in the form of the state land policy doctrine, which must give answers to all the questions posed at the beginning of this article;
- Formation of a land resource management system that must be address contemporary challenges based on the restoration of a single body for regulating land relations and organizing the rational use and protection of land;
- Restoration of institutions for the organization of effective use and protection of land resources (forecasting and planning, land management, land monitoring, state control, study and assessment of land potential);
- Conducting a complete inventory of land and forming a complete and objective cadastre of agricultural land on its basis;
- Formation of a system for effective counteraction to the development of land degradation processes;
- Development of land legislation: adoption of new versions of the laws “On Land Management,” “On the Turnover of Agricultural Land,” “On State Regulation of Protection of Soil Fertility,” etc.;
- Development of a general scheme for the use and protection of land resources of the Russian Federation and more detailed documents in the form of land management schemes for the constituent entities of the Russian Federation and municipalities;
- Implementation of a set of measures with the purpose of limiting the growth of latifundia (setting limits on the size of land tenure, restricting the state support for super-large land tenure, differentiated taxation, etc.);
- Restoration of the system of scientific and personnel provision for rational land tenure and land use;
- Creation of an effective system for information and consulting support of the processes of rational use and protection of land resources.

The key position in the list of necessary actions is occupied by the plan to form a modern land management system of the country. The historical experience of Russia and the practice of how such systems function in developed countries allow us to present this system in the form of a diagram (Fig. 1). It includes institutions and instruments that work within a single concept, are closely interconnected, and aim at achieving common goals. Each block must have a necessary methodological autonomy, and the established methodological approaches must be observed. The most important condition is that a body for regulating land relations and land management, which must possess the necessary full rights and powers in this area and bear full responsibility for the state and organization of the use and protection of land resources, must be created in the structure of the Government of the Russian Federation. Such a body had functioned in the Russian Federation starting in 1990—this was the State

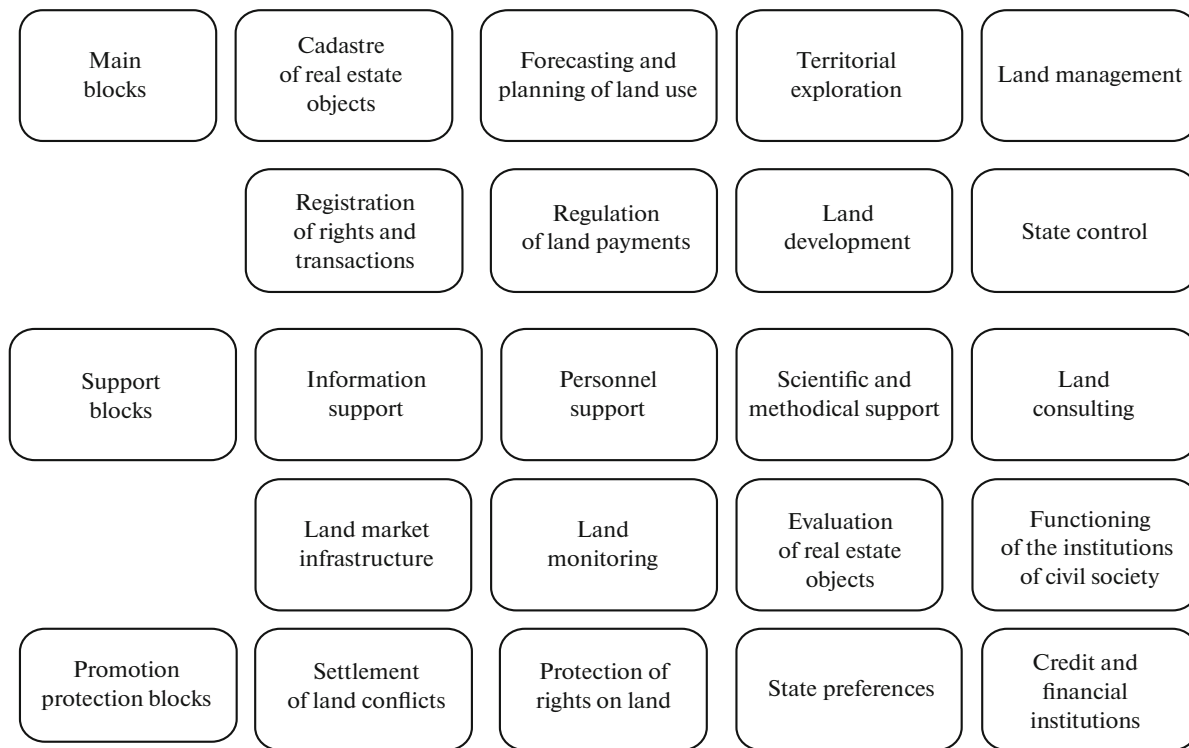


Fig. 1. System of management of the country's land resources.

Committee on Land Reform of the Russian Soviet Federative Socialist Republic; in 1996 it was renamed the State Committee on Land Resources and Land Management of the Russian Soviet Federative Socialist Republic (Roskomzem), and in 1998 it became part of the Ministry of Land Policy, Construction, and Housing of the Russian Federation. It then underwent six more reorganizations, losing many important functions in this process. The modern Federal Agency for State Registration, Cadastre, and Cartography has inherited only the function of making an inventory of real estate objects, registration, and cartography, but is not responsible for land management and rational land use.

A special role in the proposed system is played by land management as the main instrument for managing land redistribution processes, eliminating land use deficiencies, organizing the territory of agricultural production facilities, and developing programs and projects in order to counteract soil erosion, desertification, etc.

Russian land management started with descriptions of lands in the 12th–14th centuries. It prepared implementation of the agrarian reform in 1861, the Stolypin reforms, the implementation of a set of measures with the purpose of organizing the use and protection of land in the Soviet Union, and was the most important instrument for the modern land and agrarian reform, but at the moment it has become neglected. Its role is clearly diminished, its institutions

have been almost completely eliminated, which has caused many problems in the land sector of the country. The revival of land management must become an important factor in improving land relations.

The main role in the system is played by the personnel management of land resources. One of the problems in this area is the unreasonable reduction of postgraduate studies in the “Land Management” scientific profile, which relates to economic specialties. The general trend towards reduction of training of specialists in economics was accompanied by very significant reduction of training of land management researchers, who are in fact very much in demand at both educational and scientific organizations. At present, departments of land management and cadastres function at 84 universities of the country, and, in essence, it has become impossible to train highly qualified specialists for them. The same applies to many scientific organizations that conduct research in this field.

Scientific support for land management must become a very important factor in improving its efficiency. We believe that the following areas of research must be regarded as the most relevant.

Development of the methodology and modern methods for regulation of land relations in the agricultural sector that ensure the development and competitiveness of various forms of land tenure and land use. First of all, it is necessary to give a reasonable answer to the follow-

ing questions: should the privatization of agricultural land be continued and what should be the optimal ratio of state, municipal, and privately owned land? The entirety of land policy will be structured in dependence on what the answer will be. At the first stage of the reform (1990–2000), approximately 1/3 of agricultural land was privatized; in the new millennium, privatization was stopped, replaced by nationalization, or carried out very slowly in small fragments. Today, the state and municipal ownership accounts for 2/3 of land, most of which has not been delimited and has not been involved in cadastral accounting and registered; therefore, any transactions with this land are not legitimate. It is this part of land that is used most inefficiently, and the state must develop a definite position, which must be based on the results of research on various options for the development of ownership relations. It is also necessary to establish the optimal ratio between land ownership and land lease in conducting agribusiness, to analyze various options in different business conditions and give reasonable recommendations to business.

There is also the question of what the fate of land shares must be. This institution was introduced as an instrument of equalizing and fair privatization at the beginning of transformations and, according to the plan of the reform developers, it was to perform a distribution function within not more than three years, having completely exhausted its potential. However, a quarter of a century has already passed, and the land shares still exist, hindering the formation of sustainable and efficient land tenure.

A separate problem is the formulation of the positions as regards the attitude of the state and society towards super-large land tenure, or *latifundia*. Obviously, their growth must be stopped, but this requires the development and implementation of a mechanism that will make it possible to do this without destroying large agribusiness and by creating conditions that will ensure the competitiveness of small and medium enterprises in the countryside.

Development of a modern methodology for strategic forecasting and planning of the use and protection of land resources. The preservation of elements of state regulation in the economy entails the need to restore forecasting and long-term planning on a new institutional basis, including the land sector. However, it is impossible simply to restore the practice of the Soviet period, so science needs to answer a number of questions that determine the content and organization of forecasting and planning in modern conditions.

The formation of a land management information support system. If we objectively evaluate modern information about the land fund, which is the main national wealth of the country (completeness, accuracy, relevance, etc.), then we must recognize its absolute inadequacy to address the needs of economic management. To see the huge differences in the com-

position of lands and the dynamics of changes, it is enough to compare the data of various ministries and departments: the Federal Agency for State Registration, Cadastre, and Cartography; the Federal State Statistics Service; the Ministry of Agriculture; and the Ministry of Natural Resources. In addition, if allowance is made for the absence of planning and cartographic documentation and the qualitative characteristics of land plots, it will become obvious that this problem must be solved systematically.

Scientific substantiation and development of a set of measures for the development of a civilized market of agricultural land and its infrastructure. We have already noted that the development of the land market is slow, very problematic, but nevertheless progressive. However, there are problems as regards its closeness, weak infrastructure, illegitimacy of a huge number of transactions, and high level of corruption in the structures associated with its functioning. Research on this issue must be aimed at establishing the guidelines for improving the turnover of land and identifying the mechanisms for infrastructure development and the possibility of increasing the information openness of the land market.

Creation of digital models for optimal distribution and organization of land use at all levels (country, constituent entities of the Russian Federation, and municipalities). The development of the digital economy is not a new fashion hobby, but an absolute necessity that determines the competitiveness of any industry, including the agro-industrial complex. Spontaneous processes of distribution and redistribution of land that are based only on political will and ideas of administrative regulation lead to significant distortions in the intersectoral redistribution of land, spatial organization of the economy, and interterritorial specialization of the agro-industrial complex. In the modern world, there is no alternative to digital models of the spatial organization of the economy. We are at almost zero level in the development of this area, and, therefore, it is necessary to determine the mechanisms for creating cartographic planning information and other forms of information, the composition and sequence of model development, the organization of developments and their implementation, and the maintenance of land management support for this process on the basis of a systematic approach.

In solving the problem of digital modeling, it is necessary to note the role of land management. The employees of a number of economic departments, first of all the Ministry of Economic Development of the Russian Federation, often give voice to the need to reduce the role of land management and change its place in the land resources management system and organization of land use. We believe that such a position is caused to a greater degree by the lack of professional training of those who make important management decisions in the field of land relations rather than

by objective circumstances. The international and domestic practice indicates something different: land management was, is, and will remain the main institution for organizing the rational use and protection of land resources in the country. Another problem is that modern land management cannot be conserved at the level of technologies of the last century. It should be changed as regards both the set of tasks and the technology for their solution. It should primarily focus on the implementation of current socioeconomic purposes and use of the latest technical tools, promising methods, and instruments, among which the primary role must be assigned to digital modeling that ensures not only the rational organization of the territory, but also the introduction of automated technical complexes for land processing and agricultural production.

The first steps in this direction are already being made. In particular, the State University for Land Management has developed some approaches to solving this problem, but successful promotion requires large-scale research, which will yield a set of technologies, methods, and standards for organizing the territory based on digital models and methods.

Development of a modern methodology, methods, and technologies for the protection and reproduction of the potential of agricultural land. The rate of degradation of agricultural land is becoming absolutely critical in many regions of the country: for the southeast, the degradation of land is caused by the growth of desertification processes; for the chernozem regions, it is caused by the development of water erosion; and for the steppe regions, it is due to the intensification of wind erosion. These processes are extremely dangerous not only for agriculture, but also for the country's economy, but the state's response to them is still very weak. It is necessary convincingly to prove this danger to the authorities and society, having assessed it fully and objectively and proposing measures to prevent the development of negative processes. New approaches are required for the classification of land degradation factors, development of modern technologies for prevention of land degradation and elimination of consequences, and definition of incentives for agricultural producers and agro-industrial complex management structures to counteract actively the destruction of land potential.

Creating a promising model for monitoring agricultural land based on remote sensing and GIS technology. The modern technical capabilities and the Russian potential of space technology support online monitor-

ing of the state of the land resources in the country. The technologies for remote sensing of the processes of desert movement, development of the ravine-gully network, excessive moistening and drying of land, and movement of harmful insects and plants were developed and used successfully as early as the 1980s. Unfortunately, since the early 1990s, these works have ceased to be funded and have gradually come to naught. The efforts of the Ministry of Agriculture of Russia to restore and develop land monitoring are insufficient and do not have adequate scientific justification. Meanwhile, the need for monitoring information is great, and this requires a modern model for obtaining and processing it. It is necessary to form scientific and production concepts for the development of monitoring, to identify the most promising technologies for obtaining information and their combination with the purpose of forming a multipurpose model and to develop an organizational scheme for conducting monitoring and presenting its results to interested structures, primarily land management authorities.

The research areas listed do not address the entire range of scientific problems in the field of land relations; however, they are the most relevant and must be included in the programs of basic and applied scientific research.

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