

NEW TRENDS IN DEVELOPMENT OF LAND CONSOLIDATION IN RUSSIA

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SUMMARY

Land Consolidation is a merging, enlargement, eliminating of mosaic land ownership and improvement of configuration as well as optimization of size of land plots in order to increase the efficiency of agricultural production via rational use of scarce resources: land, labor and capital based on reduction of transaction costs. The specific objectives of Land Consolidation are the following: increasing the efficiency of agricultural production; providing sustainable development of agrarian sector; rational use of land, labor and capital in agriculture; optimization of agricultural production structures both in territorial and production aspects; increasing the competitiveness of agricultural producers in domestic as well as foreign markets; environmental protection; development of production as well as social infrastructure in agriculture. Land Consolidation should be carried out based on the following principles: voluntariness; openness and transparency; financial and economic feasibility; taking into account the interests of the population groups involved including women and youth as well as indigenous people; step by step implementation; consideration of local conditions; state and NGO support. Currently there is a trend of development of Land Consolidation both at the federal and regional level, for example, in Orel Region.

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INTRODUCTION

We can treat Land Consolidation as a merging, enlargement, eliminating of mosaic land ownership and improvement of configuration as well as optimization of size of land plots in order to increase the efficiency of agricultural production via rational use of scarce resources: land, labor and capital based on reduction of transaction costs.

The specific objectives of Land Consolidation are the following: increasing the efficiency of agricultural production; providing sustainable development of agrarian sector; rational use of land, labor and capital in agriculture; optimization of agricultural production structures both in territorial

and production aspects; increasing the competitiveness of agricultural producers in domestic as well as foreign markets; environmental protection; development of production as well as social infrastructure in agriculture.

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In theory, Land Consolidation can be carried out as Voluntary Land Consolidation and Compulsory Land Consolidation as so-called “collectivization” as well as enlargement of size collective farms (kolkhozes) and state farm (sovkhoses) took place respectively in former Soviet Union in thirties and fifties of last century.

Both administrative and economic methods, for example, development of Agricultural Land Market could be used for it. In our opinion, preference should be given to Voluntary Land Consolidation. In that sense, development of Agricultural Land Market is very important for stimulation of Land Consolidation.

There are different models of Farm Reorganization and Land Consolidation in Russian agriculture. The first of them - Nizhny Novgorod Model, was intended to consolidate the land shares with the aim of creating production cooperatives.

However, due to the absence of post-privatization support this task remained unfulfilled. In this regard, noteworthy Belgorod Model and Orel Models, which are used respectively in Belgorod and Orel regions based on purchase and lease of land shares by private farms, agricultural holdings as well as local authorities. However, Agricultural Land Market in Russia is still not formed, which impedes the formation of a flexible system of land tenure and land use. Most of Agricultural Land Market Transactions are leasing of land shares now. Meantime, agricultural land selling and buying transactions as well as agricultural land mortgage transactions are limited.

By its nature, Agricultural Land Market represents a market of imperfect competition. This is manifested in the following. The number of sellers and buyers of land plots does not match among themselves. Market information on the transactions is incomplete and non-transparent. Transactions are mostly local in nature. The supply and demand for the land plots are inelastic.

In this market, there are externalities, such as the state registration of the deals, restrictions on the sale and purchase of agricultural land, which prevent the formation of equilibrium prices of agricultural land plots. There is also inappropriate agricultural land use, pollution, and illegal allotment for commercial needs. The agricultural land is the product of a special kind, the main means of production in agriculture, the cost of which may increase if the normal use for a period. The price of the land is determined based on the interaction between market regulators: land rent and interest rate. Fertility and location of the land plot as well as the additional costs of capital determine the amount of rent.

The major problem is to evaluate the effectiveness of projects related to consolidation of agricultural lands. In our opinion, evaluation of the effectiveness of mentioned above projects should be carried out based on benefit cost analysis.

The most important condition for application of benefit cost analysis for evaluation of land consolidation projects is to ensure comparability of indicators of costs, benefits as well as efficiency based on international financial reporting system. It could create additional incentives to attract outside investors in agriculture. Thus, the consolidation of agricultural land is the basis for the development of investment process in agriculture, which allows increasing its efficiency by reducing transaction costs and attracting outside investors to allocate their capital in agriculture.

LAND TENURE

The Russian Federation's territory was amounted 1,709.9 million hectares in 2014. Most important piece of the area is agricultural land. The total agricultural land area was estimated 385.5 million hectares in 2014 or 22.5 % of the total Russian Federation area (See Table 1).

Table 1. Land Categories, Russian Federation, 2013-2014, million hectares

	Item	2014	2013	2014/2013 (+,-)	2014/ 2013, % (+,-)
1	Agricultural Land	385.5	386.5	-1.0	-2
2	Urban Land	20.1	20.0	+1	+5
3	Industrial Land	17.2	16.9	+3	+1.7
4	Special Protected Regime Land	47.0	46.8	+2	+4
5	Forest Land	1,122.6	1,122.3	+3	+03
6	Water Land	28.0	28.0	-	-
7	Reserve Land	89.5	89.3	+2	+2
	Total	1,709.9	1,709.8	+1	+006

Source: Rosreestr, 2015

The cropland, perennial, pastures, hay field lands as well as idle land were amounted 196.2 million hectares or 50.9 % of total agricultural land area in 2014 (See Table 2).

Table 2. Agricultural Land, Russian Federation, 2014, million hectares

	Item	Area	%
1	Agricultural Land ¹	196.2	50.9
2	Forest Land	28.1	7.3
3	Bush Land	19.2	5.0
4	Road Land	2.3	.6
5	Building Site Land	1.1	.3
6	Water Land	13.1	3.4
7	Marsh Land	24.8	6.4
8	Others	100.7	26.1
	Total	385.5	100.0

Source: Rosreestr¹, 2015

The dominant role in the Russian Agricultural Land Tenure has played production coops as well as joint stock companies or parastatals (See Table 3).

Table 3. Land Area of Parastatals, Russian Federation, 2014, 1000 hectares

Item	Total	Cropland	Idle Land	Perennial	Hayfield Land	Pasture
Joint Stock Companies and Partnerships	59,889.9	42,344.2	934.5	197.5	4,363.6	12,050.1
Production Coops	44,025.8	25,649.2	1,066.1	83	4,033.2	13,194.3
State and Municipal Enterprises	6,263.6	2,849.6	81.6	37.2	605.7	2,689.5
Research Institutions	1,702.1	1,300.7	20	11.5	109.5	260.4
Subsidiary Farms	958.6	590.4	23.1	4.4	114.9	225.8
Others	4,146.4	2,586.7	74.7	10.7	304.4	1,169.9
Tribal Land	16.1	.3	–	–	9.1	6.7
Kazak Society Land	88.6	59.6	.1	.1	6	22.8
Total	117,091.1	75,380.7	2,200.1	344.4	9,546.4	29,619.5

Source: Rosreestr¹, 2015

The share of joint-stock companies and partnerships in the total area of agricultural land in 2014 amounted 51.1%, and in the area of cropland - 56.2%. The share of production cooperatives in the total area of agricultural land in 2014 was amounted 37.6%, and in the area of cropland – 34.0 %. Private farms as well as subsidiary farms have played an important role in the Russian Agricultural Private Land Tenure too (See Table 4). The share of private farms in the total area of the privatized agricultural land in 2014 amounted 31.6%, and in the area of cropland – 40.4 %. The share of

¹ Includes: cropland, perennial, pasture, hay field land as well as idle land

unclaimed land shares in the total area of the privatized agricultural land in 2014 was amounted 17.6%, and in the area of cropland – 17.7%.

Table 4. Agricultural Private Land, Russian Federation, 2014, 1000 hectares

Item	Total	Crop Land	Idle Land	Perennial	Hay Field Land	Pasture
Private farms	23,461.6	16,207.8	121.4	17	1,050.1	6,065.3
Individual Entrepreneurs	2,607.7	1,948.5	30.8	11.5	110.2	506.7
Subsidiary Farms	7,323.5	5,044	71.3	214.9	1,008	985.3
Service Land Farms	53.8	10.8	-	.4	37.7	4.9
Horticulture Farms	1,101.6	46	1.5	1,049.7	1.5	2.9
Vegetable Growing Farms	273.5	272.2	.7	.3	-	.3
Dacha Farms	75.1	59.2	1.2	6.8	2.5	5.4
Housing	555.4	463.7	.5	63	8.9	19.3
Livestock Farms	301.5	44.8	.1	.1	64.6	191.9
Grazing Farms	15,165.9	1,254.7	109.4	8.1	3,203.6	10,590.1
Agricultural Land Owners	10,194.2	7,637.2	143.1	22.5	592.5	1,798.9
Land Shares	13,080.9	7,115.2	910.7	9.2	1,467	3,578.8
Total	74,194.7	40,104.1	1,390.7	1,403.5	7,546.6	23,749.8

Source: Rosreestr', 2015

However, the total agricultural land area has been reduced (See Table 5). According to the Rosreestr, the total agricultural land area decreased by .9 million ha in 2014 compared to 2000 from 221.1 million hectares to 220.2 million hectares or by .4%. The cropland area decreased by 2.8 million ha in 2014 compared to 2000 from 124.3 million hectares to 121.5 million hectares or by 2.3%.

Table 5. Agricultural Land, Russian Federation, 2000-2014, million hectares

Item	2000	2010	2011	2012	2013	2014	2014/2000,%
Agricultural Land-total, including:	221.1	220.4	220.3	220.2	220.2	220.2	99.6
Cropland	124.3	121.4	121.4	121.4	121.4	121.5	97.7
Pasture	91.0	92.0	92.0	92.0	92.0	92.0	101.1
Idle	3.9	5.1	5.0	5.0	5.0	4.9	125.6

Source: Rosreestr', 2015

After boom at the first period of reform, the number of private farms has been decreased due to severe macroeconomic instability and lack of market infrastructure as well as market economy knowledge. However, the average size of agricultural land occupied by private farm has been increased due to land consolidation. It was estimated 68.3 hectares in 2014 (See Table 6). Thus, it increased by 59.2 % compared to 1995.

Table 6. Private Farms, Russian Federation, 1995-2014

Item	1995	2000	2010	2012	2013	2014	2014/1995,%
Number of farms, 1000	279.1	263.7	261.7	259.2	258.5	258.9	92.7
Total land area, 1000, ha	11,982.1	15,368.7	16,284.1	16,780.2	17,128.8	17,681.6	147.6
Average land size, ha	42.9	58.3	62.2	64.7	66.3	68.3	159.2

Source: Rosreestr', 2015

Agricultural export abroad amounted 16.2 billion U.S. dollars in 2015. It exceeded the revenue from arms export, which amounted 14.5 billion U.S. dollars in 2015. It was expected that revenues from the export of agricultural products in Russia amounted 16.9 billion US dollars in 2016².

According to preliminary information of the Russian Federal State Statistics Service (Rosstat), grain and leguminous crops production amounted 119.1 million metric tons in 2016 which is 13.7% more than in 2015 (104.8 million metric tons). Wheat production amounted 73.3 million metric tons in 2016 which is 18.6 % more than in 2015 (61.8 million metric tons). Rye production amounted 2.5 million metric tons in 2016 which is 19.0 % more than in 2015 (2.1 million metric tons). The income from the export of agricultural products significantly replaced the income from oil export, which decreased in connection with the fall in world oil prices. However, due to the increase in the exchange rate of the ruble in late 2016 - early 2017 the potential of export of Russian agricultural products declined.

Agricultural holding corporations, large and medium-size agricultural enterprises, mostly achieved growth in agricultural production. Agricultural holding corporations consolidate the agricultural land via purchase or rent of property rights on land shares belonged to former collective and state farmers. Land Tenure of the largest agricultural holding corporations in 2014 is displayed in Table 7.

Table 7. Agricultural Holdings, Russian Federation, 2014

Name	Cash Flow, bln.rubles	%	Net Income, bln.rubles	%	Agricultural Land Area,1000 ha	%
Mirotorg	74	15.1	16.4	23.7	594	17.2
Cherkizovo	68.99	14.1	13.3	19.2	100	2.9
Efko	61.4	12.5	.86	1.2	-	-
Rusagro	59.1	12.1	20.2	29.2	594	17.2
Agro-Belgor'e	57.6	11.8	5.99	8.6	110	3.2
Prodimex+Agrokultura	41.3	8.4	.7	1.0	790	22.8
Young Rossii	37.6	7.7	1.4	2.0	200	5.8
Priorskol'e	33.0	6.7	4.9	7.1	106	3.1
Ak bars	29.9	6.2	1.5	2.2	505	14.6
Agrokomplex	26.5	5.4	4.0	5.8	456	13.2
Total	489.39	100.0	69.25	100.0	3,455	100.0

Source: Vedomosti daily dated August 8, 2016, p.21

LEGAL FRAMEWORK

The legal framework for Land Consolidation is the Constitution of the Russian Federation, the Civil Code, the Land Code, the Federal Mortgage Act, the Federal Agricultural Land Market Act, the Federal Law #435 issued on December 29, 2010, the Federal Law #171 issued on June 23, 2014, the Federal Law # 354 issued on July 3, 2016, the Order # 540 of the Ministry of Economic Development of the Russian Federation issued on September 1, 2014 as well as other legal acts.

² President of Russia - official site www.kremlin.ru, December 1, 2016.

It should be noted that the Federal Law # 264 “On development of agriculture” was adopted on December 29, 2006. The State Agricultural Development and Agricultural Markets Regulation Program for 2008-2012 was introduced in accordance with mentioned above law. The Russian Government adopted the State Agricultural Development and Agricultural Markets Regulation Program for 2013-2020 on July 14, 2012. This program is focused on improving the efficiency of agriculture, ensuring sustainable development of agricultural production and providing food security of the country.

The Federal Law #435 “On amendments to certain legislative acts of the Russian Federation in terms of improving turnover of agricultural lands” amended the Federal Agricultural Land Market Act as well as some other land acts on December 29, 2010. The right and the order of compulsory withdrawal of the agricultural land plots were settled. According to the law, it is possible through court in case when the land is not used 3 years and more, and at essential decrease in fertility or considerable deterioration of ecological conditions.

On December 24, 2014, in accordance with the Order # 540 of the Ministry of Economic Development of the Russian Federation issued on September 1, 2014, a new classification of types of permitted land use within the land categories was introduced. According to it, owner of the land plot shall have the right to choose any type of permitted use of the installed for the given land plot. The order identifies 12 target types or zones. They are agricultural, residential, public, business, recreational, industrial, transport, defense and security, special protection, forest, water, general use. In turn, each zone is divided into smaller sub-zones. For example, agricultural zone divided into crop, animal husbandry subzones, etc.

On June 23, 2014, the Federal Law # 171 “On amendments to the Land Code of the Russian Federation and certain legislative acts of the Russian Federation” amended the Land Code. According to the Law, the goal of the amendment is to optimize the procedure for transferring land plots available in state or municipal ownership via development of land auction trading in Russia. The possibility of allocation of land plots for development, not only for housing, but also for other types of construction, including social has been recognized.

Land plots might be transferred without bidding only for the construction of important infrastructure projects, for individual housing construction, personal subsidiary farming and in other specific cases. The authorities must put up for sale vacant land plots based on applications of citizens and legal entities, except if they are reserved for state or municipal needs, limited in circulation, etc. According to the Law, the starting auction price of the land plot is the cadastral value. Information on the

availability of free land plots authorities are obliged to display on the official websites. The Federal Law #171 was entered into force on 1 March 2015.

The Federal Law #354" On amendments to certain legislative acts of the Russian Federation to improve the procedure for seizure of land plots from lands of agricultural purpose when they are not in use for the intended purpose or use in violation of the legislation of the Russian Federation" issued on July 3, 2016, amended some earlier issued federal regulations including the Civil Code and the Federal Agricultural Land Market Act. The law is focused on development of Agricultural Land Market and Agricultural Land Consolidation via involvement of unused agricultural land in turnover and improvement the procedure of withdrawal of agricultural land plots in case of their misuse. The mentioned above law stipulates that agricultural land plots located less than thirty kilometers from the borders of rural settlements could not be used for nonagricultural activities. Agricultural land plot, except land subject to mortgage, or land, in respect of the owner which the court instituted bankruptcy proceedings, could be forcibly withdrawn from the owner in a judicial procedure in case if such land not used for agricultural production for three or more consecutive years.

According to the Federal Law #354, the starting auction price of the withdrawn agricultural land plot is the market value of such land, determined in accordance with the Federal Law #135 issued on July 29, 1998, "On valuation activities in the Russian Federation", or the cadastral value of such land if the results of the state cadastral valuation approved no earlier than five years before the date of the decision on public tenders.

The method of determining the starting auction price of the seized land plot at public auction must be stated in the court decision on seizure of a land plot and selling it at public auction. Private farms and parastatals involved in state agricultural production support programs could lease state and municipal land up to 5 years without bidding or via land auction in case of availability of several applications. Thus, the implementation of the mentioned above law will allow redistributing and consolidating unused agricultural land in order to increase the efficiency of agricultural production by reducing transaction costs.

On July 13, 2015, the Federal Law # 218 "On State Registration of Immovable Property" was issued. According to it, the state registration of real estate procedure became more accessible and clarified as well as simplified. The Federal Law # 218 replaced the law on state registration of rights to immovable property and transactions with it. The Federal Law #218 was entered into force on January 1, 2017.

The Federal Law # 218 allows in some cases to record restrictions of rights and encumbrances to immovable property, including an easement, mortgage trust management and lease. It provides unified recording and registration procedure for real estate.

According to the law, the Unified State Register of Immovable Property (EGRN) will be introduced. It will be carried out exclusively in electronic form. It will include the Real Estate Cadaster, the registry of the rights on Real Estate, the registry of the boundaries, registry of the deeds, cadastral maps and registry of the of documents. EGRN will register the land rights without the application of the owner or transferee. The procedure will be performed based on information received from notaries. The law reduced duration of cadastral registration and registration of rights. For example, it constitutes 5 working days for the cadastral registration and 7 working days for registration real estate rights.

On December 30, 2015, the Federal Law # 431 "On geodesy, cartography and spatial data and on amendments to certain legislative acts of the Russian Federation" was issued. In particular, it constitutes that to ensure national geodetic, levelling and gravimetric networks create geodetic and cartographic works.

Owners of real estate objects, which are points of the above networks, are required to ensure their safety and notify the authorized body about all cases of damage or destruction. In addition, they must provide the possibility of performing to geodetic, cartographic and repair as well as restoration works. According to the law, the federal, departmental and regional spatial databases will be established. Access to these databases will be possible via the Internet. The state information system of maintenance of a unified electronic cartographic base will be introduced. The use of this information will be paid. In accordance with article #32 of the law, it came into force since 1 January 2017.

According to the Law, on January 1, 2017, were changed the names of licensed types of activities and reduced the list of types of geodetic and cartographical works of federal appointment, subject to licensing. Reissuance shall be subject to all existing licenses to conduct such work. The legislation also clarifies the education requirements related to mentioned above activities.

Territorial bodies of the Federal Service for State Registration, Cadaster and Cartography of the Russian Federation (Rosreestr) issue licenses for execution of geodetic and cartographic works. Officials of the Rosreestr must supervise the licensing of geodesic and cartographic activities, carry out inspections and issue orders to eliminate violations.

Since January 1, 2017, a subject of licensing is work on the determination of the parameters of the figure of the Earth and gravitational fields, the creation or updating of state topographic maps and

plans, the creation of the state geodetic networks, leveling networks, gravimetric and geodetic networks special purpose networks, including networks of differential geodetic stations. Surveyor organizations must have a license to carry out works for establishment, modification and refinement of data related to the state border of the Russian Federation, borders between subjects of the Russian Federation and municipal boundaries. Other types of geodetic and cartographic works can be carried out without registration of the license.

On July 3, 2016, the Federal Law # 237 “On State Cadastre Valuation” was issued. The law is focused on improving procedures of the cadastral valuation. It introduces of the Institute of cadastral surveyors. The law also transfers of authority on determination of cadastral value to state budget institutions, which will dealt with cadastral valuation on a regular basis. According to the law, these bodies should use a uniform methodology that will improve the quality of the state cadastral valuation. The law was entered into force on 1 January 2017. The article #19 of the law devoted the peculiarities of conducting urgent cadastral valuation will enter into force on 1 January 2020.

The entry into force of the mentioned above laws demanded to improve the training for the implementation of cadastral activities. Due to it, Ministry of Economic development of the Russian Federation on June 29, 2016, issued the Order #413 "On approval of the list of concentrations of training of higher education necessary for the implementation of cadastral activities" and the Order #541 dated August 24, 2016 "On approval of the model additional programs in the field of cadastral activities".

INSTITUTIONAL FRAMEWORK

On December 25, 2009, in accordance with the President of the Russian Federation Decree on the Federal Service of State Registration, Cadaster and Cartography, the Federal Service of Real Estate Cadastre as well as the Federal Agency of Geodesy and Mapping were dissolved. According to the Decree, the Federal Registration Service was renamed into the Federal Service for State Registration, Cadaster and Cartography of the Russian Federation (Rosreestr). The functions of mentioned above agencies were transferred to the Rosreestr. The Federal Service on State Registration, Cadaster and Cartography is now under authority of Ministry of Economic Development of the Russian Federation. At regional level, local offices of former Federal Service of Real Estate Cadastre as well as Land Cadastre Chambers were transferred to the Federal Service on State Registration, Cadaster and Cartography of the Russian Federation (Rosreestr).

REGIONAL LAND POLICIES

Development of Agricultural Land Consolidation in the Russian Federation is mostly depended on Regional Land Policies. One of the successful examples of them is Orel Region or Oblast Land Policy. Orel Oblast Land Policy is based on legal framework included the Federal Legislation as well as local regulations. Land Policy is the main part of Orel Regional Government Agricultural Policy included the following components: farm reorganization and land privatization, horizontal and vertical cooperation as well as integration of agricultural producers, development of innovation and investment activities in agriculture, development of Regional Agricultural Land Market.

Orel Oblast Land Legislation is based on the following legislative acts: The Decree of the Head of Administration of Orel Oblast # 616 issued on December 12, 1997, on farm reorganization and land privatization; Target Program on development of the Legal Basis of Orel Oblast Land Reform approved by the regional authorities on October 10, 1998.

Currently, land tenure in the region are regulated by numerous local acts and decrees of Orel Oblast Government, including some the following: Orel Oblast Law issued on June 5, 2003, #331-OZ "On turnover of agricultural lands in Orel Oblast"; Orel Oblast Law issued on October 11, 2010, # 1119-OZ "On implementation of certain provisions of the Land Code of the Russian Federation"; Orel Oblast Law issued on June 5, 2015, #1793-OZ "On regulation of some land relations in Orel Oblast"; Orel Oblast Law issued on October 5, 2015, # 1848-OZ "On definition of municipalities of Orel Oblast, on whose territory the land plots are granted to citizens for personal subsidiary farming or private farming for free use"; Orel Oblast Law issued on May 8, 2015, # 1785-OZ "On amendment to Decree of Orel Oblast Government "On turnover of agricultural lands in Orel Oblast"; The Decree of Orel Oblast Government issued on December 12, 2015, # 553 "On amendment Decree of Orel Oblast Government issued on August 17, 2015, # 382 "On approval of the procedure of determining the price of land plots owned by Orel Oblast, and the land plots owned by the state which are not delimited at the signing of contracts of purchase and sale, without an auction"; The Decree of Orel Oblast Government issued on September 22, 2015, #435 "On amendment Decree of Orel Oblast Government issued on October 10, 2012, # 361 "On approval of the procedure of implementation of Orel Oblast of preemptive right to purchase land plots agricultural land plots located in the territory of Orel Oblast"; The Decree of Orel Oblast Government issued on August 17, 2015, # 382 "On approval of the procedure of determining the price of land plots owned by Orel Oblast, and the land plots owned by the state which are not delimited, at the signing of contracts of purchase and sale, without an auction"; The Decree of Orel Oblast Government issued on July 7, 2015, #321 "On amendment of Decree of Orel Oblast Government issued on December 30, 2014, #443 "On approval the procedure for determining the amount of rent, order, conditions and terms of payment of for use of land plots by

Orel Oblast as well as land plots owned by the state which are not delimited in the territory of Orel Oblast"; The Decree of Orel Oblast Government issued on January 20, 2015, #22 "About transfer of lands or land plots from one category to another in the territory of Orel Oblast"; The Decree of Orel City Council of People's Deputies issued on December 24, 2015, # 5/0054-GS "On amendments to Decree of Orel City Council of People's Deputies issued on November 17,2005, # 77/811-GS "On Land Laxation"; The Decree of Government of Orel Oblast issued on December 26, 2014, #436 "On Approval of Cadastral Value of Agricultural Land".

All mentioned above laws are focused on development of Agricultural Land Market and Agricultural Land Consolidation in the region.

Orel Oblast agricultural land was amounted 2, 031.7 thousand hectares or 82.4 % of total regional land in 2015 (See Table 8). However, the total agricultural land area has been reduced (See Table 9).

Table 8. Orel Oblast Land Categories, 2008-2015

Item	2015		2008		2015/ 2008, %
	1000 hectares	%	1000 hectares	%	
Agricultural Land	2,031.7	82.4	2,106.6	85.5	96.4
Urban Land	197.9	8.0	196.0	7.9	101.0
Industrial Land	23.1	1.0	22.6	.9	102.2
Special Protected Regime Land	35.5	1.4	32.1	1.3	110.6
Forest Land	169.2	6.9	100.0	4.1	169.2
Water Land	1.2	-	1.2	-	100.0
Reserve Land	6.6	.3	6.7	.3	98.5
Total	2,465.2	100,0	2,465.2	100.0	100.0

Source: Orelreestr, 2016

Table 9. Break down of Orel Oblast Land, 2015, 1000 hectares

Item	Total	Agri Land	Crop land	Forest Land	Water Land	Building Site Land	Road Land
Agricultural Land	2,031.7	1,896.4	1,508.0	62.9	12.4	4.9	38.2
Urban Land	197.9	143.2	57.1	10.6	2.6	14.7	22.4
Industrial Land	23.1	2.8	.8	4.8	1.3	2.1	10.8
Special Protected Regime Land	35.5	2.0	.7	32.9	.1	-	.4
Forest Land	169.2	1.7	.2	165.5	.6	.1	.6
Water Land	1.2	-	-	-	1.2	-	-
Reserve Land	6.6	5.1	3.3	.6	-	-	.4
Total	2,465.2	2,051.2	1,570.1	277.3	18.2	21.8	72.8

Source: Orelreestr, 2016

The private land ownership plays the dominant role in the regional agriculture and consists mostly of land shares belonged to former collective and state farmers (See Table 10).

Table 10. Land Tenure, Orel Oblast, 2015, 1000 hectares

Item	Total	Private ownership	Ownership of legal entities	State and municipal ownership				
				Total	Citizens		Legal entities	
					In use	Lease	In use	Lease
Agri Land	2,031.7	1,156.4	259.1	616.2	-	.7	28.7	13.9
Urban Land	197.9	60.1	1.7	136.1	.2	.1	5.6	1.1
Industrial Land	23.1	.2	.9	22.0	-	-	8.8	1.4
Special Regime Land	35.5	-	-	35.5	-	-	33.2	-
Forest Land	169.2	-	-	169.2	-	-	-	-
Water Land	1.2	-	-	1.2	-	-	-	-
Reserve Land	6.6	-	-	6.6	-	-	-	-
Total	2,465.2	1,216.7	261.7	986.8	.2	.8	76.3	16.4

Source: Orelreestr, 2016

Break down of Orel Oblast private land ownership is displayed in Table 11. We can see that private land ownership tends to increase in the region.

Table 11. Private Agricultural Land Ownership, Orel Oblast, 1990-2015

Item	Year	Total Land, 1000 hectares	including	including	Total Land, 2013/1990, (+,-) 1000 hectares
			AgriLand, 1000 hectares	Cropland, 1000 hectares	
Private farms	1990	-	-	-	-
	2015	201.0	200.2	183.0	+201.0
Personal Subsidiary Farms	1990	42.0	39.9	33.6	-
	2015	85.3	82.3	74.3	+43.3
Individual Housing	1990	-	-	-	-
	2015	4.9	2.4	1.9	+4.9
Collective Horticulture	1990	3.7	3.7	-	-
	2015	9.9	8.8	.1	+6.2
Collective Vegetable Growing	1990	2.7	2.7	2.7	-
	2015	2.4	2.4	2.4	-3
Land Shares, Grazing, Haymaking Land and etc	1990	-	-	-	-
	2015	289.4	288.9	131.4	+289.4
Total	1990	48.4	46.3	36.3	-
	2015	592.9	585.0	393.1	+544.5

Source: Orelreestr, 2016

The main role in Orel Oblast Agricultural Land Tenure plays joint stock companies and partnerships (See Table 12). They occupied 1,305 (86 %) thousand hectares of agricultural land of parastatals in 2015. They have also rented most of agricultural land shares.

The production coops occupied 143.5 (9.5%) thousand hectares of agricultural land of parastatals in 2015. State and municipal enterprises, research institutions and subsidiary farms as well as other parastatals occupied 68.3 (4.5%) thousand hectares of agricultural land area in 2015.

Table 12. Land of Parastatals, Orel Oblast, 2015, 1000 hectares

	Item	Area	Land Shares	Including not claimed land shares	Legal entities land ownership	State and municipal land ownership
1	Joint stock companies and partnerships	1,305	762.1	146.0	95.8	284.9
2	Production coops	143.5	90.1	37.8	.8	41.8
3	State and municipal enterprises	6.1	.2	-	-	5.9
4	Research Institutions	27.3	-	-	-	27.3
5	Subsidiary farms	19.1	2.6	-	-	10.1
6	Others	15.8	1.3	-	-	4.3
7	Total	1,516.8	856.3	183.8	96.6	374.3

Source: Orelreestr, 2016

In 2015, there were 1,292 private farms in the region. The number of private farms has been decreased. However, their total area and cropland have been increased. In 2015, the average size of the farm was amounted 155.6 hectares. In 2015, it increased by 3.1 times compared to 1994 due to land consolidation (See Table 13). This trend reflects the process of consolidation of agricultural lands both at the federal and regional level.

However, in some regions of the Russian Federation, for example, in the Republic of Kalmykia, located in the South of the country, the process of consolidation of agricultural lands is reflected in the increase of the number of farms and their average size related to developed pastoralism. In the Kirov Region, located in the East of Central Russia, the reduction in the number of private farms is accompanied by a decrease of their size.

Table 13. Private Farms, Orel Oblast, 1994-2015

Item	1994	2000	2010	2013	2014	2015	2015/1994, %
Number of farms	1,754	1,420	1,247	1,293	1,302	1,292	73.7
Total land area, 1000 hectares	89.2	124.6	177.5	196.2	198.2	201.0	225.3
Average land size, hectares	50.8	87.7	142.3	151.7	152.2	155.6	306.3

Source: Orelreestr, 2016

As we mentioned before the main role in Orel Oblast Agricultural Land Tenure have played land shares. Local authorities have officially registered most of land shareowners. The agricultural land has been consolidated by purchase or rent of property rights on land shares belonged to former collective and state farmers by private farms and parastatals as well as agricultural holding corporations.

The land market in Orel Oblast has been steadily developed despite the increase in the cadastral value of land (See Table 14). As we can see from Table 14, most of land involved in Land Market Transactions in Orel Oblast in 2015 was agricultural land. It indicates that Agricultural Land Consolidation process has been developed in the region.

Table 14. Land Market Transactions, Orel Oblast, 2015

Item	Number of transactions/hectares			
	Total	Including		
		Urban Land	Industrial Land	Agri Land
Selling of state and municipal owned lands	2,400/ 87,589	1,455/1,198	117/5	828/86,386
Selling of lands by citizens and legal entities	3,913/ 131,690	2,970/ 1,126	5/2	938/ 130,562
Leasing of state and municipal owned lands	9,781/ 118,789	8,452/ 4,212	155/ 268	1,174/ 114,309
Other transactions, total, including	6,658/6,049	6,417/1,424	39/178	202/4,447
Land Granting	2,630/1,007	2,533/562	18/5	79/440
Land Heritage	3,892/1,582	3,804/797	9/2	79/783
Land Mortgage	136/3,460	80/65	12/171	44/3,224
Total	22,752/ 344,117	19,294/7,960	316/453	3,142/ 335,704

Source: Orelreestr, 2016

In this sense, it is very important to determine Agricultural Land Mortgage Value based on Agricultural Land Market Value. The Land Market Auction Price Model looks like:

$$V_a = [R_0(1+g)(1-t)] / \{ [k(1-at)-g] (1+c) + p(1-t) \}, \quad (1)$$

Where: V_a - Land Market Auction Price, rubles per hectare; V_0 - Cadastral Value of Agricultural Land, rubles per hectare; V_1 - Cadastral Value of Agricultural Land adjusted for the Land Rent Growth, rubles per hectare; R_0 - Land Rent, rubles per hectare; g - Land Rent Growth, %; t - Income Tax, %; p - Land Tax, %; k - Interest Rate, %; c - Transaction Costs, %; a - Tax Adjustment Coefficient, calculated as $a = R_0(1+g) / [R_0(1+g) + (V_1 - V_0)]$.

The values of mentioned above indicators were taken as follows: Land Rent value (R_0) was calculated on the base of cadastral value of agricultural land treated as V_0 and interest rate (k) taken as 3% and used for determination of the value. Land Rent Growth (g) was estimated 12%. Transaction costs (c) were estimated as 10%. Income Tax (t) was taken as 20%. Agricultural Land Tax (p) was estimated .3 % of cadastral land value. Interest Rate (k) was taken as 17.5 %.

In general, we can treat the Starting Agricultural Land Market Auction Price as a ratio between Land Rent and Interest Rate adjusted for income as well as land taxation. The ratio between Starting Agricultural Land Market Auction Price and Agricultural Land Mortgage Value was taken as 70 %. Orel Oblast Districts Agricultural Land Mortgage Values calculated based on Starting Agricultural Land Market Auction Prices are displayed in Table 15. In our opinion, the values should be accepted both commercial banks and agricultural producers.

Table 15. Agricultural Land Cadastral Values, Starting Agricultural Land Auction Prices, Agricultural Land Mortgage Values, Agricultural Land Tax Rates and Contract Land Rent Rates, Orel Oblast, 2015

Districts	Agricultural Land Cadastral Value, rub/ha	Starting Agricultural Land Auction Price, rub/ha	Agricultural Land Mortgage Value, rub/ha	Agricultural Land Tax Rates, rub/ha	Contract Land Rent Rates, rub/ha
Bolhovskiy	108,500	47,638	33,347	143	200
Verhovskiy	129,300	56,771	39,739	170	238
Glazunovskiy	124,300	54,575	38,203	164	229
Dmitrovskiy	90,800	39,867	27,907	120	167
Dolzhangskiy	135,300	59,405	41,583	178	250
Zalegochshenskiy	118,500	52,029	36,420	156	218
Znamenskiy	123,300	54,136	37,895	162	227
Kolpnyanskiy	131,700	57,824	40,477	173	243
Korsakovskiy	121,700	53,434	37,404	160	224
Krasnozorenskiy	135,800	59,624	41,737	179	250
Kromskoy	110,600	48,560	33,992	146	204
Livenskiy	130,600	57,341	40,139	172	241
Maloarhangelskiy	126,000	55,322	38,725	166	232
Mtsenskiy	98,200	43,116	30,181	129	181
Novoderevenkovskiy	131,200	57,605	40,323	173	242
Novosilskiy	112,400	49,350	34,545	148	207
Orlovskiy	125,200	54,970	38,479	165	231
Pokrovskiy	131,700	57,824	40,477	173	243
Sverdlovskiy	134,800	59,185	41,430	178	248
Soskovskiy	100,500	44,126	30,888	132	185
Trosnyanskiy	104,500	45,882	32,117	138	193
Uritskiy	109,700	48,165	33,715	144	202
Hotynetskiy	103,700	45,531	31,871	136	191
Shablykynskiy	100,200	43,994	30,796	132	185
Average	120,700	52,995	37,096	159	222

The average cadastral value of agricultural land increased in 2015 compared to 2014 approximately 4.3 times, which largely reflected the increased demand for agricultural land. Land tax was calculated as .3 % of starting auction price of agricultural land. In theory, contract land rent rates could not be less than land tax rates. Otherwise, the landowner will not be interested to give land on lease. Therefore, it is necessary to provide at least the average level of profitability for landowner that could be taken as 40 % compared to the rate of land tax.

CONCLUSION

The following measures must be implemented to strengthen the organizational as well as institutional sustainability of Land Consolidation in the Russian Federation.

- The Land Consolidation Legislation must be revised and improved both at federal as well as regional level;
- The institutional framework for implementation of Land Consolidation must be improved both at federal as well as regional level too;

- The Agricultural Land Auctions must be introduced to stimulate development of Agricultural Land Market and Land Consolidation in regions of the Russian Federation;
- The training and retraining programs related to Land Consolidation issues must be introduced;
- The public relation campaign to strengthen people’s ability to understand the role and importance of Land Consolidation Development must be initiated;
- The pilot projects focused on Land Consolidation Development should be launched in some regions of the Russian Federation to make demonstration effect;
- The Land Consolidation Development experience should be collected, scrutinized and disseminated;
- Orel Oblast Agricultural Land Consolidation experience should be scrutinized and replicated in other Russian regions.

REFERENCES

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- The Federal Law of the Russian Federation #435-FZ issued on December 29, 2010, #435-FZ “On amendments to certain legislative acts of the Russian Federation in terms of improving turnover of agricultural lands”;
- The Federal Law of the Russian Federation issued on July 3, 2016, # 237-FZ “On State Cadastre Valuation”;
- The Federal Law of the Russian Federation issued on July 3, 2016, # 354-FZ "On amendments to certain legislative acts of the Russian Federation to improve the procedure for seizure of land plots from lands of agricultural purpose when they are not in use for the intended purpose or use in violation of the legislation of the Russian Federation";
- The Federal Law of the Russian Federation issued on December 30, 2015, # 431-FZ " On geodesy, cartography and spatial data and on amendments to certain legislative acts of the Russian Federation";
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- Vedomosti daily dated August 8, 2016.

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