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Agricultural land consolidation (Russian case study)

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ABSTRACT

Agricultural Land Consolidation is a merging, enlargement, eliminating of mosaic land ownership and improvement of configuration as well as optimization of the size of land plots. The development of Agricultural Land Consolidation in Russia is featured by the development of agricultural holdings and the increasing size of private farms. The average size of a holding amounted to 608.2 thousand hectares in 2020. Compared to 2018 it increased by 18.6 % in 2020. The average size of a private farm was estimated at 75.2 hectares in 2018. It increased by 75.3 % compared to 1995. The development of Agricultural Land Consolidation in Russia is mostly dependent on regional land policies. The Republic of Kalmykia is located in the Southeastern edge of Europe and it is a part and federal subject of the Russian Federation. In the Republic of Kalmykia, there is a unique trend, which is in the increase in the number of private farms and their average size. In 2019, the average size of a private farm amounted to 1,056 hectares in the region. It increased by more than 1.8 times compared to 1992.

1. INTRODUCTION

Agricultural Land Consolidation is a merging, enlargement, eliminating of mosaic land ownership and improvement of configuration as well as optimization of the size of land plots. The specific objectives of Agricultural Land Consolidation are the following: increasing the efficiency of agricultural production; providing sustainable development of the 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. The main functions of Agricultural Land Consolidation are the following: elimination of hunger and poverty as well as reducing the gap in living conditions and incomes between urban and rural areas. Agricultural 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. In theory, Agricultural Land Consolidation can be carried out as voluntary land consolidation and compulsory land consolidation. Both administrative and economic methods, for example, the development of the Agricultural Land Market could be used for Agricultural Land Consolidation. In our opinion, preference should be given to voluntary land consolidation. In that sense, the development of the Agricultural Land Market is very important for the stimulation of Agricultural Land Consolidation. However, the 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 the 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.

2. METHOD

The methodology includes the study of theoretical foundations and the development of practical recommendations for improving the consolidation of agricultural land in Russia. At the same time, using statistical methods, as well as monographic surveys, trends in the development of Agricultural Land Consolidation at both the federal and regional levels were identified, which are: the concentration of land

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ownership by agro-industrial holdings, as well as an increase in the average size of private farms while reducing their number. However, in the Republic of Kalmykia, which is a federal subject of the Russian Federation, unique trends have been identified in increasing the area of agricultural land, increasing the number and average size of private farms.

3. RESULTS

The present stage of the development of Agricultural Land Consolidation in Russia is featured by the development of agricultural holdings and the increasing size of private farms. The state and municipal-owned land amounted to 1,579.4 million hectares, or 92.2 %, private land -112.1 million hectares, or 6.6 % and land owned by legal entities – 21.0 million hectares, or 1.2 % of the total the Russian Federation territory in 2018. The size and the share of the state and municipal-owned land in the total land of the Russian Federation were not changed in 2018 compared to 2017. The private land area decreased by .8 million hectares in 2018 compared to 2017 from 112.9 million hectares to 112.1 million hectares, or by .7 %. The share of private land in the total land of the Russian Federation was not changed in 2018 compared to 2017. At the same time, the area of land owned by legal entities increased by .8 million hectares in 2018 compared to 2017 from 20.2 million hectares to 21.0 million hectares, or by 4.0 %.

The share of land owned by legal entities in the total land of the Russian Federation was not changed in 2018 compared to 2017. The state and municipal-owned agricultural land amounted to 254.8 million hectares, or 66.6 %, private land - 107.6 million hectares, or 28.2 % and land owned by legal entities – 20.0 million hectares, or 5.2 % of the total Russian Federation agricultural land in 2018. Thus, the private agricultural land area decreased by .9 million hectares in 2018 compared to 2017 from 108.5 million hectares to 107.6 million hectares, or by .8 %. At the same time, the area of agricultural land owned by legal entities increased by .8 million hectares in 2018 compared to 2017 from 19.2 million hectares to 20.0 million hectares, or by 4.2 %. Moreover, the state and municipal-owned agricultural land area decreased by .6 million hectares in 2018 compared to 2017 from 255.4 million hectares to 254.8 million hectares, or by .2 %. The share of the state and municipal-owned agricultural land in 2018 compared to 2017 decreased by .1 percentage points from 66.7 % to 66.6 % in the total agricultural land.

The share of agricultural land owned by legal entities in 2018 compared to 2017 increased by .2 percentage points from 5.0% to 5.2% in the total agricultural land. However, the share of the private owned agricultural land in 2018 compared to 2017 decreased by .1 percentage points from 28.3 % to 28.2 % in the total agricultural land. Thus, at the federal level, there is a trend of the absorption of private land by legal entities. This, in particular, is also evident in the fact that a dominant role in the Russian agricultural land use has played joint-stock companies as well as production coops. The share of joint-stock companies and

partnerships in the total area of agricultural land use of parastatals compared to 2017 increased by .7 percentage points from 53.3% to 54.0% in 2018. Compared to 2017 the share of joint-stock companies and partnerships in cropland of parastatals increased by .8 percentage points from 58.6% to 59.4% in 2018.

At the same time, the share of production coops in the total area of agricultural land use of parastatals compared to 2017 decreased by .5 percentage points from 35.6% to 35.1% in 2018. Compared to 2017 the share of production coops in cropland of parastatals decreased by .7 percentage points from 31.7% to 31.0% in 2018. Thus, there is a trend of decreasing land use of production coops and increasing land use of joint-stock companies and partnerships, which also indicates further development of the Agricultural Land Consolidation by large and medium agricultural enterprises. The average size of agricultural holding amounted to 608.2 thousand hectares in 2020. Compared to 2019 it increased by 5.8 % in 2020. It varied from 380 thousand hectares to 1,047 thousand hectares in 2020.

After a boom in 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. In 2018 the number of private farms decreased by 7.6 % compared to 1995. However, the average size of agricultural land occupied by the private farm has been increased due to land consolidation. It was estimated at 75.2 hectares in 2018. Thus, it increased by 75.3 % compared to 1995.

The development of Agricultural Land Consolidation in the Russian Federation is mostly dependent on regional land policies. One of the successful examples of them is the Republic of Kalmykia Land Policy. The Republic of Kalmykia is located in the Southeastern edge of Europe and it is a part and federal subject of the Russian Federation.

In the Republic of Kalmykia, we can observe a unique trend, which is in the increase in the number of private farms and the increase in their average size. In 2019, there were 3,042 private farms in the region. The number of private farms in the Republic of Kalmykia increased in 2019 compared to 1992 by 10.4 times. The land area occupied by private farms in the region increased in 2019 compared to 1992 by 19.1 times. The average size of the private farm amounted to 1,056 hectares in the Republic of Kalmykia in 2019. It increased in 2019 compared to 1992 by 1.8 times due to land consolidation based on renting and buying of agricultural land shares. It is significantly different from the average for the Russian Federation, where an increase in the area mentioned above farms is accompanied by a reduction in their number. Here we can also observe another unique trend of increasing area of agricultural land in 2010-2019. The total area of agricultural land increased in 2019 compared to 2010 by 52.1 thousand hectares, or by .8% from 6,885.2 thousand hectares to 6,937.3 thousand hectares.

The Agricultural Land Market in the Republic of Kalmykia has been steadily developed despite the increase in the cadastral value of the land. To encourage

land consolidation, it is necessary to develop the Agricultural Land Market based on land auctions. In turn, the market price of land is the basis for Agricultural Land Taxation and mortgage transactions. Due to it, the Starting Agricultural Land Market Auction Price Model or SALAPM has been developed. In general, we can treat the Land Market Auction Price as a ratio between agricultural land rent and interest rate adjusted for income and Agricultural Land Taxation as well as the inflation rate. In this sense, it is very important to determine land tax and mortgage value based on Agricultural Land Market Value. The SALAPM looks like:

$V_a = [R_0(1+g)(1-t)] / \{ [k(1-at)-g] (1+c)+p(1-t) \}$, where V_a -Starting Agricultural Land 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 the mentioned above indicators were taken as follows: land rent value (R_0) was calculated on the base of the cadastral value of agricultural land treated as V_0 and interest rate (k) taken as 3% and used for determination of the value; annual land rent growth (g) was estimated at 12%; transaction costs (c) were estimated at 10%; income tax (t) was taken as 20 %; agricultural land tax (p) was estimated at .3 % of cadastral land value; interest rate (k) was taken as 15.25 %. The ratio between the Starting Agricultural Land Auction Price and Agricultural Land Mortgage Value was taken as 70% (see Table 1).

Table 1. Agricultural Land Cadastral Values, Auction Prices, Mortgage Values, Land Tax Rates, Republic of Kalmykia, rubles/ha (draft)

Municipalities	Cadastral Value	Auction Price	Mortgage Value	Land Tax
Gorodovikovskoe	84,580	14,912	10,438	44.74
Iki-Burulskoe	10,760	1,904	1,332	5.71
Ketchenerovskoe	11,800	2,080	1,456	6.24
Laganskoe	2,800	494	345	1.48
Maloderbetovskoe	12,430	2,186	1,530	6.56
Oktyabr'skoe	4,200	740	518	2.22
Priyoutnenskoe	19,800	3,490	2,443	10.47
Sarpinskoe	13,570	2,397	1,678	7.19
Tselinnoe	10,980	1,939	1,357	5.82
Chernozemelskoe	2,900	511	358	1.53
Youstinskoe	3,150	546	382	1.64
Yashaltinskoe	39,050	6,874	4,812	20.62
Yashkul'skoe	2,440	2,115	1,481	6.34
Average	15,760	2,961	2,073	8.88

Land tax was calculated as .3 % of the starting auction price of agricultural land. In theory, the contract land rent rate can't 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 the landowner that can be taken as 40 % compared to the rate of land tax. It is also important to implement a logical framework methodology for designing Agricultural

Land Consolidation Projects. In this regard, the super goal of Agricultural Land Consolidation Projects is to implement and develop Agricultural Land Consolidation to increase the efficiency of agricultural production to eliminate hunger and food shortages as well as poverty due to the rapidly growing world population. In this regard, the modified Agricultural Land Consolidation Project Logical Framework Matrix (ALCPLFM) has been designed (see Table 2).

Table 2. Agricultural Land Consolidation Project Logical Framework Matrix

Content	Verified Indicators	Narrative Summary	Assumptions
Supergoal	Increase the efficiency of agricultural production	Increasing financial and economic efficiency	Growth of land rent and price of land
Specific Objectives	Increase, optimization of the size and configuration of land plots, elimination of mosaic land ownership	Improving the efficiency of the use of agricultural machinery	Growth of agricultural production
Activities	List of land use planning work in physical terms	The volume of land use planning work in physical terms	Owners and beneficiaries of the project
Investments	Financing of land use planning work	The investment required for the implementation of land use planning work	Attracting outside investors to finance the project
Investment sources	Ensuring targeted investment financing	Lending required to provide targeted financing for the Agricultural Land Consolidation Project	The Central Bank's policy and refinancing rate. Market interest rate. Inflation rate

4. DISCUSSION

There are different models of Agricultural Land Consolidation in Russia. The first of them - Nizhny Novgorod Model was intended to consolidate the land shares to create production cooperatives. However, due to the absence of post-privatization support, this task remained unfulfilled. In this regard, noteworthy Belgorod and Orel Models, which are used respectively in Belgorod and Orel regions based on buying and renting of land shares by private farms, agricultural

holdings as well as local authorities. In this regard, other economists think that only further development of agricultural holdings is necessary. But, there is concern that the development of the agricultural holdings leads to the emergence of the so-called "latifundium", which should be treated as a system of land tenure based on large private land ownership. But it does not take into account the fact that the characteristic features of real latifundium are the following: the existence of a monopoly of large private land ownership as an object of ownership in agriculture; formation of two types of monopoly on land in agriculture: monopoly on land as an object of ownership and monopoly on land as an object of economy, which are separated and do not coincide with each other; the complexity of land relations and, first of all, rental, often due to the remnants of slavery and feudalism, which is expressed, in particular, in the existence of labor and product rent; collection by the landlord land rent which is economically realizing its right of monopoly on the land as an object of private property; despite the large size of estates, inside them there were small parcels of land and therefore, the formation of unfavorable organizational and economic conditions of agricultural production; technical and technological backwardness of agriculture caused by the lack of incentives for the development of agricultural production by landlords and tenants. As a result, the development of agriculture in latifundium was slow and inefficient. At the same time, the production process in the agricultural sector was often simple or even shortened. Therefore, it would be wrong to mix latifundium and large-scale market agricultural production, agricultural holdings, which act as an important factor in agricultural development. They have, as a rule, capital-saving type of agricultural production, based on the use of advanced scientific and technological progress. Besides, it should be noted, another important difference between agricultural holding and latifundium. In agricultural holdings, a monopoly on land as an object of private ownership and a monopoly on land as an object of the economy coincide with each other. This leads to the so-called "disappearance" of land rent and thus contributes to the efficiency of agricultural production.

5. CONCLUSION

The following measures must be implemented to strengthen the organizational as well as institutional sustainability of Agricultural Land Consolidation development in Russia: Agricultural Land Consolidation legislation must be revised and improved both at the federal as well as regional level; the institutional framework for implementation of Agricultural Land Consolidation must be improved both at the federal as

well as regional level too; the Agricultural Land Auctions must be introduced to stimulate the development of the Agricultural Land Market and Agricultural Land Consolidation in the regions of Russia; the training and retraining programs related to Agricultural Land Consolidation development issues must be introduced; the public relation campaign to strengthen people's ability to understand the role and importance of Agricultural Land Consolidation development must be initiated; the pilot projects focused on Agricultural Land Consolidation development should be launched in some of the regions of Russia to make a demonstration effect; the Agricultural Land Consolidation development experience should be collected, scrutinized and disseminated.

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