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Organizational Innovation in Russian Agriculture: The Emergence of "New Agricultural Operators" and Its Consequences

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Organizational Innovation in Russian Agriculture: the Emergence of "New Agricultural Operators" and Its Consequences

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Abstract and Keywords

After almost a decade of downsizing, Russian agriculture has been steadily growing since the end of 90's against the background of deep organizational changes and innovations. The traditional collective farming segment is the key target and subject of innovations. Outside investors and operators have acquired control over farm assets from the primary nominal owners and possessors. As a result, exceptionally large commercial farm operations - "*agroholdings*" - are being created. Both inside and outside innovators are introducing organizational changes such as vertical integration, custom and contract farming, land leasing, machinery sharing and others. The paper discusses size, scope and character of the ongoing innovations and their short and long-term consequences.

Keywords: agroholdings, contract and custom farming, new agricultural operators, integration.

1. PROBLEM DEFINITION

During the 1990s Russian and FSU agriculture experienced dramatic decapitalization, downsizing and fragmentation. All the key indicators of agricultural efficiency and productivity have substantially deteriorated. According to the official paradigm, the organizational landscape of domestic agriculture is composed of three main sectors ("orders"): collective farms that have undergone primary privatization, individual (family) farms, and subsistence plots². Due to many reasons, including insufficient structural reform policy, private farming did not take deep root in Russia. Collective farms and subsistence plots (that are closely linked and interdependent with collective farms) both account for the largest share in gross agricultural output (about 45 and 50%, respectively).

Within the private investment community Russian agriculture has inherited a reputation of sector fraught with loss of credit and low return on investment. Agricultural financing was considered the highest risk venture-type activity.

However, at the end of 1990s the widely held perception of Russian farm sector as "hopelessly stagnating" began to change. Russian agriculture, especially crop production, has been steadily growing since 1999. Deep organizational changes and innovations are underway in the domestic farm sector. The domestic collective farming segment is the key target and subject of innovations. Outside investors and operators have acquired control over farm assets (including thousands of hectares of Russian farmland) from the primary nominal owners and possessors. As a result, exceptionally large commercial farm operations - "*agroholdings*" - are being created. At the same time, some "traditional" agricultural producers have begun to modify and extend their farming activities. Both inside and outside innovators are introducing organizational changes such as vertical integration, custom and contract farming, land leasing, machinery sharing and others.

Our working "hypothesis" is that "*new agricultural operators*" (NAOs) is a *heterogeneous transitional sector in the domestic agriculture*. For the purposes and convenience of the study, to draw the virtual frontiers we define two main features of the newly emerging "sector":

- Active participation of non-agricultural entity in the farm production decision-making and
- Investing ("value at risk") in agriculture.

One should stress that the definition of NAOs sector frontiers is rather conditional. NAOs may be viewed as both a transitional *sector* and a *group of ways* of converting "traditional Soviet collective farm" into something different. We will describe this later in the paper. "*New agricultural operators*" is a conditional term that we use to identify and describe new players and new functions in the Russian agriculture.

The size, scope and character of the ongoing innovations are a serious challenge not only to the domestic, but also to the world agriculture in general. Since most NAOs rely on highly hierarchic managerial structures and hired labor, they represent an even further retreat from the individual family farm concept. In this paper we extend and update analysis presented in Rylko and Jolly, 2005.

2. THEORETICAL BACKGROUND AND WORKING HYPOTHESIS

Theory says that at the heart of any innovation lie transaction and coordination costs along with informational asymmetries. A firm develops new ways of doing business to reduce these costs and align incentives among and between economic agents. An organizational innovation has the potential to reduce or mitigate factor and product market distortions - at least in the short run. In the long run an organizational innovation can lead to inefficiencies or inequities through, for example, concentration of power and absentee ownership. Such inefficiencies can overwhelm any short-term societal gains. As a consequence, we believe that it is essential to understand how and why the organization of agricultural firms in Russia is changing and what these changes imply for future productivity, competitiveness, rural development and income distribution.

Several working "hypotheses" should be mentioned that could explain the emergence of NAOs. Among them are:

- *Incomplete and insufficient markets.* Incomplete transitional markets cause market imperfections and stimulate over-reliance on vertical and horizontal integration as a tool to mitigate extremely high transaction costs and risks. It seems more economical and less risky to produce inside the firm rather than buy from outside. Such a behavior is a specific analogue of well-studied developments in the US and West European agriculture in the 1950s, 1960s. Incomplete transitional markets also cause unequal conditions for competition between firms and industry branches. Those firms win that have better access to political lobbying groups and administrative power. As a rule, new agricultural entrants possess such a political and administrative power.
- *Weak or non-existent rural banking system.* It makes intra-firm capital flows the only real alternative tool of investing in agriculture.
- *Manageability trap.* The immediate result of collective farms' primary privatization was that land assets were divided into hundreds of small virtual land shares, while the rest of farm assets formed charter capital of the farms. It created a very risky environment for the farm management, control and investment. In addition, the productivity of a "traditional" collective farm was so low that it was incapable of servicing short or medium term debt. This led to the development of new organizational strategies that could bypass the fragmentation of assets.
- *Consequences of the 1998 financial crisis.* Devaluation of Ruble led to a sizable import substitution and export-oriented demand for domestic foods. Despite low prices for key agricultural inputs and devaluation of farm debts it met very low supply elasticity of the "traditional" Russian agricultural producers. New entrants and formats have captured the opportunity. Again, studied phenomena can be viewed as a rough analogue of US "bonanza farming" in the late 19th century and middle 1970s³.
- *Long-term shifts in opportunity cost of capital* (type of application of the convergence theory). One may say that due to dramatic long-term decapitalization and downsizing agricultural asset values are now more in line with earnings. From this point of view agricultural investments are quite competitive (as compared with other sectors of the economy).

- *Low level of domestic farm support and protection.* According to OECD calculations, Russian PSE as a percent of all farm revenues has been kept at an incredibly low level in comparison with all developed countries economies. It has made it necessary for agricultural producers to search for a financial and organizational “umbrella” on the part of rich domestic energy and other industry giants (Drache, 1964).

3. RESEARCH APPROACH AND SOURCES OF INFORMATION

The research questions posed in the foregoing discussion are:

1. Why and how is organizational innovation taking place in Russian agriculture?
2. What is the scope of changes?
3. What do these changes imply in terms of future productivity, competitiveness and social welfare?
4. Why is a further retreat from the concept of independent family farm taking place and is it inevitable?

In order to address these issues we employ the combination of empirical analysis, survey (interviews and questionnaire) and (micro) case study approaches. Case study research methods are ideally suited for examining "how" and "why" questions. Further, they can be particularly helpful when dealing with unprecedented change and when data is not available or reliable. In this section, we sketch the approach taken and describe the research design. Our case study research design follows the model developed by Yin ⁴.

Individual NAO was chosen as a unit of analysis. We developed a series of case studies of NAOs that differ by their position within the supply chain and their motivation for organizational innovation. The initial propositions were as follows:
Organizational innovation by NAOs

- a. Is driven largely by the firm's need to reduce transaction and coordination costs or exploit economies of size,
- b. Is driven by the need to reduce costs associated with inadequate market infrastructure, commercial law, political influence or regulation,
- c. Is driven by opportunities to acquire productive assets that are under-priced due to market imperfections, information asymmetries, poverty or the absence of clearly defined and enforceable property rights.

A standard case study protocol was developed. Finally, cross case analysis was conducted to examine the propositions listed earlier. As of today we have conducted 5 full-size case studies and several dozen micro cases addressing a limited number of key questions.

Complementary to case study, the method of empirical analysis was used. Various sources of information, including Russian Internet, newspapers, industry journals, personal contacts were employed to put together and perpetually update the unique Russian NAOs data base. It contains the background information on more than 150 NAOs. Finally, during 2004 the survey has been carried out, which addressed more in-depth issues requiring individual company management answers. As of the end of 2004, representatives of 28 companies

participated in the survey.

5. MAIN RESULTS OF THE STUDY

Section 4 provides just a brief summary of most important findings of the ongoing study. First let us provide a brief summary giving the “taste” of the ongoing organizational innovations.

4.1 New operators’ brief profiles ⁵

MTS Olimpia: “custom harvester”. In the early 1990s, a group of young Russian entrepreneurs started a firm serving as a debt collector on behalf of energy firms in southern Russia. In 1998, following Russia’s financial crisis, they identified some apparent profit opportunities in grain production. However, they also observed that expansion of grain production was constrained by the supply of agricultural machinery, especially combines. Using their connections with financial institutions, they purchased several modern combines. They created a limited liability company named Agricultural Machinery-Technological Station (MTS) Olimpia to provide custom farming services to corporate farms (former collectives) in Krasnodar and Rostov regions of southern Russia. After a few years of operation, MTS Olimpia was custom farming 3,500-4,500 hectares of small grains and row crops. MTS Olimpia charged relatively high custom rates by western standards and earned reasonable rates of return. However, other custom operators have recently entered the market reducing custom margins. In 2003, the owners of MTS Olimpia purchased assets of bankrupt collective farm and entered full-scale agricultural production on leased land.

Bank Avangard: “supply chain management”. Bank Avangard is a large Russian financial group heavily involved in the domestic malting business. The firm requires 300,000 metric tons of malting barley annually. In order to assure a reliable supply, Avangard-Agro, the bank’s agricultural entity, contracted with 15 collective farms to grow malting barley on the total square of 70 th ha. More than 130 foreign make grain combines were leased out to the farms on a 15-year basis. The company also provides seeds, pesticides, and fertilizers to the farms. It also guarantees to buy the malting barley at the current spot price plus a fixed premium. If the farms fail to deliver malting quality barley due to unfavorable weather, the company still guarantees to purchase their feed barley at the current market price, but without premium. The bank has entered into an agreement with the Russian subsidiary of Syngenta, a multinational agrochemical company, to provide chemicals and agronomic TA. In 2004 Avangard-Agro took two collective farms in Orel and Orenburg oblasts to grow malting barley seeds on 15 th. ha.

EFCO: “food processor”. During the 1990s, EFCO emerged as one of the leading private oilseed crushing and processing firms in Russia. In the spring of 2000, the company was asked by the governor of Belgorod Oblast to participate in the major regional farm restructuring process. EFCO was primarily interested in securing a reliable source of sunflower seeds for its vegetable-oil operations. The company initially acquired the assets of more than twenty technically bankrupt former collectives and entered into land lease agreements with hundreds of individual land share owners ⁶. As the lease of the land shares shifted from the failing former collectives to EFCO, rural people in Belgorod Oblast began receiving stable in-kind lease payments for the first time since the early 1990s. EFCO also expanded into two neighboring regions, ultimately leasing more than 100,000 hectares for sunflower and other crops. EFCO established an agricultural management subsidiary to handle farm operations. All key investment and production decisions, however, had to be approved at

headquarters. Since its inception, the company has made significant investments in crop-production machinery and equipment. They have drastically reduced unprofitable livestock operations associated with the former collectives. Each season, they would enter into large-scale purchase agreements with input suppliers and obtain necessary quantities of fertilizers and pesticides at competitive rates. A field and farm security system has been launched to reduce - traditional - theft. The number of farm employees has been gradually reduced. Most of the former farm managers have been replaced. However, EFCO also provides health care, social service programs, and technical training for workers. Later EFCO had organized “cooperatives” in each former collective farm’s area to manage social services. The land rental payments plus fixed company contributions have been used to create a “social benefits” package. The local cooperative decides how to spend this money. The first results of this innovative social scheme are promising. Recently the company, being rather dissatisfied about general results of farming endeavor, launched “big private farmer” project: each group of 22 farms top managers receive the opportunity of the gradual farm “management buy-out”.

Agrovoronezh: “agricultural venture entrepreneur”. In 2003, a group of private investors formed an agricultural production company in one of Central Black Soil regions. The investor group consisted of several local and Moscow-based individuals with ties to the oil and gas and construction business. During the next several months, the company negotiated with the local administration to acquire the non-land assets of a bankrupt former collective farm in one of the districts. At the same time, the firm organized the purchase of land shares from the former collective farm’s employees. By the autumn of 2004, some 10,000 hectares of land had been purchased and ownership rights had been registered in the local land office. Another 10 th. ha hectares are currently being converted from land lease to land ownership. To facilitate this process, Agrovoronezh has agreed to continue land lease payments for another four years. Ultimately the firm intends to acquire up to 50,000 hectares. At the same time, the firm has dramatically restructured the former collective’s assets, organization, and management. The inefficient livestock herd was cutback sharply. The number of workers was reduced from more than 1,000 to 375. The number of agricultural managers and technical employees was reduced by over one-half, while the company hired better trained agricultural managers and offered salaries and bonuses that were well above local levels. One of the company owners actually relocated from the city to the farm. Although owners were upset about depressing crop prices, they continued convert another 10 th. ha of farmland into ownership. Most recently the company arranged the (probably first in Russia!) investment credit against the pledge of company-owned land as collateral for loans from a local bank.

These four cases illustrate some of the general patterns observed in the emergence of new operators in Russia.

1. The entrepreneurs are responding to perceived profit opportunities in production agriculture – primarily in the former collective sector.
2. The new ventures are founded by outsiders with access to credit, processing services, or end-user markets.
3. The agroholdings focus, to a large extent, on overcoming input market imperfections, supplying machinery services, credit, ag chemicals, managerial services, and skilled labor.
4. The agroholdings make significant investments and technological improvements in production agriculture.
5. Some agroholding founders work closely with administrative officials in developing and managing their businesses.

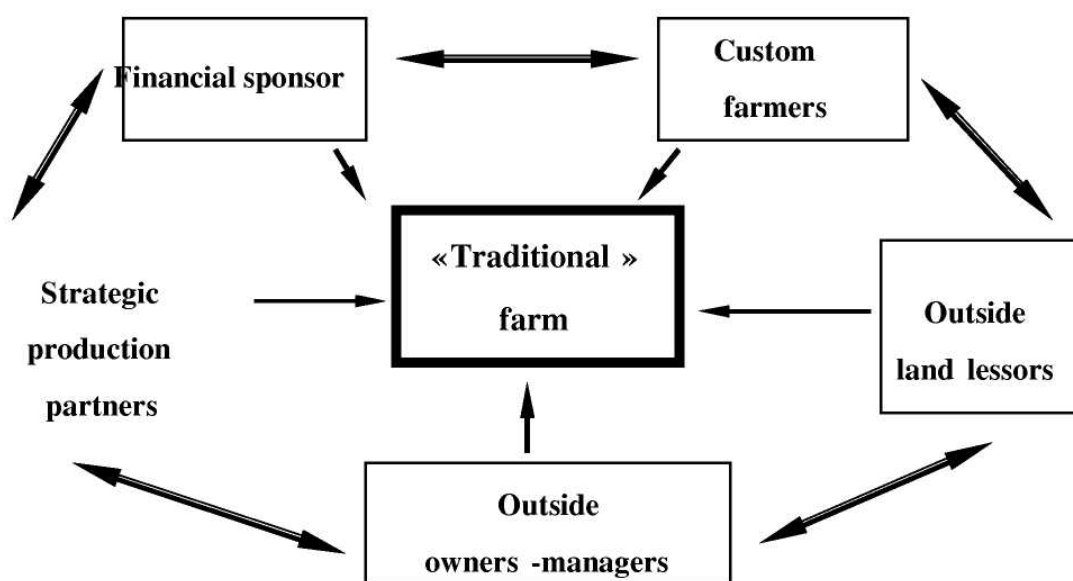
6. The social consequences in rural areas appear to be mixed – layoffs are common, yet all firms try to guarantee competitive land lease payments to rural people and some firms have attempted to provide extended packages of social services previously offered by the collectives.

4.2 Entry patterns and functions

We distinguish five principal patterns of an outside operator's entry in domestic agriculture (Figure 1):

- become financial "sponsor" of the farm
- enter joint production agreements
- provide custom farming services
- lease agricultural land
- acquire farm's non-land or total assets.

Figure 1. Entry patterns and functions



The ownership and control patterns, as well as functions of "traditional" independent collective farms are being eroded and modified by outside operators. *Sponsored farms* occupy an intermediate position between "traditional" and "new" farms. "Sponsors" are usually wealthy non-agricultural entities. They do not directly control and own farm assets and do not manage the farm on a daily basis. Sponsors typically bear the farm's financial failure risk. Their main function is to provide a guarantee to an input supplier or financial creditor or to invest in farming activities themselves. The sponsored farms usually belong to the elite part of Russian collective or private farms. Another indirect sponsor's function is to assist transformation of a "traditional" farm into a more up-to-date operation. Under *joint production agreements* outside entities don't become owners of farm assets, but participate in farm production decision-making. Under *custom farming*, an outside firm provides production services and partly bears the risks of crop failure, adverse commodity price trends and other

market developments. Under *land lease agreements* an outside firm engages in all production activities and takes agricultural risks dependent on and limited by the size of the leased land plot. *Acquisition of farm non-land assets* is typically accompanied by land lease from individual land share owners or municipal authorities and fully makes the firm an agricultural producer. In most Russian cases the acquisition of non-land assets is made in the form of establishing a new legal entity that is not burdened with overdue debts. The new entity acquires the most valuable physical assets from the old farm and in one way or another (gradually) solves the old farm's outstanding debt problem⁴. The side effect of the operation is the emergence of numerous "shell" (asset-empty) legal agricultural entities that exist only on paper.

4.2 Size and scope of NAOs sector

As of late May 2004 we have collected information on 150 NAOs functioning in 32 out of 89 Russian administrative regions. Many developed domestic agricultural production regions (such as Astrakhan, Kaliningrad, Kaluga, Kemerovo, Novosibirsk, Tyumen, Vologda, Russian Far East region, etc.) have not been examined yet due to the limited size of the study. And many regions, although included into the database, are still under-investigated. In addition, our list of NAOs does not include such "frontier" NAOs formats, as custom farming (unless they are linked with concrete farming unit), "sponsored" and "joint production agreement" farms. In our survey we focused on land lease and non-land farm acquisition formats.

Out of 150 surveyed companies, managers of 115 provided information on the size of controlled land. Others failed or refused to provide the information, or it was irrelevant due to the commercial livestock specialization of the holding. In 2003 the total number of farm production units controlled by the 115 companies amounted to 1026 entities, and agricultural land area under their control - to 6119 thousand hectares.

4.3 Origin and entry period

The data on origin of the farm holding "mother company" (farm project originator) is quite ambiguous as most of them are diversified, while others are parts of bigger holding groups. The general distribution by sector of origin and period of emergence is given in Table 1.

Table 1. NAOs matrix by origin and entry period, thousand ha

	A	T	F	AS	AG	c	U	B	S	Total
Before and 1998	0	0	0	0	0	0	0	71	530	601
1999-2000	585	34	369	47	0	345	0	0	942	2323
2001-2003	727	90	498	166	55	259	217	110	1334	2256
Total	1312	124	867	213	55	604	217	181	1606	5180
%										
Before and 1998	0	0	0	0	0	0	0	39	33	11
1999-2000	45	27	43	22	0	57	0	0	59	45
2001-2003	55	73	57	78	100	43	100	61	8	44

Notes: Data for holdings that answered the respective question. Origin: industry focus of the mother company. A -diversified agribusiness, T - procurement and ag commodity trade, F - food industry, AS - ag supplier, AG -agricultural producer, B - banking/finance, S - state and quasi state entity, N - unidentified, C - industrial

conglomerates.

Source: IKAR NAOs database.

Table 1 confirms the theory of multiple motivation for NAOs start-ups. The surveyed companies with various agribusiness and other industry roots entered agriculture immediately after the 1998 financial crisis or in modern post-crisis time, in response to the booming food consumer demand and growing ag. commodity export opportunities. The surveyed companies with direct banking and financial roots typically entered agricultural production either well before, or well after the financial crisis. Finally, the state and quasi state organizations represent the most diversified entry cause/motivation spectrum. Some of them are quasi-privatized parts of traditional Soviet industrial monopolies (*Gasprom*), some remain owned by regional governments (*Bashptitseprom*), some were recently formed by regional governments to manage and update bankrupt farms (state-owned *Voronezhinvest*).

4.4 Regional location and concentration

NAOs tend to be created in the most productive regions and/or close access to the end user market. According to the Moscow oblast agricultural officials, more than half of oblast's collective farms are already controlled by "investors". In Tatarstan (according to local officials) "investors" acquired about 700 thousand ha, or 15% of all farmland. In Orel oblast, according to our (incomplete) database, NAOs control 56% of all farmland. The concentration of holding companies may be even higher at rayon (district) level. In Belgorod, Krasnodar, Moscow, Tambov oblasts there are rayons, where almost all collective farms are controlled by one holding company. As a rule, the key local procurement and/or food processing facility is controlled by the same company. Such a concentration of power presents a challenge to the domestic agribusiness decision-makers.

4.5 NAOs project profiles

Out of 150 surveyed companies, 58 specialize on crop production, 48 are diversified farm operations and 26 are livestock producers (the rest failed or refused to provide information on specialization). More than 30 surveyed companies gave annual agricultural revenue figures. They show quite a strong correlation between project land size and earnings in case the company is a crop or diversified farm operation.

Table 2 provides information on crop and diversified farm operations by project land size. Being a part of the emerging sector, NAOs vary greatly by project size. It may range from one farm unit with several thousand hectares (*Uspenskiy Elevator*, Altay; *Krasnodaragroalians*, Krasnodar) to a multi-unit mega-size farming operation located in several regions (*Youg Rusi*, *Razguliay*, etc.).

Table 2. Break-down of NAOs ag lands by origin and size

	A	T	F	AS	AG	B	C	И	S	Total:
<i>Thousand ha</i>										
>300	0	0	0	0	0	0	0	0	1344	1344
200-299	200	0	0	0	0	0	180	0	0	380
100-199	692	0	225	100	0	0	0	0	239	1256
50-99	214	72	255	65	85	110	286	80	0	1167
<50	414	191	445	123	142	71	216	346	23	1971
Total:	1520	263	925	288	227	181	682	426	1606	6119
<i>Number of holdings</i>										

>300	0	0	0	0	0	0	0	0	3	3
200-299	1	0	0	0	0	0	1	0	0	2
100-199	6	0	2	1	0	0	0	0	2	11
50-99	3	1	4	1	1	1	4	1	0	16
<50	18	9	17	5	7	1	10	15	1	83
Total:	28	10	23	7	8	2	15	16	6	115

Note: see footnotes to Table 1.

Source: IKAR' NAOs data base.

During the last three years the average NAOs size has not grown significantly, in 2001 the average number of production farming units per project (holding company) for the studied 115 companies was 8.9 while the average land area (leased and owned) was 54.8 thousand ha. In 2003 these figures were 8.3 and 53.2, respectively. In terms of modal (most typical) estimate, in 2001 a typical farm project had 3 production units and 40 thousand ha of farmland (total). In 2003 these figures were 3 and 30 thousand, respectively. Moreover, the biggest companies tend not to expand in terms of land area, while smaller ones continue to grow aggressively. In 2001 11 of the surveyed biggest land holdings controlled 2278 thousand ha (207 thousand ha on the average). In 2003 the same companies controlled 2284 thousand ha, and 3 of them have substantially cut the land area, in contrast, in 2001 36 "small" holdings (30 thousand ha of farmland and less) controlled 523 thousand ha. In 2003 the same companies extended their operations to 1059 thousand ha. These developments may be interpreted as a search for optimal holding size given potential management difficulties faced by the biggest farm holdings. Such a conclusion is confirmed by our case studies (*EFCO*, 2003). It is also important to mention that the biggest holdings tend to belong not to the private agribusiness, but to the state and quasi-state origin category.

4.6 NAOs and vertical integration

Our case studies demonstrate that NAOs (in a broad meaning) may or may not be linked with vertical integration. It quite strongly depends on the origin and industry. State and quasi state, as well as conglomerate and banking companies tend to be in agriculture as an industry, not as a part of vertical supply chain. On the other hand, smaller regional agribusiness holdings tend to establish close links with owned farm supply, procurement or processing facilities. Large, diversified interregional agribusiness companies usually employ vertical integration strategies, although the real agribusiness assets' integrity (including farming units) may be very modest. In addition, even a big agricultural operation may not match the company's vertical pipeline needs. Our *EFCO* case clearly demonstrates this: the company possesses a huge multi-farm operation of 100 thousand ha but it covers only about 7% of the company's raw input (sunseeds) requirements.

The highest level of vertical integration is observed in the domestic poultry industry, where 5 leading vertically integrated companies (*Severnaya, Planeta, Agroholding, APK Mikhailovskiy, Golden Rooster*) control 24 farms and provide 35.1% of the national broiler output (*IKAR*, 2003). Other identified holding companies control another 13.1% of the output, while the rest is still produced by independent collective farms. In other industries the level of real integration is much lower, although the presence of leading agribusiness companies in agriculture is high. For example, in the grain industry out of 10 leading exporters 6 (*Agrico, Aston, Razguliay, Roskhleboproduct, Youg Rusi, Yugtransitservice*) have grain production projects. In the sugar beet industry all the 10 leading companies (accounting for about 85% of the output) have sugar beet production projects. However, both in the grain and sugar beet sectors the level of company captive-

owned supply remains quite modest.

4.7 Drivers of the sector

The data in Table 1 and other company survey materials demonstrate that even in the most recent years (after the well-documented post-crisis entry motivations have expired) the NAOs sector continues to grow. The number of new registered entries exceeds the number of exits. Our ongoing survey of the top agrohholdings management provides the following details. Out of 28 surveyed companies 20 increased their land size since the project inception, while only 8 decreased or have kept it the same. 19 companies provided estimates of current and future (in 5 years) shares of the new operators vs. collective vs. individual farms in commercial ag output. The estimated current share of the agrohholdings output in their regions /districts varies widely from 10% to 90%. The management almost unanimously considers that should current trends continue in 5 years time the share of agrohholdings would amount to 30-100%. Notably, 8 managers consider the share of private farmers will increase as well, while 17 believe share of collective farms would drop considerably. Probably, the most important fact is that even if a company decides to leave agriculture, its farm project is inherited/taken by another outsider (*OGO, Planta, ISC* cases). In other words, there is no way back to the collective farm.

4.8 Agrohholdings' problems identification

Our ongoing survey provides interesting results regarding the new operators' problems self-identification. To facilitate the response process we designed **10-scale problem importance questionnaire** and received the following response from 26 companies.

	Average est.	Modal est.
Lack or deficit of qualified managers	8.12	10
Lack or limited efficiency of the state regulation	7.81	10
Limited domestic market protection from the import	7.27	10
General difficult inheritance of old problems	6.92	5
Unstable weather/climatic conditions	6.88	7
On-farm theft	5.62	3
Lack of rule of law, administrative arbitrariness	5.38	7
Project giantism and non-manageability	4.31	2

Surprisingly, project giantism and on-farm theft are not mentioned among the main problems, probably partly because of sensitivity issue. Meanwhile lack of qualified farm managers and inefficient government involvement are positioned among top headaches. Generally, the above given problems received very high priority status. Contrary, 10-scale estimates of currently available government programs for domestic agriculture receive very modest appraisal ranging from 3.24 (federal ag leasing program) to 5.80 (federal program of working capital interest rate subsidy) with modal estimates not higher than 5.

5. SELECTED CONCLUSIONS AND POLICY RECOMMENDATIONS

1. It is clear that the traditional domestic three-sector Russian farming doctrine is not adequate any longer. All aspects of the domestic farm policy - from official agricultural statistics to state farm support - must be reconsidered given the emergence of new operational formats. The official definition of an "*agricultural producer*" should be matched with the reality. For example, a full service highly capitalized custom farming operator can be considered not a producer (and will not be eligible for farm support programs), while a "shell" (asset-empty) collective farm may still enjoy various producer privileges.

2. The destiny of independent collective farm. It appears that independent collective farm is gradually dissolving. One should briefly mention just three of its biggest problems: (a) Numerous nominal owners-employees lack real ownership and control function; (b) Lack of bankability due to inefficient management (reasons are rooted in (a)); (c) Lack of legal and organizational protection, which makes the farm exposed to very high risks in the modern domestic political and economic environment. The decision makers must keep in mind this potential historic scenario when considering policy measures.

3. The destiny of individual family farming. Despite its apparent failure in modern Russia, in the long term we remain optimistic about the concept of family farm in the country. There are first signs of turning mega-farming projects towards more operational freedoms of smaller production units. Some holdings create and incorporate family farms into their operations. Again, the decision makers must keep in mind this potential (very promising) historic scenario when considering policy measures.

4. In a relatively short time NAOs have become the most powerful sector in the domestic agriculture. The sector's agricultural value at risk is enormous. Meanwhile agribusiness administrators tend to ignore the NAOs' views on the key domestic agribusiness regulation programs. The classic example is the regulation of domestic sugar and meat industries. NAOs must make efforts to launch the sector's consolidated lobbying platform, while authorities must develop mechanisms to respond to the powerful industry voice. One of the solutions is the approval of Law on industry associations.

5. To make necessary investments in agriculture, NAOs have to collateralize their non-agricultural assets (at least in the foreseeable future, having in mind domestic agriculture's under-capitalization level). First, it refocuses and distracts company's resources from key industrial projects. Second, given naturally high agricultural risks the company faces a significant threat of losing its entire business. The government should provide adequate support package helping to mitigate risks of new agricultural investors. The brief list of the most urgent measures is as follows:

- Radical modification and strengthening of the absolutely outdated general and agricultural collateral legislation (efficient grain warehouse receipts legislation and enforcement system, legalization of lean rights, launching of rural credit bureaus and collateral filing offices, launching of simplified out-of-court credit enforcement procedures). These measures would many times increase the rural collateral mass and make investments against rural collateral less risky.

- Modification of the current crop insurance government program to make it more available and reasonable for the wide range of agricultural investors (development of alternative subsidized insurance packages, shift from all-inclusive to specific risks coverage packages, conversion from historically low to investment-based insurance values, satisfactory solution of reinsurance issue, and others). Again, such a modification would lower pre-harvest investment risks.

6. Land lease and ownership rights. The issue remains extremely foggy, which makes long-term investments in agriculture extremely risky and costly. For example, before signing land lease agreements, new entrants have to take care of proper land ownership rights' registration by numerous individual land share owners. In other words, they pay for the bad government job. And the cost of land plot registration may exceed the cost of land itself. It would be reasonable if these costs were born by authorities, not the private business. We are eyewitnesses of just the initial steps of domestic agriculture's organizational change. Further intensive research is necessary to track the situation and make profound observations and recommendations.

NOTES

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- 2 There are various modifications of this basic classification: The fractions of collective farms (or updated collective farms) are called corporate farms. They are grouped by official legal status (joint stocks, production coops, etc.), by financial status, and by gross revenues. Some researchers combine individual farms and subsistence plots into a single private farming «order». For more detail (Serova, 1999), (Uzun, 2000).
- 3 Evidently, the above-mentioned «hypotheses» have both causal and functional connections with each other. Some of them explain "growth opportunities", while others put sector "growth limitations". **However, in our view, none of them taken separately can satisfactorily explain the emergence of new organizational and functional agricultural forms.**
- 4 Yin (2003a, 2003b). For examples of case study research on agricultural issues see Doye et al. (2000), Schertz and Doering (1999), Drache (1964), Westgren and Zering (1998).
- 5 The descriptions that follows are based on IKAR case studies.
- 6 See the articles by Shagaida and Uzun for details of this leasing mechanism

REFERENCES

- AAKRE, D. 1999. Custom farming rates on North Dakota farms, NDSU, January.
- DOYE, Damona, Robert Jolly, Rob Hornbaker, Tim Cross, Robert P. King, William Lazarus, YEBOAH Anthony. 2000. Case Studies of Farmer's Use of Information Systems. Review of Agricultural Economics 22(2): 566-585.
- DRACHE, Hiram M. 1964. The Day of the Bonanza; A History of Bonanza Farming in the Red River Valley of the North. North Dakota Institute for Regional Studies.
- HOPPE R., Johnson J., Perry J., Banker D. 2000. A new farm typology for a diverse ag sector. ERS USDA.
- RYLKO, D. 1999. Operators Farming in Russia. IMEMO working paper, Moscow.
- RYLKO, D. 2000. «Operators farming»: a new sector in the Russian agriculture. The Russian economic barometer Vol. IX, N2, pp.11-19.
- RYLKO, D. 2002. New operators in Russian agriculture. Russian Politics and Law, 40 (2).
- RYLKO, D. 2002. New agricultural operators, input markets and vertical sector coordination.

- In: FACTOR MARKETS III RUSSIA'S AGRI-FOOD SECTOR: framework for further analysis. IET, Moscow.
- Rylko D. and Jolly R, "Russia's New Agricultural Operators: Their Emergence, Growth, and Impact" pp. *Comparative Economic Studies*, Vol. 47, No. 1 (March 2005) 115-126
- Shagaida N. 2002. The Land Market. In FACTOR MARKETS III RUSSIA'S AGRI-FOOD SECTOR: framework for further analysis. IET, Moscow.
- SEROVA, E. 1999. The impact of privatization and farm restructuring in Russian agriculture. IET, Moscow.
- SEROVA, E., ed. 2000. Agroprodovolstvenniy rynek Rossii. IET, Moscow.
- SEROVA, E., Khramova I. 2000. Emerging Supply Chain Management in Russia's Agro-Food Markets, Discussion Paper n. 14, Bonn, July.
- UZUN V. 2000. Agrarnaya structura Rossii: tipy, rol, razmery i effektivnost khozyaistv. In: Perekhodnaya agrarnaya ekonomika: problemy, reshenia, modely. VIAPI, Russia.
- WESTGREN, Randall and Kelly Zering. 1998. Case Study Research Methods for Firm and Market Research. *Agribusiness* 14 (5).
- YASTREBOVA, O., Oijen R. 1999. Agricultural Debts: Problems and Solutions. TACIS, Belgium.
- YIN, Robert K. 2003a. *A Case Study Research: Design and Methods*. Third Edition. Sage Publications.
- YIN, Robert K. 2003b. *Application of Case Study Research*. Second Edition. Sage Publications.