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REGIONAL DEVELOPMENT

Reindustrialization of the Rural Economy in Zabaikalskii Krai: Pitfalls and Possibilities

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Abstract—The article considers the settings, features, and possibilities of reindustrialization (new industrialization) of the rural economy in Zabaikalskii krai. It analyzes the consequences of the collapse of the Soviet agrarian development model in remote regions of Russia, resulting, in particular, in a decline of its agroindustrial complex and chronic losses for local agricultural producers. The paper further describes the pitfalls on the way to a sustainable rural development due to the absence of effective mechanisms necessary to overcome regularly occurring environmental and climatic phenomena, stimulate investment activity, and create competitive advantage. Based on sociological survey data, a range of agribusiness community opinions is presented with respect to the existing problems in the agricultural sector, vital trends and ways of its modernization, and a redesign of its institutional and financial environment, which can boost the development of agribusiness in Zabaikalskii krai. Two approaches are reviewed in the context of reindustrialization of the agroindustrial complex in Zabaikalskii krai. The first presupposes emphasis on attracting large producers capable, at their own expense and with government support, of carrying out industrialization-type investment projects, which will make it possible to reduce dependence on unfavorable weather conditions. The second approach relies on the advantages of a mixed economy, which necessitates the creation of mechanisms for integrating agroindustrial complex enterprises of various levels (small, medium, and large) into the economic external and internal space.

Keywords: Zabaikalskii krai, reindustrialization, agroindustrial complex, small agribusiness, rural development, cross-border relations

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For some time, the idea of *reindustrialization* has been attracting increasing attention from scientists and practitioners nationwide while having taken a place alongside *modernization* and *innovative development*, popular until recently [8]. The vogue for reindustrialization came from across the ocean, as is usual, where it had once originated and become partly implemented in terms of return or "reshoring" of manufacturing facilities previously outsourced by the United States to countries with cheaper labor. All that is well and good, but reindustrialization in Russia has lately developed into an observable trend and has been translated into reality in one way or another; some regions even use it as a hallmark [7, 9]. There is are various underlying reasons for this, including an increase in nostalgic sentiment for the Soviet past and industrial revitalization, Western sanctions that triggered a discourse on import substitution, the drop in oil prices, etc. Meanwhile, American-style reindustrialization is out of the question. Russia did not outsource its manufacturing facilities; hence, they cannot be returned. The majority of enterprises that formed the basis of the industrial potential in the regions were literally liquidated or converted and, therefore, cannot fulfill their intended purpose.

In a strict sense, we can only speak about new industrialization, that is, creating anew and modernizing the functioning components of production potential (and not only industrial) based on novel technological and institutional bases. In this context, reindustrialization is "reorienting production toward a more progressive road to development involving advances in informatics, biotechnologies, nanotechnologies, and state-of-the-art materials, and using alternative energy sources" [1, p. 67]. This can be true for both industrial complexes located in urban

agglomeration and enterprises in the rural economy [5, 6], part of which had possibly not yet undergone the industrialization stage per se.

Revitalization does not mean a complete restoration or full reclamation of what existed before due to a serious transformation of the entire economic system and forms of economic management and business structures, collapse of the planned system, opening of external markets, etc. Today, revitalization is not possible if economic entities cannot acquire competitive strength and financial stability. Industrialization in agriculture is commonly thought of as a transfer to this sector of large-scale forms of production and industrial (highly effective and science-intensive) technologies for the sake of improving economic efficiency and labor productivity. The "scale effect" can be ensured with large and vertically integrated business structures able to accomplish radical transformations at the next level of technology by attracting serious investment resources, including public investments, and to ensure an increase in production along with reduction in the current (operating) unit cost of production. Another industrialization scenario is associated with a cluster-based local economy and integration of supply chains within a local territory rather than within one large company. Such integration makes it possible to incorporate various groups of independent manufacturers specializing in different sectors of agriculture, as well the industries that process its products, into an added value production process.

To select either option of rural development, it is first necessary to analyze the current socioeconomic situation, identify acute problems and factors and mechanisms contributing to their reoccurrence, and reveal the economic potential and healthy forces available to reverse the negative trend. To create a realistic image of the future is particularly importance for regions that failed to escape the pitfalls of the Soviet past and reestablish development priorities in a novel way, as well as to find their economic niches and turn existing opportunities to their advantage. From this standpoint, we will consider certain problems, features, and capabilities with respect to reindustrialization (new industrialization) of the rural economy in Zabaikalskii krai, where these problems are particular relevant in view of the plans and programs to create the Silk Road Economic Belt, which may become, on the one hand, a positive development factor and, on the other hand, a source of new environmental problems [3, 13].

THE AGROINDUSTRIAL COMPLEX OF ZABAIKALSKII KRAI: IN THRALL TO THE OLD PARADIGM

In the Soviet era, the regions that made up present-day Zabaikalskii krai (Chita oblast and the Agin-Buryat Autonomous Okrug) played the role of geopolitical "advance outposts." Although these regions were not considered among the most economically developed, they still hosted a number of strategically important enterprises in the mining (primarily, the Krasnokamensk uranium mine) and well-developed livestock sector, including sheep farming, designated as a sector of All-Union specialization at that time. It was not only resource extraction that served as the chief priority of national policy towards the region, but rather economic development of border territories and of retaining population. The policy was backed with the necessary resources, but economic efficiency was not a priority. This resulted in the formation of an economic complex that could only exist with large-scale financial, technical, and institutional support from the state. The model proved nonviable after the collapse of the Soviet Union and subsequent economic reforms. The economic space began to shrink slowly but surely, as soon as the flow of the centralized resources faded out and the center of economic management shifted to the region.

The agricultural sector of Zabaikalskii krai's economy continues to play an important role in the socioeconomic development of the region. Livestock farming is a main sector in the krai's agriculture and accounts for nearly 75% of gross agricultural output. Sheep farming and meat production maintain their leading positions among agricultural subsectors. Sheep farming is distinguished for the fine wool line, which is represented by fine wool sheep breed of Zabaikalskii krai. Pig and poultry farming are less developed. The krai is referred to regions of risk in crop farming due to the harsh environmental and climate conditions; however, natural pasture land resources can supply cattle, small livestock, and horses with feed, which promotes opportunities for the territory to specialize in raising animals for meat and wool.[1] Grain crop production is concentrated in the southeastern part of Zabaikalskii krai. Potato and vegetable crops are cultivated by the population on household plots. Cereal grain crops are produced by agricultural companies, which account for 90.3% of its total production in the krai.

Significant resources available but are improperly used for a variety of reasons to develop an efficient agrarian sector in Zabaikalskii krai. Representatives of agrarian businesses failed to fully embrace opportunities offered by cross-border cooperation as opposed to forestry, where the borderland position of the region has been playing an essential role for the entire period since 1991 and has had a negative impact on the processes of modernization [4, 12].

The reforms of the 1990s contributed to a decline in the agricultural complex in Zabaikalskii krai. Over the 30 years since the late 1980s, the area of the agricul-

[1] *Agropromyshlennyi Kompleks Sibirskogo Federal'nogo Okruga. 2006–2010: Stat. Sb.* (Agroindustrial Complex of the Siberian Federal District. 2006–2010: Statistical Digest), Chita: Zabaikalkraistat, 2011.

tural lands has decrease 1.3 times, with more than a fivefold reduction in the area of the tilled arable land over the same period (Table 1). Since the early years of the 21st century, land abandonment and weed invasion have taken place due to the withdrawal of these lands from economic production and the dismantling of irrigation systems. Today, many formerly cultivated fields in the agricultural districts of the krai (Ulety, Chita districts, etc.) are no longer in use. Due to financial problems, more than 70% of enterprises involved in crop production rely on extensive and outdated technologies, utilize low-quality seeds, apply an insufficient amount of chemical fertilizers, etc. In 2014, only 2.7 kg of inorganic fertilizers were applied per 1 ha across the entire land area under crop as opposed to 8 kg in 2001. Activities directed at pest and disease prevention are not held to the necessary extent. Crop yield is primarily dependent on weather conditions and natural soil fertility [2, p. 78].

Table 1. Comparative characteristics of selected agricultural indicators in Zabaikalskii krai

Indicator	1987	2014
Agricultural land area, thous. ha	7801.0	5824.7
Arable land area, thous. ha	2315.8	435.2
Number of cattle in all categories of farms, thous. head	759.0	479.7
Swine livestock, thous. head	302.6	104.1
Sheep and goat livestock, thous. head	3663.3	503.0
Numbers of poultry, thous. head	3355.1	538.1

Source: *Narodnoe Khozyaistvo Chitinskoi Oblasti, Stat. Sb.* (Economy of Chita Oblast: Statistical Digest), Chita, 1988, pp. 69, 80, and 82; *Sotsial'no-Ekonomicheskoe Polozhenie Munitsipal'nykh Raionov i Gorodskikh Okrugov Zabaikal'skogo Kraya* (Socioeconomic Status of Municipal Districts and Urban Okrugs in Zabaikalskii Krai: Statistical Digest), Chita, 2015, pp. 86, 95, and 97–99.

The problems existing in crop production directly impact the development of animal husbandry in the region. The decline is evidenced by a more than sevenfold decrease in sheep and goat herds and a more than sixfold decrease in poultry (Table 1). The changes include deterioration of breed composition, decreased productivity, a drop in agricultural production, and a decline in the quality of produce. The economic downturn largely had a negative effect on rural territories. Bankruptcies and financial problems of once strong farms triggered a large outflow of residents from rural areas [10].

Agricultural development in Zabaikalskii krai depends above all on financial investments in the sector, which potentially could affect the trends (directions) and pace of modernization in a given segment of the regional economy. In the last decade, investment in fixed capital has substantially decreased to the region, and it affected the sector's contribution to GRP (Fig. 1).

The existing financial problems in the sector are partially offset by the labor efforts of the rural population, which actively participates in the production and processing of agricultural products.

Over the decade between the last two All-Russian Agricultural Censuses, the number of peasant farms and private entrepreneurs increased nearly threefold, from 418 in 2006 to 1173 in 2016.[2] Meanwhile, the Registry of Enterprises in the Agroindustrial Complex (AIC) of Zabaikalskii krai indicates in general an unstable financial situation for the enterprises and organizations involved in production and processing of agricultural products and in service of agricultural sector. For example, out of 253 agricultural companies registered in 29 municipal rural districts, one in five was not operational as of January 1, 2016. This reveals the countervailing nature of the increase in the number of farms and private households amid the disintegration of collective forms of economic land management and the shift to small subsistence-oriented farms and private households. A certain contribution to these processes came from programs in support of small and medium businesses that were launched in the early 2000s, which made it possible for modest-sized companies to operate with low but still positive profitability.

The absence of food market monopolization is a distinctive feature of Zabaikalskii krai. Relatively large processing enterprises, e.g., the Chita dairy plant, the Makkaveevskii food factory, the Aginskii meat packing plant, etc., coexist with smaller organizations, such as cooperatives and enterprises in rural districts. Large-scale corporate groups (agroholdings) are represented in the region by the Daurskii meat processing plant, which is a member of the Talina group of companies. Meanwhile, there has been an increase in the activity of agricultural producers from other regions observed in the regional market. Geographically, it covers neighboring regions: Irkutsk oblast (the Yanta group of companies), the Republic of Buryatia (the Selenga meat processing plant), and Amur oblast (Khladokombinat).

The challenging socioeconomic conditions in Zabaikalskii krai discourage large-scale private investments in the agriculture, the establishment of local agroholdings, or more active expansion of external business structures. Correspondingly, while searching for the new models for development of the sector and rural economy in general, it is necessary to proceed from the economic management system that is already in place, characterized by a multitude of small and midsize players who have succeeded in adapting to the local business environment. It is important therefore to objectively evaluate pitfalls, which might hinder

[2] URL: http://www.забайкальскийкрай.рф/governance/news/2016/10/10/41850.html.

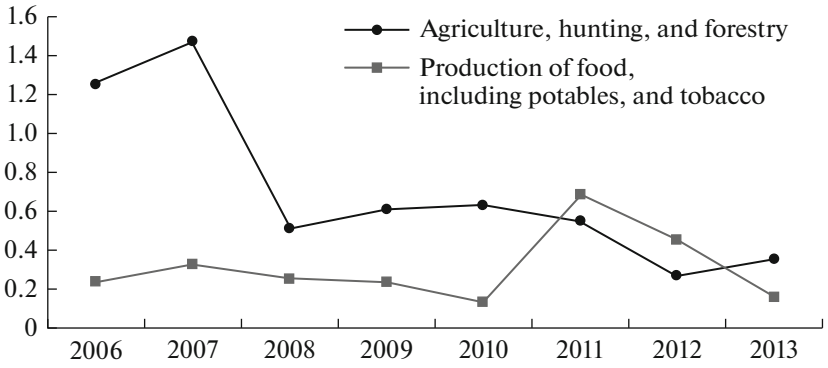

Fig. 1. Dynamics of shares of agriculture and food production in total fixed capital investments in Zabaikalskii krai economy, %.

efforts to overcome the existing negative processes, and to find possible ways to avoid them.

PITFALLS OF THE DEPRESSION MODEL

The agriculture of Zabaikalskii krai in its current state cannot extricate itself from the intertwined environmental, climatic, financial, technical, and infrastructural problems. The extremely challenging agricultural cycle of 2016–2017 in the krai typifies the way these pitfalls operate.

The development of arable farming in Zabaikalskii krai is disrupted by droughts that regularly occur in this area and tend to affect either specific districts and sites or fairly large territories. When nature delivers a devastating blow, local producers find themselves on the brink of survival, because they do not have irrigation systems, technologies, which are able to reserve water and to protect crops from natural disasters, or reliable drought-tolerant (region-specific) crop varieties. The situation is worsened by the lack of harvest insurance programs or other loss compensation mechanisms accessible to crop farmers. The aftereffects of drought usually affect the conditions for the next planting, in that there is insufficient money to purchase fuel, lubricants, seeds, and means to treat seeded plants; to repair equipment; and pay farm machinery operators. The repeat occurrence of crisis scenarios leads to constant shrinking of crop areas and domestic animal herds.

An account of events in 2016 can serve as a sad illustration of the above: a prolonged drought in Zabaikalskii krai resulted in failure of 41% of spring crops, while the damage from the yield loss was an estimated RUR 1.1 bn.[3] Notably, each crop farm had to deal with the problems single-handedly. After becoming aware of unfavorable weather forecasts, insurance companies refused to accept risks of mass occurrence of insured events. A number of companies defined rules for submitting documents in such a way that producers could not formalize insurance contracts on time. Five insurance companies refused to operate in the krai altogether. A partial solution was reached after the Ministry of Agriculture of the krai intervened between agrarians and insurers. For 2017 the latter promised to cooperate with some farms "on an individual basis," but refused to render services to all prospective customers.[4]

The drought threatened a 41% reduction in agricultural crop area in 2017 and a 30% decrease in livestock. The Russian Ministry of Agriculture promised partial compensation for the damage and pay farms RUR 350 mln for direct losses, three times lower than total losses. And even these considerably reduced funds were disbursed to the region long overdue. The companies that submitted the corresponding documentation (write-off acts of crop, etc.) were supposed to receive compensation by June 2017, i.e., after the end of the sowing campaign.

Whereas arable farming suffers from drought, apart from the difficulties associated with pasture (rangeland) quality and forage/fodder supply, livestock farming regularly faces an unfavorable epizootic situation resulting from the spread of foot-and-mouth disease, anthrax, and other diseases borne by agricultural animals from China and Mongolia into Russian borderland territories. The reasons cited by the experts for outbreaks of disease include uncontrollable infiltration of wild animals across the border, insufficient veterinary monitoring in cross-border territories, the lack of organized grazing in frontier of Zabaikalskii krai, and improperly maintained animal disposal sites. Although quarantines and states of emergency are declared commonly and in a timely manner in areas deemed to be infected, local agricultural companies, farms, and owners of homesteads still incur losses because animals that had come in contact with infected animals are slaughtered and burned without any additional consideration, while a ban is imposed on exportation of raw meat from areas exposed to the

[3] URL: https://www.chita.ru/news/100811/.

[4] URL: https://www.chita.ru/news/99370/.

infection. As a result, producers have to sell even certified meat products for next to nothing. The allocated sums for compensation are insufficient to cover losses incurred from the mandatory slaughter carried out by the population and agricultural enterprises, in particular. In this situation, the most vulnerable appear to be enterprises with outstanding bank loans approved for herd reproduction and secured, among other things, with purchased animals as collateral.

Nevertheless, sheep and goat farming continue to drive the agrarian development of Zabaikalskii krai, although attaining the position held by Zabaikalskii krai in the bygone Soviet era remains a distant prospect. In 2016 Zabaikalskii krai ranked third by the number of sheep and goat in Siberian Federal District. In the beginning of 2017, sheep and goats were raised and bred by every second agricultural companies and every third farms. A development of this sector in the region is closely associated by the authorities with prospects for its agrarian sector; the livestock is being stated to double by 2030 through improving the herd quality and livestock food reserves, as well as tackling the existing challenges related to the sale of sheep products, such as wool, sheepskin, and meat above all. In its press releases, the government of the krai reports the establishment of laboratories for breeding operations and additional facilities for meat and wool processing.

Meanwhile, implementation of these plans is a distant prospect. Lending barriers and the multiplying risks of partial yield and income losses wreak havoc on the technical base of the agrarian sector, which has become hopelessly outdated in the past 25 years. The lag in technical modernization due to producers' lack of funds subsequently intensifies the spiral of losses. The yield declines as a result of low quality and late sowing and harvesting campaigns, and other operations. Producers are unable to renew their machinery and equipment fleet on their own due to low solvency. To handle the problem of technical modernization in the foreseeable future, they require massive external support; otherwise, these problems have to be dealt with by next generations of crop farmers. In actual fact, the funds allocated to subsidize interest rates for loans to modernize the sector have been continuously decreasing.

In general, the current situation with depreciation of agricultural machinery is considered threatening even in the opinion of the representatives of the regional Ministry of Agriculture, as regional Deputy Minister of Agriculture I. Malakshinova stated in an interview: "The overall depreciation of the tractor fleet is 70.5%; power-packed tractors, more than 90%; forage combine harvesters, 55%; and grain combines, 70%. Certain types of agricultural machinery have a depreciation of almost of 100%".[5] Before the sowing campaign of 2017, only half the machinery was ready for work in the field; the remainder was in need of urgent repair. In 2016, there were occasional purchases of agricultural machinery made only in seven out of 31 rural districts. All farms in the krai together were able to acquire 30 tractors of different brands and modifications, 13 pieces of tillage equipment, seven sowing units, and one sowing complex.

The regional authorities hold out hope for reclaiming at least a part of the sown area, which has decreased more than fivefold compared to Soviet times. As estimated by experts from the krai Ministry of Agriculture, there are 987700 ha of unused arable land suitable for recultivation and put back into production in Zabaikalskii krai. Sites with lands left fallow for many years can be found in all districts of the krai. However, the rates of restoring abandoned land to cultivation (recultivation) are rather low, while future plans are not so great. According to a ministry spokesman, about 19100 ha of unused arable land were brought back into the operation by regional agricultural companies in 2016. More is planned for the future; it has been decided to recover 24000–34000 ha annually for the period of 2017–2020.[6]

The reclamation of sown areas is hindered by the high cost of recultivating abandoned land. For the tillage of anew input lands, over five years producers in the krai will need to purchase more than 3500 units of agricultural machinery worth RUR 2.5 bn: power-packed tractors, plows, harrows, etc. The expenses for 1 ha of unused arable land to go back into operation will exceed RUR 30000; the machinery is estimated at RUR 24 500; the direct costs of carrying out works will amount RUR 6600.

The officials of the regional Ministry of Agriculture doubt that local producers can handle the scope of the work and level of expenses. They have placed their trust in outside investors capable of financing large-scale operations. The government is prepared to support investors through subsidies under the Federal Target Program on the Development of Reclaiming Designated Agricultural Lands in Russia for 2014–2020 and the Government Program on the Development of Agriculture and Regulation of Markets of Agricultural Products, Raw Materials, and Food in Zabaikalskii krai for 2014–2020. The subsidies will cover 30% of the costs of putting agroengineering measures in place. Nonetheless, a boom in the number of people anxious to invest into such a risky business has not yet been observed.

It can be stated that the Zabaikalskii krai authorities do not have a clear-eyed outlook for how to adjust the socioeconomic mechanisms by which the agrarian sector operates. On the one hand, they are relying on large investors and large producers for support. On the other hand, they are unable either economically or

[5] URL: https://www.chita.ru/news/100016/.
[6] URL: https://www.chita.rU/news/96454/#to_marker.

structurally to stimulate implementation of these projects. Due to declining national budget resources in general, federal grants and subsidies to agriculture of Zabaikalskii krai have been decreasing.

The plan was to curtail the amount of support to agricultural producers by 10% in 2017 while lowering the share of the federal center. In 2016, according to information on federal spending and spending of federal subjects, RUR 591.74 mln in subsidies from the federal budget and RUR 132.31 mln from regional sources were transferred to Zabaikalskii krai; the support amounted to RUR 724.05 mln in total.[7] The expenditures for these targets are set to drop down to RUR 647.412 mln in 2017. Meanwhile, the plan is to redistribute the spending burden between the budgets of the Russian Federation and the region. The Russian Ministry of Agriculture assumes responsibility for subsidizing the krai in an amount 26% less than that in 2016 (RUR 439.022 mln), whereas the krai must increase its allocation by 1.5 times (up to RUR 208.39 mln).[8]

The rules of government support have been changing along with the adjustment of the amount of allocated funds. On the one hand, the government has been trying to penalize those who limit the areas under crops, having announced that in such cases support for 2018 will be forfeited. On the other hand, supported directions are being seriously reconsidered. Over the last five to six years, small forms of production (private households) were deprived of five types of government aid, namely, subsidies for purchasing calves, selling meat and milk, land plot surveying, and interest rates for loans. A serious cutback is planned for government funds channeled towards preferential loans for agricultural companies to purchase machinery, etc.

In the opinion of the krai's Minister of Agriculture M. Kuz'minov, such a reduction in government spending on the regional agrarian sector will exacerbate the problems of agricultural producers and undermine their trust in the country's agricultural policy. During a round-table discussion held on December 1, 2016, with representatives from the regional AIC, the minister outlined the outlook of forthcoming massive bankruptcies as a result of underfunding: "Due to financial cuts in 2017 and 2018–2019, nearly 40% of agricultural enterprises will go bankrupt or come close to it,"[9] which will in essence translate into a final collapse, i.e., sale of livestock and 15% reduction thereof; it will take a minimum of five years to recover from the downswing.

The specified problems emphasize urgency to find solutions to issues vital for the development of the agrarian sector of the krai's economy. How should the impacts of drought and other crisis phenomena be mitigated in an environment of curtailed government support? Who can assume the risks of farming and save the sector from chronic losses due to the high cost of production, as well as obsolete and worn out machinery and technological base? To what degree can the regional policy untangle the most complex knots and find the specific mechanisms to revive the agrarian complex in order to provide the initial conditions for steady development of the rural economy and rural areas in general?

Using a sociological survey, we have attempted to shed light on how these problems look from the viewpoint of local agrarians and what solutions they themselves can offer.

CURRENT STATE OF FARMING AND MODERNIZATION TRENDS (NEW INDUSTRIALIZATION) IN THE AIC OF ZABAIKALSKII KRAI FROM VIEWPOINT OF SMALL AND MEDIUM-SIZED ENTERPRISES

Since agriculture accounts for a considerable part of the Zabaikalskii krai's GRP and the employment of its population, modernization in this sector can significantly contribute to development of the regional economy, increased living standards, and improvement in the quality of life. Above all, it can have a positive effect on the well-being of the rural population. In the absence of large players such as agroholdings and agroindustrial firms in the regional economic space, local small and medium-sized agricultural enterprises can be regarded as a subjects, drivers, and recipients of sector modernization effects.

In January–February 2017, a survey was conducted to collect from the agribusiness community a range of opinions on existing problems, vital trends, and modalities of modernization of the sector (new industrialization), as well as to determine the institutional and financial conditions capable immediately stimulating the development of agribusiness in Zabaikalskii krai. The survey was carried out by the staff of the Institute of Natural Resources, Ecology and Cryology of the Siberian Branch of the Russian Academy of Sciences, with methodological and analytical monitoring from the staff of the Institute of Economics and Industrial Engineering of the Siberian Branch of the Russian Academy of Sciences. The participants included heads of peasant farms and private households, heads and specialists from agricultural enterprises (former state and collective farms, now agricultural cooperatives), and private entrepreneurs involved in delivery, processing, storage, and selling of agricultural products. The data collection method was an interview based on a structured questionnaire (with open-ended questions) from an accessible sample, while ensuring a diversity of the interviewed population with such parameters as legal status, line of activity, and geographic location of an agricultural enterprise (farm).

[7] URL: http://mcx.ru/activity/state-support/funding/.
[8] URL: http://gp.specagro.rU/region/15789406/2/4/5/2017.
[9] URL: https://www.chita.ru/news/95100/.

The questions were aimed at collecting both fact-based information on the characteristics, state, and practices of economic management in a specific agricultural enterprise (farm) and subjective opinions about representatives of agribusiness of Zabaikalskii krai on a wide range of issues from the level of particular enterprises to the regional economy overall. Prospective respondents did not show much desire to participate in the survey and proved skeptical about any positive effect the survey might have on the situation in the sector. Admittedly, the number of those who refused to participate in the survey was greater than those who agreed, which made the opinions of the respondents so much more valuable. Those who responded were, in fact, the ones who, notwithstanding their pessimistic rating of the current state, remain hopeful that growth is possible at least in the segment of agricultural production they are accountable for, that government support matters and can operate more efficiently, etc. Thus, we present a range of opinions of the most optimistic and potentially active part of agrarians of Zabaikalskii krai, what can be viewed as a limitation of our research.

The survey involved 40 respondents from the administrative districts specializing in agriculture and primarily located in the southern and southeastern part of the krai: Aginskoe, Aksha, Aleksandrovskii Zavod, Borzya, Gazimurskii Zavod, Krasnokamensk, Kalga, Priargunsk, Zabaikal'sk, Krasnyi Chikoi, Chita, and Ulety districts. Almost all respondents were engaged in the production of agricultural products[10] (38 persons), with their farms specializing in livestock farming (35 persons) as agriculture of the krai in general. The latter was combined with crop production in 50% of cases (16 persons). The sample also included heads of farms engaged only in crop production (5 persons). Seventeen out of the 40 persons interviewed represented agricultural companies (agricultural cooperatives *AC*, limited liability companies *LLC*, joint-stock companies *JSC*, etc.); 21 persons represented peasant farms; and 2 persons represented private households. In a peak season, half the respondents employ more than ten people in their enterprises; the other half employ fewer people, with the overwhelming majority from this half (18 persons) hiring no more than five.

In our research, enterprises differentiated by their legal status represent groups that are fairly internally homogeneous and differ in the important characteristics of their activity. For example, agricultural companies (AC, LLC, JSC, etc.), compared to the peasant farms (farms and private households), are, first, diversified to a greater degree; i.e., more than half of them specialize in both growing crops and livestock farming, as opposed to a third of peasant farms (though livestock farming as a monospecialization leads in both groups). Second, they have a broader spectrum of lines of activity: with an overwhelming majority of the enterprises (above 80%) in both groups engaged in production, the first group features agricultural product processors, storage providers, wholesalers, and enterprises working in breeding and reproduction. Third, agricultural companies employ on average a greater number of workers; nearly 90% of them have ten or more workers, whereas among the peasant farms, the same applies only to one-fifth. Fourth, they are commonly located in districts other than along the border with China or Mongolia; the first group has twice as many than the second, provided half the enterprises in both groups are located in districts bordering China. From the above list of differences, only the latter is a characteristic feature of our particular sampling; others specifically characterize two different groups of agribusiness actors not only in Zabaikalskii krai, but throughout the country in general.

As seen from our research, the legal status of enterprises that respondents are in charge of or own is among the key factors that determine the difference in their opinions on the situation in agriculture and challenges and outlooks for its development both at the level of enterprises and the regional agrarian sector. Let us consider possible trends and ways of modernization (new industrialization) of Zabaikalskii krai agriculture from the perspective of representatives of two actors: small and medium-sized agricultural production businesses.

It is important to note that the possibility of receiving government aid, as well as the types of such support, depends on the legal status of these actors. Two years prior to the survey, less than a fifth of the agricultural companies received no government support; more than a third of those were among peasant farms. The number of the former who obtained more than three types of support exceeds by two times the number among peasant farms. In both groups, compensation for damage resulting from emergencies and bridge financing (per hectare) were the most prevalent types of aid; third place was occupied by payments for amount and quality of sales in the first group and subsidies for the purchase of elite seeds in the second group. The subsidy of loan interest rates and cofinancing of investment projects were common in the first group, whereas these types of assistance were rare in the second. It can be said the state, in the form of regional authorities in Zabaikalskii krai, sees agricultural companies as the main recipients of its aid; i.e., the larger the company, the more aid it receives.

How effective is this assistance, and is its differentiation justified on grounds of the legal status of an enterprise? No clear unambiguous answers exist (Table 2). Representatives of agricultural organiza-

[10] Such lines of activity as processing of agricultural products and breeding and reproduction were mentioned by one participant of the survey each. Combination of production with product storage was noted in four instances and with product purchasing activity and trade in one instance.

Table 2. Ratings of financial standing, prospects for development of enterprise, effectiveness of government support, and agribusiness environment in Zabaikalskii krai depending on legal status of respondent's enterprise, February 2017, $N = 40$ persons

Rating	Agricultural companies, %	Peasant farms, %
Financial standing of an enterprise at the time of the survey:		
favorable and likely favorable	6	38
likely unfavorable	53	38
unfavorable	41	24
Total	100	100
Current financial standing of the enterprise compared to previous year:		
improved	6	14
unchanged	12	53
worsened	82	33
Total	100	100
Agricultural business environment in the krai:		
favorable and likely favorable	6	24
likely unfavorable	41	38
unfavorable	53	38
Total	100	100

tions are significantly more pessimistic in rating their current state and retrospective changes in production than representatives of peasant farms. It appears that the government helps weaker and more vulnerable actors, but they tend to be relatively large. Barely any of the respondents representing agricultural companies gave high ratings for ease of doing agribusiness in Zabaikalskii krai. Accordingly, the heads of agricultural companies rate the effectiveness of government support not much higher than do the representatives of peasant farms (Table 3) who have access to significantly less support and fewer choices.

An elaborate paradox is observed. Under such pessimistic ratings of operational environment, an overwhelming majority (80% or more) of heads of agricultural companies are planning to develop their business next year (expansion of output, product assortment, new lines of activity, etc.), while of peasant farms only three-quarters have the similar plans.

Interestingly, among our respondents, only two persons (heads of agricultural companies) confirmed putting the technologies they described as state-of-the-art into practice at their enterprises (in the course of production, storage, processing, etc.) The rare occurrence of innovations in small and medium-sized business is disturbing. Does this mean that the state primarily supports extensive development of the agrarian sector in Zabaikalskii krai?

It has become evident that agricultural companies and peasant farms have a similar list of basic problems impeding their operations.[11] This includes the high cost of energy resources, fuel, and lubricants; shortage of qualified personnel, the low level of purchase price; depreciation of the material and technical base; and ineffective insurance programs (Table 3). No comments are necessary. This recalls the initial conditions for the agricultural production problem, at least, in Siberian regions, not just in Zabaikalskii krai.

Even though the agricultural companies and peasant farms in Zabaikalskii krai share the same economic space, differences in their legal status and the corresponding institutional constraints and opportunities manifest themselves in different opinions on the significance of second-order challenges. For example, representatives of peasant farms consider ineffective forms of government support and lending, low availability of investment credit resources, and inadequate transport and storage infrastructure to be major problems more frequently than do the representatives of agricultural companies. On the other hand, reluctance of the population to work in agriculture and imperfection of land relations are more commonly mentioned as problems by the heads of agricultural companies rather than heads of peasant farms.

Each block of challenges with an inconsistent rating is understandable. As noted above, small forms of economic management structures (farms and private households) have lost many types of government aid, i.e., subsidies for purchasing calves, selling meat and milk, land plot surveying, and subsidized interest rates for loans, whereas there is hardly any mention at all of funding (cofinancing) fixed capital investments (purchase of machinery, building warehouse, etc.). Warehouse and storage infrastructure intended for general use could, to a larger extent, eliminate the barriers to the development of peasant farms, inasmuch as creating and maintaining such assets exceeds the abilities of small farms specializing in agricultural products and is actually ineffective for them.

From the viewpoint of heads of agricultural companies, the primary reason for "reluctance of population to work in agriculture" is a reluctance to work for an agricultural company because of such things at the work schedule, regulations, difficult manual labor, discipline, and often low wages. And an enterprise has a scale effect as well; it is one thing to hire five people to ensure a process is running, but another to hire 50 people. It is therefore no wonder that for representatives of peasant farms this problem does not have a comparable immediacy, because the "ranks" of farms and private households are, in fact, to a larger extent

[11] Respondents were offered a choice from a list of five basic challenges or they were allowed to indicate their own.

Table 3. Main challenges that hinder operations and development of company/farm dependent on legal status of respondent's enterprise, Zabaikalskii krai, February 2017

Challenge	Agricultural companies		Peasant farms	
	Share of those mentioning problem, %	Rank	Share of those mentioning problem, %	Rank
High cost of energy resources and fuel and lubricants	94	1	86	1
Shortage of qualified personnel	71	4–5	71	2
Low level of purchase price	82	2	67	3
Wear and tear of material and technical basis	77	3	57	4
Ineffective insurance programs	71	4–5	43	5
Ineffective forms of government support and lending	24		29	
Low availability of investment credit resources	12		29	
Underdeveloped transport and storage infrastructures	—		24	
Reluctance of population to work in agriculture	24		10	
Imperfection of land relations	18		5	
Difficulty to enter retail market	12		14	
Lack of affordable and quality breeding material	12		10	

consist of either workers of defunct agricultural companies or those who left companies to become self-employed in what they do best.

It is common knowledge that, objectively, solving land-related problems under the existing land law is a difficult challenge for agricultural companies, as confirmed by our survey.

In comparison to the problems discussed above, we see that the challenges of entering retail markets and access to affordable and quality breeding material (seeds and animals) and plant protection agents are rarely referred to as major. However, they are an equal concern for both medium-sized and small agricultural producers.

The particular character of economic activity and problems facing the studied groups of agrarians are observed in how the respondents rate the importance of directions for modernizing agriculture in the krai (Table 4).

Agricultural companies place greater emphasis on "increasing the area of cultivated lands," since they are engaged more in grain operations than are peasant farms. "Improvement of living conditions and access to social services for the rural population" is more important for respondents from peasant farms than for the heads of agricultural companies, because the former are individual rural residents rather than an organization. Similarly, peasant farms opt for development of the production infrastructure ("establishment of new and development of existing agricultural processing enterprises" and "building of modern vegetable storehouses and elevators") more frequently than do agricultural companies, while acknowledging their limited capacities due to scale and status or, possibly, showing greater economic foresight.

Representatives of both groups most value the importance of the direction "developing the material and technical base of enterprises in the sector." A sim-

Table 4. Significant modernization trends in Zabaikalskii krai agriculture depending on legal status of respondent's enterprise, February 2017, share of those mentioning direction in groups, %

Modernization trend	Agricultural companies	Peasant farms
Development of material and technical base of enterprises in sector	88	81
Improvement of living conditions and access to social services for rural population	53	67
Increase in livestock and variety of agricultural animals	53	52
Increase in area of cultivated lands	47	29
Breeding of regional specific crop species, establishment and development of livestock breeding farms	41	38
Establishment of new and development of existing agricultural processing enterprises	35	52
Development of regional agroindustrial clusters	18	19
Construction of modern vegetable storehouses and elevators	6	29

ilar priority in both groups is assigned to "increasing livestock and diversity of agricultural animals" and "breeding of regional specific crop species, establishment and development of livestock breeding farms."

Medium-sized and small businesses are least concerned with the "development of regional agroindustrial clusters" as a modernization trend in agriculture, even though it has been actively promoted by the krai government for a number of years now. The idea of cluster development can hardly be expected to materialize if the main agricultural producers in the krai are not interested in it.

The representatives of peasant farms have been noted to select modernization directions associated with intensive development, i.e., establish and improve rather than increase and expand. Small and less institutionally supported farms are ambitious, but they are as few in number as their possibilities, whereas relatively large companies (major recipients of government aid) bet on what they receive government support to do: enlarge areas, increase livestock, etc. Modernization (new industrialization) for them is to continue in its present form.

As seen by agrarians of Zabaikalskii krai, the most important conditions necessary to modernize Zabaikalskii krai, however, include improvements in the management of machinery and equipment supply in agriculture, the availability of loans for small and medium-sized business, and increase in investments to the sector. There is not surprising; machinery and equipment plus funds equal modernization.

CONCLUSIONS

The majority of problems in the agricultural sector of the Zabaikalskii krai economy is associated with insufficient funding and low effectiveness of economic management mechanisms. Substantial barriers to modernization (new industrialization) in the sector are created by the unfriendly agribusiness environment in the region, which also threatens the existence of agricultural companies. These risks relate to small farmers too.

Peasant farms and private households appear to be more adapted to the current situation, which have been forced to manage with the equipment, labor, and land resources available to them without essential support from the government. Their key problems include the lack of infrastructure for processing, storing, and selling products, as well as a lack of protection of interests for small producers. Even though agricultural enterprises are considered major recipients of government aid, they can hardly be a driving force for the new industrialization; their task is to remain in the survival zone.

In our view, two fundamentally different approaches can be employed to reindustrialize Zabaikalskii krai's AIC.

The first approach places emphasis on attracting large producers capable, at their own expense and with the government support, to implement industrialization investment projects that will make it possible to reduce dependence on unfavorable weather conditions at the expense of, e.g., restore irrigation systems and apply modern methods and technologies. This will promote growth in labor productivity and reduce the unit cost of production to a manageable level. The main complexity in implementing this approach lies in the high startup risk for large businesses, primarily in the sphere of agricultural production, and the very limited ability of the regional authorities to accept even partial risk. In addition, the entry of large investors is hampered by high interregional and international (primarily from China and Mongolia) competition and limited distribution markets for products.

An alternative approach appears more realistic to us. Under the already established economic system, the government (regional and local authorities) should create opportunities for different players to integrate the results of their activity into the economic (internal and external) space. With this approach, the development of Zabaikalskii krai's AIC is contingent on an increase in funding for the sector, the formation of logistic and other infrastructures, the presence of state orders for products from local agricultural producers, and improved access to loan programs for small and medium-size enterprises. We consider it important to emphasize the use of the borderland potential, which is scarcely employed today. In this way, conditions will be created for stopping economic contractions and addressing the strategically important (geopolitical) objective of retaining population in borderland districts. This will make it possible to boost economic cooperation with China, including projects carried out under the program on creating the Silk Road Economic Belt [11].

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