Prospects for the Development of Export of Dairy Products from Industrial Region

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Abstract—This article describes the analysis of existing problems and defining promising directions for the development of the agro-industrial export potential of the Kemerovo Region (Kuzbass) based on systematic-dialectical approach involving the consideration of factors that contribute to development and counteract it. The most significant factors contributing to the growth of the export potential of Kuzbass agro-industrial products were the presence of developed processing base, industry research and educational centers, as well as a regional center for supporting the export of Kuzbass agro-industrial products. The main factors affecting this process were: insufficient production of agricultural raw materials which are necessary for processing industry in the region, underdeveloped logistics infrastructure, lack of specialists with competencies in the export of agro-industrial products. The prospects for the growth of agro-industrial export by Kuzbass enterprises are associated with overcoming the shortage of raw materials on the basis of regional integration and stimulating domestic production, developing marketing and logistics infrastructure, and training personnel with export competencies.

Keywords—export of domestic agro-industrial products, method of systematic-dialectical analysis, factors affecting the development of region's export potential.

I. INTRODUCTION

Agro-industrial complex of our country at the present stage of development receives new tasks performing of which requires the improvement of many economic mechanisms of industry functioning. The issue of access to the world market for our agro-industrial products became especially urgent. The Decree of the President of the Russian Federation “On national goals and strategic tasks of the development of the Russian Federation for the period until 2024” defines the following basic goals of the “International Cooperation and Export” direction:

1) Creating of competitive non-resource-based sectors in manufacturing industry, agriculture and services sector, with the total export share at least 20% of GDP.

2) Achievement of export volume of non-resource-based and non-energy goods in the amount of $ 250 billion per year, including that of agro-industrial products – $ 45 billion per year [1].

Achieving this export level will be possible only if products offered for export have high level of competitiveness.

Agro-industrial complex of the Kemerovo Region also has a certain export potential using of which will ensure the further development of not only processing enterprises, but also of agriculture in the region.

Today, exports of the Kemerovo region prevail over imports and make up 94.9% (2018) in the structure of the volume of foreign trade. In terms of export volumes, in 2018 the region took first place in the Siberian Federal District (42.2% with the amount of $ 16.444 billion from $ 38.906 billion) and fourth place in the Russian Federation (3.7%, $ 16.444 billion from $ 444,964 billion) [23-25].

According to the Russian Export Center, the largest share in the export structure of the Kemerovo region for 2017 was occupied by raw materials export (70% of the total volume); the share of non-resource-based and non-energy export in the export structure of the Kemerovo region was 20.72%. For comparison: non-resource-based exports in the Tomsk Region – 78%, in the Novosibirsk Region – 44.6%, in the Krasnoyarsk Territory – 90.7%, in the Omsk Region – 97%, in the Altai Territory – 58.8% [3]. For quite objective reasons, the share of agro-industrial products in export remains insignificant. In 2018, the share of export of agro-industrial products of the Kemerovo region as a part of non-resource-based and non-energy export amounted to less than 5% [3]. This value does not indicate existing potential and makes us search for new opportunities for its growth in future.

A number of efforts are being made in the region with the purpose of growth of agro-industrial complex and bringing it to a new level of development. In 2019, “Strategy for the development of agriculture, food and processing industry of the Kemerovo Region until 2035” [4] was adopted, according to it, the growth in gross agro-industrial output due to the implementation of the strategy will be 45% of the level of 2017. Moreover, the level of self-sufficiency of Kemerovo region with milk is planned to be increased from 62% (July 2019) to 90% by 2035. In addition, according to this document, it is planned to significantly increase the level of utilization of production capacities in food and processing industry, including these in milk processing industry – from 56% to 88%.

The goal is to ensure the growth of agro-industrial export. Over the next 6 years, within the framework of “International Cooperation and Export” national project, enterprises of the agro-industrial complex of Kuzbass are planning to increase sales of their products in foreign markets by 3.5 times [5]. For this, a regional project “Export of AIC products of the Kemerovo Region” [6] was developed and is being...
implemented within the framework of Kuzbass’s participation in the implementation of the federal project “Export of Agro-industrial Products” and of the national project “International Cooperation and Export”. This project aims to achieve the volume of agro-industrial export in the amount of $327.2 mln by the end of 2024. This is an increase of 1.5 times compared with 2017 ($213.2 mln in 2017).

In order to achieve these values, the following measures are planned: production of AIC products with high added value; creation of export-oriented commodity producing infrastructure; holding information sessions with the participation of regional producers, consultants of export centers and representatives with experience in organizing export deliveries; participation of regional agro-industrial producers in Russian and international exhibitions and fairs.

At present day, agro-industrial products in region’s export structure account for no more than 2% (1.85% in January 2019). At the end of 2018, export volume of agro-industrial products amounted to $281 mln. Essential share of export was food products – $266.2 mln, or 94.7%. Export of plant products amounted to $12 mln, or 4.3%, animal products – $2.7 mln, or 1%. The export of agro-industrial products in January 2019 amounted to $22.6 mln [7].

A. Problem statement
This research is related to insufficiently studied factors affecting the development of the export potential of Kuzbass in the field of production and processing of agro-industrial products. Systematic-dialectical approach to the analysis of region’s export opportunities contributes to better understanding of sources and factors of their development.

B. Research questions
In this study, a comparative analysis of the volumes of agro-industrial export of the Kemerovo Region was performed. This analysis revealed the factors that contribute to the development of the export potential of Kuzbass agro-industrial products and factors that counteract it.

C. Research objective
The objective of this study is to search for sources of growth for the export of agro-industrial products of Kuzbass by comparing contributing and counteracting factors.

II. Methods
As a research methodology, one of the methods of systematic-dialectical approach was used, i.e. “identifying system-integrating and system-destructive factors in a complex object” (in this article, the authors use the terms “contributing” and “counteracting” factors) [8]. Simultaneous presence of destructive and integrating factors in an object (enterprise, team, country, biosphere, etc.) is the sign of the law of polarity. Only taking into account the interconnection and opposition of these factors can we get a holistic, balanced view of the object, understand its real condition, sources for its development and develop realistic approaches to its changes. The idea of this technique is expressed by the following logical formula:

Integrating (contributing) factors $\iff$ disintegrating (counteracting) factors.

III. Results
We focus our analysis on the possibilities of increasing export of agro-industrial products of the Kemerovo Region.

Stage 1 – analysis of the volumes and geography of the export of agro-industrial products of Kuzbass (by the example of ice cream as a dairy product).

For objective reasons, the essential part of regional agro-industrial products is sold directly to the residents of this territory. However, manufacturers’ interest in export is growing annually. As an example, we consider the changes in volume and geography of ice cream export by the regions of the Siberian Federal District (SFD) and the Kemerovo Region in the following table.

| TABLE I. COMPARATIVE ANALYSIS OF ICE-CREAM EXPORT FROM THE REGIONS OF THE SFD |
|---------------------------------|-------------------------------------|----------------------|
| Rating of region                | Export volumes of region, $ mln     | Major markets        |
| Region                          | years                               |                      |
|                                 | 2015 | 2016 | 2017 | 2018 (Jan-Aug) |
| Novosibirsk Region: 1st place   | 3.9  | 4.1  | 4.2  | 3.9           |
| Kazakhstan, China, Mongolia, Belarus, Kyrgyzstan |
| Kemerovo Region: 2nd place      | 1.6  | 1.3  | 1.7  | 1.6           |
| China, Mongolia, Kazakhstan     |
| Altai Territory: 3rd place      | 0.9  | 0.7  | 1.0  | 0.9           |
| China, Mongolia                 |
| Tomsk Region: 4th place         | 0.6  | 0.6  | 0.9  | 0.6           |
| Kazakhstan, China, Mongolia, Belarus, Uzbekistan |
| Omsk Region: 5th place          | 5.4  | 0.3  | 1.2  | 0.4           |
| Kazakhstan, China, Uzbekistan, Azerbaijan |

Comparative analysis of ice cream export from a number of regions of the Siberian Federal District shows that in 2017, the Novosibirsk Region and the Altai Territory had the widest geography of ice cream export among the considered regions of the SFD. Export of products from the Kemerovo region was relatively stable throughout the analyzed period and exceeded on average $1.5 mln. Official statistics on the foreign trade activity of the regions of the SFD shows that the delivery of ice cream for export during 2015 - 2017 accounted for 99-100% of “Various food products” group and were generally performed to Mongolia, China, and Kazakhstan (in 2016, the share of ice cream deliveries to Mongolia was 88.6%, to China – 91.1%, to Kazakhstan – 2.2%). In addition, the development of healthy lifestyle social trend stimulates growing demand for functional foods, including ice cream with functional properties [9], and this is the potential for regional export opportunities.

Positive changes in export from the Kemerovo region were observed for other product groups. For example, the export of goods from “Products of Plant Origin” group increased 3.2 times from October 2015 to October 2018, from 9.81 thousand tons to 30.9 thousand tons. Mostly exported goods were “seeds, grain, medicinal plants” and “cereal and flour
products”; export growth of the former amounted to 6.2 times, from 3.95 thousand tons to 24.4 thousand tons, and that of the latter – 14 times, from 320 thousand tons to 4.39 thousand tons. In “seeds, grain, medicinal plants” group, major exported goods were soybeans (76%) and rapeseed (24%), in “cereal and flour products” group – wheat and rye flour (100%). Deliveries were generally made to China, Kazakhstan and North Korea. A similar trend was observed in the export of goods from “food products, beverages, tobacco” group. During the period from October 2015 to October 2018, export increased by 2.2 times, from 50.2 thousand tons to 108 thousand tons. “Cocoa” and “cereal and flour products” were mainly exported; export of the former over reviewed period increased 3 times, from 13.9 thousand tons to 42.2 thousand tons, the export of the latter – 1.8 times, from 25.6 thousand tons to 45 thousand tons. In “cocoa” group, major exported goods were “chocolate and other cocoa-containing products” (100%), in “cereal and flour products” group – “bread, cakes, cookies” (100%). Deliveries were generally made to China, Kazakhstan and the Republic of Belarus.

Export of goods from “Products of animal origin” group over the period from October 2015 to October 2018 increased 1.8 times, from 173 tons to 312 tons. Mainly exported goods were “fish” (83%) and “live animals” (16%). The smallest share of export in October 2015 in “Products of animal origin” group was occupied by “Milk, eggs, cheese, butter, honey” group – 1.1%, while in October 2018 it was already 4.9%; thus export in this product group increased 6.6 times, from 15.9 tons to 105 tons. Deliveries of fish and live animals were generally made to Kazakhstan and the Republic of Belarus, of “bird eggs” – to Mongolia [10].

Taking into account this information, let us consider the possibilities of increasing export of agro-industrial products by Kuzbass enterprises.

Stage 2 – analysis of factors that contribute to the export of agro-industrial products of Kuzbass and counteract it.

Factors that contribute to the export include the following:

1. Powerful processing base.

Food and processing industry of the Kemerovo Region includes more than 10 industries and unites 548 operating production organizations:

- meat and meat products; meat and offal of poultry; sausages; chilled, surface-frozen and frozen semi-finished meat products;
- milk and dairy products; condensed milk; butter; cottage cheese; fermented milk products; ice cream;
- bread and bakery products; confectionery; sugar confectionery; pasta
- flour; cereals;
- prepared feed for animals – fodder;
- fish and processed and canned fish products;
- processing and conservation of potatoes, fruits and vegetables; frozen fruits and vegetables; canned fruits and vegetables;
- vegetable and animal oils and fats – unrefined vegetable oil, mayonnaise;
- beverage production: vodka and alcoholic beverages; beer; water and mineral water production; kvass and kvass drinks production; soft drinks production;

For example, the largest food and processing enterprises of the Kemerovo Region include Kemerovo and Novokuznetsk grain processing plants, bakeries and confectioneries such as KDV Yashkino OOO, Guryev Food Processing Plant OAO, Novokuznetsk Confectionery Factory OAO, Kuzbass Prokopievskaya Confectionery Factory OAO, Leninsk-Kuznetsk bakery OAO, MOKS Empire OAO, Kuzbasikhleb OAO, Belayevsk group products of companies (Bread OOO, Novokuznetsk Flour Factory OOO), Sibirsky Bread OOO; meat processing companies: Kemerovo Meat Processing Plant Agrarian Group OOO, Kuzbass Food Factory ZAO, Anzher Sausages OOO. Milk processing enterprises include Kemerovo Refrigeration Plant OAO, Novokuznetsk Refrigeration Plant AO, Milk Processing Company OOO, branch of Danon Russia AO milk processing plant (Kemerovo), Kuzbasskonservnoyolo OOO, Yurginsky Gornozavod OAO, Skomoroshka Milk Processing Alliance OOO. For example, in the Kemerovo Region, despite a decreasing trend in milk production volumes – by 14% for the period 2015–2017 – Kemerovo Ice Cream Plant continues to be the largest ice cream producer in the Urals producing more than 55 tons of ice cream per day. Total export volume for 2018 amounted to 943 tons, or 113 mln RUR [11].

2. Emergence of new technologies for the promotion of agro-industrial products. First of all, it is the activation of trade on electronic platforms. In world trade, promotion through electronic platforms is an affordable and convenient service for all types of business. It allows concluding small and large wholesale contracts for deliveries of goods. Relatively low cost at the stage of entering the market is the main advantage of sales on international trading platforms.

3. Interest of authorities in increasing export potential of agro-industrial products of Kuzbass. In the framework of this direction, regional programs for attracting investments in the AIC of Kuzbass were adopted and are being implemented; measures are being taken to control the process of business migration from the Kemerovo Region to neighboring regions; work is performed in order to improve investment environment and to create favorable conditions for business. In 2017, in the cities of Novokuznetsk, Yurga, Anzhero-Sudzhensk, areas of advanced social and economic development were created which provided for significant tax benefits [12].

4. The presence of research and educational centers (REC). Such centers include Kemerovo Technological Institute of the Food Industry (KemTIIF) as a part of Kemerovo State University (KemSU), Autonomous Non-Profit Organization “Center for coordination and support of export-oriented entities of small and medium business of the Kemerovo Region” which was established in the region on the basis of Kemerovo State Agricultural Academy. In RECs, specialists of various profiles are trained, and measures are taken to develop the export of educational services. For example, in fall 2019, training will be conducted at Kuzbass State Agricultural Academy under occupational retraining program “Organization and technique of foreign trade operations for the export of products (customs clearance)”. This program includes the following issues: how to organize export/import of products, to find and check foreign buyers, to adapt products to the requirements of foreign markets, to
competently conduct international negotiations, to prepare a foreign trade contract, to issue permits for export, to fill out customs declaration, to choose a profitable form of international payments, to minimize currency control risks, to optimize logistics, to use government support measures for export.

5. Availability of regional export support center. Within the framework of national projects “Acceleration of small and medium-sized enterprises” and “International cooperation and export”, an Export Support Center was opened in Kuzbass. In addition, gubernatorial Export Development Council was established whose task is to collect and summarize the successful experience of exporting companies and to help interested start-up entrepreneurs in export matters. For example, Kuzbass Export Support Center draws up analytical documents that include information on region’s role in the overall volume of Russia’s foreign trade specifying export categories and data on their dynamics, information on the export of different groups of products and specific goods from the region, and data on the changes for these groups and goods, detailed information on the commodity structure of non-resource-based and non-energy export from the region; in the terms of non-resource-based and non-energy deliveries, these documents include data on new products and goods with leading growth rates, as well as information on the role of different product categories in Russian export; geography of region’s export activities with specifying the countries where deliveries were made, indicating their shares in the total volume of exports and data on the dynamics of these shares; list of countries that are new partners of the region in its foreign economic activity.

The center’s reports are primarily useful for representatives of regional authorities. Documents allow them to assess the situation with foreign export from the region, to see the main trends in foreign economic activity, to get an image of local exporters at the all-Russian background and, if necessary, to make certain management decisions regarding export. In addition, analytical reports may be useful for commercial companies of the region, in particular, for selecting countries where offered products are most likely to be in demand. In the USA, for example, studies were conducted to measure the effectiveness of programs promoting the export of dairy products in the country. Results showed that export stimulation ensured an increase in total export of dairy products by an average of £ 4.14 billion per year what accounted for 55.8% of total export [13].

6. The presence of certain experience in the export of agro-industrial products of Kuzbass. The target value of “Export of agro-industrial products” regional project is $ 510.6 mln by 2024, but calculated without traders, that is, just for Kuzbass producers – $ 63 mln [14]. Major groups of agro-industrial products produced in Kuzbass for export are flour (China and North Korea), animals and poultry (Kazakhstan), eggs and ice cream (Mongolia, China), and confectionery products (worldwide, including China and Germany).

The factors that counteract the export of agro-industrial products, including ice cream, from the Kemerovo region include the following:

1. Limited amount of own raw materials for processing. As an example, we can mention the lack of own raw milk for regional processing industry. Thus, milk production in the Kemerovo Region decreased by 11.3%, from 336.7 thousand tons in 2015 to 302.6 thousand tons in 2018. [15]. Grain production volumes (in weight after processing) during 2015-2018 decreased by 3.6%, from 1034.1 thousand tons to 996.4 thousand tons, potatoes production also decreased by 1.1%, from 703.7 thousand tons to 696.0 thousand tons. An increase in production volumes occurred for bird eggs by 1.5%, from 1150.5 mln pcs to 1214.7 mln pcs, and for “Livestock and poultry in slaughter weight” by 1.8%, from 93.7 thousand tons to 95.4 thousand tons in 2017 [16].

2. Complexity and high cost of transporting agro-industrial products from the Kemerovo Region to other countries. Ensuring the quality of transported products requires compliance with a certain temperature, the availability of specialized vehicles, and service which leads to increased costs. So, 70% of exported goods are transported by railway while the share of container traffic is less than 1%. At the same time, in Kuzbass there is an overpricing for temporary storage and reception of goods in railway transport under customs control by 4 times in relation to Novosibirsk; inability to organize shipments by railway containers; lack of modern railway transport which ensures the quality of exported goods (temperature, etc.), including agricultural products. Changes in the quality of the goods or loss of goods due to their unmarketability lead to the problems associated with the compliance with currency laws, since the buyer of the goods does not pay for the defective goods delivered to him. In addition, there is a problem associated with capacity limits of railway stations. Container terminal facilities depend on railway infrastructure which is often limited.

3. Insufficient level of development of online trading in terms of agro-industrial products. In Russia, online trading for all products is less than 4% of the global market. Russia’s lag in online commerce from other countries is significant. For example, market volume in 2015 in China amounted to $ 672.0 billion, in the United States – $ 349.06 billion, in Russia – $ 20.3 billion; in 2018, the market in China amounted to $ 1,568 billion, in the USA – $ 481.9 billion, in Russia – $ 30.4 billion [26,27]. At the same time, a study performed by Data Insight and eBay showed that clothing and shoes account for the largest share in exports – 36%, and food products – only 2%. At the stage of formation of Internet trading market in Russia, the role of government seems to be in taking measures aimed at supporting Russian exporters, since at the moment they are in unequal competitive conditions compared to foreign Internet retailers. The key role is played by tax burden that only domestic online stores bear (goods from abroad are not subject to import VAT). At the moment, the prospects of direct participants in the Russian Internet trading market, as well as participants from related industries that are present in the ecosystem of AIC (for example, logistics and postal operators, intermediary services, etc.), depend on the government policy course. A stimulating rational policy will help bringing online market out of the shadows and increasing profit for the state budget from tax revenues.

Meanwhile, online platforms provide important information for exporters and consumers about the state of markets, the export potential of regions, and the opportunity to find major buyers. The underdevelopment of Internet commerce leads to consumer misinformation about the product, its value, manufacturing technology, manufacturing company, and also to time and cost growth for exporters if they participate in international exhibitions in order to place here their products without registering at the largest
international Internet trading platforms, such as Alibaba, AliExpress, Amazon. The main problems of the underdevelopment of Internet commerce in Russia include the following: insufficient development and distribution of Internet in the subjects of the Russian Federation; the problem of confidence of potential buyers in the course of online trading; time duration and high cost of goods delivery; problematic process of returning money for paid goods. In the course of one study in China, an innovative system of assessment indices was developed as a method of regulating the quality, health and safety of agro-industrial products sold through electronic commerce [17].

4. Difficulties with obtaining permits (for example, veterinary certificates for agro-industrial products). At present, the Chinese food market seems to be one of the promising directions for realizing the export potential of Russia and its regions, especially given the favorable geographical position of several regions, primarily Siberia and the Far East. The Rosselkhoznadzor started large-scale work in order to ensure the admission of Russian dairy products to the Chinese market in 2013. At the present stage of development, many Russian enterprises export ice cream and other dairy products to China, among them the company of Kemerovo Region Novokuznetsk Refrigeration Plant AO. The volume of production of ice cream factory in 2018 amounted to 13 thousand tons; 250 tons of these were exported to China [18].

However, the most difficult thing today is to comply with all points of the veterinary certificate of health for milk and dairy products intended for export from the Russian Federation to the People’s Republic of China. For example, products intended for export, in accordance with the results of routine monitoring, should not contain milk obtained with the use of antibiotics, veterinary drugs and pesticide residues. In this regard, technical regulations of the Eurasian Economic Union (EAEU) today set the maximal allowable levels (MDL) for four groups of antibiotics for milk and dairy products. MDLs for about 70 other drugs were not established, that is why Rosselkhoznadzor considers any finding of residual quantities of these drugs to be the violation of regulations. As a result, enterprises face restrictions on export operations and fines [19].

Government policies in the US dairy sector are also aimed at restricting the use of antimicrobials in dairy products [20].

To reduce the number of food safety incidents, research is being conducted in China to increase the transparency of food safety surveillance information [21].

6. The shortage of specialists with competencies in the export of agro-industrial products, including dairy ones, to the world market. The lack of such employees at the enterprises hinders the output of their products to the world market.

7. Customs duties on goods that have received permission to export to importing countries. For example, in China, the amount of customs duty on exported goods is calculated on the basis of the cost of goods, the cost of transporting the goods to the loading/unloading place in the border region of China and insurance cost. In addition to customs duties on goods declared for import into China, value added tax (VAT) is also levied. VAT is levied on the amount paid for the goods and customs duties and varies depending on the type of goods. Such costs reduce the competitiveness of our products [22].

IV. CONCLUSIONS

Thus, we can conclude that the export potential of Kuzbass agro-industrial products has not been studied in full extent, although it has significant growth opportunities. Application of systematic-dialectical approach that involves the identification and comparison of factors that contribute to and counteract export allows defining the prospects for export development in the nearest future.

From our point of view, the most significant factors contributing to the export of agro-industrial products are the availability of developed processing base, the emergence of new opportunities for promoting the agro-industrial products of Kuzbass, authorities’ attention to increasing export potential, the experience in foreign product trade, and the availability of specialized research and educational centers and the regional center for supporting the export of agro-industrial products of Kuzbass.

Factors that counteract the export of agro-industrial products include the following: insufficient own raw materials for processing industry, “complicated” logistics, underdeveloped Internet commerce, difficulties with obtaining permits, lack of specialists with competencies in exporting agro-industrial products, customs duties and obtaining export permits to importing countries.

Analysis of the factors that contribute to and counteract the export of agro-industrial products will allow all interested parties to more effectively solve the existing problems. Given these factors, it is possible to develop more productive strategy for increasing the export potential of agro-industrial products of the Kemerovo region.

We believe that, first of all, it is necessary to focus on solving the following problems:

1. Further development of integration processes between the regions of the SFD in order to better using available agricultural raw materials and reducing their deficit by more efficiently stimulating the production of agro-industrial products.

2. Improving the logistics infrastructure and creating required institutions.

3. Organization of training for specialists of processing companies in establishing relationships between intermediary enterprises and buyers of agro-industrial products based on using new information opportunities.

4. More active implementation of new training profiles in educational institutions of Kuzbass that allow graduating specialists with competencies in the export of agro-industrial products.

5. The formation of non-price tools to accelerate the passage of agro-industrial products of Kuzbass across borders.

Fulfilment of these targets will ensure the growth of the export potential of agro-industrial products of the Kemerovo Region.

REFERENCES


