Data Article

Agro-industrial and fishery complex of the Russian Far East: Data on investment projects and transport connectivity

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A B S T R A C T

In the article, the authors identified the most attractive areas for investment in the Far Eastern Federal District based on statistical data on the agriculture and processing industry. The authors presented a set of secondary data from the Federal State Statistics Service and the Investment Projects Digital Platform, which reflect the cost of implementing projects in the Far Eastern Federal District. These data were presented to characterize the region as deeply diversified, with a predominance of the livestock and fishing sectors. The authors identified the most promising investment projects in various regions of the Far Eastern Federal District and assessed their attractiveness in terms of accessibility to transportation. The result was a map of the implementation of the main areas of investment activity, taking into account transport connectivity. In addition, recommendations have been drawn for the development of agriculture in the Far Eastern Federal District. These recommendations deserve the attention not only of...
Specifications Table

| Subject                      | Agricultural Economics                                      |
|------------------------------|------------------------------------------------------------|
| Specific subject area        | Agro-industrial complex, fisheries complex                 |
| Type of data                 | Text, tables, and figures                                  |
| How the data were acquired   | Information base of research created with the use of official |
| Data format                  | Statistical data of the Federal State Statistics Service:  |
| Description of data collection| The content of the official website of Rosstat (http://www.gks.ru/), statistical collections, data reviews and reports of the Ministry of Agriculture of the Russian Federation (Rosstat, 2019). |
| Data source location         | Novosibirsk region, Russian Federation                     |
| Data accessibility           | Harvard Dataverse repository; The title of the dataset “Agro-industrial complex of the Russian Far East: Data on investment projects and transport connectivity”; https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/SGGWVM&faces-redirect=true 10.7910/DVN/SGGWVM |

Value of the Data

- All of the results presented have a practical focus and applicability. The methodology and software tools used can be applied to assess the connectivity of transport of any region, and when combined with the identification of the main types of agricultural production in the region, the main investment areas and promising projects will be identified. These data can be used by regional authorities to identify priority areas for the development of the agro-industrial complex of the region;
- The data presented will be of interest to investors planning to develop agriculture in the Far Eastern Federal District. The research significantly expands the areas of investment not only in the agri-food sector but also in transportation and infrastructure facilities that affect the sustainable development of rural areas.
- Other researchers can use the data provided to determine the export orientation of agricultural and region processing enterprises.
- Identify, taking into account transport connectivity, potential promising foreign markets for manufactured products. Additionally, the research presented has identified the topical directions of the development of agricultural and processing enterprises in the Far Eastern Federal District.

1. Data Description

This article describes the data, each of which contains information on crop and livestock production in the regions of the Far East. Based on the data, graphs are constructed and a map
of the transport and logistics situation in the Asian part of Russia is modelled according to the investment projects being implemented today and in the near future.

The object of the research is the transport system and its relationship with the branches of the agroindustrial complex.

The subject of the research is the investment climate of the Far East and its possible prospects for development.

The study aims to conduct geoinformation research and investment activity in the agroindustrial complex of the Far East. Also, to determine the points of transport network development for the investment attractiveness of the branches of the agroindustrial complex. It is necessary to solve the following tasks to achieve this goal:

- analysis of geoinformation research and investment activities of the branches of the agroindustrial complex;
- determination of points of development of the transport network in the Far East.

Research hypothesis:

How will the expansion and improvement of the transport network of the Far East help to develop investment projects for the industries of the agro-industrial complex?

Attracting investment to the Far East and creating a more favourable investment climate in its regions has become one of the most important government tasks. Today, investment portals have been created in the region and strategies have been adopted. Active work is underway to improve the investment climate in all constituent entities of the Far Eastern District. First, the authorities have begun to implement the investment standard. The “one-stop-shop” mode has been introduced almost throughout the region, and investment councils are working under the governors’ offices [10]. There is a methodology for selecting priority investment projects, as well as projects planned for implementation in the Far East with the attraction of funds from the federal budget [10]. The Far East is a promising region of Russia. Based on geographical and climatic characteristics, the competitive advantages of the Russian Far East are more than 50 types of natural, volcanic, and effusive formations, polymetallic and iron ores, and other minerals; rich biological resources. This macroregion has reserves of valuable timber and medicinal plants. The territory is home to rare animals. Different kinds of fish and seafood are harvested. Mariculture is developed; in the temperate zone, the climatic conditions are favourable for agriculture; vegetables, grains, root crops, and others are grown; in dense river networks and fast rivers, which have great potential for the construction of hydroelectric plants. The large rivers have transport importance (Amur, Zeya, Selemdzha, Bureya, Ussuri, Amgun). There are exits to the seas and oceans; - energy resources; - a high potential to have recreational resources; - a favourable geographical location to major markets in the Asia-Pacific region, Japan, China, and South Korea; however, there is no single highway. There are only two railroads and; an underdeveloped telecommunications system [11]. The authors note that all subjects of the district are very different from each other in terms of the conditions of business [12]. The largest industries are electric power and timber, woodworking, and pulp and paper industry, as well as fuel industry and nonferrous industry.

Fig. 1. Production of crop and livestock products (in thousand tons) for 2019 in the regions of the Far Eastern Federal District. Fig. 1 shows the structure of agricultural production in the Far East of the Russian Federation by constituent entities of the Federation. According to data for 2019, most of the constituent entities of the Russian Far Eastern Federal District are fundamentally livestock-oriented.

The investment projects in this macroregion should be livestock-oriented. It is need to renewal and improve all the transport logistics from Trans-Baikal Territory to Primorye Territory. The authors suppose that some their recommendations are needed to use by Government and Authorities. Thus, for example, expand the Severmisky tunnel in the Republic of Buryatia to eliminate capacity limitations on the Trans-Siberian Railway; organize a river freight main on the Zeya River to transport products of the livestock cluster being formed in the Zeya district of the Amur Region along the line Algach-Uralovka-Chagoyan-Sokhatino-Svobodny-Blagoveshchensk with subsequent involvement in the Amur River Mainline, taking into account
a) Graph of crop and livestock production for 2019 in absolute numbers

b) Production of crop and livestock products for 2019 in a comparative chart

**Fig. 1.** Production of crop and livestock products (in thousand tons) for 2019 in the regions of the Far Eastern Federal District. Fig. 1 shows the structure of agricultural production in the Far East of the Russian Federation by constituent entities of the Federation. According to data for 2019, most of the constituent entities of the Russian Far Eastern Federal District are fundamentally livestock-oriented.

Source: [https://www.gks.ru/bgd/regl/b20-14p/Main.htm](https://www.gks.ru/bgd/regl/b20-14p/Main.htm)

The seasonal alignment of the Zeya Reservoir’s operating regime; upgrading the Melnichnoye-Martynova Polyana-Bogolubova-Orekovo-Rakitnoye unpaved roads with an improved surface for fish processing investment projects in the west of the Primorsky region.

**Fig. 2.** Crop production in the Far Eastern Federal District in 2020. Fig. 2 shows crop production by federal subjects of the Far Eastern Federal District. The production of grain and oilseeds by regions of the Far Eastern Federal District is highlighted separately. The leaders in agricultural production in the federal district are the Amur region and Primorsky Territory. Grain and leguminous crops, oilseeds (mainly soybeans), corn, and outdoor and indoor vegetables are grown here
a) Grain production in the regions of the Far East in 2020, thousand tons

b) Production of oilseeds of in the regions of the Far East in 2020, thousand tons

**Fig. 2.** Crop production in the Far Eastern Federal District in 2020. **Fig. 2** shows crop production by federal subjects of the Far Eastern Federal District. The production of grain and oilseeds by regions of the Far Eastern Federal District is highlighted separately. The leaders in agricultural production in the federal district are the Amur region and PrimorskyTerritory. Grain and leguminous crops, oilseeds (mainly soybeans), corn and outdoor and indoor vegetables are grown here.

Source: [https://www.gks.ru/bgd/regl/b20_14p/Main.htm](https://www.gks.ru/bgd/regl/b20_14p/Main.htm)

Expand and improve transport logistics in the Amur Region and Primorsky Territory in order to improve and speed up deliveries of crop products to consumers and residents of China. Such logistics and demand for crop products will allow the development of Russia’s border areas.

**Fig. 3.** Dynamics of milk production in the Far Eastern Federal District for the period 2016–2019, thousand tons. **Fig. 3** shows milk production in the regions of the Far Eastern Federal District. The Trans-Baikal Territory and the Republic of Sakha (Yakutia) are leaders in dairy farming. It is noted that milk production in these regions has been declining in recent years.
The Trans-Baikal Territory, with its vast pasture lands, provides an excellent fodder base for dairy cattle breeding. In this regard, this region is a leader in dairy production. The lowest production in the Magadan region in all 4 years, at 10 thousand tons per year. This region specializes in industry and fish production, besides, there are no conditions for cattle grazing. The same conditions are in the Kamchatka Territory. The second largest producer of milk in the FEFD is the Republic of Buryatia. The natural and climatic conditions and loose housing of dairy cattle are almost identical to those of Trans-Baikal Territory, which makes it possible to obtain high productivity of dairy products. These indicators are presented as information for potential investors wishing to invest in dairy production.

*Fig. 4.* Dynamics of livestock and poultry production for slaughter in the Far Eastern Federal District, thousand tons. Fig. 4 shows the volume of meat production in the regions of the Far Eastern Federal District. In meat cattle production, the Trans-Baikal Territory ranks first in terms of livestock and poultry production for slaughter, followed by the Republic of Buryatia and the Amur Region.

As for the livestock industry in general and poultry farming in particular, Trans-Baikal Territory is also a leader in the regions of the Far Eastern Federal District. There are sufficiently good conditions for breeding livestock of all kinds. The figure shows that 4 regions out of 11 confidently specialize in livestock and poultry production. Magadan Region and Chukotka Autonomous Area are the “outsider-regions”. These regions are located beyond the 60th and 65th parallels of the Northern Hemisphere, respectively. The geographical location of these regions has an industrial and fishery orientation. In addition, the natural conditions for livestock breeding, except for reindeer herding, are extremely difficult.
Table 1. Dynamics of the production of critical products in the Far Eastern Federal District. Table 1 shows the volume of primary food production in the Far Eastern Federal District during the period 2017-2019. The data characterize production as multidirectional, with fish production predominating.

The dynamics of basic food production in the subjects of the FEFD is multidirectional. Production of meat from 2017 to 2019 decreased by 22.1%, cereals by 12%, and bread and bakery products by 6.3%. Production growth occurred in such products as milk - by 11.3%, vegetable oil - by 9.5%, processed and canned fish, crustaceans and mollusks - by 5.4%, butter - by 9.8%. Flour production increased 2.9 times. It is obvious that the FEFD can provide itself with many types of products. And investment and development of agro-projects will help to improve the state of agriculture both within the region and to improve the quality of work in the international market, for example, in the markets of China and India.

According to the table, we are seeing strong growth in the production and processing of fish and marine products. The Russian Far East specializes in this, all of its coastal part. In 2017, the catch of fish and marine products was 2448 thousand tons, and in 2019 by 131 thousand tons, productivity increased. The second most produced and demanded product in the Far East is bread and bakery products. But the dynamics for three years shows a decrease by 22 thousand tons. Production of drinks and bottled water is steadily growing for three years at an average of 37 million half-liters. Production of butter and oil pastes is in the least demand, but there is a positive trend (by 0.4 thousand tons) in this period. In general, the food basket is fully represented, but the northern regions of the FEFD do not provide themselves with vegetables and fruits, which also provides an opportunity to invest in these sectors of crop production for self-sufficiency in food security.

Fig. 5. Dynamics of fish and crustacean production in the Far Eastern Federal District, thousand tons. Fig. 5 shows the dynamics of the production of fish and crustaceans. These are the main products for the maritime regions of the Far Eastern Federal District.
Table 1
Dynamics of production of key products in the Far Eastern Federal District (Rosstat, 2019). Table 1 shows the volume of primary food production in the Far Eastern Federal District during the period 2017-2019. The data characterize production as multidirectional, with fish production predominating. The dynamics of basic food production in the subjects of the FEFD is multidirectional. Production of meat from 2017 to 2019 decreased by 22.1%, cereals by 12%, and bread and bakery products by 6.3%. Production growth occurred in such products as milk - by 11.3%, vegetable oil - by 9.5%, processed and canned fish, crustaceans and mollusks - by 5.4%, butter - by 9.8%. Flour production increased 2.9 times. It is obvious that the FEFD can provide itself with many types of products. And investment and development of agro-projects will help to improve the state of agriculture both within the region and to improve the quality of work in the international market, for example, in the markets of China and India. According to the table, we are seeing strong growth in the production and processing of fish and marine products. The Russian Far East specializes in this, all of its coastal part. In 2017, the catch of fish and marine products was 2448 thousand tons, and in 2019 by 131 thousand tons, productivity increased. The second most produced and demanded product in the Far East is bread and bakery products. But the dynamics for three years shows a decrease by 22 thousand tons. Production of drinks and bottled water is steadily growing for three years at an average of 37 million half-liters. Production of butter and oil pastes is in the least demand, but there is a positive trend (by 0.4 thousand tons) in this period. In general, the food basket is fully represented, but the northern regions of the FEFD do not provide themselves with vegetables and fruits, which also provides an opportunity to invest in these sectors of crop production for self-sufficiency in food security.

| Products                                      | 2017   | 2018   | 2019   | 2019 to 2017, % |
|-----------------------------------------------|--------|--------|--------|-----------------|
| Meat, thousand tones.                         | 76.8   | 75.6   | 55.2   | 71.9            |
| Sausage products, thousand tones              | 99.0   | 100.0  | 99.4   | 100.4           |
| Processed fish and canned fish, crustaceans and mollusks, thousand tones. | 2448.0 | 2560.0 | 2579.0 | 105.4           |
| Vegetable oils and their fractions unrefined, thousand tones | 63.3   | 75.8   | 69.3   | 109.5           |
| Milk, other than raw milk, thousand tones     | 159.0  | 162.0  | 177.0  | 111.3           |
| Butter and butter pastes, thousand tones      | 4.1    | 4.3    | 4.5    | 109.8           |
| Flour, thousand tones                         | 10.7   | 15.7   | 30.7   | 286.9           |
| Cereal, thousand tones                        | 21.7   | 17.4   | 19.1   | 88.0            |
| Bread and bakery products, thousand tones     | 300.0  | 290.0  | 278.0  | 92.7            |
| Beer, millions of decaliters                  | 30.4   | 31.2   | 30.2   | 99.3            |
| Drinking water, million half-litres           | 277.0  | 321.0  | 351.0  | 126.7           |

Source: [https://www.gks.ru/bgd/regl/b20_14p/Main.htm](https://www.gks.ru/bgd/regl/b20_14p/Main.htm)

Fig. 5. Dynamics of fish and crustacean production in the Far Eastern Federal District, thousand tones. Fig. 5 shows the dynamics of fish and crustacean production. These are the main products for the maritime regions of the Far Eastern Federal District.

Source: [https://www.gks.ru/bgd/regl/b20_14p/Main.htm](https://www.gks.ru/bgd/regl/b20_14p/Main.htm)
The main specialization of FEFD subjects is fishing. The main products produced are sea fresh or chilled fish (+45.2% from 2016 to 2019) and sea live fish (~65.5%).

Fig. 6. Dynamics of fish catch and production of other aquatic bioresources, tons. Fig. 6 shows the dynamics of fish and aquatic bioresource catch in the regions of the Far Eastern Federal District. This figure characterizes the specialization of fish in the coastal regions of the Far Eastern Federal District.

The key regions in the catch of fish and other bioresources are Kamchatka and Primorsky Territories, Sakhalin Region and Khabarovsk Territory.

Table 2. Investment projects in the Russian Far East. Table 2 shows the number of investment projects being implemented in the Far Eastern Federal District in terms of the main sectors of production: agribusiness, fisheries, and food production. The data shows that the most attractive areas for investment in the region are fish farming, greenhouse complexes, and fish processing. The agricultural and fishing industries, as well as the related food industry, are attractive investment sectors in the regions of the Russian Far East. The most popular areas for investment in the Russian Far East in agriculture are fish farming and greenhouse complexes (13.6% each of agricultural, fish farming, and food processing projects), and in the processing industry, fish processing (16.2%). The most investment-intensive projects are the construction of agroindustrial complexes, centres, and parks (19.6% of all investments in agriculture, fish farming, and food processing) and dairy farms (10.5%). According to the Investment Projects Digital Platform, as of November 1, 2021, 390 investment projects were registered in the regions of Asian Russia, of which 64.9% are in the agriculture economy and 35.1% - in the food industry. The financial capacity of investment projects is 6250.1 million of dollars, of which 77.2% are projects in the field of agriculture and fish farming, and 22.8% are in the food industry.

Fig. 7. Investment projects and transport connectivity in the south of the Russian Far East. Fig. 7 shows the relationship between the main investment areas in the region and their accessibility and connectivity to transport. The data presented characterize the southern part of the Far Eastern Federal District as the most promising for investment, with promising destinations highlighted.
Table 2
Investment projects in the Russian Far East in 2020. Table 2 shows the number of investment projects being implemented in the Far Eastern Federal District in terms of the main sectors of production: agribusiness, fisheries, and food production. The data shows that the most attractive areas for investment in the region are fish farming, greenhouse complexes, and fish processing. The agricultural and fishing industries, as well as the related food industry, are attractive investment sectors in the regions of the Russian Far East. The most popular areas for investment in the Russian Far East in agriculture are fish farming and greenhouse complexes (13.6% each of agricultural, fish farming, and food processing projects), and in the processing industry, fish processing (16.2%). The most investment-intensive projects are the construction of agroindustrial complexes, centers, and parks (19.6% of all investments in agriculture, fish farming, and food processing) and dairy farms (10.5%). According to the Investment Projects Digital Platform, as of November 1, 2021, 390 investment projects were registered in the regions of Asian Russia, of which 64.9% are in the agriculture economy and 35.1% - in the food industry. The financial capacity of investment projects is 6250.1 million of dollars, of which 77.2% are projects in the field of agriculture and fish farming, and 22.8% are in the food industry.

| Projects | Investments |
|----------|-------------|
| Agriculture, fish farming | 6250.1 |
| including: | Share |
| Agro-industrial complexes, centres and parks | 64.9% |
| Mushroom farming | 5.1% |
| Feedstuffs and Premixes | 0.0% |
| Rabbit farming | 6.7% |
| Poultry farming | 0.3% |
| Crop production | 4.9% |
| Fishing | 2.3% |
| Pig breeding | 13.6% |
| Meat and dairy complexes | 4.6% |
| Greenhouse complexes | 0.0% |
| Meat farms | 4.1% |
| Dairy farms | 5.1% |
| Advanced grain processing products | 0.0% |
| Food industry | 1 846.8 |
| including: | 22.8% |
| Non-alcoholic beverages | 2.1% |
| Bakery and confectionery industry | 1.0% |
| Tea, coffee, salt, spices | 0.3% |
| Fruit and vegetable processing industry | 1.8% |
| Flour industry | 3.1% |
| Sugar industry | 0.5% |
| Oil and fat industry | 2.6% |
| Semi-finished products, ready-made meals, and food kits | 1.5% |
| Meat products | 1.0% |
| Alcoholic beverages | 0.8% |
| Fish Processing | 16.2% |
| Noodle products | 0.0% |
| Dairy Products | 4.1% |
| Potato Processing Products | 0.3% |
| Functional foods and dietary supplements | 0.0% |
| TOTAL | 100.0% |

Footnotes: Dollar USD to Russian Ruble exchange rate is 79.36 (as of February 23, 2022, source: Central bank of Russia)
Source: URL: https://investprojects.info/

All the data on agriculture in the Far Eastern Federal District presented in the article prove the need to invest in projects for the sustainable development of agriculture in the regions of the Russian Far East in conjunction with its transport infrastructure.

The Harvard Dataverse repository contains the following data:
Table: Agricultural output. The table of agricultural production by regions of Russia, including the Far East Federal Region, shows the yielding by year for the period from 2005 to 2019. The table shows the productivity of regions by federal districts. The Far Eastern Federal District ranks 8th out of 8 in terms of the productivity of agricultural products. The Far Eastern Federal Dis-
District consists of 11 regions, most of which are in the zone of risky farming and do not provide themselves with farming products.

**Table: Capital investments in agriculture in the Russian Far East (2001-2018).** The table shows the dynamics of capital investments in agriculture for the period from 2001 to 2018 in the regions of the Russian Far East. Among all the data presented for 17 years, there are no data for 5 years (2005, 2007, 2009, 2011, 2013) for the regions of the Far East (this is most likely due to the lack of information on investments in agriculture or these years investment projects were not implemented). The table shows that over 17 years, the amount of investment increased by 18.1 times, from 1600 million rubles up to 29019.7 million rubles. The leader in investing in investment projects in the agro-industrial complex is the Primorsky Territory (10,619.7 million rubles in 2018), and the most attractive industry for investment is fishing. An outsider of investments in investment projects is the Jewish Autonomous Area (15 million rubles in 2018) due to the low development of agriculture.

**Table: Raw Data of agricultural for Far East.** Set of statistical data on the production of agricultural and fishery products in the Far East of Russia. The raw data shows the dynamics and specialization of a separate region of the Far Eastern Federal District, depending on the distance from transport routes.

**Table: Key financial indicators of organizations involved in crop and livestock production.** The table shows the primary financial indicators and profitability of agricultural products sold at enterprises for the period from 2005 to 2019. The financial results of the Far Eastern Federal District in terms of sales of farming products are the lowest of all the federal districts of Russia. The profitability of sales by region, especially, shows how many kopecks of profit from the sale
in each ruble of profit received. In agriculture, it can be seen that the profitability of animal husbandry in the Far Eastern Federal District is much higher than in crop production.

Table: Structure of production of the main types of agricultural products. The totality of farms and their resources in Russia as a whole represents the general production characteristics of agriculture. Category breakdown shows the distribution of large and small forms of management. The characteristics of the categories of agricultural enterprises in the regions of Russia, especially in the Far Eastern Federal District, make it possible to assess whether the category of farms is linked to a certain type of agricultural structure and their relationship between them. As for the regions of the Far Eastern Federal District, a breakdown by crops makes it possible to assess which areas are involved in their production. So, for example, in grain cultivation, out of 11 territories, only eight regions participate in this. The main share falls on large agricultural enterprises. Grain is not grown in the Sakhalin and Magadan Regions and the Chukotka Autonomous Area. Also, for the cultivation of sunflower for the period from 2005 to 2019, in 6 areas of the Far Eastern Federal District out of 11, sunflower is not grown at all, which is associated with harsh natural and climatic conditions. In the remaining five regions, sunflower is cultivated only in households. Also, concerning potatoes, these crops are grown in all 11 regions of the Far Eastern Federal District, and the primary share of its production falls on households. The same situation is with growing vegetables. In the livestock sector, all 11 regions of the Far Eastern Federal District are involved in the producing meat, dairy, and poultry products, and households also account for the pivot share. All data in the table show that animal husbandry is the dominant branch of agriculture in the Far Eastern Federal District.

2. Experimental Design, Materials and Methods

The information base for geoinformation research [1] was the state and information systems of the Russian Federation and the open information systems of commercial digital aggregators [2]. A connection was made to the ArcGIS 10.6 software package of the following information systems for vector representation of the territorial characteristics of the Asian part of the Russian Federation (territorial and water boundaries):

- State information system “Public Cadastral Map”;
- Remote sensing data from the specialized mapping service Living Atlas ESRI;
- ESRI¹ open geoinformation project for the Asian continent;
- Limited Liability Company “Exmile Solutions Project for Open Maritime Traffic Tracking”;
- Earth remote sensing materials from a specialized Google mapping service.

2.1. Research methods

For orientation towards international transport corridors materials from the database of organizational structure and personal composition of the administrations of checkpoints across the state border of the Russian Federation were used. The selected checkpoints were correlated with the values of the State Catalogue of Geographic Names (SCGN) of the border entities of the Asian part of the Russian Federation. The availability of a list of geographical coordinates for the location of points of settlement in the SCGN allowed us to present the checkpoints in the geoinformation project and correlate them with the existing and projected transport infrastructure facilities. A vector layer of the concentration of investment projects in the agro-industrial complex is created after the construction of a single geoinformation project. This geoinformation

¹ Esri is a recognized global market leader in software for geographic information systems (GIS), geo-analytics and mapping. www.esri.com
project is an analysis of the process of overlaying [4] the existing transport and logistics situation and the investment projects currently available in the Asian part of Russia. The source is a single database of investment projects “Investment projects. Digital Platform.” [5].

The role of the agroindustrial and fisheries sector in the development of the Russian Far East.

This is well confirmed by the chosen scenario for the development of the agro-industrial complex - “Technological breakthrough,” which is aimed at achieving a leading position in certain areas of scientific and technical development of crop production, seed production, and organic farming, as well as changing the structure of cultivated and exported crops, expanding crop production on an innovative basis in the Far East. The annual growth rate of new greenhouse areas will average 15% (over the past 5 years, the growth rate has been 13–14%). The share of protected ground vegetables will increase from 5.8 to 15.7%. Some products (3.2 million tons) will be exported (Egypt, China, India, etc.) [6,7] (Fig. 1, Table 1). This is largely due to the creation of Advanced Special Economic and Social Development Areas (ASEDA) in the Far Eastern Federal District. These are Mikhailovsky (Primorsky Territory), Belogorsk (Amur Region), Yuzhnaya and Kurily (Sakhalin Region), Kamchatka (Kamchatka Territory), Amur-Khingan (Jewish Autonomous Area), Nikolaevsk (Khabarovsky Territory), Buryatia (Republic of Buryatia) and Transbaikalia (Trans-Baikal Territory) [8] (Figs. 2–4).

The aim of developing the agribusiness sectors in the Far East regions is mainly to ensure their self-sufficiency in food and, for some products, to develop exports [9] (Figs. 5 and 6).

In general, the Far East does not meet the population’s needs in the rational consumption of such products as meat, milk, and vegetables. Generally, the Far East does not meet the population’s needs in the rational consumption of such products as meat, milk, and vegetables. Agricultural production is predominantly developed in the south of the Far East. The authors note that farming in the Far East is high-cost and risky. The authors found out that, firstly, scientific support of the production process is necessary, and secondly, serious investments are required to obtain consistently high yields.

The main factors for increasing the production and export potential of the agroindustrial complex of the Far East are the following.

- its unique location on the coast of the ocean with its unique biological resources;
- the geographical proximity of countries with a high level of development (Japan, South Korea);
- remoteness from industrial productions;
- vast areas of unused agricultural land;
- natural resource potential;
- areas of advanced socio-economic development.

The strategic agricultural products of the Far East are soybeans, corn, and rice

1. Production, processing, and export of soybeans.
2. Vegetable production in greenhouses.
3. Creation of coastal fish processing clusters (Kamchatka, Primorsky, Khabarovsky, and Sakhalin regions).
4. Development of aquaculture.
5. Pork production.
6. Maize production.
7. Organic production.
8. Biotechnology products.

2.2. Transport system in the development of agro-industrial and fishery complexes of the Russian Far East

A transport system that ensures sustainable growth of the agriculture, fisheries, and food industries in the regions of the Russian Far East until 2030:
a) must be related to established and prospective areas for the production and processing of biological raw materials;

β) consider the geography of investment activity in Siberia and the Far East;

α) rely on a system of cargo flows and modes of transport in the key non-biological extractive and processing industries in the Asian part of Russia;

γ) take into account the biological cycles of agricultural and fish production.

Given the constraints presented, an analysis of the transport system in the Russian Far East has been carried out for the development of the agricultural and fisheries sectors Fig. 7.

Due to geographic and ethnic specialization, three groups of agricultural production can be distinguished. The first group is fish farming and fish processing in the coastal areas of the Primorsky and Khabarovsk territories. The industry is developing particularly intensively in the port of Vladivostok, which is due both to government policy to support the “free port” and to the established fish-processing cluster. The second group is suburban cattle breeding and pastoralism in Buryatia. Blagoveshchensk, Khabarovsk, Vladivostok and Ulan-Ude. These projects are attractive to investors due to high demand (amid the roubles devaluation), the existing livestock base, and proximity to the overland and river shipping routes. The third group is suburban crop production: Blagoveshchensk, Khabarovsk, Ulan-Ude, and the cities of Primorye and Trans-Baikal. Favourable prerequisites here are balanced natural and climatic conditions, proximity to consumers, and accessibility to transport for supply [3].

The three priority groups of investment projects considered involve a combination of interrelated types of production: fish farming, crop farming, and livestock farming are supplemented by the corresponding types of processing. The northern areas of the Khabarovsk and Trans-Baikal Territories, the Amur Region, and the Republic of Buryatia fall out of this pattern, which can be attributed to the high transaction costs in these locations for processing products. The prospects are related to the technological development of the main lines, declared in the speed of movement along the Trans-Siberian Railway, the new stage of the Baikal-Amur mainline, which will attract investors from the processing position in the production sites.

**Ethics statements**

The article is an original research work, is not published anywhere, and consists of 9 pages of text, 2 tables, 7 figures, and an additional table in the Harvard Dataverse repository (second materials), all authors have read and approved and know the idea.

**Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that have, or could be perceived to have, influenced the work reported in this article.

**Data Availability**

AGRO-INDUSTRIAL AND FISHERY COMPLEX OF THE RUSSIAN FAR EAST: DATA ON INVESTMENT PROJECTS AND TRANSPORT CONNECTIVITY

**CRediT Author Statement**

Inga Nikolaevna Ryumkina: Validation, Visualization; Vitaly Viktortovich Aleschenko: Methodology, Project administration, Supervision; Olga Alexandrovna Aleschenko: Software, Data curation, Writing – original draft; Evgeny Vladimirovich Rudoy: Formal analysis, Resources, Funding acquisition; Marina Sergeevna Petukhova: Investigation, Formal analysis; Sergey Vladimirovich Ryumkin: Writing – review & editing.
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