Assessment of effectiveness of the government livestock support in the Trans-Baikal territory

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Abstract. The article is devoted to the analysis of animal husbandry as the main branch of agriculture in the Trans-Baikal territory and the assessment of state support measures in this field. The state pays special attention to the regions with unfavorable climatic conditions that directly affect the development of agriculture, including the Trans-Baikal territory. In the past decade, the situation in the livestock industry has been deteriorating, which is confirmed a decline in production. To develop and improve the situation, both in the region's agriculture and in certain other sectors, the government of the Trans-Baikal territory has developed a number of programs that include various subprograms. In this article, a special attention is paid to the subroutine related to the livestock industry. Having studied the measures of state support aimed at improving the industry in the remote areas, some negative and positive trends in development were established. Of particular interest are the target indicators for the implementation of activities, which are used to assess the level of effectiveness of implementation. It is concluded that with increased funding, there is no growth in livestock production, and the targets often did not reach the planned values. The Methodology used by the regional authorities to assess the effectiveness of programs (subprograms) is not aimed at the dynamic growth of the industry as a whole.

1. Introduction
The issues of the economy of rural production, a comfortable environment for living in rural areas, as well as conditions for improving welfare and further strengthening the position of agriculture in Russia as a modern, globally competitive industry are a national task of the state. Many countries need to ensure their own food security and develop the agro-industrial complex. One of the features of agriculture is that a large role of regulation is assigned to the state, so the motivation and resources at the disposal of individual economic entities do not allow for effective development throughout the economy. Other features of agriculture that determine the special role of the state include:

- dependence on natural and climatic conditions and the change of seasons;
- high energy and capital intensity of production, if we talk about the cost of resources and the production process compared to the final cost of production;
- problems with the industry's revenue, since agricultural products are considered low-value-added goods, and when trying to export, they are additionally subject to high duties on the part of importing countries;
- slow investment payback;
• generally weak spread of technological innovations;
• wear of equipment;
• infrastructures problems.

The development of agriculture directly depends on the geographical location and climatic conditions. To date, agricultural activity is concentrated in the Southern and South-Western regions of our country, while the rest of the regions have a medium and low share of this sector in their economy. Therefore, one of the priority goals of the state policy of the Russian Federation is the development of agriculture in poorly developed regions with an unfavorable investment climate (geographical location, climate, innovation, labor resources, etc.), one of which is the Trans-Baikal territory. According to statistics, the region ranks 63rd in the Russian Federation in terms of agricultural production in actual prices, the volume is equal to 22,903.4 million rubles, which is 0.43% of the total share of produced products in Russia. The share of agriculture in the structure of the domestic regional product of the Trans-Baikal territory in 2017 is 4.68% (figure 1). The index of the physical volume of agricultural production amounted to 92.5% compared to the level of 2016.

![Figure 1. The share of rural population farms in the GRP structure the Trans-Baikal Territory.](image)

The predominant development in the region falls onto the livestock industry. The share of the industry in 2018 was 74.97% of the gross output of all agriculture. This is facilitated by the presence of huge areas of agricultural land, more than 70% of which are dry pastures and hayfields.

According to statistics of the Trans-Baikal territory, the largest share of livestock production is accounted for cattle, pork, milk (table 1). In 2018, based on the structure of meat production by individual types, beef and veal predominate in the region (for comparison: in 2013 it was 56.6%), as well as pork (for comparison: in 2013 – 33.0%) (figure 2).

![Figure 2. The structure of meat production by type.](image)
2. Data and methods
The paper uses economic and statistical methods, official statistics of Rosstat, analytical information published in open Internet resources of research institutes. The analysis of state program subprograms was carried out using data from the regional project abstracts. To evaluate the target indicators of the sub-programs, the methodological guidelines for the development, an implementation and evaluation of the effectiveness of state programs of the Trans-Baikal territory were used.

The assessment of the level of effectiveness of the subprograms was carried out using data from the annual reports on the implementation and evaluation of the effectiveness of the state program of the Trans-Baikal territory, which are publicly available.

3. Results and discussion
Analysis of the structure of livestock production in the Trans-Baikal territory showed that more than half of the production volume is accounted for large-horned cattle 66.4% (in live weight). This is followed by the production of pork products, in 2019 the volume of production was 19.53% (in live weight), but it is worth noting the reduction in production of this type of product, in 2014 the volume was 27.06% of the total value. A negative trend is also observed in the production of poultry meat, where production volumes decreased more than twice during the analyzed period.

At the end of 2019, the production of other types of products in the industry is also declining: milk production by 4.18%, egg production by 23.65%, and wool production (in physical weight) by 35.71%.

Table 1. Animal husbandry production in the Trans-Baikal Territory in 2014-2019.

| Type of production | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------|------|------|------|------|------|------|
| Total, thousand tons, including: |     |      |      |      |      |      |
| In live weight      | 87.2 | 87.1 | 89.5 | 87.3 | 85.4 | 86.0 |
| In slaughter weight | 50.6 | 50.5 | 52   | 52.3 | 49.3 | 49.4 |
| Cattle, thousand tons, including: |     |      |      |      |      |      |
| In live weight      | 53.2 | 53.6 | 55.1 | 54.3 | 56.7 | 57.1 |
| In slaughter weight | 29.2 | 29.9 | 30.8 | 31.6 | 31.7 | 31.9 |
| Pork, thousand tons, including: |     |      |      |      |      |      |
| In live weight      | 23.6 | 23.6 | 24.5 | 23.4 | 18.3 | 16.8 |
| In slaughter weight | 16.4 | 15.9 | 16.5 | 15.7 | 12.4 | 11.4 |
| Ovine and caprine, thousand tons, including: |     |      |      |      |      |      |
| In live weight      | 7.1  | 6.8  | 6.9  | 7    | 7.5  | 7.9  |
| In slaughter weight | 3    | 2.8  | 2.8  | 3.3  | 3.4  | 3.5  |
| Poultry meat, thousand tons, including: |     |      |      |      |      |      |
| In live weight      | 0.6  | 0.6  | 0.6  | 0.6  | 0.4  | 0.3  |
| In slaughter weight | 0.3  | 0.3  | 0.3  | 0.3  | 0.2  | 0.2  |
| Other meats, thousand tons, including: |     |      |      |      |      |      |
| In live weight      | 2.7  | 2.6  | 2.4  | 2    | 2.5  | 3.9  |
| In slaughter weight | 1.4  | 1.4  | 1.4  | 1.1  | 1.4  | 2.3  |
| Milk, thousand tons  | 344.5| 340.9| 334.3| 334.1| 330.9| 330.1|
| Egg, million pieces  | 74.8 | 73.7 | 73   | 72.1 | 64.6 | 57.1 |
| Wool, in physical weight thousand tons | 1.4  | 1.2  | 1.2  | 1.2  | 1.1  | 0.9  |
The negative trend in the development of livestock production, in addition to the unfavorable natural and climatic conditions of the region, which significantly increase the cost of these products, indicate that the industry needs state support and financing.

To improve the situation in the region, the government of the Trans-Baikal territory has developed measures of state support, in accordance with the Federal Law of the Russian Federation.

State support is provided as part of the implementation of state programs, which are strategic planning documents consisting of various main activities related to certain goals and objectives. Each region of Russia has developed its own state programs for the development of both individual branches of agriculture and agriculture as a whole, within the framework of the General program for the development of the agro-industrial complex.

Currently, measures to support agriculture in the Trans-Baikal territory are implemented by three regional programs:

- integrated rural development (2020-2025);
- sustainable rural development (2014-2020);
- development of agriculture and regulation of markets for agricultural products, raw materials and food (2014-2020).

The paper discusses in more detail the program "development of agriculture and regulation of markets for agricultural products, raw materials and food for 2014-2020". The program also pays considerable attention to the livestock industry. The program structure includes 4 subprograms that are directly related to the livestock industry, 3 subprograms relate to the crop industry, and 3 subprograms are indirectly related to both the first and second industries (table 2).

| Subprograms directly related to animal husbandry                                                                 | Subprograms indirectly related to animal husbandry                                                                 | Subprograms not related to animal husbandry                                                                 |
|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| 1. "Development of the livestock sub-sector, processing and sale of livestock products"                           | 5. "Technical and technological modernization"                                                                     | 8. "Development of the sub-sector of crop production, processing and sale of crop products"                  |
| 2. "Development of beef cattle breeding"                                                                       | 6. "Support for small businesses"                                                                                 | 9. "Development of open and protected ground vegetable production and seed potato production"               |
| 3. "Development of dairy cattle breeding"                                                                       | 7. "Ensuring the implementation of the state program"                                                             | 10. "Development of agricultural land reclamation"                                                        |
| 4. "Support for breeding, selection and seed production"                                                        |                                                                    |                                                                                                             |

The total financing of the agricultural development program in the Trans-Baikal Territory within 5 years has amounted to 7,533.8 million rubles. The financing of programs directly related to animal husbandry has amounted to 1,919.6 million rubles, and to crop production – 1,572.6 million rubles. The rest of the financing falls onto the subprograms indirectly related to these industries – 3,681.9 million rubles. During the period of 2015-2018, the funding, both of the whole program and individual subprograms changed only slightly, which cannot be said about 2019 (figure 3) [8].

In 2019 the total funding increased more than 1.5 times thanks to the expansion of the "Development of the animal husbandry sub-industry, recycling and the sale of food products" subprogram. It is worth noting that a significant part of the funds falls onto the “Ensuring of the Trans-Baikal Territory state program implementation” subprogram, namely 41.7% of the total
funding. Whereas animal husbandry and the implementation of the key measures directly affecting the main results of the program in the region are only being allocated 17.8% of the total financing.

![Figure 3. Animal husbandry subprograms financing in 2015-2018 and 2019.](image)

Every year the Trans-Baikal Territory’s Ministry of Agriculture issues a report on the measures implemented in the Ministry of Economic Development, which gives explanation on the measures carried out under the state program framework as well as the funds provided and spent on their implementation. The structure of the reports includes the efficiency indicator for the state policy support measures (figure 4) [8].

![Figure 4. Animal husbandry subprograms implementation effectiveness indicator values.](image)

The target indicator, from the point of view of the state program (subprogram) – is an indicator that is achieved during the implementation of the main activities and activities of the program (subprogram) On the basis of which reports on the level of efficiency are compiled.

This indicator is calculated on the basis of target indicators, which represent the ratio of target indicators and indicators for the implementation of major activities, in planned and actual values (table 3).

Assessing the level of effectiveness of the implementation of subprograms related to the livestock industry, the state program of the Trans-Baikal territory, you can see a downward trend. If in
2015-2016 the indicator exceeded 100% (the subprogram support for breeding), by 2019 absolutely none of the subprograms was implemented at a sufficiently high level (table 3) [5].

**Table 3.** The Trans-Baikal territory animal husbandry related subprogram target indicators for 2015-2019.

| List of target indicators | Years |
|---------------------------|-------|
|                           | 2015  | 2016  | 2017  | 2018  | 2019  |
| "Development of the livestock sub-sector, processing and sale of livestock products" | | | | | |
| Production of livestock and poultry for slaughter (in live weight), thousand tons | 87 | 85 | 85.5 | 85.7 | 85 | 86 | 85.3 | 85.4 | 86 | 85.2 |
| "Development of beef cattle breeding" | | | | | |
| Livestock of meat and crossbred cattle at the end of the year, thousand heads | 89.7 | 89.7 | 93.8 | 94 | 101 | 103 | 103.4 | 105 |
| Number of commercial livestock of co ws of special meat breeds, thousand heads | 6.5 | 8.6 | 7.3 | 9.58 |
| "Development of dairy cattle breeding" | | | | | |
| Milk production, thousand tons | 346 | 341 | 341 | 333 | 342 | 334 | 333 | 331 | 333.9 | 329.7 |
| "Support for breeding, selection and seed production" | | | | | |
| Preservance of breeding brood stock to the level of the previous year in % | 94.4 | 94.4 | 100 | 100.8 | 97 | 92 | 100 | 100 | 101.9 | 79.6 |

When evaluating the subprogram target indicators directly connected to animal husbandry for the period of 2015-2019, the following conclusions can be drawn:

- the actual data indicators for the "Development of dairy cattle breeding” subprogram for the analyzed period do not reach the planned values by approximately 7.98%;
- the "Development of beef cattle breeding” subprogram target level indicator formally demonstrates a positive trend in the industry, i.e. its actual value was equal to the planned value only in 2015. Subsequently the situation has changed towards an expansion. However, this did not lead to a real growth in production (table 1);
- during the subprogram’s implementation period there were shifts observed in the changes of target indicators, i.e. from 2015 to 2017 as well as in 2019 the "Development of beef cattle breeding" subprogram was evaluated by a single indicator, namely by the livestock meat and mixed breeds cattle at the end year (thousand heads). And in the period of 2017-2018 the subprogram was also evaluated by the number of the commercial specialized meat breed cows (thousand heads).

4. Conclusion

The results obtained from the analysis and evaluation of state support of agriculture in the Trans-Baikal Territory demonstrate an increase in the total funding of agricultural development in the territory by the end of 2019 by 86% which the highest growth rate registered in recent years. In turn, the animal husbandry financing in the period of 2015-2018 was minor – only 17.01% of the total financing, with the largest share falling onto the "Ensuring of the Trans-Baikal Territory state program implementation” subprogram, which was about 35.4%.

Of particular interest were the planned and the achieved target indicator values that are used to draw conclusions on the state support measures implementation efficiency as well as on the overall livestock industry development. The analysis of the data presented above showed that the main reason
for the satisfactory achievement of the target indicators was not the growth in production, by the target lowering in the original plans.

Having considered all of the above we can conclude that the active development of animal husbandry is not registered and the measures proposed by the government are not fully implemented in the Trans-Baikal Territory. The subprogram implementation efficiency assessment methodology used by the local government is not aimed at a dynamic growth of the industry as a whole. Therefore, it is advisable create program (subprogram) assessment criteria which would reflect the actual state of affairs in the industry. In turn, state support measures should not only solve short-term tasks, but also strengthen and strengthen the long-term prospects for the development of animal husbandry in the Trans-Baikal territory. The government should correctly determine the priorities and create the best possible conditions, to concentrate resources for development and make it in active, meaningful process.

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