

Development The Poultry Sector of The Republic of Moldova Through Clusterisation

Nadejda IANIOGLO, Alla CARA*

Comrat State University, Republic of Moldova, ATU Gagauzia
[Orcid: 0000-0003-1784-3824 (N. IANIOGLO), 0000-0002-7183-469X (A. CARA)]

*Corresponding author: adimkara@mail.ru

Abstract

The article considers main problems of the poultry industry and the ways to overcome them in the context of serious organizational and innovative reforms in the Republic of Moldova. Having analyzed the dynamics of the poultry production it has been concluded that it is necessary to form an integrated approach to implement the concept of poultry industry development in new economic conditions that ensure import substitution, increase competitiveness and integrate into the world economic system through the formation of clusters. The cluster approach is based on the proximity of the producer and the consumer, network effects and the promotion of knowledge and skills through the migration of personnel and the allocation of business.

Keywords: Poultry farming, Meat and egg production, Cluster approach, Investment, Innovative model

1. Introduction

Poultry farming is one of the most important branches of agricultural production, characterized by rapid reproduction of livestock, intensive growth, high productivity and viability, the lowest cost of live labor and material resources per unit of production. Poultry farming gives meat, eggs, feathers, and organic fertilizers. This industry provides the population with environmentally friendly and easily digestible food (Belousov, 2011).

Birds have a high growth rate. Five days after being hatched, chickens, turkeys and ducklings double their weight, whereas calves double that in 50 days, piglets in 14 days, and lambs in 15 days. The conversion of feed protein to product protein in broilers is 1.9, egg-production chickens -3.9, while in pigs -4.1, and in steers -10.6. Therefore, in poultry farming, there is a rapid return on investment (Bobyleva, 2015). Poultry farming in the Republic of Moldova is one of the most important branches of agriculture. Industrial poultry farming makes it possible to obtain top-quality products with high efficiency in payment for feed. However, poultry farming is subject to many negative factors, such as: unfavorable

environmental conditions, new diseases, insufficient funding, etc. (Bobyleva, 2015). All these factors lead to both a decrease in the production and a loss of the Republic of Moldova poultry industry competitiveness. To solve this problem, the poultry industry requires serious organizational and innovative reforms.

2. Material and Methodology

In order to achieve the goal, the author used the official data of the National Bureau of Statistics of the Republic of Moldova, as well as studies of Moldovan scientists in this field. For conducting the research, the author used the method of analysis and synthesis of empirical data. The data is presented in a graphical and schematic way.

3. Research Results

Consider the poultry market of the Republic of Moldova. Figure 1 shows the dynamics of the poultry stock of different species for the period 2014-2019.

From the chart in Figure 1, it can be seen that in 2019 3623,9 thousand heads poultry were raised in the Republic of Moldova, which is 889.8

thousand poultry or 20% less than in 2018. In general, the dynamics of the poultry stock of different species during the period of 2014-2019 is negative.

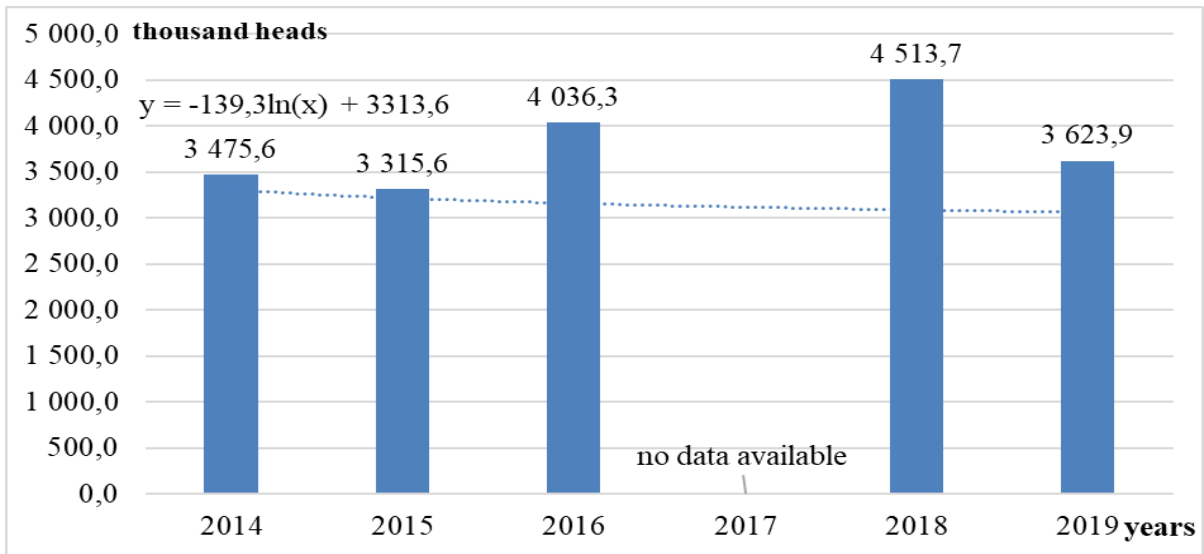


Fig. 1. Dynamics of poultry of all species (thousand heads) for the period 2014-2019 in the Republic of Moldova (Developed by the author on the basis of the Database of the National Bureau of Statistics of the Republic of Moldova)

* There is no information on the topic under research for 2017 in the Database of the National Bureau of Statistics of the Republic of Moldova

According to the data from the Ministry of Agriculture of the Republic of Moldova, 2,682 thousand people living in the country need 85 thousand tons of poultry meat per year. However, in terms of poultry meat production per capita among the Commonwealth of Independent States countries, the Republic of Moldova is almost in last place. The most poultry meat per person is accounted for in the Republic of Belarus – 52.9 kg

per year. In Russia, this figure is 26.6 kg per capita, Ukraine -27.8 kg, Kazakhstan - 18.7, Moldova - 13.5, Armenia - 12.5, Azerbaijan - 9.6, Uzbekistan - 2.1, in Turkmenistan and Tajikistan it is 1.3 kg.

Considering the poultry meat market in the Republic of Moldova for the last six 6 years, a negative trend can be noted (see Figure 2).

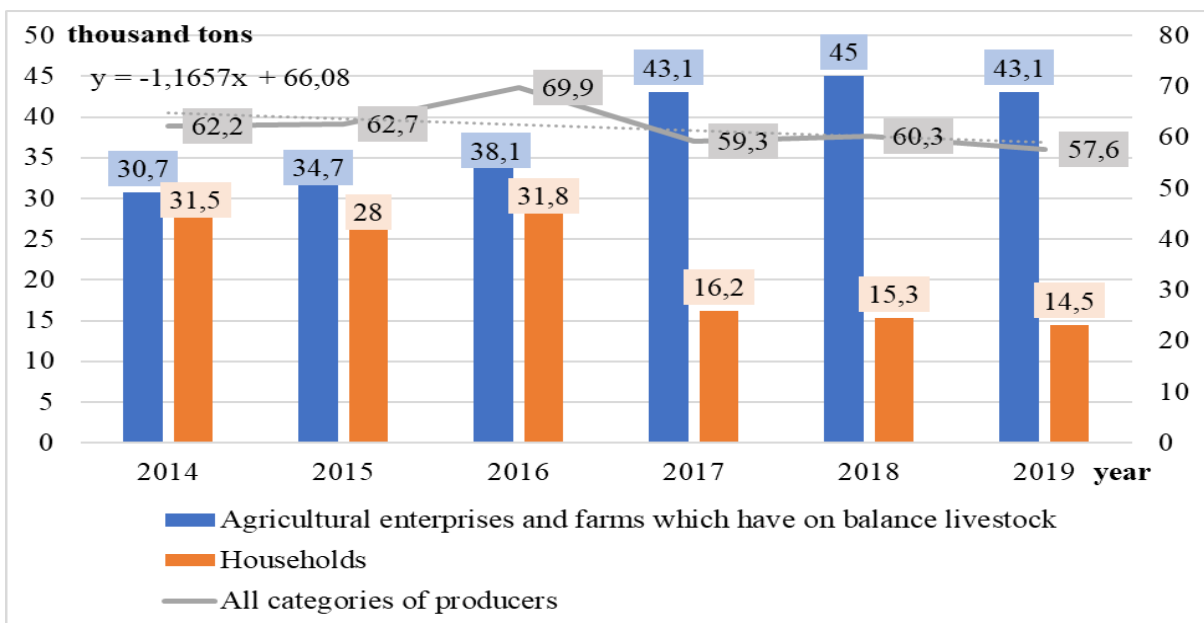


Fig. 2. Poultry meat production in the Republic of Moldova by farm category (thousand tons) (Developed by the author on the basis of the Database of the National Bureau of Statistics of the Republic of Moldova)

From the data presented in Figure 2, it can be seen that in 2019, out of the 85 thousand tons of poultry meat required in the Republic 57.6 thousand tons were produced, which is 67% of the required volume. In 2019 meat production decreased by 4.6 thousand tons, or 8%, compared with 2014. The maximum production of poultry meat was observed in 2016 – 69.9 thousand tons.

In general, the linear approximation of the data allows us to note negative dynamics in the production of poultry meat in the Republic of Moldova.

The reduction in poultry stock number has a negative impact on the production of such an important product as eggs. The dynamics of egg production is shown in Figure 3.

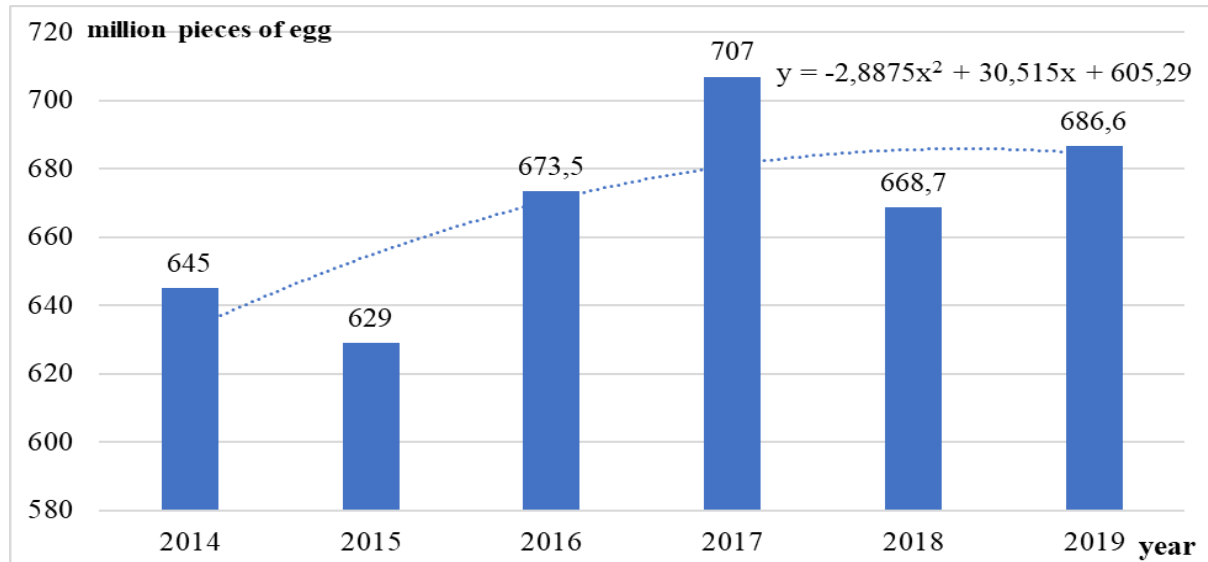


Fig. 3. Dynamics of egg production in the Republic of Moldova for the period 2014-2019 (million pieces) (Developed by the author on the basis of the Database of the National Bureau of Statistics of the Republic of Moldova).

All the above-mentioned negative trends in the poultry industry of the Republic of Moldova lead to the fact that the local market is provided with eggs and poultry meat through imports as well. The import of products from neighboring Ukraine makes serious competition for Moldovan poultry farming. Thus, in 2019, 18 thousand tons of poultry meat were imported, 14 thousand tons or 77% of which was imported from Ukraine. Poultry meat from Ukraine is imported to Moldova in large quantities without paying customs duties and having any quantitative quotas.

Thus, nowadays the problem of stabilizing the economic development of the poultry sub complex and further improving the efficiency of poultry production is critical. According to the author, the priority in strengthening the economy of this industry is an innovative development mode, in particular, the revival of the industry through the clustering mechanism.

Currently, there is no single unified approach to defining a cluster. In the interpretation of M. Porter, a cluster is understood as "geographically concentrated groups of interconnected companies, specialized service providers, firms in relevant

industries, as well as organizations involved in their activities, such as universities, agencies for standardization, and trade associations competing, and at the same time working together in certain areas" (Tsepilova, 2017).

The cluster approach is a new management technology to enhance the competitiveness of a particular region or industry and the state as a whole. And it is this approach that has become a development strategies basic element in the vast majority of countries.

The main goal of the cluster is to create an institutional formation or a group of economic entities that will become competitive and more efficient not only in their region or country, but also in the world.

The development of a mechanism for the productive functioning of such associations is an important tool for promoting regional poultry farming to support production at all stages of operation, from the project to the production of competitive products, to cover small and medium businesses in the territory.

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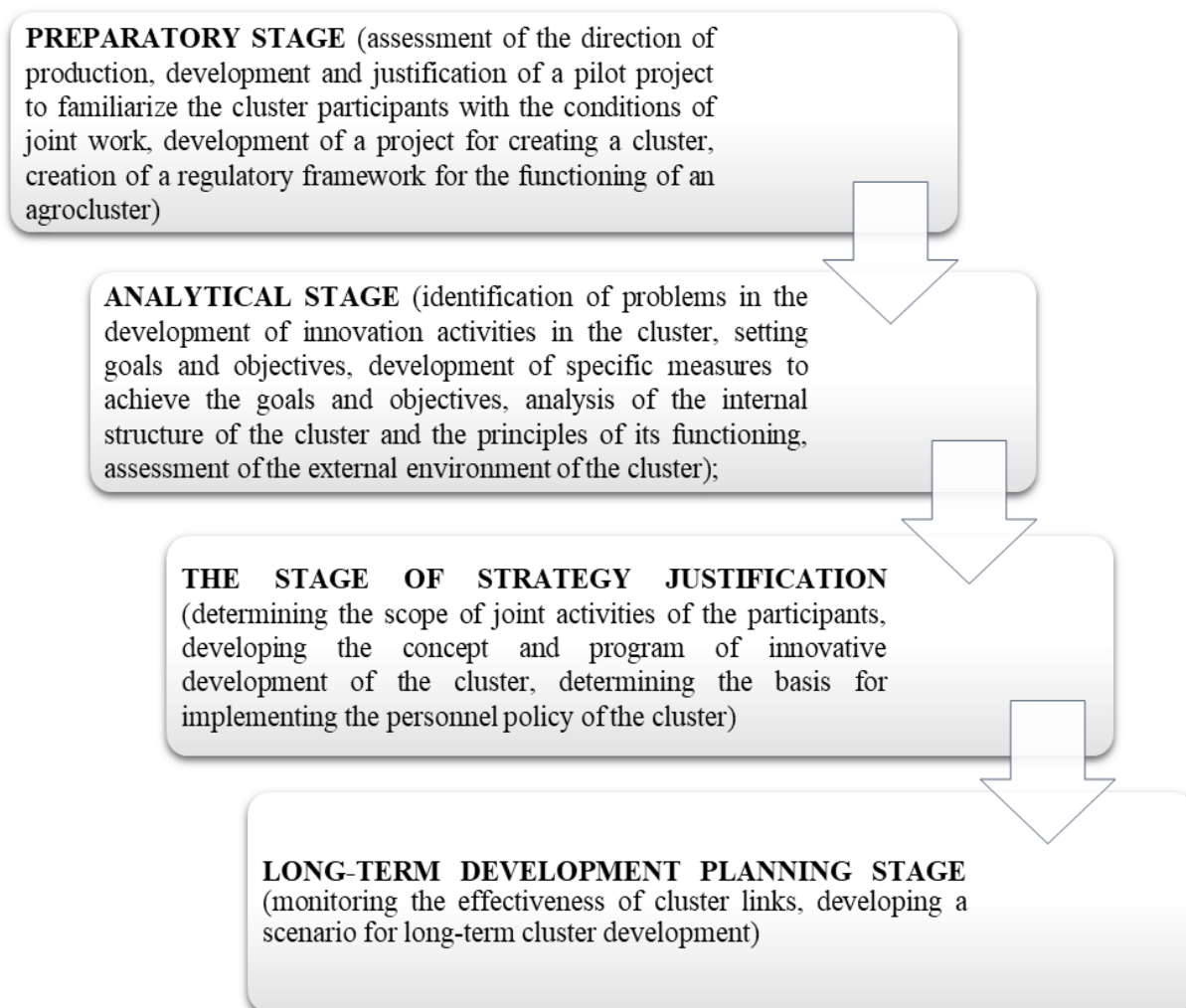


Fig. 4. Stages of formation of the poultry cluster in the Republic of Moldova (finalized by the author on the basis of Zhantemirov, Sh, 2010).

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The idea of cluster development of economic sectors is not new for the Republic of Moldova. Thus, in 2011-2012 the Ministry of Economy of the Republic of Moldova in partnership with the Institute of Economics, Finance and Statistics

developed the "Concept of Cluster Development of the Industrial Sector of the Republic of Moldova", approved by the Government on August 20 (Monitorul Oficial, 2013). This concept is based on the international experience of cluster initiatives (EU countries, People's Republic of China, etc.), which are an important component of the development of industrial, regional and innovative policies of developed economies.

The main objective of the cluster development of the industrial sector of the Republic of Moldova is to determine the necessity and possibility of introducing and evolving the association of economic agents in the form of a cluster in order to effectively and competitively enhance the industrial sectors of the country's economy (Tsepilova, 2017).

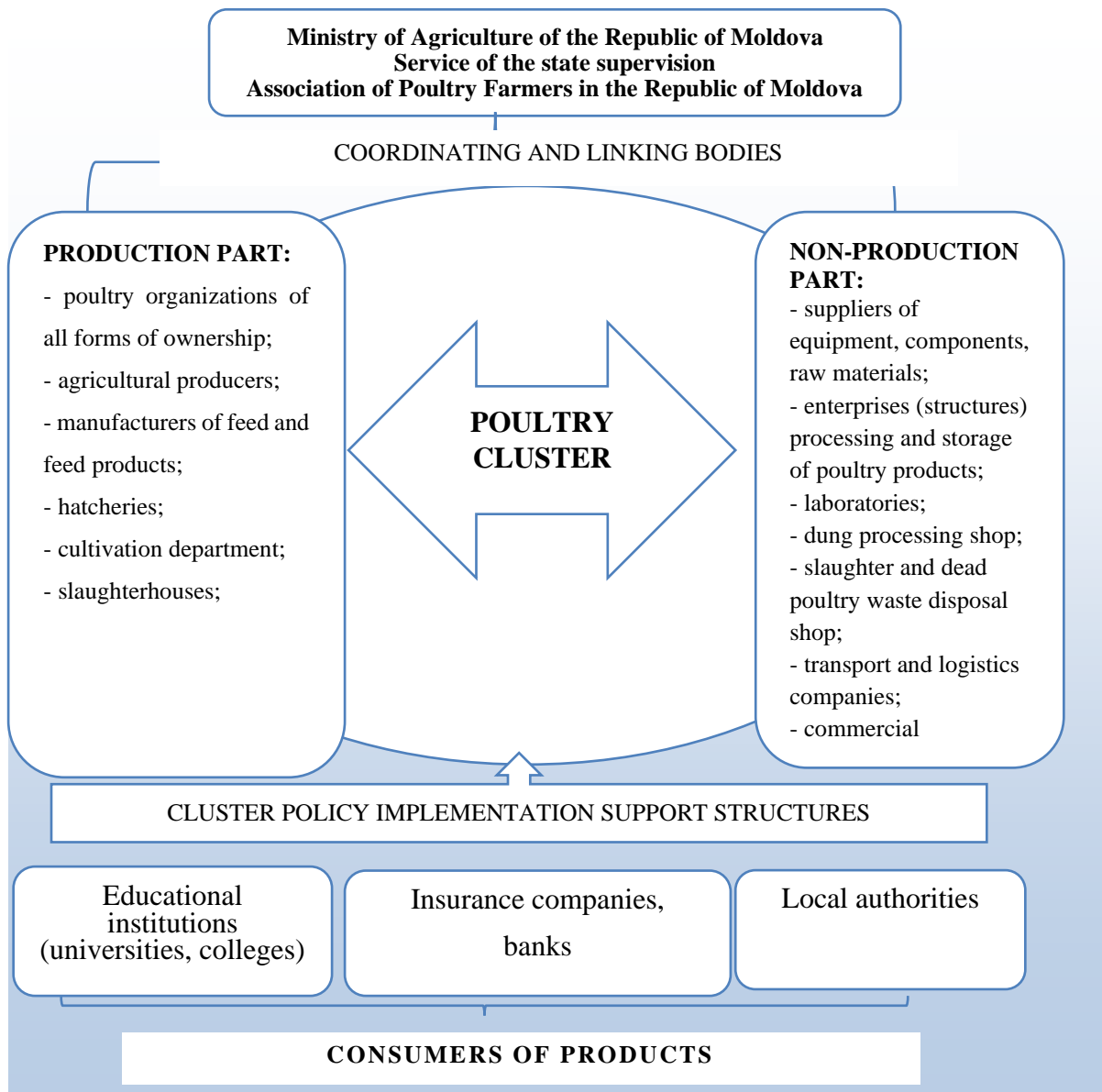


Fig. 5. Conceptual scheme of the poultry cluster in the Republic of Moldova

During the design process, it is advisable to consider the possibility of creating a cluster that can unite agricultural enterprises and processing organizations. The world experience of cluster functioning has shown that the most effective model of cluster formation is a form in which the key role is played by agro-industrial enterprises, which themselves are interested in increasing cooperation, reducing costs and forming new competencies.

The author recommends creating a cluster in several stages (Fig. 4).

Figure 5 below shows a conceptual scheme for clustering the poultry industry in the Republic of Moldova. This diagram shows the relationship between the cluster's direct participants, coordinating bodies, and support structures.

It should be noted that in order to achieve noticeable internal dynamics, a cluster needs to attract a large number of participants and a certain critical mass (a certain minimum required number of participants). Its presence will allow you to form and maintain for a long time constantly updated links between flexible small firms and large suppliers of resources. The critical mass can serve as a buffer and give the cluster resistance to external influences or other pressures, including the loss of companies (even when these companies can be classified as key), as long as the critical threshold for the number of remaining participants is not exceeded. The lack of critical mass can on the contrary, make the cluster vulnerable to the loss of specific resources and skills (Tokhchukov, 2012).

Motivational components for integration into the cluster of organizations will be (Mordovchenkov et al., 2015):

- small and medium-sized agribusiness survival and development stability, the possibility of obtaining loans under the company's guarantees;
- the possibility of using infrastructure facilities;
- participation in investment programs and projects in order to attract investment;
- achieving high quality standards;
- saving on purchases by collaborating with suppliers;
- reducing transaction costs;
- a collective brand, a joint distribution network.

The central point of cluster formation is the integration of production facilities in several different industries, between which functional relationships are possible (supplier and consumer, development of related solutions). The objective is to bring a number of new laboratory technologies to practical use. Creating a cluster allows to reduce the time between the development of an innovation and its implementation, as well as reduce transaction costs. The effect can be achieved as a result of successful interaction between the participants of the scientific and production components of the project (Belousov, 2011).

The advantages of integrated production in the poultry industry lie in the fact that it enables to:

- create a closed and complete production scheme: feed - eggs and poultry meat - processing - storage
- wholesale or branded sales;
- to improve cluster members' financial state;
- to diversify production and increase production volumes;
- to attract domestic and foreign investors due to reliable position in the market;
- to create conditions in order to employ agricultural workers and improve their financial state.

4. Conclusions

Clustering poultry industry of the Republic of Moldova will contribute to a comprehensive state agricultural policy, taking into account the development potential of rural areas and interests in business entities. In addition, clusterisation will increase the volume of direct investment and innovative developments, which creates conditions for achieving sustainability and competitiveness of the country's agro-industrial complex, increasing the export of competitive agricultural products and food to world markets,

and increasing the sustainability and innovation of the agricultural economy as a whole.

5. Conflict of Interest

Under personal responsibility, the authors declare the absence of a conflict of interest

6. Declaration of Author Contribution

The authors contributed equally to the formation of the article

References

- Belousov, S., 2011. Creation of a cluster of livestock as a tool for forming investment attractiveness of Agro-Industrial Complex (on the materials of Lipetsk Region). "Management in Russia and Abroad". №6. Website <https://dis.ru/library/658/34607/> (accessed 20 December 2020).
- Bobyleva, G., 2015. Meet the planned targets /G. A. Bobyleva // Poultry and poultry products, No. 1. - pp.8-9.
- Database of the National Bureau of Statistics of the Republic of Moldova, 2021. Website: <https://statbank.statistica.md/pxweb/pxweb/en/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774>
- Monitorul Oficial, 2013. The Republic of Moldova Government Decree on the approval of the Concept of Cluster Development of the Industrial Sector in the Republic of Moldova No. 614 of 20.08.2013. Published: 30.08.2013, pp. 187-190.
- Mordovchenkov, N., Nikolenko, P., Klyeva, J., 2015. Agro Cluster as the innovative organizational-economic mechanism of management of technological processes in Agrarian and Industrial Complex. ANI: Economics and Management. №1 (10). Website
- Tokhchukov, R., 2012. Algorithm for the development of an entrepreneurial agrarian cluster in North Caucasus Federal District / R. R. Tokhchukov. Young scientist, № 3 (38), pp. 207-210.
- Tsepilova, E. 2017. Prospects of economic development of the Republic of Moldova on the basis of clusters. In: Dezvoltarea relațiilor comerciale din perspectiva integrării economice a Republicii Moldova în circuitul economic internațional. Vol.1, 21-22 sept. 2017, Chișinău. Chișinău, Republica Moldova: Complexul Editorial INCE, 2017, pp. 234-236. ISBN 978-9975-81-038-8.
- Zhantemirov, Sh. A., 2010. On the formation of an agro-innovative cluster in the Chui region of the Kyrgyz Republic. Bulletin of the Peoples'

Friendship University of Russia. Series:
Economics, (2), 68-74.