Development of Regional Livestock Cluster in Kazakhstan as a Method to Improve Competitiveness

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ABSTRACT

Development of agriculture is currently a priority for the Republic of Kazakhstan. However, our livestock industry still has a number of problems. The main challenges are *inter alia* insufficient fodder resources, low genetic potential, low commodity production, low livestock efficiency index, etc., which result in competitive weakness of the livestock sector. In this regard, the authors believe that developing recommendations how to create clusters within the industry may support its competitiveness growth. This work describes an integrated competitiveness assessment in accordance with the proposed method and provides some competitiveness growth indices calculated for the livestock industry. In addition, this work describes the proposed regional livestock cluster model in detail, explains the intra-cluster interaction, and gives some advices to develop the cluster.

Keywords: Competitiveness of the industry, factors increasing the competitiveness of the industry, livestock, regional cluster, intra-cluster interaction mechanism, cluster members.

1. INTRODUCTION

One of the main strategic tasks of the Kazakhstan's economy is to develop our animal husbandry, since it continues to be a major source of employment, food supply and income for the rural population.

The cluster development has received considerable attention in Kazakhstan. In 2013, the Government of Kazakhstan prepared the *Concept for Formation and Development of Prospective National Clusters till 2020* by the order of the President of the Republic of Kazakhstan, N.A. Nazarbayev. The Concept reflects the goals, objectives and directions of national cluster development in the Republic of Kazakhstan as per *Kazakhstan-2050 Policy*: a new course of the consolidated state. This Concept is made in order to create the institutional, methodological and organizational basis to develop promising national clusters, as well as

research and education, infrastructural and personnel support thereof (Decree of the Government of the Republic of Kazakhstan No. 1092).

The proper cluster policies grow in their importance, developing global competitive advantages of Kazakhstan in the age of globalization and integration. Research and development are performed more intensively within the clusters, thus opening access to new technologies. The world practice shows that development of regional clusters increases the competitive sustainability of small and medium businesses (Gelmle 2013).

Many governmental documents refer clusters to national competitiveness growth tools. However, effectiveness of their creation is largely determined by theoretical and methodological approaches to the competitiveness assessment and enhancement. In this regard, consideration of theoretical and methodological issues of competitive cluster formation becomes more relevant if we consider the livestock cluster of the Republic of Kazakhstan as an example, and their impact to the competitiveness of the Akmola region's economy.

In order to improve the regional livestock industry policy in the Akmola Region, there is a good reason to consider the mechanism of association of all participants into the regional livestock cluster, and such activity could boost not only the livestock industry in the region, but also a number of related industries: retail and wholesale trade, processing industry, transportation, etc.

Moreover, cluster-based economy refers to competitive and investment attractive economic models, which provide a high social standard of living and involve not only large companies but also small and medium businesses in the production (Zhukenov 2014).

The study objective is to create a regional cluster model and provide recommendations on how to develop the cluster in the context of competitiveness growth for the livestock.

2. RESEARCH METHODS

Background of the cluster approach to operation and development of the national economy had appeared as early as in the nineteenth century, and Alfred Marshall described it in the "Principles of Economics" in 1890 (Marshall 1993). E. Leamer studied the cluster with a high level of export correlation while analyzing the trade at the national level (Leamer1984). The French scientists J. Tolenado and D. Soulier used the Die concept (Tolenado, 1978). This is a narrow interpretation of the cluster. The Swedish economists Dahmen and Mattsson used an interesting method to study clusters; they also considered the cluster approach in their scientific works (Dahmen 1950; Mattsson, 1987).

The theory of "growth poles" or "poles of development" by Francois Perroux was very important for the sectoral cluster theory development. According to Perroux, development of each economic system is associated with certain "poles", which become national development sites due to their specific infrastructures (Perroux 1970).

The works of the above scientists became the theoretical basis for studying the mechanism of the formation of the classical (Marshallian) clusters. It should be noted that back in the 1970s the Soviet economic geographers A.P. Gorkin and L.V. Smirnyagin used the term "cluster" (Gorkin and Smirnyagin, 1979) referred to conglomerates of enterprises, which was also used by the Swedish economists C. Fredriksson and L. Lindmark (1979).

Perhaps it was M. Porter who created the cluster concept and described in detail his vision of the subject matter. Michael Porter introduced the term "cluster". In his work "On Competition" M. Porter defined a cluster as "a new model of alliance for organizations, allowing to benefit from the combination of factors such as geographical location, interaction, specialization, innovation" (Porter 2005). According to M. Porter, a cluster is an organizational form that combines independent and informally linked entities and institutions and gains significant benefits due to high productivity, efficiency and flexibility in the organization of activities of its members.

In our opinion, the most interesting is the theory of clusters described in the works of the American scholar M. Enright who developed the theory of regional cluster and gave the following definition: the regional cluster is an industry cluster where participating entities, cluster members, are in proximity to each other. The term "regional cluster" was proposed by M. Enright to define the spatial cluster of related businesses, companies similar in their specialization (Enright 1993). In his works the regional cluster was defined as an industrial cluster where participating companies (making business in the same or several related sectors) form a territorial agglomeration.

Sectoral interaction is particularly important at the regional level, i.e. where the cluster is formed. L. Polbitsyna indicates that it is especially important to identify and support the so-called "points of growth". Localities with agricultural processing enterprises, breeding stock-rearing and seed-production farms, reproductive enterprises, research and development, production and training facilities may become the "points of growth" in the agro-industrial zones. Agro-industrial zones (AIZ) are created in areas with developed agriculture and infrastructure businesses or high potential of development thereof. Due to the small size of administrative districts it makes sense to create AIZ on the inter-district basis (Polbitsyna 2008).

Thus, having examined the existing definitions, we offer our interpretation of *Regional Agriculture Cluster*, which refers to the agglomeration of various agro-industrial companies, including development of relations of cooperation and competition, as well as exchange of knowledge, information and best practices.

Having studied the scientific works of local and foreign scientists and economists, we conclude that clusters can be an effective tool to help improve the competitiveness of the region as a whole, as well as the livestock industry.

Competitiveness of the industry is the industry's ability to produce goods and services that meet requirements of international and domestic markets, and create conditions for the growth potential of the industry competitiveness. The competitiveness of the industry is closely linked to the concept of regional competitiveness.

Competitiveness of the region is the ability to promote production of competitive goods and services in terms of effective use of the existing production factors (economic potential), use of existing and creation of new competitive advantages, compliance (increase) of living standards in accordance with international environmental standards. The main objective to promote regional competitiveness is to increase capacity of the real economy (Merkushov 2005).

The economic works provide certain methods to assess regional competitiveness that are based on statistical indicators, expert assessments and scores.

Table 3.1 shows advantages and disadvantages of the existing methods to access regional competitiveness.

Table 3.1
Comparison of Competitiveness Assessment Methods for Regional Economies

Assessment technique	*Advantages*	*Disadvantages*
Competitiveness ranking score (S.U. Salikhov, V.V. Pechatkin, V.A. Sablin)	– testing has been performed	– no clear rationale, – absence of regional competitiveness evaluation concept
Supply and Demand-based Regional Market Evaluation (V.E. Andreev)	– well-grounded method; – structural and conceptual approach to regional competitiveness assessment, – information base availability, and – testing has been performed	– it focuses on pricing, – lack of social indicators, and – expert assessment required
Competitiveness of the region: assessment of potential clustering (A.V. Ermishina)	– well-grounded method, – multivariate analysis of competitive sustainability	– designed to assess the potential of clustering, – information base not available
Regional Competitiveness Integral Assessment (V.V. Merkushov)	– well-grounded method, – a 3-component system of indicators to assess the competitiveness, – testing has been performed, – information base availability	– lack of social orientation indicators, – this method shows only the overall economic development
Regional Competitiveness Integral Assessment (L.I. Ushvitsky, V.N. Parakhina)	– testing has been performed, – regional competitiveness evaluation concept, – set of indicators to determine the competitiveness level, and – information base availability	– list of indicators to characterize the region's competitiveness is required
Index-based Regional Competitiveness Assessment (similar to the country rating method; N.I. Larina)	– testing has been performed, – set of indicators to determine the competitiveness level, and – information base availability	– list of indicators to characterize the region's competitiveness is to be added and substantiated, – this method shows only the overall economic development

Note: Compiled by the source (Uskova 2009)

In our opinion, it is advisable to use regional competitiveness integrated assessment proposed by V.V. Merkushov as the most appropriate one for the Kazakhstan's regions with different economic structure and mostly agricultural, with seasonal production variability.

Three individual system indicators (economic potential, regional efficiency, competitive advantage) shall be used to calculate the appropriate integral index to determine the competitiveness level of the Akmola Region.

The pattern analysis, a nonparametric method of statistical analysis, shall be used to combine integral indices (Abdurazakov and Rahimi, 2013). The pattern analysis makes it possible to obtain scores for individual indicators (t_{ij}) by means of correlating the actual values with the best ones by Formula 1.1.

$$t_{ij} = \frac{x_{ij}}{x_{max}} \tag{1.1}$$

where, $X_{ij} - j$-indicator of *i*-region;

X_{max} − the highest value of the individual *j*-indicator.

The value of the integral coefficient is determined by Formula 1.2.

$$T_i = \frac{\sum\limits_{j=1}^{n} t_{ij}}{n} \tag{1.2}$$

where, n − the total number of individual indicators.

Region Competitiveness level refers to Integrated Competitiveness Score of the study region mapped to such score of the reference region.

The Region Competitiveness level is estimated by Integrated Competitiveness Assessment of the region under study in comparison with the score of the reference region. The most appropriate reference region (real or contingent) is an area with the highest competitiveness score.

Knowing that T_i coefficient values are 0–1, five groups of regions are allotted at regular intervals:

Group 1: high competitiveness score: $0.8 \leq T_i \leq 1$,

Group 2: mostly high score: $0.6 \leq T_i \leq 0.8$,

Group 3: average score: $0.4 \leq T_i \leq 0.6$,

Group 4: low score: $0.2 \leq T_i \leq 0.4$, and

Group 5: non-competitive regions.

3. RESEARCH RESULTS

The authors have adapted the technique proposed by V.V. Merkushov to assess the competitiveness level for the livestock industry. We also used certain competitiveness indicators within the industry. This set of indicators was necessary and sufficient to fully appreciate the level of development of industrial production and economy of the region.

The competitiveness of the livestock industry was calculated by blocks of indicators: economic potential of the industry in the region, efficiency of industrial production and competitive advantages of the industry, based on integrated competitiveness assessment using the pattern analysis (Figure 3.1).

Figure 3.2 shows the calculated data on the competitiveness scores of the livestock industry.

As shown on Figure 3.2, the Almaty Region has the highest competitiveness score of the livestock industry − 0.76. As per Figure 3.2 and our classification, as described above, no region has high competitiveness score within the industry, where $0.8 \leq T_i \leq 1$.
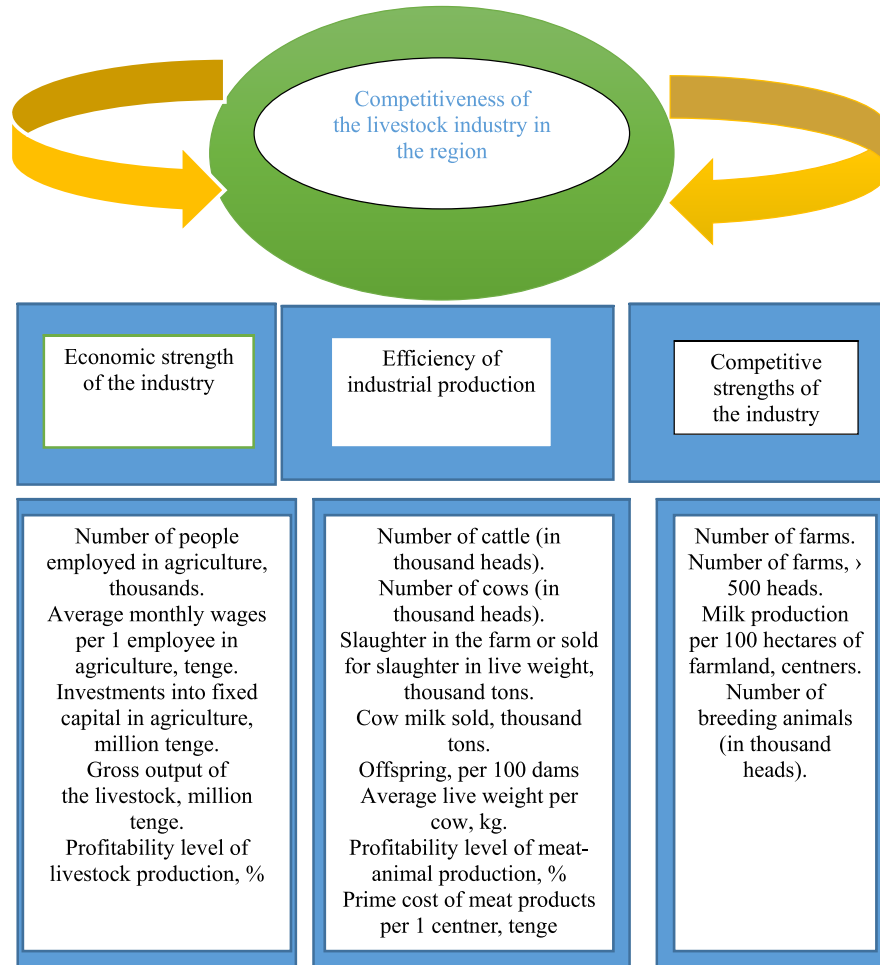
Figure 3.1: Competitiveness of the Livestock Industry in the Region

Group 2 (mostly high competitiveness score) within the livestock industry, where $0.6 \leq T_i \leq 0.8$ are: the Almaty Region (0.76), the South Kazakhstan Region (0.66), and the East Kazakhstan Region (0.63). The Akmola, Kostanay and the North Kazakhstan Regions have the competitiveness score 0.5 in the livestock industry. Thus, we see that 50% of regions have an average competitiveness score in the livestock industry. It proves the existing potential of the livestock sector and possibility of cluster formation in the livestock industry in these regions.

The competitiveness analysis in the livestock industry has shown satisfactory conditions in six regions of Kazakhstan. Then we perform the factor analysis of the Akmola Region as to possibility to develop a livestock cluster therein.

The method proposed by A.V. Ermishina is used to find capabilities to develop a livestock cluster within the Akmola Region, which comprises the following three steps (Ermishina, n. d.):

1. Quantitative analysis of the competitive sustainability, i.e. to determine market positions for industries within the region,

2. Qualitative analysis of availability and composition of resources required to support proper competitiveness for certain businesses within the region, i.e. competitive conditions of stability, and
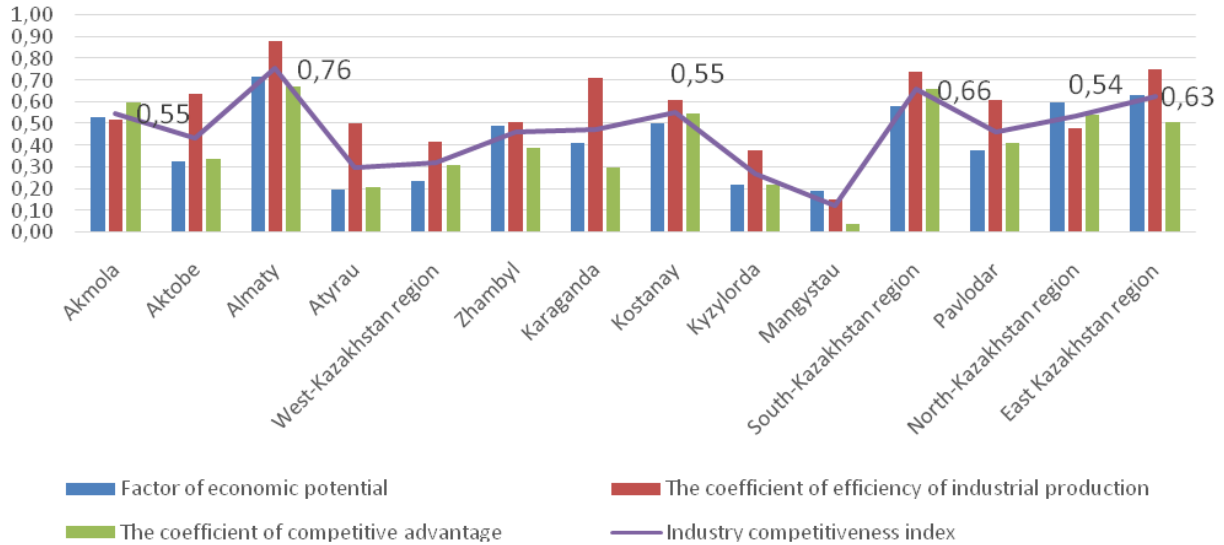
Figure 3.2: Animal Husbandry Competitiveness Indices for Regions of Kazakhstan
Note: **compiled by the authors**

3. Identification of specific sectors with potential to support proper competitiveness for certain businesses within the region, i.e. cluster analysis.

Indicators for competitive sustainability quantitative analysis of the livestock industry in the Akmola Region:

1. Location quotient,

2. Per capita production index, and

3. Industry specialization ratio for the region.

Location quotient (LQ) for this regional production represents ratio of the regional industry output (Or) to the country industry output (Oc), see Formula (1.3):

$$\text{Or} = \frac{\text{Livestock production in the Akmola Region}}{\text{Animal production in the Akmola Region}}$$

Or = 17,525.1 million tenge/89,294.4 million tenge = 0.20

$$\text{Oc} = \frac{\text{Animal production in the Akmola Region}}{\text{Animal production in Kazakhstan}}$$

Oc = 89,294.4 million tenge/1,469,923 million tenge = 0.06

$$\text{LQ} = \frac{\text{Or}}{\text{Oc}} = \frac{0.20}{0.06} = .333 \tag{1.3}$$

Per capita production index (CPI) for this regional industry represents the ratio of the regional/national industry output coefficient (Ci) to the specific region/national population coefficient (Cp), see Formula (1.4):

$$\text{Ci} = \frac{\text{Livestock production in theAkmola Region}}{\text{Livestock production in Kazakhstan}}$$

$$Ci = 17,525.1 \text{ million tenge}/3,588,671.3 \text{ million tenge} = 0.05$$

$$Cp = \frac{\text{Population of the Akmola Region}}{\text{Population of Kazakhstan}}$$

$$Cp = 744,411 \text{ people}/17,670,957 \text{ people} = 0.04$$

$$CPI = \frac{Ci}{Cp} = \frac{0.05}{0.04} = 1.25 \tag{1.4}$$

Industry specialization ratio (ISR) for this regional industry represents the ratio of the regional/national industry output coefficient (Cii) to the regional GDP index (U_{GDP}), see Formula (1.5):

$$Cii = \frac{\text{Livestock production in the Akmola Region}}{\text{Livestock production in Kazakhstan}}$$

$$Cii = 17,525.1 \text{ million tenge}/388,671.3 \text{ million tenge} = 0.05$$

$$Ugdp = \frac{\text{Gross Regional Product of the Akmola Region}}{\text{Gross Regional Product of Kazakhstan}}$$

$$U_{GDP} = 1,061,046.5 \text{ million tenge}/38,711,903.9 \text{ million tenge} = 0.027$$

$$ISR = \frac{Cii}{Ugdp} \frac{0.05}{0.027} = 1.85 \tag{1.5}$$

According to the method proposed by A.V. Ermishina, if the calculated indicators are › 1, the study industry (in this case, the livestock) may be the basis for the creation of a cluster. Indicators for the livestock industry of the Akmola Region, namely: location quotient, per capita production index, and industry specialization ratio are › 1. Thus, our preliminary conclusion is that the livestock cluster may be developed in the Akmola Region.

Qualitative analysis is made to estimate the availability and composition of resources required to support proper competitiveness for the livestock industry within the region. The cluster-development potential is assessed using the following criteria:

1. Availability and activity of professional non-profit organizations within the industry (associations, unions),

2. Availability and activity of the industry-related research institutions,

3. Availability and activity of the industry-related educational institutions,

4. Availability and activity of non-profit organizations promoting the industry, and

5. Government involvement and promotion to the industry.

The qualitative analysis of the cluster-development potential shows that the Akmola Region has sufficient advantages to create a cluster in the livestock industry. These include:

−   A large number of educational centers to train qualified professionals,

−   Well-developed research base, and

−   Positive role of the Government in promoting cluster development.

The following basic factors influencing the formation and development of the livestock cluster in the Akmola Region are important:

1. Geographical concentration and proximity: key cluster players, i.e. the cluster core — feedlots, fodder plants, meat-processing plants are in proximity to each other and able to cooperate extensively.

2. Availability of regional competitive advantages: advantageous geographical location, access to raw materials, availability of qualified personnel, and specialized educational and research institutions.

3. Availability of competitive enterprises, export orientation of the industry.

4. Active implementation of the government programs to develop export potential of the livestock.

5. Available markets: close to Astana and boundary regions of Russia.

The results of the competitive sustainability quantitative analysis and qualitative analysis of availability and composition of resources suggest the possibility to develop the regional livestock cluster in the Akmola Region.

Having reviewed and summarized the scientific works of the Kazakh economists (Akimbekova 2013; Bayandinova 2007; Zhumagulova 2009; Kaygorodtsev 2005; Utebaeva 2006; Praliev 2010; Esmagulova 2009), we propose our regional livestock cluster model (see Figure 3.3). Figure 3.3 shows the proposed regional livestock cluster model in the Akmola Region in detail.
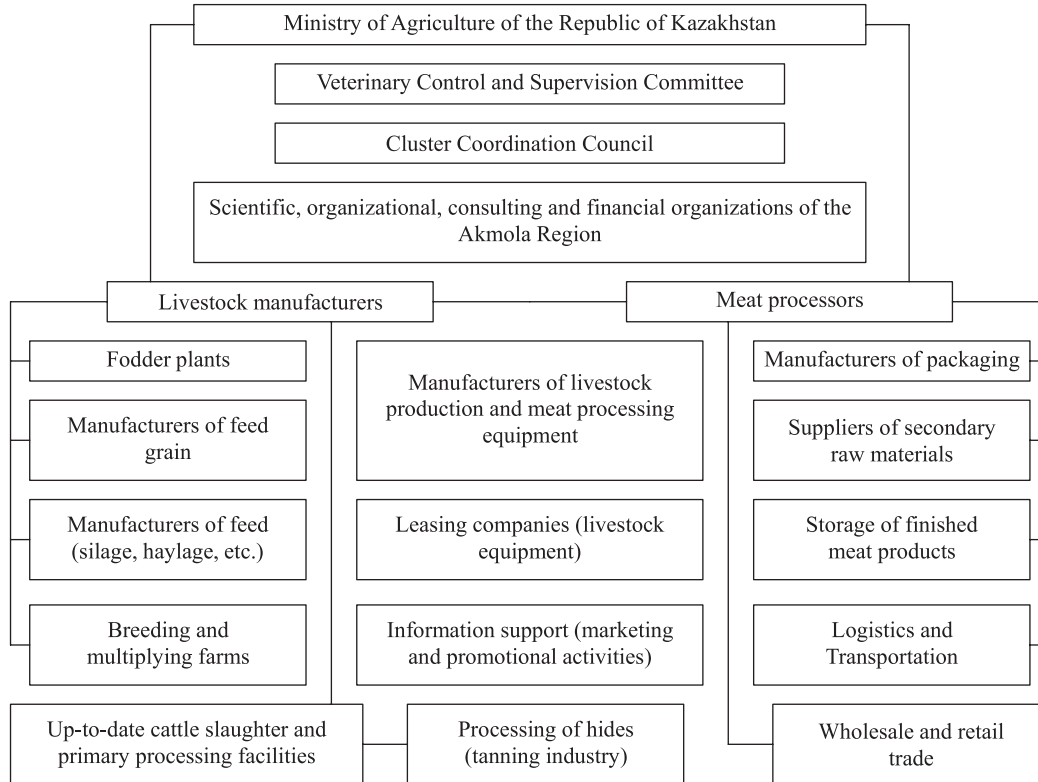

Figure 3.3: Extended Model of the Livestock Cluster in the Akmola Region

The proposed cluster model contains the following elements, which are to function as follows:

1. *The appropriate Ministries and authorities shall perform the role of government agencies.* These are: the Ministry of Agriculture, akimats (local governments), tax authorities, standardization and certification agencies, sanitary-epidemiological and veterinary services. The State's role is to provide with advantages to develop the clustering process. The Government should focus its efforts on the development of the general economic strategy for clusterization based on improving conditions for the implementation of activities in the country as a whole (Dzhusibalieva 2009).

2. *Quality control* of the livestock raised both in the region and other regions of Kazakhstan and delivered to meat-processing plants and sausage making shop of the Akmola Region is planned to be performed by the *Veterinary Control and Supervision Committee.*

   This authority is run by the Ministry of Agriculture of Kazakhstan and has a broad mandate to perform proper veterinary control, and to monitor the quality of mixed feed and their components, safety of food raw materials and livestock products, in every element of the value-adding chain. It is assumed that all the cluster members will actively cooperate to raise the livestock and manufacture quality and competitive meat products. All relationships between farms, feedlots and breeding farms are to be contracted and run by the *Cluster Coordination Council.*

3. *The Cluster Coordination Council* is a standing advisory, expert and consultative body. The Cluster Council is created to implement the main directions of the regional cluster policy in the livestock industry. It is governed by the Constitution of Kazakhstan and interacts with the representatives of the regional executive power, local authorities, regional councils and businessmen.

   The main purpose of the *Cluster Coordination Council* is to develop intra-cluster relationships with a view to use available cluster resources to obtain sustainable competitive advantage by its members.

   The main tasks of the Council are the following:

   − Advisory support in improving the interaction efficiency for the Cluster Development Center and cluster members,

   − Contributing to the identification of cluster development key areas, and

   − Approval of cluster activities plans.

   The Cluster Coordination Council is formed by leading entrepreneurs, government agencies and local authorities. The Council members will run activities of the Council. The Council meetings will be held as needed. The Council's resolutions are advisory in nature.

4. *Livestock manufacturers* are agricultural producers of any business pattern involved in livestock raising and fattening. A specific product and its manufacturer are the cluster core, and the Government shall directly regulate and assist to establish effective relations for manufacturing competitive innovative products.

   Technological livestock production scheme involves several steps:

   1. Import of pedigree cattle for breeding and multiplying farms. Since 2011, in order to improve its breeding stock, Kazakhstan has been importing livestock from countries with

well-developed beef-cattle industry (the USA, Canada, Australia). The offspring is divided into breeding stock for the further reproduction and bulls raised to the breeding age (18 months).

2. Multiplying farms sell breeding bulls to farmers to breed stock, and they provide reproduction according to the "cow-calf" scheme up to 6-8 months and intensive rearing up to 8-12 months.

3. Delivery of the livestock to feedlots for intensive fattening during up to 12-15 months. Then farmers deliver young stock at the age of 8-12 months to feedlots for intensive fattening according to the science-based feeding standards.

4. Slaughter, cutting and packing are done in slaughter-houses and meat processing plants. Livestock processing and meat processing up-to-date slaughter-houses and meat processing plants shall be mostly responsible for the sale of quality meat products to the customers and delivery of raw materials to the meat processors within the livestock cluster. The relevance of this trend is primarily due to the fact that a large portion of livestock is raised and slaughtered either in households or small meat shops in unsuitable and unsanitary conditions (Okutaeva 2013).

Businesses that will form the cluster core must meet the following criteria:

–   Competitiveness, i.e. businesses are to be competitive in the domestic and foreign markets and produce competitive products that meet the domestic and international standards,

–   Favorable geographical position, i.e. businesses must be located in the center of the region, or at least close to each other; this will reduce transportation costs for delivery of raw materials and equipment, and products to external market.

The proposed cluster model integrates businesses engaged in the production of raw materials and finished products. Such integration will promote cooperation of agricultural and processing enterprises, science and government.

One of the main tasks to develop the livestock cluster in the Akmola Region is to identify its potential members. We believe that this livestock cluster shall consist of businesses directly engaged in the production of finished products — meat and related products. Businesses engaged in the production and processing of the livestock are the "cluster core", which gravitates distributors and manufacturers of any livestock equipment, leasing companies, financial institutions, breeding farms, manufacturers of compound feed and feed grains, logistics and transportation centers, wholesale and retail trade, etc.

If the above companies and organizations are included into the cluster, it will contribute to implementation of regional livestock policy and obtain synergies.

Supporting elements of the cluster (*cluster infrastructure*) are businesses engaged in harvesting and production of feed, animal breeding research institutions, training centers, universities, financial institutions to support manufacturers.

5. *Financial and credit institutions:* Financial support for agricultural manufacturers is provided by subsidiaries of the national holding "KazAgro" — JSC "Fund for Financial Support of Agriculture" and JSC "Agricultural Credit Corporation».

6. *Information Support:* Since 2011, JSC "Kazagromarketing" has been participating in the implementation of the project "Development of cattle meat export potential". For this purpose the company provides consulting services to agricultural subjects, including those related to loans provided by financial institutions of KazAgro Holding, makes industry expertise on the projects being implemented, and performs general monitoring and coordination of the project.

7. *Research institutions, universities:* Scientific support for the production process is a mandatory condition for the functioning of the cluster.

   Integrating science into the cluster structure is possible with the long-term functioning of the cluster — only under these circumstances the participating companies may, being adapted to new conditions of interaction, plan a variety of innovations, training or skills upgrading for their personnel, etc. Educational facilities as the cluster members shall have a specific training program (retraining) for personnel, to provide advanced knowledge and skills in the area of specialization of the cluster.

In our opinion, agricultural challenges include lack of qualified personnel engaged in rural agriculture. This is due to the reduction of secondary vocational schools involved in the preparation of these specialists. Therefore, the aim of the educational segment of the proposed cluster is to train middle and lower-level staff, experts in the field of agriculture.

The educational segment consists of various specialized institutions. For example, the Saken Seifullin Kazakh Agrotechnical University which provides system training and retraining of personnel with the necessary qualifications. The University will cooperate to meet the demand of the cluster members.

The scientific segment interacts with other cluster members while providing research and development services, and receives an appropriate financial reward.

The Research and Innovation Center of Animal Production and Health (Astana) is engaged into studies in the field of plant growing, forage production, animal husbandry and veterinary medicine (Bauer, et. al., 2016). The research and educational members fulfill orders of other cluster members on research and development activities. Moreover, the North-Kazakhstan Scientific and Research Institute of Livestock and Crop Production operates in the North-Kazakhstan Region and has the following achievements: various cattle breeds, including the Kazakh polled white breed; 7 lines of red steppe cattle, as well as some other developments: feed production system for arable lands and natural fodder, science-based rules how to feed farm animals and birds.

4. RESULTS DISCUSSION

Creating a cluster involves the mutually beneficial cooperation of all entities to produce quality products. The objective of the proposed regional cluster is to comply with interests of all its members, i.e. from livestock manufacturers to end consumers. The production of quality but inexpensive products is an important condition. It is possible to reduce production costs and, consequently, their price in the market provided

that feed costs are reduced when raising the livestock. This can be achieved: (1) on specialized feedlots (due to the industrial scale), and (2) due to proper scientific and production interaction.

As a result, the proposed model for the regional livestock cluster in the Akmola Region is aimed at improving the competitiveness of the livestock industry in the regional economy. The functioning of the cluster, where science, business and government can cooperate, may be effective for both cluster members and the whole region. The synergetic effect describes the possibility for combined elements to obtain a greater economic effect than during the operation on an individual basis. Thus, if such cluster is created in the Akmola Region, this effect will spread both in the entire region and the cluster members.

For *entities* engaged in manufacture the effect shall be in the expansion of the assortment, possibility to sell products at bargain prices, and effective trade.

For *research institutions* — government orders for new livestock, veterinary and agricultural economics studies to develop new optimized feed rations, improve genetic potential of the existing breeds and develop new lines, recommendations how to promote products, etc.

For *educational institutions* — orders to train personnel, professionals for the cluster members.

For *the region itself* creation of the cluster shall result in:

- The livestock cluster production shall give an opportunity to enter new markets which would entail the enrichment of the region and it will be beneficial for development of other sectors in the Akmola Region,

- For businesses, an increase in companies' profitability results in their competitiveness growth and, as a consequence, the competitiveness of the region, and

- Regional clusters promote regional branding, thereby increasing the flow of investments into the region.

5. CONCLUSION

The competitiveness analysis of the livestock industry has shown that the following regions have high competitiveness scores: Almaty, the South Kazakhstan, the East Kazakhstan, the Akmola, the Kostanai and the North Kazakhstan Regions. The authors carried out a comparative analysis of competitiveness levels for the livestock industry and the regions in order to determine the regions with the best conditions to develop the regional livestock cluster. These regions include the Akmola Region.

The qualitative and quantitative analysis of the competitive sustainability of the livestock industry in the Akmola Region and the factor analysis have shown that the Akmola Region has all the conditions to create the livestock cluster.

The proposed model of the regional livestock cluster involves businesses primarily engaged in the livestock production (breeding and multiplying farms, feedlots, slaughter-houses, processing plants), as well as supporting entities: forage structures, entities engaged in leasing machinery and equipment, logistics and transport, wholesale and retail trade. The Coordination Council (consisting of the main representatives of each segment) shall regulate all cluster activities; its resolutions are advisory in nature. The cluster will involve scientific and educational institutions, financial and credit institutions as well as public authorities, namely the Ministry of Agriculture, regional akimats, and the Veterinary Control and Supervision Committee.

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