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Innovative Interaction of Economic entities in the Cluster formations of Kazakhstan

In modern literature, the term "cluster" is understood in different ways, which is the recognition of researchers to give a comprehensive definition is difficult. The term "cluster" is used in a variety of forms in the context of the economic scope. On the basis of generalization of existing approaches highlighted three broad definition of the cluster, which allowed him to clarify the essential features and the most important conditions for the occurrence. In the high technology sectors of industrial-innovative development of Kazakhstan the special role is played - innovation clusters, industrial clusters, specializing in high-tech industries. Innovative cluster systems are characterized by the features: the presence of a large company - the leader, the territorial localization, stability relations of economic entities - participants of the cluster system, the long-term coordination of interaction between participants of the system within the production programs, innovative processes, quality control. Presented structure of the functional interaction of innovative economic subjects in cluster formations shows a set of economic development of production cycles in the regional economy in the form of conditional formula: tradition - investment - innovation - investment. Centralized model of economic organization prevailing in the territories of Kazakhstan is characterized by the dominance of large-scale industrial production, combined in the corporate structure. However, at the present stage of development of the country becomes the most promising network model of territorial and economic organization, based on the mobilization of resources across the network by cluster development. The need for the creation of regional clusters is predetermined by a pronounced regional context of the modern development of the country. Regional grouping implemented on the basis factors such as innovation and patent activity; human, private and social capital; regional accessibility; the regional concentration of the business; GRP per capita. Carried out clustering regions of Kazakhstan allowed to identify the main directions of improving their competitiveness.

Keywords: cluster, the cluster concept, industrial and innovation clusters, innovative collaboration, Innovation infrastructure, effective cooperation.

The term «cluster» is derived from the English word «cluster» means in Russian translation «accumulatio»" and «concentration». This term refers to the number of multipurpose terms of its use; its working qualities are found in engineering, humanities, and natural sciences and even «intrude» into the sphere of art.

Clusters can be considered as a heterogeneous computing system memory allocation, distributed control. Typically, clusters are created where needed powerful computing and database support, especially those where high reliability is required.

It should be noted that all interpretations of the cluster contains one feature — a group of any objects allocated from a large population on a particular common feature for groups [1].

Different interpretations of «cluster» concepts found in the current economic, geographical, sociological and other sources. Thus, the cluster appears as a concentration of the most effective and interconnected economic activities, i. e, a set of successfully competing enterprises, which form the «golden section» of the entire economic system of the state, thereby providing a competitive position in the industry, national and international markets [2].

It is believed that the cluster is, above all, a social concept. It is produced in the community of people with similar economic interests, and is understood as a way of community self-organization to survive in the face of international competition.

But there is another approach that clusters - is concentrated by geography group of related companies. On the one hand, they compete with each other; on the other hand, complement each other and working together in individual fields of business.

Some researchers present clusters as a community of firms, closely related industries, contributing to the growth of competitiveness of each other. In general, for the whole economy of the state, clusters act as points of growth of the domestic market and a base for international expansion. New clusters, which helps to increase the international competitiveness of countries in the wake of the first cluster is often formed.

Others under the cluster understand the grouping of enterprises in one industry. One or more large firms become competitive in the global market starting to spread its influence and business relations in the near surroundings. So gradually created a sustainable network of the best suppliers and consumers. Advances of

entourage companies, in turn, have a positive impact on the further growth of the competitiveness of all the participants in this group of companies. As a result of the combination of the individual elements of the group of companies leads to the appearance of new qualities that are particularly bright and versatile appear in clusters, which is formed by economic agents.

The third, cluster is the area, which is limited by physical constraints of the natural (forests, water bodies, mountains) and artificial origin, is united on a national basis. Such type of cluster presents actually a city within a city with infrastructure for its normal life of the inhabitants [3].

Fourth, represent clusters as separate entities that in one special zone combined production business projects in a particular field of technology, fundamental design and modern system design new products and manufacture of these products [4].

Thus, despite the relatively short period of active use of the term «cluster» by economists in recent publications can be found more than a dozen interpretations of the concept. At the same time the scientific community recognizes that to give an exhaustive definition of this concept is difficult.

Three broad definitions of clusters can be identified on the basis of generalization of existing theoretical material on the test problems:

1. The term «cluster» is treated as regionally limited forms of economic activity in related sectors usually linked to certain academic institutions and are closely cooperating with each other to enhance the collective competitiveness.

2. The term «cluster» is defined as the vertical production chain networks that are formed around the head and firms linked through relationships purchaser-provider, supplier, customer, common channels of procurement or distribution.

3. The term «cluster» refers to industries defined at a high level of aggregation (for example, metallurgical cluster), or a plurality of sectors at an even higher level of aggregation (for example, agro-industrial cluster), or association of regions with similar socio-economic status.

It should be noted that the idea of the benefits of a network of business organization in the industry emerged a long time ago. So, one of the earliest work in this area was a book of Alfred Marshall's «Principles of economics» (1890), prepared on the results of researches of the industrial areas of the UK. Although this book does not use a special terminology, however, it is clear that it is actually considered a cluster to inter-firm division of labor. A. Marshall drew attention to the fact that there is a synergistic effect [5]. At integrating and increasing specialization of small businesses.

Later Schumpeter addressed to the issue of clustering of industry. The cluster concept has been very broad; it was based on traditional theories of location and agglomeration, and included the concept of «industrial districts» points of growth, new industrial structures, production systems, innovative environment, national or regional innovation systems [6].

In 1979, Italian explorer John Bekattini introduced the concept of «industrial districts» for Regional Policy and Territorial Development. He first spoke about the importance of economic development based on the territorial division. A new approach to industrial policy began due to his research. At the same time, George Bekattini drew attention to the special role of social capital in the geographical, sociological, political and historical point of view as part of a policy of innovation.

It should be noted that in the 70th years of XX century in the scientific economic thought there was a return to the problem of the concentration of industrial activity.

For example, US researchers Chamanski S. and L. de Ablas under a cluster aware subset industries connected flows of goods and services more than other sectors of the national economy [7].

Modern cluster concept is based on the provisions formulated by M. Porter. He believed that the cluster is a key factor in the competitiveness of the regional economy and comprehensively reviewed its essence. In his book «Competitive advantages of countries» (1990), Porter explained the phenomenon of clusters, by putting forward the theory of competitiveness in the global economy. He analyzed the competitive opportunities of over 100 branches in ten countries around the world. It turned out that it is not the most competitive companies are scattered haphazardly across different regions, and tend to be concentrated in one country, and sometimes - in one region of the country. This is because that the company after reaching a high level of competitiveness is beginning to have a positive impact on their immediate environment in the external environment, i.e, to suppliers, customers and competitors. This influence contributes to the formation of clusters of firms as a community, closely related industries, contributing to the growth of competitiveness of each other. In the result it happens a free exchange of information, innovations rapidly spread through the channels of suppliers or customers, established a single environment assimilation of a significant amount of

information, human capital andinitiated ideas which is promote innovation, form the basis of the general organizational, industrial and cultural environment [8].

Gradually, among the works of foreign authors formed several lines of research clusters. For example, these include the general theory of the cluster (S.Rozenfeld, M. Enright); Identification and assessment of the effectiveness of clusters (E.Bergman); factors of competitiveness cluster enterprises (O.Solvel); the formation of clusters in the framework of territorial innovation systems (S. Freeman), and others. The institutional approach to the problem of increasing the competitiveness of economic systems studied in T.Veblena, D. North (evolutionary processes of social and economic change), J.R.Kommonsa (institutional concept market transactions), A.Pigu (the theory of externalities), R.Kouza (theory of the firm). However, despite numerous studies of the problems of clustering of economic space, the cluster approach to the development of the territorial development strategy stays not sufficiently studied. A modern interpretation of the cluster changes is primarily related to the study of their role in the socio-economic development of the territory of the placement.

The generalization of the concept of cluster allows allocating its essential features:

– The presence of leading companies, which have a significant share in the domestic and foreign markets, and functionally linked with the specialized service organizations;
– The concentration of cluster members in a limited area, representing a unique advantage;
– A well-developed infrastructure for the transfer of knowledge and technology;
– The interaction between the cluster members is for the purpose of production of competitive products;
– Internal competition between the parties to the cluster;
– The accelerated spread of innovations from the extensive information network;
– Stability of economic ties of firms participating cluster system;
– Reducing transaction costs;
– Access to technology and the suppliers of skilled labor;
– Lack of strict formal constraints and barriers to the development of the cluster;
– Openness of the cluster as a system.

Consequently, the common features of clusters are geographic concentrations of interconnected companies and neighboring; the synergistic effect of this interaction; common products; competition and cooperation. In essence the cluster is a network structure formed on the basis of cooperation between enterprises in the creation of a particular product [9].

The most developed clusters have five fundamental characteristics. In this case the first three features can be seen as the basic preconditions for the formation of clusters.

1. Availability of competitive enterprises. This means that the development of the cluster key condition is the existence of competitive enterprises on the market.

2. The presence of the region's competitive advantages for the development of the cluster. Competitive advantages in this case are: a favorable geographical position; access to raw materials; availability of human resources, suppliers of raw materials and services; availability of specialized educational institutions, infrastructure and other factors.

3. Geographic concentration proximity. Major participants in clusters must be in proximity to each other and have the ability for active interaction.

4. A wide range of participants and the presence of a «critical mass». A cluster can consist of companies that produce finished products and exporting it outside the region. In addition, it should include suppliers of components, equipment, specialized services, and professional educational institutions.

5. The presence of communication and interaction between the cluster members. One of the key success factors of cluster development is the existence of a working relationship and coordination between members of the cluster.

From the standpoint of the new institutional economics a cluster can be viewed as a hybrid form of institutional relations. The economic essence of this form of cooperation, based on the «triple helix» concept which makes it possible to identify the main participants in the cluster: business, government and science [10].

In accordance with Figure 1, the business category includes large, medium and small enterprises, as well as their associations. Local, regional and state authorities can provide power. The scientific community is made up of universities, research institutes and centers of commercialization of research and development. However, clusters may include financial institutions, as well as self-regulatory organizations that support the interests of the rest of the cluster initiatives.

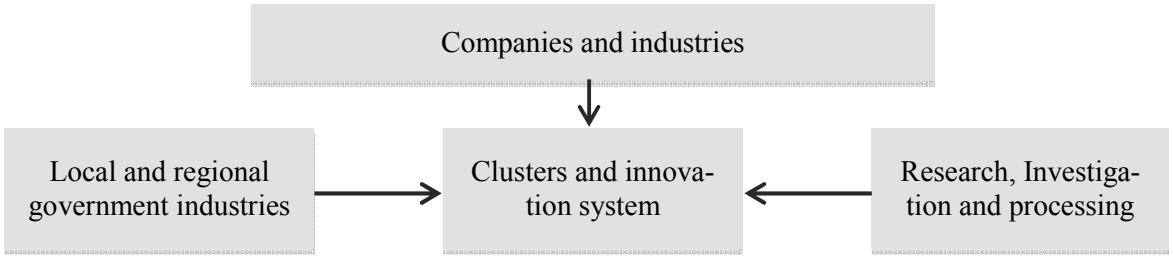

Figure 1. The «triple helix» of industrial and innovation clusters (compiled by the authors)

The experts of the Organization of Economic Cooperation and Development (OECD) in a collective publication, which is published in 1999, provide a list of the most important conditions for the emergence of clusters:

– The creation of a critical mass of firms allowing for economies of scale growth;
– There is a strong scientific and technological base;
– The presence of a culture of innovation and entrepreneurship.

Furthermore, to create clusters favorable factors may be the presence of natural resources and geographical advantage. This states that many of the successful existing clusters have a fairly long history of development. While for emerging clusters need time so that they have become such [11]. In a later publication, published under the auspices of the OECD in 2007, the list of key characteristics of the clusters has been significantly expanded, as well as a list of their respective types of clusters:

1. Geographical coverage. Depending on the characteristics of this distinguished localized clusters as dense groups of plants within a small geographical area and dispersed clusters that are spread over a large area or a large city;

2. Density. Depending on the density of the clusters is divided into a high concentration thick and firm or rare scattered, for example, Clusters with few incoming firms;

3. Widths and Scope. Wide clusters cover the production of many manufactured companies belonging to different but related sectors. Clusters of narrow focus on a single or limited number of products or are composed of businesses owned by a limited number of branches;

4. Depth. Deep clusters - a cluster, each of which is a region with activities interconnected into a single supply chain. Shallow or surface clusters have clusters in which the company is largely dependent on external factors and relationships;

5. Object of activity. This cluster, covering a wide range of activities; they are creating a new added value. For example, in addition to the manufacture of any product, carried out by its projection or design. As well as clusters, covering one or a narrow range of activities. For example, clusters of activity is limited only by the assembly of a machine or host;

6. Growth potential. In the context of this sectoral cluster consisting of enterprises ascending, developed and rolled their industries. According to the criterion of competitiveness of companies consist of clusters relevant to competitive and noncompetitive grow back within appropriate;

7. Innovative ability. According to this characteristic distinguish clusters with high innovation activity, for example, clusters capable of using the structure for generating innovation and clusters with low innovation activity, as they are inherently inhibit innovation;

8. Production organization.There may be a variety of options for the cluster. For example, a large company, small companies (the model of «environment-core»), only small firms or «no kernel environment»;

9. Coordination mechanism. On this basis distinguish clusters with strong market linkages, clusters as a short-term coalition with clusters of long-term relationships, clusters, organized on the principle of hierarchy [12].

In recent years intensively developing innovation clusters, which represent the industrial clusters, but specialize in high-tech industries. The innovative cluster systems are characterized by the following features:

– The presence of a large company - a leader who determines the long-term economic, innovative and different strategy of the entire system;
– The territorial localization of the bulk of economic entities as participants in the cluster system;
– Stability of relations of economic entities - participants of the cluster system;
– The long-term coordination of interaction between participants in the system as part of its production programs, innovative processes, quality control, etc. [13].

In accordance with Figure 2, the totality of the economic cycle of production development in the regional economy can be presented as conditional formula - «tradition - investment - innovation - investment». The basis of the stability of the economic system, the reproduction process is tradition, for example traditional production, which once was an innovation. As a result of the innovation cycle phases of an innovation is appears, which means less investment gradually replacing traditional progressive production. After a certain period of time, this innovation is becoming increasingly common, and very common; it is transformed into a tradition. Then there is a new scientific discovery comes a new innovation. This process is repeated cyclically. This suggests that in regional economic system at any time there are exists tradition and innovation processes, and their gradual mutual displacement.

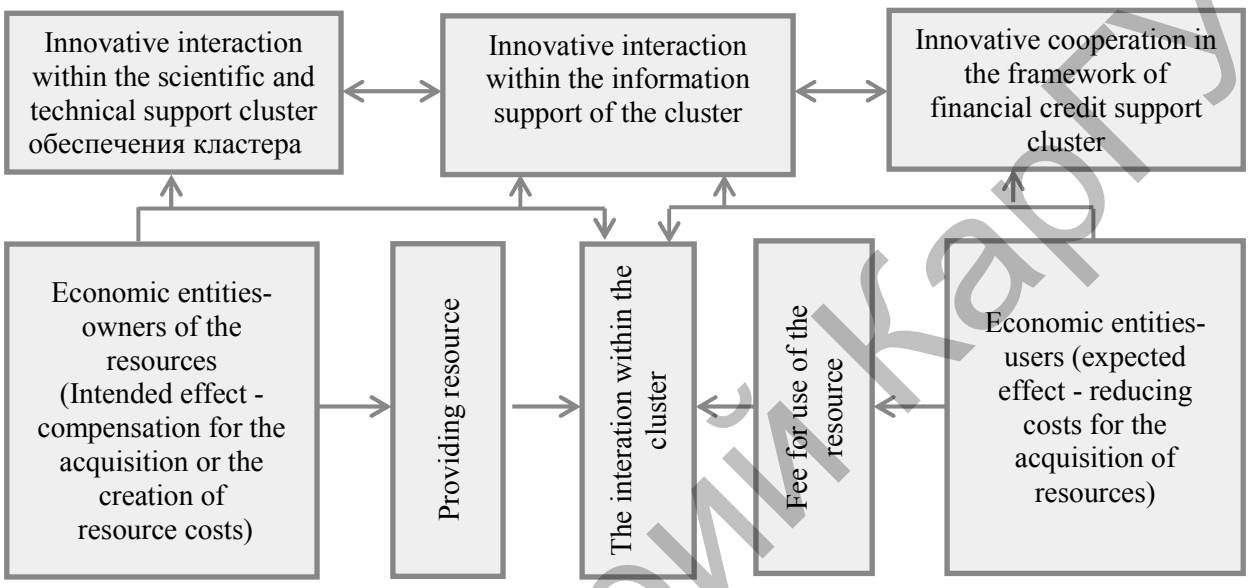

Figure 2. Structure of the functional interaction of innovative economi subjects in cluster formations (compiled by the authors)

Today, in the Republic of Kazakhstan has developed a vertically integrated, or centralized model of economic organization of the territories. It is characterized by the dominance of one or a few large industrial plants, united in the corporate structure. They are the main employers in the region, the main source of replenishment of local budgets, a key factor in the formation of infrastructural facilities in the regions. This model is usually formed in countries with single-industry economies. But for Kazakhstan at the present stage of development of the most promising network model becomes territorial and economic organization, which offers a flexible specialization and the ability to innovate, based on the mobilization of resources across the network by cluster development. On the need for the introduction of the cluster approach as a tool for improving the competitiveness of the regions mentioned even in the Strategy of territorial development of Kazakhstan till 2015, adopted in 2006 [14].

The Strategy focuses on the creation of regional clusters, representing the union of regions with similar socio-economic status. Due to the fact that the modern development of the country has a distinct regional context, there is a need for a group of regions of the republic according to the degree of similarity in the economic development.

As the characteristics of the economic development of regions, the following indicators are used:

1. Innovative Activity: Patent activity (in % of the total in Kazakhstan - P1); gross expenditure on research and development per capita of the population - P2);

2. Human capital: the number of workers with advanced degrees per 1,000 workers - P3; number of employees, including the self-employed, per thousand inhabitants - P4.; economically active population per thousand inhabitants - P5.;

3. Private capital: industrial investment per capita - P6;

4. Social capital: budgetary investments per capita - P7; public expenditure per capita - P8;

5. Regional availability (P9), which characterizes the region's accessibility to markets and national transport infrastructure. This indicator can be calculated on the basis of summing up the distance from the regional center of the study area to the two capitals and dividing by the distance between the capital cities;

6. Regional business concentration: the number of active businesses in the 1000 square meters. km - P10; the number of registered businesses per 100,000 inhabitants - P11; engaged in industry 1000 employees - P12; employed in the service sector per 1000 employees - P13;

GRP per capita (P14), which characterizes the average income and expenditure per inhabitant of a specific region and is a measure of well-being of its population [15].

For clustering regions can be used Ward's method (Ward's method), because by this method it is possible to break the totality of the objects in the group, the most homogeneous from a statistical point of view [16].

In an analysis of the matrix made up of proximity (similarity), the table is the order of the agglomeration, the table belonging to a cluster tree diagram (dendogramma). The results of clustering and possibilities for development of innovative activity are shown in Figure 3.

Cluster: Karaganda, Pavlodar, East Kazakhstan regions	Innovation Infrastructure: JSC "NC" SEC "Saryarka", JSC "NC" SEC "Pavlodar", JSC "NC" SEC "Ertis", SEZ "Saryarka", SEZ "Pavlodar", Technopark "Saryarka", Industrial Park "Metallurgy-Metal", Science and technology Park, Regional Park "Altai", Technopark JSC "Park of nuclear technologies" center for innovation and technology transfer, innovation center, a business incubator, venture fund, 5 commercialization offices at universities
Cluster: Akmola, Almaty, Zhambyl regions	Innovation Infrastructure: "JSC" NC "SEC" Zhetysu", JSC" NC "SEC" Taraz, "JSC" NC "SEC" Esil, "Research and Education agribusiness complex in n. Science, RSE" National Center for Biotechnology of the Republic of Kazakhstan ", created industrial zone, Universities
Cluster: Aktobe, West Kazakhstan regions	Innovation Infrastructure: "JSC" NC "SEC" Aktobe "," JSC "NC" SEC "Oral", LLP "Regional industrial technopark", Aktobe "Technopark" Algorithm ", the commercialization of office, business incubators, created industrial zone, Universities
Cluster: Kostanay, North Kazakhstan regions	Innovation Infrastructure: "JSC" NC "SEC" Tobol"," JSC "NC" SEC "Soltustik" Oil and Gas Equipment Design Bureau, Regional Technopark, research institutes, universities
Cluster: Kyzylorda, South Kazakhstan regions	Innovation Infrastructure: JSC "NC" SEC "Shymkent", JSC "NC" SEC "Baikonur", FEZ "Ontystik", LLP "Shymkent innovation" Regional Park in South Kazakhstan, Industrial Park, created industrial zone, LLP "Regional Investment Park" Maximum " commercialization offices, 2 offices of commercialization, universities
Cluster: Atyrau, Mangistau regions	Innovation Infrastructure: JSC "NC" SEC "Kaspii", JSC "NC" SEC "Atyrau" Atyrau Business Incubator, SEZ "Seaport Aktau", SEZ "National Industrial Petrochemical Technology Park", created industrial zone, Universities
Cluster: Astana	Innovation Infrastructure: JSC "NC" SEC "Almaty", SEZ "Park of innovative technologies" Technopark KazNTU. K. Satpaev, Almaty regional industrial park, 7 commercialization offices, created industrial zone, universities and research institutes
Cluster: Almaty	Innovation Infrastructure: JSC "NC" SEC "Almaty", SEZ "Park of innovative technologies" Technopark KazNTU. K. Satpaev, Almaty regional industrial park, 7 commercialization offices, created industrial zone, universities and research institutes

Figure 3. Diagram of clustering regions of Kazakhstan (compiled by the authors)

In accordance with Figure 3, the selected regions have a different basis for innovative development. The analysis showed that in the first cluster consists of Karaganda, Pavlodar and East Kazakhstan regions. These areas are approximate indicators of economic development, in particular, close to the values of the main indicators characterizing the level of human capital, investments, and regional availability. This industrialized regions with strong production potential and the presence of large enterprises.

Innovative infrastructure represented by the following organizations: JSC «National Company» Social Entrepreneurial Corporation «Saryarka», JSC «NC» SEC «Pavlodar», JSC «NC» SEC «Ertis», SEZ «Saryarka», SEZ «Pavlodar» Technopark «Saryarka», Industrial park «Metallurgy-Metal», Scientific and technological park of Pavlodar state University. S.Toraigyrov, regional park «Altai» Technopark, JSC «Park of Nuclear Technologies», Regional Center for Innovation and Technology Transfer, Innovation Center of Innovative University of Eurasia, a business incubator, venture fund, 5 commercialization offices at universities. The second cluster is formed by three regions: Akmola, Almaty, Zhambyl. In these areas, there are roughly the same indicators on the level of development of human capital, the level of investments per capita, the regional concentration of GRP per capita.

Innovative infrastructure formed by organizations:. «JSC» NC «SEC» Zhetysu, «JSC» NC «SEC» Taraz, «JSC» NC «SEC» Esil «Research and Education agribusiness complex in Science, RSE» National Center for Biotechnology of the Republic of Kazakhstan», created industrial zone universities.

The third cluster consists of Aktobe and West Kazakhstan region. They have close geographical location, similar climatic conditions.

They are characterized by remoteness from the cities of republican value, lower than the average for the country indicators of regional concentration, above the average GDP per capita, the average level of human capital development.

Innovative infrastructure is represented by organizations such as: «JSC» NC «SEC» Aktobe, JSC «NC» SEC «Oral», LLP «Regional industrial technopark» Aktobe «Technopark» Algorithm», commercialization offices at West Kazakhstan agro-technical University. Zhangir Khan, business incubators, created industrial zone universities. The fourth cluster formed Kostanai and North Kazakhstan regions, which unites the past. These regions are characterized by low entrepreneurial activity, the level of GDP per capita, the low level of private and public capital.

Innovative infrastructure represented by the following organizations: «JSC» NC «SEC» Tobol», «JSC «NC» SEC «Soltustik» Oil and Gas Equipment Design Bureau, Regional Technopark, research institutes, universities [17].

In the fifth cluster consist Kyzylorda and South Kazakhstan (SKO) regions which are the regions of agricultural specialization. They are characterized by high population density, low investment activity indicators and the low level of GDP per capita. Innovative infrastructure represented by organizations: JSC «NC» SEC «Shymkent», JSC «NC» SEC «Baikonur», FEZ «Ontγstik», LLP «Shymkent innovation» Regional Park in South Kazakhstan, Industrial Park, created industrial zone, LLP «Regional Investment park "Maximum», commercialization offices at the South Kazakhstan state University of M.Auezov, commercialization offices at Southwest Research Institute of Livestock and crop production, commercialization offices at Kyzylorda State University of Korkyt-ata.

Sixth cluster made oil regions - Atyrau and Mangistau. These areas are characterized by significant levels of total R & D costs, high investment attractiveness, and a significant contribution to GDP.

Innovative infrastructure formed by organizations: JSC «NC» SEC «Kaspii», JSC «NC» SEC «Atyrau», Atyrau Business Incubator, SEZ «Seaport Aktau», SEZ «National Industrial Petrochemical Technology Park», created industrial zone universities.

Astana and Almaty cities have formed separate clusters. They are characterized by high values of all indicators. Thus, Astana has high values of private and public capital, due to the intensive construction. Innovative infrastructure organizations represented: JSC «NC» SEC «Astana», SEZ «Astana-new city», JSC «Nazarbayev University», the Regional Park of Astana, Design Bureau of Transport Machinery, Agricultural Engineering Design Bureau, JSC «Astana Innovations» 4 offices of commercialization, 4 technology transfer center with France, South Korea, Norway, the United States, universities and research institutes.

In Almaty there are high rates of innovation and entrepreneurial activity, as determined by high population density, a significant scientific, personnel and financial potential of the city.

Innovative infrastructure formed by organizations: JSC «NC» SEC «Almaty», SEZ «Park of innovative technologies» Techno park KazNTU K. Satpaev, Almaty regional industrial park, 7 commercialization offic-

es, created industrial zone, universities and research institutes. Obviously, these cities can become the leaders of cities that generate the development of new clusters.

In our opinion, the main directions of improving the competitiveness of selected regional clusters should be:

– regular monitoring and market research to guide the positioning of regions and cities in support of national, regional and world economic system;
– focus regions for the development of such special factors as the potential for innovation, a skilled workforce, modern infrastructure and institutional environment;
– bring together small and medium-sized companies, as well as other interested organizations to fill niches in which are manifested most competitive advantages of the regional cluster.

References

1 *Крысин Л.П.* Толковый словарь иностранных слов. — М.: Эксмо, 2006. — 300 с.

2 *Тэпман Л.Н.* Предпринимательское управление. Зарубежный опыт. — М., 2011. — 180 с.

3 *Соколова Т.* Москву поделили на кластеры. — [ЭР]. Режим доступа: http://blagovist.ua

4 *Громыко Ю.В.* Что такое кластеры и как их создавать? // Институт региональных инновационных систем. — [ЭР]. Режим доступа: http://www.innosys.spb.ru.

5 *Маршалл А.* Принципы экономической науки. — М.: Прогресс, 1993. — 594 с.

6 *Scumpeter J.* Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process. — New York, Toronto, London: McGraw-Hill Book Company, 1939. — 461 p.

7 *Czamanski S., Ablas L.A.* Identification of industrial clusters and complexes: a comparison of methods and findings // Urban Studies [Городские исследования]. — 1979. — Vol. 16. — P. 61–80.

8 *Портер М.* Международная конкуренция. Конкурентные преимущества стран. — М.: Междунар. отношения, 1993. — 896 с.

9 *Кондратьева М.Н., Баландина Е.В., Глухова С.А.* Актуальные проблемы развития социально-экономических систем в современных условиях. — Ульяновск: УлГТУ, 2012. — 131 с.

10 Инновационные кластеры и структурные изменения в российской экономике: отчет о НИР / рук. С.В. Голованова. — М.: Гос. ун-т «Высшая школа экономики», 2010. — 147 с.

11 Boosting Innovation: The Cluster Approach, OECD Proceedings. – Paris: OECD Publishing, 1999. — P. 428.

12 OECD Reviews of Regional Innovation: Competitive Regional Clusters: National Policy Approaches. — Paris: OECD Publishing, 2007. — P. 296.

13 *Сулиманов А.Р.* Кластерный подход к повышению конкурентоспособности региона // Фундаментальные исследования. — 2012. — № 9. — С. 78–85.

14 Указ Президента Республики Казахстан «Стратегия территориального развития Республики Казахстан до 2015 года», утв. 28 августа 2006 года, № 167. — [ЭР]. Режим доступа: www.akorda.kz.

15 *Тургамбаев Е.М., Козлова М.В.* Кластеризация регионов Казахстана с учетом факторов экономического роста // Управление большими системами. — 2007. — № 18. — С. 107–114.

16 Кластерный анализ. — [ЭР]. Режим доступа: www.statsoft.ru.

17 Отчет о состоянии инновационных процессов. Центр аналитического и методологического сопровождения. — Астана: НАТР, 2013. — 114 с.

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Қазақстанның кластерлік құрылымдарындағы шаруашылық субъектілерінің инновациялық қатынастары

Заманауи әдебиеттерде «кластер» термині әр түрлі түсіндіріледі, себебі, зерттеушілердің пікірі бойынша, оған толық анықтама беру өте қиын. Экономикалық көзқарастар шегінде «кластер» түсінігінің қолданылу аясы кең. Қолданыста бар көзқарастарды жүйелеу негізінде «кластер» ұғымының үш кеңейтілген анықтамалары берілген, олардың негізінде оның мәнді белгілері мен және пайда болуының маңызды шарттарын анықтауға мүмкіндік туындады. Қазақстанның индустриалды-инновациялық даму жағдайында маңызды ролді ғылыми негізделген салаларға мамандандырылған өнеркәсіптік кластерлер нысанындағы инновациялық кластерлер алады. Аймақтық экономикалық жүйесіндегі дәстүрлі өндірістің орын алып отырғандығы мен инновациялардың олармен бірлесе отырып, өнім шығаруын көрсетеді. Қазақстанда қалыптасқан территорияның экономикалық

ұйымдастырылуының орталықтандырылған моделі корпоративті құрылымдарға бірлескен ірі өнеркәсіптік өндірістің басым жағдайын сипаттайды. Бірақ республика дамуының заманауи кезеңінде территориялық-экономикалық ұйымдастырудың желілік моделі кең қолданысқа еніп, ол кластерлік даму есебінен желінің барлық ресурстарын жұмылдырауға бағытталған. Мемлекеттің заманауи дамуы аймақтық кластерлердің дамуына негізделу қажеттілігі айқын көрінуде. Аймақтардың топтастырылуы келесідей көрсеткіштер негізінде жүзеге асырылады: инновациялық және зияткерлік белсенділік; адами, жеке және қоғамдық капитал; аймақтық қолжетімділік; бизнестің аймақтық шоғырлануы; халықтың адам басына шаққандағы жалпы аймақтық өнім. Қазақстанның аймақтарына жүргізілген кластерлендіру іс-шаралары олардың бәсекеге қабілеттілігін арттырудың басты бағыттарын анықтауға мүмкіндік берді.

Кілт сөздер: кластер, кластер тұжырымдамасы, өнеркәсіптік және инновациялық кластерлер, инновациялық серіктестік, инновациялық инфрақұрылым, тиімді серіктестік.

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Инновационное взаимодействие хозяйствующих субъектов в кластерных образованиях Казахстана

В современной литературе термин «кластер» понимается по-разному. По признанию исследователей, исчерпывающее определение ему дать довольно сложно. В контексте экономической сферы деятельности понятие «кластер» используется в многообразных формах. На основе обобщения имеющихся подходов выделено три широких определения кластера, что позволило уточнить его сущностные признаки и важнейшие условия возникновения. В условиях индустриально-инновационного развития Казахстана особую роль начинают играть инновационные кластеры, представляющие собой промышленные кластеры, специализирующиеся в наукоемких отраслях. В региональной экономической системе в каждый момент времени существуют традиционное производство, инновации и процессы постепенного их взаимного вытеснения. Сложившаяся в Казахстане централизованная модель экономической организации территорий характеризуется доминированием крупных промышленных производств, объединенных в корпоративные структуры. Однако на современном этапе развития республики наиболее перспективной становится сетевая модель территориально-экономической организации, основывающаяся на мобилизации ресурсов всей сети за счет кластерного развития. Необходимость создания региональных кластеров предопределяется ярко выраженным региональным контекстом современного развития государства. Группировка регионов осуществлена на основе таких показателей, как: инновационная и патентная активность; человеческий, частный и общественный капитал; региональная доступность; региональная концентрация бизнеса; ВРП на душу населения. Проведенная кластеризация регионов Казахстана позволила выделить главные направления повышения их конкурентоспособности.

Ключевые слова: кластер, концепция кластера, промышленные и инновационные кластеры, инновационное сотрудничество, инновационная инфраструктура, эффективное сотрудничество.

References

1 Krysin L.P. *Explanatory Dictionary of Foreign Words,* Moscow: Eksmo, 2006, 300 p.

2 Tepman L.N. *Entrepreneurial management. International Experience*, Moscow, 2011, 180 p.

3 Sokolova T. *Moscow divided into clusters*, http://blagovist.ua

4 Gromyko Yu.V. *Institute of Regional Innovation Systems*, http://www.innosys.spb.ru

5 Marshall A. *Principles of economics*, Moscow: Progress, 1993, 594 p.

6 Schumpeter J. *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, New York Toronto London: McGraw-Hill Book Company, 1939, 461 p.

7 Czamanski S., Ablas L.A. *Identification of industrial clusters and complexes: a comparison of methods and findings*, Urban Studies, 1979, 16, p. 61–80.

8 Porter M. *International competition. Competitive advantages of countries*, Moscow: Mejdunarodnye otnosheniya, 1993, 896 p.

9 Kondratieva M.N., Balandina E.V., Glukhova S.A. *Actual problems of socio-economic systems in modern conditions*, Ulyanovsk: UlSTU, 2012, 131 p.

10 *Innovation clusters and structural changes in the Russian economy*: research report. hands. S.V. Golovanova, Moscow: State University Higher School of Economics, 2010, 147 p.

11 *Boosting Innovation: The Cluster Approach, OECD Proceedings*, Paris: OECD Publishing, 1999, p. 428.

12 *OECD Reviews of Regional Innovation: Competitive Regional Clusters: National Policy Approaches*, Paris: OECD Publishing, 2007, p. 296.

13 Sulimanov A.R. *Basic Research*, 2012, 9, p. 78–85.

14 Decree of the President of the Republic of Kazakhstan. Territorial Development Strategy of Kazakhstan till 2015: approved. August 28, 2006, number 167, www.akorda.kz.

15 Turgambaev E.M., Kozlova M.V. *Managing large systems*, 2007, 18, p. 107–114.

16 *Cluster analysis*, www.statsoft.ru

17 On the state of innovation processes report. Center of analytical and methodological support, Astana: Sodium, 2013, 114 p.