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Priorities, Mechanisms and Prospects on Industrial Clusters and Special Economic Zones in Kazakhstan

Saken S. Yespayev*

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Abstract

This research investigates the characteristics, principles, advantages, factors and problems of cluster development in Kazakhstan, and identifies the prerequisites, conditions and stages of organizing clusters on the framework of special economic zones. In this research, we used methods, which will allow analyzing of the organization industrial clusters in special economic zones in Kazakhstan. The author studied international experience of cluster development and the efficiency of the use of the model of the "rhombus effect" with account the specific features of interaction between the participants of the cluster, analysis of the legal framework for the formation and development of clusters. These have been identified as the more important or strategically necessary clusters in Kazakhstan: innovation-technological cluster, innovation-education cluster, innovation-petrochemical cluster, innovative-metallurgical cluster, transport and logistics cluster, textile industry cluster, tourism cluster, agro cluster, construction cluster, medical and pharmaceutical cluster. Firstly, the results suggest that the interaction of science, education, business and government in the development and implementation of innovation policy is not sufficiently structured to provide a balanced representation of the interests of the range of various innovative enterprises in Kazakhstan. Secondly, the legal basis of cluster development in Kazakhstan is determined. Need to develop mechanisms for the implementation of promising direction. Thirdly, the clusters can be formed in the existing special economic zones, allowing them to get right to the mass production of high-tech products that are developed.

Keywords: Cluster, CLuster Approach, Special Economic Zones

JEL Classications: O31, L50, L53

* Director of Institute of Economics of the Ministry Education and Science of the Republic of Kazakhstan [29 Kurmangazy, Almaty 050010, Republic of Kazakhstan Tel: (+7 727) 261-0175 e-mail: s.espaev@mail.ru]

1. Introduction

The relevance of the theme is caused by occurring in terms of globalization the formation and development of prospective national clusters in Kazakhstan is intended to create an effective mechanism for improving competitiveness, attracting foreign direct investment and encouraging foreign trade integration. The inclusion of local clusters in the global value chain can significantly raise the level of the national technology base; and increase the speed and quality of economic growth by improving the international competitiveness of enterprises. According to the Message of the President N.A. Nazarbayev to the people of the country "Kazakhstan-2050": new political course of the established state" dated 14 December 2012, the Republic set a goal – to become one of thirty developed countries in the world by 2050. The President states that the key tool for the implementation of "Kazakhstan-2050" Strategy should be the cluster approach, which creates a synergistic effect by the relationship of business, science and education, institutes of state at the model of "rhombus effect". With this in mind, the head of state tasked to identify the model of cluster development, to develop "road maps" to form prospective national clusters and to develop the concept of the formation of prospective national cluster. So, cluster development in the country is one of the conditions for increasing the competitiveness of the economy and strengthening the mechanisms of public private partnership.

The present study aims is how best to develop of the cluster model in terms of the organization of business in Kazakhstan and to define priorities and mechanisms of cluster developments on the basis of in special economic zones. This study is organized as follows. Section 2 considers the theoretical aspects of the formation of businesses with the cluster model. Section 3 identifies the advantages of clusters, factors and problems. Section 4 describes cluster development in special economic zones and mechanism of interaction and support for cluster policy. Section 5 emphasizes priorities for cluster development in Kazakhstan. Section 6 analyses the cluster formation on the basis of Almaty Heavy Machinery Plant. Section 7 is a concluding part.

2. Theoretical Aspects of the Formation of Businesses with the Cluster Model

The historical background for understanding the cluster as a special phenomenon in the economy began to take shape for a long time. The starting point can be considered geographical the occurrence of localized groups of companies and organizations in certain industries. Marshall (1920) considered the special industrial areas and related phenomena. He used the concept of a "localized industry" that is, specialized production, and concentrated in certain areas. Concept "cluster" as an independent economic concept emerged relatively recently. The basis of his occurrence can be considered as the study, analysis and compilation of information about the activities of successful American and European corporations. Although use of the term “cluster” is relatively recent, the underlying concept of localized groups of similar companies and organizations has been recognized for some time. Marshall (1920) considered special industrial areas and related phenomena, using the concept of "localized industry" that is, of specialized production, which is concentrated in certain areas. Marshal’s study, focused on the analysis and compilation of information about the activities of successful American and European corporations.

Porter (2000) introduced the concept of the “cluster” approach. Porter defines a cluster as a group of geographically adjacent interrelated organizations operating in a certain area, characterized by common activities and complement each other. His paper "International competition: competitive advantages of countries" suggested that clusters played the main role in both national and local competitiveness. World experience shows that the rate of increase in production volumes in clusters is significantly higher than the average for the industry as a whole. Therefore the development of clusters should lead to overall growth of the economy.

Currently, the literature identifies several classifications types of clusters. For example, Merkulov (2006) identifies the following types of clusters:

1) geographical (regional);
2) by the nature of the structure-organization of the cluster;
3) cross-industry;
4) mega-clusters, characterized by a high degree of aggregation, which combine different network clusters belonging to different sectors of the economy.

He and Fallah (2011) researched the typology of hi-tech technology clusters and their evolution. Authors examined 15 U.S. – based hi-tech geographical clusters, including information technology, communications equipment manufacturing, and bio pharmaceutical sectors. The authors argue that an individual cluster's typology is to some extent shaped by the industry group it belongs to. In this regard, cluster practitioners/planners would be better off examining a cluster's evolution by comparing it with peer clusters in the same industry. As a cluster goes through different stages of its life cycle, its typology may change. As the successful experience of developed countries shows, the leaders in the growth of the competitiveness are those clusters that are based on the model - a partnership of government, business, education and science. This "rhombus effect" is a mechanism to achieve synergies of continuous updates and the accumulation of knowledge in the knowledge economy and gives a special stability and mobility in the global competition (Yespayev & Kireyeva, 2013).

Yespayev and Kireyeva (2013) studied the experience of the impact of clusters in the economic growth of developed countries. They found that the leaders in terms of competitive growth re those where clusters are based on the partnership model - a partnership of government, business, education and science. This provides a mechanism to achieve synergies of continuous updates and the accumulation of knowledge in the knowledge economy, giving a special stability and mobility with regard to global competition.

3. Advantages of Clusters, Factors and Problems

Lenchuk and Vlaskin (2010) argue that enhancing competitiveness through cluster initiatives is a basic element of the development strategies of most countries. Analysis of more than 500 cluster initiatives implemented over the last 10 years in twenty countries, shows that the high competitiveness of these countries is based on the strong positions of individual clusters – these may be regarded as locomotives of competitiveness. The clusters are actively formed in the South-East Asia and China, in Singapore (in petro chemistry), Japan (automotive industry) and in other countries. There are more than 60 special zones-clusters in China today, in which there are about 30 thousand companies employing a workforce of 3.5 million people and the level of sales is in the amount of approximately $ 200 billion per year (Lenchuk & Vlaskin, 2010).

The experience of developed countries shows that innovation clusters have a greater ability to innovate because of the following key advantages:

- in contrast to the traditional industry, innovation clusters represent a system of close relationships not only between companies, their suppliers and customers, but also because of relationships with the knowledge institutions, including research centers, universities, and research institutes, generators of new knowledge and innovation, they provide a high level of competitiveness. The process of innovation includes suppliers and consumers, as well as companies from other industries and as a result of inter-firm cooperation the R & D costs are reduced.
- subjects of the companies - participants of the innovation cluster, particularly SMEs, are able to more accurately and more quickly respond to customer needs. Cluster members have easier access to new technologies used in various areas of economic activity;
- cluster structures create positive effects not, only for the

cluster association and its members, but also for the regions: increase in employment, rising wages and profits, intensification of entrepreneurial activity, etc. Cluster structures provide economic growth for the region as a whole, not only for the participants of the cluster, the welfare of the entire population, the acceleration of regional scientific and technological progress, improving the regional innovation system.

- ability to coordinate efforts and financial resources to create new products and technologies, and access with them to the market. As belonging to a cluster makes it possible to form efficient process chains from the creation of the product to its production and market launch.
- establishment of mainly export-oriented products and technologies within the innovation clusters, i.e. intra cluster competitive advantages are significant internationally.
- state participation in the formation of cluster strategies. If initially clusters are formed solely by the "invisible hand of the market", especially when upgrading TNC, then recently many governments begin to "grow" them by their own initiative in the framework of public-private partnership, providing the process with the tangible material and moral assistance.

Kazakhstan has not yet managed to drastically increase the innovative activity and performance of companies, including those in the state sector, to create a competitive environment that encourages the use of innovation. Much still needs to be done to establish the interaction of science and business, and to increase commercialization of research in Kazakhstan to the level of developed countries of the OECD. Public funding for research and development work is spent inefficiently in most sectors of the economy. Also aging of scientific personnel is an issue, however the government has undertaken a major efforts to improve the situation (Alshanov, 2009). A key problem is low demand for innovation in the economy, as well as excessive bias towards the purchase of finished equipment to the detriment of introduction of own new technologies.

Because of the dominance of the least advanced types of innovative behavior (borrowing of existing technologies, etc.), Kazakhstan innovative system is represented as a simulation character oriented, and not for the creation of radical innovations and new technologies. Despite the fact that the share of innovatively active enterprises in Kazakhstan rose slightly, the overall situation remains unfavorable. Most businesses, faced with the need to optimize the costs, primarily save on development, putting innovative projects, costs on R & D and retooling for the indefinite future. Thus, the key issues in the development and implementation of public innovation policy and cluster development are:

1. Insufficient efforts of regional authorities to improve the conditions for innovation and clustering.
2. Lack of efficient instruments of state support for innovation: limited flexibility, poor risk-sharing between government and business, weak focus on boosting relations between the different actors of innovation processes in the formation and development of scientific and industrial clusters.
3. The lack of effective mechanisms for the implementation of the priorities of development of science and technology defined by the state. The result of this is spraying the budget and under funding of research in emerging areas of science, providing competitiveness of the economy in the world market.
4. Barriers to the spread of new technologies include industry regulations, certification procedures, customs and tax administration.
5. Low innovation activity of leading industrial enterprises of the republic. The major economic factors that constrain the innovative activity of enterprises of the real sector of the economy are low innovative capacity, lack of own funds to expand this type of activity, the high cost of innovation, economic risk and long payback periods.
6. Low information transparency of the innovation sphere. Lack of information on new technologies and potential markets for fundamentally new (innovation) products as well as information for private investors and lending institutions about the objects of capital investment with potentially high returns.
7. The problems of inter-agency coordination to promote cluster formation. Public administration at the level of the subjects may relate to the competence of the executive power in the sphere of science and industry, communications, etc. This makes it urgent to ensure their better inter-agency coordination.
8. Lack of complex state program of development of innovation clusters up to 2020 with the definition of phases, timeliness, regions, subjects and their responsibility, national and state-owned companies, SEZ, industrial parks, subjects of industrial - innovation infrastructure.
9. The need to develop regional programs of development of innovation clusters up to 2020 with the definition of stages, deadlines, their responsibilities, and for all quasi-state subjects.
10. Weak competitiveness of domestic science in comparison with foreign schools, high riskiness of R & D in the private sector and the lack of effective mechanisms to share risk (partial reimbursement) by the state.
11. The virtual absence of analysis of the world's leading technology and to their use in the Republic of Kazakhstan. The absence of scientifically based system of long-term technology planning.

4. Cluster Development in Special Economic Zones

For the successful formation and development of innovative clusters the right choice of location and placement of cluster initiatives is needed. The special economic zone (SEZ) is of par-

ticular practical importance. SEZ is part of the national economic space, where for local and foreign entrepreneurs it sets up a system of benefits and incentives that on the basis of the latest technology allows the creation of priority sectors of the economy that could, in turn, ensure the production and supply of high quality products to the world market and the successful development of the social and economic life of their home territories. The international experience analysis of SEZ functioning shows that, depending on the level of economic development their different forms are used. Advanced economies form a tax-free zone of free trade in the seaports, free airports, offshore zones, technology development zones. The emerging and developing economies create intensively functioning export-production areas.

SEZs have become points of growth in the Chinese economy. Since the 1980s China has used a cluster approach when creating "open" city zones ("China Titanium Valley"), aimed at the development of the manufacturing industry. In practice, the "open" cities and complex area of China is a type of cluster SEZ. However, in China, zones are located mainly in the area of sea and river ports. Cluster SEZ may be set up in the coastal areas of marine highways and at the intersection of advanced auto - and railway roads. Moreover, the function of these areas is aimed at the development of backward and developed areas of the country. When a cluster of SEZ creates there can be considered regions of strategic importance, which involve government regulation (Yespayev, 2008). In Kazakhstan, the clusters can be formed in the existing special economic zones, allowing them to get right to the mass production of high-tech products developed. Therefore, depending on the specifics of the clusters within the zone a mechanism should be developed for customs, tax, financial and other incentives for businesses –residents of SEZ, which will carry the patronage of domestic producers, attract investment from abroad, promote the production of new products.

In this context, rationality and timeliness of the idea of creating a cluster on the territory of SEZ in Kazakhstan could be argued to be at the real beginning of the integration process. Establishment of SEZ will have a stimulating effect on production, will integrate the products into the domestic market, and provide more jobs. As a result the modern high-production, competitive productions will have accelerated development, additional investment will be attracted and new technologies will be introduced. Comparing the impact of SEZ and clusters on economic development around the world, it can be concluded that both instruments are created to provide a higher level of employment of the labor force, to attract investments in freely convertible currency and to increase export capacity.

Cluster SEZ - a territory created for the full-cycle production of finished products of high strategic sectors of the national economy, divided into several cluster formations, which uses a differentiated approach to the distribution of benefits. It is advisable to consolidate efforts on the development of cluster special economic zones. For example, when combining science with industry a new economic mechanism is formed. By combining features of SEZ and cluster additional benefit are obtained. The development of cluster economy involves ensuring effective interaction between the government and local authorities, business associations, science and higher education institutions.

Functions to ensure the initiation of the development of strategies for the formation and development of prospective national clusters, promote their organizational development and support should be implemented in the following areas:

1) Promotion of institutional formation and development of prospective national clusters, implying including initiating and supporting the establishment of a specialized organization of the cluster: formation of a specialized organization of cluster development, ensuring coordination of the activities of its members, which can be created in a variety of legal forms; development of strategies for the formation and development of the prospective cluster and action plan for its implementation, including the development of a set of cluster projects and measures aimed at creating favorable conditions for the development of the cluster, based on the analysis of opportunities and threats for the development of the cluster; implementation of measures to promote cooperation between cluster members (the organization of conferences, seminars, working groups, creation of specialized Internet resources).

2) Provision of methodical, information consulting, educational support for implementing cluster policy: development of teaching materials for strategic planning of development clusters, including the pilot and innovative ones; development of teaching materials related to the implementation of projects in various areas of the formation and development of prospective national clusters, including the provision of a system of non-financial institutions (industrial parks, technology parks, centers on energy saving, supporting organizations of small and medium-sized enterprises);formation mechanisms of subsidies to enterprises and business associations, support of cooperation projects of enterprises, educational and scientific organizations in the following areas: implementation of the marketing costs associated with access to foreign markets; commercialization of technology, conducting technology audits and energy audits, implementation of energy saving measures, development of new types of industrial products, payment of consulting services in the field of innovation and technology management, quality management, development of mechanisms for continuing education, etc.; implementation of specialized training programs for the development and implementation of cluster policy at national and regional levels.

3) Carrying out preparatory work that allows the authorities to move to system actions on the use of the existing possibilities for the formation and development of prospective national clusters. The key areas in this context are:

- establishment of a coordinating council or agency for the development of clusters, whose responsibilities will include the systematization of the existing clusters, the statistical and analytical study of prospective industries, the development of cluster projects and identifying measures for their

support by the state;
- identification of the most prospective national clusters on the basis of a balanced approach between development of traditional sectors of the regional economy and search for new opportunities;
- promotion of mutually beneficial cooperation between business, education and scientific communities in the formation of prospective national clusters, the establishment of coordinating and advisory bodies that contribute to their development, as well as the coordination and prioritization of potential participants with the opportunity to develop a strategy of cluster development;
- development of investment projects with participation of potential members of the clusters for obtaining financial support under the program and co-financing from the budget for upgrading or conversion of production capacity of economic entities - potential participants of the clusters as well as the development of infrastructure and training investment areas;
- choice and active involvement of investors to locate businesses in the territory in order to "resupply" the created prospective national clusters.

4) Interaction of industry clusters with educational, scientific organizations and authorities, the synchronization of their activities. The key areas are:
- development of prospective national clusters to host and set up production facilities and research centers on the basis of academic institutions;
- implementation of programs to improve the competitiveness of the cluster, including through the mechanisms of state support and the organization of access for the cluster members to educational programs in the field of management of prospective industries;
- organization of an effective relationship of scientific and educational institutions with businesses to provide innovative nature of cluster development, training and attracting highly qualified personnel, as well as working out schemes of public-private partnership in the implementation of joint projects;
- use of the opportunities of the "smart cities", to apply all the innovations produced in clusters, which in turn will create a unique environment for the development of urban infrastructure with opportunities of centralized management and innovative level of service;
- development of clusters in industries where a significant role is played by the innovation component (the main areas of development are alternative sources of energy);
- formation of joint action plans at the state level in order to increase the competitiveness of regional economies through the development of research, technological development and innovations in traditional and new industries;
- encouragement of the development of international links between research clusters in areas of common interest, including the challenges of the globalization of markets and technological development (development of cross-border clusters);
- creation of conditions for participation in cluster initiatives of companies of all sizes - small, medium and large businesses.

We offer as the main mechanisms to support long-term programs of formation and development of national clusters the following elements of success:

1) support at the implementation of the programs for the formation and development of prospective national clusters under government programs:
- a budget for the implementation of cluster development projects;
- clarification of certain activities of government programs to Message priority clusters;
- formation of specific conditions and procedures for cluster support under government programs;
- improvement of the legal framework for the formation and development of prospective national clusters;
- improvement of tax, customs, tariffs, credit instruments;
- involvement of organizations involved in the implementation of government programs to support clusters;

2) providing clusters with subsidies from the state budget as part of the program of support for small and medium-sized enterprises, the development of public-private partnerships:
- creation of an enabling institutional environment for the development of small and medium enterprises;
- formation of centers of cluster development;
- organization of community access centers for high-tech equipment and technology transfer centers;
- development of engineering centers;
- creating conditions for attracting private funding organizations, banks;

3) provision of subsidies from the state budget to finance projects of formation and development of prospective national clusters:
- development of transport, energy and utilities infrastructure;
- development of housing and social infrastructure, including the material and technical base of health, culture and sports;
- development of innovation and educational infrastructure, performance of works and projects in the field of research and development, implementation of innovation activity, training and skills development;
- implementation of other measures to improve the competitiveness of the organizations participating in the cluster and the quality of life in the home of the cluster;

4) promotion of public enterprises implementing the programs of innovation development in the prospective national clusters.

A variety of policies determines the variety of directions and forms of state support for innovation clusters, among which are: 1) direct financial support to the respective clusters, and 2) training of staff, and 3) tax credits for research and innovation costs, and 4) organization of trade fairs, trade missions, etc. 5) liaise with members and subjects, 6) provision of information,

and 7) providing transport links. The importance of government support in the implementation of cluster development has the training of personnel. It is emphasized in practice, that the fact of provision with not an average but highly qualified workforce is important, therefore the training of the workforce is one of the leading advantages of regional cluster development programs.

5. Priorities for Cluster Development in Kazakhstan

The implementation of the new policy promotes business competitiveness through the implementation of effective interaction potential of cluster members due to their close geographical proximity, including increasing access to innovation, technology, specialized services and highly skilled human resources and the reduction of transaction costs, providing the formation of the prerequisites for the implementation of joint projects and productive competition. It is therefore necessary to increase the efficiency of the development potential of clusters as one of the priorities of competitiveness and modernization of the national economy. For the effective implementation of cluster policy, the establishment of an adequate system of monitoring and evaluating the implementation of cluster initiatives is required. An important condition for the functioning of monitoring systems should be their continuity, i.e. possibility of tracking of the growth and barriers to the development of clusters in real-time.

The use of the cluster approach in the analysis of economic development of the region and its forecasting an opportunity to systematically review the situation in a group of related companies of the same or different industries. At the same time, the cluster approach is focused on maintaining the initiative of enterprises leaders able to enter the key positions in the region. Given that the cluster policy aims at solving the problems of accelerated development of certain industries and regions, the processes of budget support facilities should be transparent. This should be taken into account in linking long-term policy development documents of economic sectors and social sphere, territorial planning schemes of Kazakhstan with the forward-looking strategy for regional development.

To determine the priority sector and to identify the background of the cluster, a comprehensive analysis is required. However, it can be argued that the cluster can be created in virtually every region and its effective functioning depends on the initiative of business and government support. This initiative is only possible in case of realization by the business community of the need to transfer their businesses to the "path of innovation." Analysis of the strategic directions shows that on the basis for their implementation lies innovation policy, affecting not only the organization of the clusters on the basis of branch complexes historically-based on industrial specialization in the regions of Kazakhstan, but also reasonable creation of a network of new prospective national clusters.

In this connection, it is appropriate to integrate the cluster approach in the strategy and development program of individual regions and sectors (starting with the implementation of pilot projects). The following main directions of development of cluster development can be specified (Yespaev & Kireeva, 2013):

1) Innovation and technological cluster. The consequence of the formation of innovation and technological cluster is to get benefits from synergies of the industry, which is reflected in increased quality and quantity of enterprises, competitiveness, maintaining the advantages of localization of chains of production and consumption of value added within the region, increasing the quality and standard of living of the population. The priority in this activity are computer technology and software, nuclear technology, space and telecommunications, medicine and pharmaceuticals, energy efficiency.

2) Innovation and education cluster. The system of modern vocational education is developing in the context of market modifications, owing to socio-economic conditions of society development, and this reality has an intense effect on the development of education. The aim of the educational cluster is to improve the effectiveness of the education market by maximizing the use of internal and external factors of its development. This will allow better using the major innovative potential of university sector, better meeting the needs of all groups of consumers, more efficient using the limited resource potential; smoothing out certain tactical aspects that affect the quality of educational services, through judicious mix of competition and cooperation.

3) Innovation and petrochemical cluster. This cluster can have a stimulating effect on the machine building, metalworking, shipbuilding and transport systems. The technologies of selection, transportation, processing and liquefaction of natural gas, which will create the preconditions for the formation of new innovative clusters, will require serious technological solutions. The development strategy of petrochemical cluster is connected, first of all, with the prospects of development and exploitation of hydrocarbon deposits in the Caspian region, as well as solving a set of tasks to optimize production methods of hardly recoverable reserves of oil and gas. In the foreseeable future, the cluster must perform the main organization for the implementation and maintenance of innovative oil and gas technologies in the area, as well as for the promotion of their own technologies to world markets.

To determine the main directions of development of the petrochemical cluster it should be taken into account the strengths and weaknesses (see Table 1).

<Table 1> SWOT-analyses of Developing Clusters in Kazakhstan

Strengths	Opportunities
Favorable geographical position of the region, the location of the cluster, proximity to the oil and gas fields	The concentration of key cluster subjects in one place
Well-developed infrastructure	Ensuring the supply of material and technical and human resources to the oil and gas production facilities
Presence of specialized industrial companies	Ability to effectively use internal and mobilize external resources
Presence of specialized educational institutions and research organizations	Ability to use own research and education and innovation potential, as well as receiving financial support from the development institutions of the Republic for activization of research and innovations;
Weaknesses	**Threats**
High depreciation of fixed assets of the republic's enterprises and the significant costs on upgrading or conversion of production facilities	Formation and implementation of an effective regional system of state support of investment and innovation activity in the country.
Low susceptibility of enterprises to innovations	Creating an effective regional system of public support for innovation activity in the country;
Financial barriers to purchase expensive equipment; Lack of (industrial companies, small and medium enterprises, universities and research institutes) information on the benefits and measures of state support for business development within the cluster	Creation of a system of information and methodological support to businesses - clusters of potential participants, seminars and conferences on cluster policy with the necessary experts.
Lack of system information and methodological support to clusters of potential participants, lack of competence of practitioners in the cluster policy	Creation of a system of information and methodological support to businesses - clusters of potential participants, seminars and conferences on cluster policy with the necessary experts.
Absence of a close relationship between industry, universities and research institutions in the process of creating competitive products, research and implementation of developments in production	Orientation of research and development to the needs of the oil and gas sector, the system transition to the use in the manufacture of innovative ideas and developments, high technology, organization of joint activities, research and educational programs.
Lack of basic laws and regulations to determine the main directions and mechanisms of cluster policy in the Republic of Kazakhstan.	Development and adoption of a package of legal acts in the field of cluster policy in the Republic of Kazakhstan.

Source: Compiled by the author

4) Innovation and metallurgical cluster. Karaganda region represented companies of upstream and downstream industries, research centers and training institutes. It is the most appropriate to form priority competitive cluster in this sector. This opens up good prospects to increase the commercial use of the powerful metallurgical complex of the Karaganda region as soon as possible. More than 300 suppliers of equipment and materials necessary for their activities are concentrated around these enterprises. For the development of metallurgical cluster in the Karaganda region it is recommended to create an environment that will encourage steelmakers to produce high value added products and go away from semi finished materials. In addition, there should be close cooperation inside the cluster between metallurgy, engineering, and generally with the field of metal processing.

5) Transportation and logistics cluster. The development strategy of the transport and logistics industry of Kazakhstan is linked with the solution of the inclusion of the region in the Euro-Asian transport links. The competitive advantage of the country - a favorable geographical position. As part of the development of international transport corridors across the state, transport hub is capable of becoming one of the main centers of cargo handling and consolidation of the transit and export-import cargo flows in the Euro-Asian relations.

6) Textile and industry cluster. Textile and light industry - one of the key industries that form the budget in many countries

around the world. Kazakhstan has a growing production of cotton, which is exported in bulk. There are also clothing industries, which are capable of producing a variety of products for both the domestic and external markets. It is therefore necessary to determine the involvement of investors in the textile industry, which has a high rating in the global textile industry, in order to, in alliance with local companies to provide release of domestic products in accordance with international quality standards and its access to world markets. In this regard, the Decree of the President of the Republic of Kazakhstan dated July 6, 2005, № 1605 created "Ontustik" SEZ, which is the backbone component of the pilot cluster for the production of cotton yarn and fabric in the South Kazakhstan region.

7) Touristic cluster. Kazakhstan has a high investment attractiveness for foreign firms. Currently, work is underway on the development of the most attractive destinations for tourism involving the national parks "Altyn Emel", "Ili Alatau", "Charyn canyon", as well as cultural tourism along the routes of the Silk Road in the city of Baikonur ("Space Harbor"), etc.

8) Agro cluster. Agro cluster should be a compact territory, which is expected to provide a variety of large-scale projects in the field of innovative agricultural practices (eg, environmental management, clean energy, energy of the future.) In order to improve the efficiency of agriculture a number of government programs are adopted at the government level. Without denying the importance of the measures provided for these programs for the development of agriculture, it should be noted that they have to take into account the changes in the external environment (globalization, increased competition, development of networked organizations) and the opportunities offered by new forms of organization of the agricultural business in enhancing competitiveness, including at the foreign market. Globalization is spreading to the agriculture. Therefore, the establishment and implementation of agro cluster project will form a new technological system in a critically important sector of the economy - agriculture and provide Kazakhstan with own food.

9) Construction cluster. In practice, quite difficult to develop a cluster in the construction materials industry in isolation from the rest of the construction complex. As the object of the study and control it is appropriate to talk about the formation of the construction of the cluster as a system of interacting construction, design agencies of industrial enterprises of construction materials and associated infrastructure. Manufacturing base established in Kazakhstan allows to fully meet domestic demand for a wide range of kinds of construction materials, in particular, cement, concrete products, wall and insulation materials, gypsum, asbestos, fixtures, drywall, gravel, sand, etc. But under utilized domestic enterprises do not allow to meet the needs of the construction industry, due to the higher cost of domestic materials, compared with the cheap ones, produced in neighboring countries, such as China.

10) Medical and pharmaceutical cluster. The implementation of cluster policy in the field of regional health care requires certain conditions related to the strengthening of the economic independence of health care organizations, the development of market relations in related sectors - education, science, insurance, etc., the appearance of the objective needs and the perceived need to unite on principles of the cluster approach at the subjects of the regional health care system, the development of teaching materials and guidelines for the formation of clusters in general, and in health care sphere, and in particular in the field of prevention. We recommend establishing medical-pharmaceutical cluster in Almaty. The system of the cluster can include the Central Clinical Hospital of UDP RK, Sanitary-epidemiological expertise center of UDP RK, "Almaty" health resort, Center for medical technologies and information systems, etc. Contractual relationship between the members forms the basis. Creating the cluster will give a new impetus to the development of health care system, will lead to new medical breakthroughs. In turn, these processes stimulate the emergence of new jobs.

Thus, as a result of the creation of innovation clusters the following objectives are achieved: 1) mechanisms for modernization and technological development of the region or industry are being developed, and 2) the competitiveness of the sector, the industry, the complex project is being increased and 3) mechanisms of cooperation of scientific and educational complex and relationships of participants are being organized, 4) mutually beneficial cooperation is being arranged and the level of distrust is being reduced, and 5) infrastructure of the region is being developed; 6) budget revenues are being increased, and 7) growth in incomes and employment is being achieved.

6. Cluster Formation on the Basis of Almaty Heavy Machinery Plant

JSC Almaty Heavy Machinery Plant is one of the few domestic export-oriented industrial facilities producing products with high added value. The plant uses modern electrical and software, through which he produces a unique, high-tech import-substituting products. It has a solid material base and one of the strongest in the country of engineering and technical centers is a member of the state Program of forced industrial-innovative development of Kazakhstan for 2010-2014. JSC Almaty Heavy Machinery Plant exports its products to Russia, Ukraine, Belarus, Uzbekistan, Pakistan, Japan and other countries.

JSC "AHMP" produces a wide range of equipment of the nomenclature, as well as equipment from drawings and performance specifications of the customer. The main groups of products manufactured by JSC "AHMP" is oil and gas, metallurgy, coke, rolled, steel, blast furnace, Drawing and pipe rolling, mining equipment, and equipment for general industrial.

The development of industry in today's global economy is largely determined by the level of consistency of interaction between enterprises and technological cooperation in innovative technological re-equipment. The development of new technology and mechanization of technological processes for the various

sectors of economic activity has a pronounced specificity and carried out by experts and scholars in various fields of knowledge. The listed tasks are aimed at creating a cluster on the basis of Almaty Heavy Machinery Plant which could provide the activation of the innovative capacity of the relevant branches of science and industry, the formation of community in the emerging culture of innovation, creation of favorable conditions for innovation development of economy, improve its competitiveness by creating a series of innovative enterprises based on modern scientific and technical developments, ensuring sustainable growth in the future development of this work.

Members of the cluster:

1) the railway and metal production companies;
2) the scientific research and design institutes (engine technology, materials science, electronics, etc.);
3) the engineering companies (engine construction, electronics and navigation equipment, navigation mechanisms, etc.);
4) the suppliers of materials (production of metal products, housing materials , etc.);
5) the suppliers of equipment, components and parts;
6) the consumers are the end product engineering;
7) the universities and loans, as well as other educational centers, letting specialists for the engineering industry on a wide spectrum of possible specialties (specialty workers, engineering, management, marketing , etc.);
8) the authorities concerned;
9) other participants.

Create a cluster on the basis of JSC "Almaty Heavy Machinery Plant" for modernization, restructuring of enterprises , which ultimately affects the competitiveness of the enterprise.

It is formed on the basis of the following initial conditions and limitations:

- all process stages of JSC "Almaty Heavy Machinery Plant" needs to comprehensive modernization, in the long run production must be derived from Almaty to the new production site;
- the main type of products – hardware and mills for iron and steel industry, energy, oil and gas, mining and mineral processing plants – this product needs to be improved consumer properties to meet modern requirements, including increase the level of automation;
- Kazakhstan hasn't yet have a well-developed engineering base for the development of competitive machinery and equipment (steel and wire mills, which in Soviet times specialized "Almaty Heavy Machinery Plant"), the organization of cooperation with engineering companies-analogous to the Soviet Institute for the development of new and modernization of existing product samples - a lengthy process;
- in Kazakhstan is quite a large market of castings, forgings and stampings market is less developed;
- currently not overcome resource specialization of the economy that will continue to lead to unstable conditions in the different sectors of the economy.

To achieve this objective must conduct a comprehensive modernization of the foundry production of JSC "Almaty Heavy Machinery Plant" and sites serving the foundry – providing oxygen, compressed air, models and partly machined castings. Thus, the creation of a cluster-based JSC "Almaty Heavy Machinery Plant" has more positive than negative. The above technical and marketing strategy will allow fully or partially offset the weaknesses and threats. Consequently, we can predict the successful implementation of the project.

7. Conclusion

Firstly, the results suggest that the interaction of science, education, business and government in the development and implementation of innovation policy is not sufficiently structured to provide a balanced representation of the interests of the range of various innovative enterprises in Kazakhstan. Secondly, the legal basis of cluster development in Kazakhstan is determined. Need to develop mechanisms for the implementation of promising direction. Thirdly, the clusters can be formed in the existing special economic zones, allowing them to get right to the mass production of high-tech products that are developed. Fourthly, these more promising areas of the clusters in Kazakhstan: innovation-technological cluster, innovation-education cluster, innovation-petrochemical cluster, innovative-metallurgical cluster, transport and logistics cluster, textile industry cluster, tourism cluster, agro-cluster, construction cluster, medical and pharmaceutical cluster. The prospect for further research is to study each direction of the cluster and the development of road maps to implement them.

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