Cluster Approach as One of the Methods of Development of Innovative Entrepreneurship in Agro-Industrial Complex of the Republic of Kazakhstan

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Abstract: Best practices of developed countries demonstrate that modernization of industrial structure, increase in competitiveness of national economy can be very efficient with diversified system of subcontractual relations between leading producers and small and medium companies. That is why the key factor in achievement and keeping advantages over competitors is not only innovation and science-based education but relationship between the enterprises which create conditions for formation of network structures-clusters. That is why the author of this article has decided to consider cluster approach as exemplified by development of agro-industrial complex of Kazakhstan because agriculture in the Republic of Kazakhstan at the current stage can be characterized as steady growing economy which is able to provide food safety of the country and satisfy the needs of internal food market.

Key words: Innovations in AIC • Cluster approach • Cluster policy • Innovative entrepreneurship • Development of innovative entrepreneurship in agro-industrial complex • Innovative policy

INTRODUCTION

By now new trends in world agrarian economy and demography are forming, integration processes in the regions develop, global climate changes take place. Kazakhstan joined Customs Union, in the nearest future accession to WTO is planned. But the low level of labour productivity in the industry, imperfection of applied technologies, small-scale production do not allow to provide agricultural production on intensive basis, to use the material, labour and other resources most efficiently and completely, comply with ecological standards. These factors reduce competitiveness of national agrarian sector which in conditions of WTO and CU can result in domination of import of foreign products, forcing national producers out from the sales markets [1].

One of the main targets of economic policy of both developed and developing countries is growth of national competitiveness and broadening of the national companies’ share in internal and world markets, increase in efficiency of their activity.

Globalization processes, international competitiveness growth which are characteristic of world economy are objective pre-condition for changes in the paradigm of control over competitiveness-refusal from traditional industrial policy and transition to new system of production organization.

Intensive development of technologies, logistics, transport means led to instantaneous transfers of information and financial flows, to quick and cheap transportation of products. That is why the key factor in achievement and keeping advantages over competitors is not only innovation and science-based education but relationship between the enterprises which create conditions for formation of network structures-clusters.

The term “cluster” was introduced into economic theory by Michael Porter: Clusters are concentrated by geographic principle groups of interrelated companies, specialized suppliers of services, companies in corresponding industries as well as connected with their activity organizations (for example, universities, standardization agencies and trading associations) in some spheres, competing but in the same time cooperating with each other [2].

Cluster approach is first of all a new managerial technology which allows to increase competitiveness both of separate region or industry and the country as a whole.
Experience of developed and new industrial countries testifies that improvement of industrial structure, increase in competitiveness of national economy can be very effective when there is a system of sub-contractual relations between leading producers and small and medium companies, which are entitled to solve separate narrowly-specialized tasks in designing and manufacturing of separate parts and components. In this way an industrial cluster is forming.

In 2004 by initiative of the President of the Republic of Kazakhstan a research project "Evaluation of competitiveness of existing and potentially perspective sectors of Kazakhstan economy and development of recommendations on their development" was carried out. To facilitate implementation of this project they invited as advisors the founder of cluster theory Michael Porter and Christian Ketels. The slogan of the project was: "Competitiveness of Kazakhstan: program of economy diversification" - at least it was the topic of the lost report made by Michael Porter [3].

Kazakhstan defined 7 prioritized directions of cluster model development, one of which is agriculture, which is viewed as main source of raw-materials for food products processing and production industry, textile and leather industries.

Competitiveness of economy depends on development of agriculture and development of this sector must be considered as one of the prioritized areas of economic policy. Main tasks of agricultural development must be increase in production volumes, improvement of quality and labour productivity at agricultural enterprises and farmers' economies.

Agro-industrial complex has great socio-economic significance because it not only satisfies the population’s needs for a number of main food products but reflects level of life in the country. Taking into consideration that current situation in the world is characterized, on the one hand, by huge amount of starving people in the countries of the third world and on the hand-by surplus production of food in developed countries where less than 20% of the whole planet population live. Developing countries are not able to provide population with their own food products in accordance with physiological catering standards, they have to import them exchanging for strategic resources.

Agriculture in the Republic of Kazakhstan at the current stage can be characterized as steadily growing economy, which can guarantee food safety of the country and satisfy the needs of internal food market. Anual growth of production is 7-8%; with the growth of export volumes. For example, gross production of agriculture in 2011 was 2286,0 billion tenge, which in comparison with 2006 is 2,8 times higher-see Figure 1.

Today in Kazakhstan saturation of consumers' market with food products is achieved at the expense of internal production and import. The state of internal market is characterized as threshold level of catering depending on external market. The state controls small part of food market, the country can not feed itself in regard to some products. Figure 2 shows that import of meat and cereals, ready food products amounts to 9,2% of 4256 993,5 thousand US dollars from all the import of economic policy. Main tasks of agricultural development must be increase in production volumes, improvement of quality and labour productivity at agricultural enterprises and farmers' economies.

![Fig. 1: Gross production in agriculture including services](image-url)
while some positions go beyond the boundaries-up to 100%. Only such positions as bread and cereals products are provided by Kazakhstan itself, besides that it exports such products to near countries. Look at Figure 3 the structure of export-meat and cereal products amount to 3.6% or 2984 177.6 thousand US dollars.

Main components of food market in the Republic of Kazakhstan are cereals, milk, meat and meat goods production and in this context we see the future development of these clusters as wheat processing cluster, meat and milk cluster. In textile and clothing industry which is also an integral part of agriculture, cotton cluster, cotton processing cluster can be formed.

Wheat production and processing: by crop acreage allocated for wheat Kazakhstan is on 3rd place among CIS countries, after Russia and Ukrain. Wheat share amounts to more than 80%, the share of barley and other cereals is less than 12%.

In the same time process of cereals depends on climate conditions of specific year. For example, if in 2009 20.8 million tons were produced, in 2010 they produced 12.2 million tons, in 2011 production increased again to 26.9 million tons [5].

Main reason for growth of cereals production is increment in area (if area under crops in 2005 was 14,841 hectares, by 2011 it grew to 16 219.4 hectares, while in developed countries growth of production is achieved thanks to increase in yielding capacity.

That is why Kazakhstan wheat is in demand in world market because of good quality of corn. There are special provisions aimed for reduction of production costs exist and increase in competitiveness of cereals cluster.

Main competitor of Kazakhstan in wheat production is Russia. Nevertheless, the level of competitiveness of wheat and wheat products is the same in both countries because of current state of corn production and similar conditions for its development.

Increase in export of Kazakhstan wheat results in the situation when the corn of better quality is exported from the Republic. Thus, the problem of low-quality raw materials is characteristic for internal market.
In order to increase efficiency of cereal industry it is very important to develop wheat production and processing cluster.

In the same time Kazakhstan has conditions for development of meat and milk cluster. Cattle-breeding was always considered in Kazakhstan as one of the key directions in agro-industrial sector (Figure 1). In the same time it was one of the key economic levers-for rural population cattle-breeding is first of all a source of work and income. During last decade it was persistent development of agro-industrial sector which helped agrarian regions to improve economic position. Kazakhstan has got huge opportunities in this sphere because it has enough territory to develop this sector. Moreover, at present time a cattle-breeding development program is being implemented where huge sums of money were invested. The result of this program will be increase in fodder base, increase in the total number of cattle and extension of areas to be used as pastures and their modernization (including seeds supply, equipment, improvement of specialists’ work). Besides that, when all the tasks of the program will be fulfilled, export potential of Kazakhstan will greatly increase. Also most part of internal need for meat and milk products will be satisfied.

The fact that practically all farmers’ economies are privately owned determines the situation when the state can not control everything. But it tries to provide all possible support, giving money, introducing different programs of development and carrying out preventive measures, such as vaccination of cattle and veterinary services. Subsidies stimulate cattle-breeding farmers to enlarge number of animals, improve the conditions for keeping cattle and fodder conditions.

Total number of cattle in Kazakhstan is increasing rapidly mainly thanks to import. But this fact positively influences development of breeding base. Selection works on pedigree cattle at present time are carried out very carefully, which facilitates production of quality products and growing pedigree animals.

Milk products market demonstrates constant positive trends. Today in Kazakhstan about 250 factories operate with capacity from 5 to 50 tons of milk a day. At the end of 2010 milk production showed best results for 2003-2012 and its volume was 5 381,2 thousand per year. Mainly milk products are supplied by private agrarian companies.

In spite of rapid growth of the industry some negative factors hinder more intensive progress. Mainly they are connected with non-modernized infrastructure, poor fodder base, small-scale production and big number of non-pedigree cattle-about 82%. In order to overcome these problems the programs of development were introduced and after finalization of these programs all negative factors must be eliminated [6].

World practices testify that clusters create conditions in which agro-industrial complex industries can mutually add to each other, facilitate investment climate, efficient use of knowledge, technologies, stimulate innovative processes and in such a way facilitate increase in competitiveness of agro-industrial complex enterprises.

In agro-industrial complex innovation process is a constant flow of R&D work turning into new improved products, materials, new technologies, new forms of organization and management and using them in production in order to achieve maximum effect. Innovation activity of territorial-industrial cluster in agro-industrial complex is understood as generalized characteristic in terms of novation, perspectives, profitability, efficiency and minimization of the risk of investments into its development. In order to evaluate innovation activity the following factors must be calculated:

- Economic-regulatory conditions of the territorial-industry complex components;
- Financial state of territorial-industry complex;
- Availability of means to perform investment activity;
- Efficiency of investment project management;
- Scientific-technical potential of territorial-industry complex;
- System to stimulate innovation activity inside territorial-industry complex;
- Degree of depreciation of fixed assets;
- Paying ability and demand in products.

Every indicator is evaluated in the range 1-10. In order to identify rank value of every indicator a preliminary economic analysis must be done which will allow to identify impact of different factors on its value. Value of every parameter should be identified by the method of experts' estimates. (Delphi method). In such a way the values of every parameter must be found. Than the same group of experts define the weight of every parameter. The weight is identified in the range 1-100. Then specific weight of every parameter in total volume should be found using this formula:
Growth of clusters can be facilitated by cluster policy-deliberate interaction between power institutions with society in the sphere of support and development of cluster initiatives. But it is worth mentioning that there were a lot of precedents when clusters grew up without any support from state or society and money allocated by the state and organizations for implementation of cluster policy did not result in clusters growth [8].

What is state cluster policy? These are measures undertaken by the state to stimulate innovation sphere. Main tool used by the state for activation and development of clusters is financing complex programs of cluster development. Program of cluster development is understood as combination of cluster projects put together by common strategy.

Main target of implementation of cluster policy is provision of high rates of economic growth and diversification of economy thanks to increase in competitiveness of enterprises, equipment, components suppliers, specialized production and services, of scientific-research and educational organizations forming territorial-industry complexes [9].

Realization of cluster policy will facilitate business competitiveness growth thanks to potential of efficient interaction between cluster participators geographically located close to each other, including broader access to innovations, technologies, know-how, specialized services and highly-qualified staff and also thanks to reduction in transaction costs providing pre-condition for realization of joined cooperation projects.

Formation and development of clusters is an effective mechanism of attracting direct foreign investments and activization of external trade integration. Inclusion of national clusters into global value chains will allow to increase the level of national technological base, rate and quality of economic growth at the expense of increase in world competitiveness of the enterprises forming the cluster, thanks to:

- Purchasing and implementation of critical technologies, newest equipment;
- Obtaining an access to modern managerial methods and special knowledge;
- Obtaining of efficient opportunities to enter highly-competitive world markets [10].

Development of clusters will also allow to optimize the conditions of national enterprises in production chains of value creation improving the degree of extracted
resources processing, facilitating import-substitution and growth in localization of assembly plants and also-to increase the level of intangible competitiveness of national services and goods.

REFERENCES