External condition of transport clusters as a criterion of environmentally oriented management of sustainable development

T A Emelianova¹, D V Novikov¹,², A V Novikov¹, N G Konokotin¹

¹ State University of Land Use Planning, 15 Kazakov Sreet, Moscow, 105064, Russia
² prof.novikov@hotmail.com

Abstract. The article presents the most important purpose of the formation of transport clusters in Russian economy. The authors touch upon the issue of the increase in the market level of logistics infrastructure and provision of land management of high quality using environmentally oriented sustainable development strategy. The analysis of strategic development prospects by industry sector of key shippers is presented.

1. Introduction
One of the most important purposes of the creation of transport clusters in Russian economy is to increase the market level of logistics infrastructure and ensure land management of high quality using environmentally oriented sustainable development strategy. At the same time, it is necessary to understand that cluster members commit to implement basic agreements and legal documents, the totality of which forms the institutional environment of any cluster.

All the market principles, the development of which is presented by internal agreements, are applied to the economic activities of participants of transport cluster. According to the authors, it is necessary to use the principles and rules of WTO interaction in an adapted form in order to create an institutional environment for transport cluster that supports the principles of environmentally oriented sustainable development management.

Taking into account the configuration for the requirements of the activities of cluster members, these principles may have the following form:

- The provision of the most favored nation treatment for other cluster members;
- The provision of conditions for the attraction and use of products from the external environment;
- Market methods of counterparty selection
- The refusal to use toxic technologies in economic activity;
- The resolution of disputes through negotiations involving domestic arbitrators.

2. Materials and methods
The inclusion of an economic entity into a transport cluster implies compliance with the indicated principles and mutual concessions when in the course of joint business operations by cluster members. As a rule, for all participants, the inclusion into a cluster expands the possibilities of integration into a single logistics system, opens up new opportunities for interaction with other business entities, facilitates
the access of manufactured products to the market, and increases the flow of direct investment in sustainable development programs.

However, despite the fact that the transport cluster has the ability to use its own guidelines and principles of sustainable development, all cluster members, including central companies, must develop their own competitive advantages. Environmentally-oriented sustainable development management assumes that all cluster members must take into account the territorial peculiarities of doing business:

1. **Significant land area and a large number of constituent entities of the Federation** (86 entities) compared to other countries - the USA (50 states), Mexico (31), Brazil (21), Venezuela (20), Germany (16 states), Austria (6 states, 2 territories), India (25 states, 6 union territories).

2. **The increasing differentiation of the development of the territories of the Russian Federation**:
   - Maximum gap in the level of economic development is 8 times, in the cost of living - 5 times.
   - There is also a gap in the distribution of human and natural resources, in the level of urbanization of territories, the intensity of land use and the density of logistics infrastructure.

3. **The irregular distribution of freight and passenger traffic flows**, manifested in a higher concentration of traffic in large cities (Moscow, St. Petersburg) and regions with a pronounced raw material orientation.

Studying the intensity of passenger and freight flow in every region (Figure 1, Table 1), it is possible to conclude that the highest rates belong to regions that have objective conditions for using transport infrastructure. In particular, the largest transit center for passengers in Russia is Moscow, which has always been a key passenger hub for all types of transportation.

![Figure 1 – Passengers sent, thous. peop.](image)

At the same time, it is advisable to pay special attention during the formation of priority directions for the sustainable development of transport cluster to those territories for which the logistics infrastructure as the basis of transport cluster is the main activity. Such territories are in a high-risk zone, since they do not have product differentiation, which entails increased vulnerability to a specific type of activity, which forms the economic, social and environmental parameters of the current state of the territory. It is advisable to pay special attention to issues of sustainability of development for the territories of transport clusters stationing that satisfy the following conditions:

- More than 25% of economically active population work in business entities that are participants of transport cluster
- The economic structure of the territorial product is created by more than 50% of central companies of transport cluster.
According to the data from Russian Statistics Agency, it is possible to conclude that as of the end of 2016, there were 335 territories in the Russian Federation with a population of 15.9 million people (about 11% of the total population of the country) [1], which depended on a specific type of activity and needed to develop a sustainable development program. Therefore, if transport cluster operates in such a territory, these environmental circumstances must be taken into account during the creation of a sustainable development program.

The nature of the problems and the extent of the difficulties caused by the influence of the external environment on the functioning of transport clusters can be assessed after the global economic crisis of 2008-2009, which undermined the economic stability of all national economies due to strict specialization and difficulties in risk management. This event necessitated the intervention of authorities and the provision of various forms of support to all categories of stakeholders.

The main instruments of state support were direct subsidies to improve the balance of regional budgets, the development of logistics infrastructure, support for producers, professional retraining of the population in order to reduce social tension in the territorial labor markets. In this situation, the environmentally oriented management of sustainable development of transport cluster can be provided with additional resources, the use of which requires the corresponding economic, social and environmental potentials.

It is necessary to note that, for business entities, the impact of external crises is usually short-term, and the consequences of inclusion into a cluster are characterized by long-term sustainable impact on the internal environment, which significantly affects not only the nature of production relations, but also the requirements for technologies, management system and performance criteria. Therefore, the use of only economic indicators during the development of a program of environmentally oriented sustainable development management seems to be inadequate.

In addition, the analysis of the external environment for the formation of environmentally oriented management of sustainable development of transport cluster should include the analysis of strategic development prospects in the context of the industry of key shippers.

Accordingly, within the framework of the issue of the state of the external environment for the implementation of environmentally oriented management of sustainable development of transport cluster, it is advisable to take into account the willingness of cluster participants to the occurrence of risk situations, the transformation of the product structure of economy, technological innovations that change the way business is conducted, and legal requirements that establish boundaries and rules of land use.
In this context, experts suggest dividing economic entities according to their degree of readiness for adaptation in accordance with environmental conditions into three groups:

1. The most prepared entities are competitive, characterized by high growth rates of labor productivity and a significant share of exports in product portfolio.
2. Mid-prepared entities are characterized by stable growth rates of labor productivity, a constant share of exports in product portfolio, and are competitive in national and international markets.
3. Least trained entities have rather low labor productivity, the decrease in the share of exports and the increase in the share of imports in product portfolio, with low competitiveness» [2].

Most potential and existing participants of transport cluster should make quite definite efforts to increase the activity of innovation and strengthen their role in market competition.

3. Results
The analysis of the external environment during the choice of a priority direction for the sustainable development of transport cluster involves a whole range of macroeconomic and industry risk factors, including those produced by various global events: sanctions, international agreements and the emergence of new competitors. Accordingly, not only the success of the business operations of specific participants, but transport cluster as a whole depends on the relevance of the chosen priority area of sustainable development to the opened prospects.

4. Results
In case when an economic entity becomes a member of transport cluster, it receives additional opportunities to increase its competitiveness. In addition, the use of a cluster approach to increase competitiveness in modern conditions is possible in several ways:

- organizational;
- marketing;
- ecological;
- economic;
- financial.

For example, during the use of organizational option, a business entity creates competitive advantages due to its position in the technological chain of a cluster, realizing the technological potential and the intellectual potential of employees. The marketing option is the development of consumer potential of the market, as well as the reduction of the elasticity of supply and demand. Ecological option suggests that due to the participation in the cluster, land use intensity is reduced, and technologies are used in activities to reduce the negative impact on the environment.

The economic option is reasoned by the availability of access to partners, that is, it allows reducing the transaction costs of the economic activity of an economic entity. The financial version of the approach assumes that the strategic efforts of a business entity are focused on the quality of a product, and other cost areas play a less important role due to work in the cluster.

In addition it is necessary to note that it is the appearance of a synergistic effect as a result of the interaction of economic entities that distinguishes a cluster from scientific and production associations existing in controlled economy, when the role and contribution of each participant are taken into account, but the combined effect is not always considered as a necessary result of the interaction.

It is the cluster that creates the conditions under which the demand for sustainable development and business activity determines the feasibility of transforming ways of long-term coordination of the interests of government with the interests of business representatives when not the all types of economic activity and the spheres of national economy are highly competitive.

References
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