

The Regional Economic Corridor is a Factor of the Development of Transport and Logistics System in Mongolia

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Abstract: The creation of a regional supply chain that meets the international needs in Mongolia, which is the shortest route to connect East Asia with Europe by land through Russian Federation, is one of the great significances not only for our country, but also for the entire region. However, the transport and logistics infrastructure of Mongolia, technological backwardness, lack of investment and operational management, as well as inadequacy to the transport and logistics systems of the two neighbors do not satisfy this need.

Effective functioning of the transport and logistics system of Mongolia will become a real part of the integrated economic corridor China-Mongolia-Russia. On the other hand, the formation of a regional economic corridor is the most important factor of economic growth in the context of globalization.

Key words: China-Mongolia-Russia, economic corridor, transport and logistics system, tea route, transport infrastructure, economic corridor project.

1. INTRODUCTION

At present, Mongolian economy is faced with the need for a transformation of sustainable development of the growing demand for minerals due to the introduction of high technologies in industries and information technology in the context of world globalization.

Mongolia, as a country of rich natural resources and agricultural products, is one of the largest suppliers of raw materials in the world market for minerals and agricultural products. To increase the export of mining products, it is necessary to develop the transport and logistics system of Mongolia. On the other hand, our country, since it is geographically located in the center of the Eurasian continent, is becoming the main land transit corridor connecting East Asia with Europe.

The solution to the problems in the development of transport logistics of Mongolia is to participate in an integrated regional system as an economic corridor.

In recent years, Russia, Mongolia and China have repeatedly declared their intention to intensify their cooperation in a number of large regional projects. First of all, we are talking about the creation of an economic corridor. The organization of the economic corridor not only ensures the implementation of the course towards comprehensive openness and inclusive development of

the three countries, but also makes it possible to balance the disproportions in the economic development of different territories of the country, including transport and logistics system.

2. TRANSPORT AND LOGISTICS SYSTEM OF MONGOLIA

2.1 Current Situation in the Transport Industry

Mongolia's economic situation is highly dependent on foreign trade. Mongolia's share of exports in GDP has averaged 51% over the last 10 years, while our main trading partners are: 12.7% in the United States, 16.5% in Japan, 17.2% in China, and 27.6% in Russia (table 1). In this regard, the development of transport and logistics in relation to foreign trade is important for the Mongolian economy.

Table 1. Exports of goods and services (% of GDP)

COUNTRIES	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mongolia	46,7	52,6	43,6	38,9	52,2	45,6	50,2	59,8	58,5	60,1
USA	12,3	13,5	13,5	13,5	13,5	12,4	11,9	12,2	12,3	11,7
China	27,2	26,6	25,,5	24,6	23,5	21,4	19,6	19,7	18,5	18,5
Japan	15,0	14,9	14,5	15,9	17,5	17,6	16,3	17,8	18,5	
Russia	29,2	28,1	26,9	25,8	27,1	28,7	25,9	26,1	30,5	28,3

Source: <https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?locations=MN-RU-CN-JP-US&start=2010&end=2019&view=chart>

Currently, the existing transport and logistics system of Mongolia does not cope with the needs not at the international level and not within the country. In general, the problems of the development of the transport industry are related to the peculiarities of the country, since its vast territory, difficult natural and climatic conditions, a small population, uneven distribution of the population and the location of industrial production by territory, low quality of services, the lack of competitiveness of domestic enterprises, insufficient density of transport networks, the backwardness the infrastructure of the transport system and an inefficient logistics system, reflecting its high cost. The consequences of the above problems lead to the need to reform the country's transport sector, taking into account that it is one of the engines of development Mongolia.

For analyze the functioning of the transport industry, consider the data on freight and passenger traffic (table 2).

Table 2. Freight and passenger traffic in Mongolia

INDICATORS	2015	2016	2017	2018	2019
Cargo transportation, thousand tons	32,197.3	40,400.2	53,983.4	67,802.9	68,997.5
Freight turnover, mln t.km	13,844.3	16,619.4	19,167.8	21,969.5	23,601.8
Number of passengers, mln. People	260.3	264.4	216.1	197.0	173.0
Passenger turnover, mln. people km	4,931.6	4,988.5	5,343.7	6,598.1	7,146.2

Source: https://www.1212.mn/tables.aspx?TBL_ID=DT_NSO_1200_012V4

Considering the growth in the volume of freight traffic between large producers in Asia and significant consumers in Europe, as well as the growing export of products of the mining industry, which is the leading sector of the country, the main goal of Mongolian transport logistics is the further creation of the Asian transnational corridor.

In Mongolia, the low density of transport networks, in total for various types of transport, is shown in the table (Table 3).

Table 3. Transport network of Mongolia

Roads	Railway	Airway	Water transport
111 900 km	1 815 km	40 000 km	500 km

From the figure (Figure 1), you can see the volume of passenger and freight traffic in Mongolia in 2019.

Road transport is the most important component of the country's transport system. Therefore, solving the problems of achieving sustainable economic growth of the country and integrating the transport system of Mongolia into the international system largely depends on the level of the transport and the operational state and the development of the road network, providing communication between regions and settlements of the country, as well as with the road network of the neighboring states.

The low density of the transport network is a consequence of the small population, especially in rural areas (more than 40 percent of the population lives in the capital), difficult natural and climatic conditions, and high costs of building and maintaining transport infrastructure.

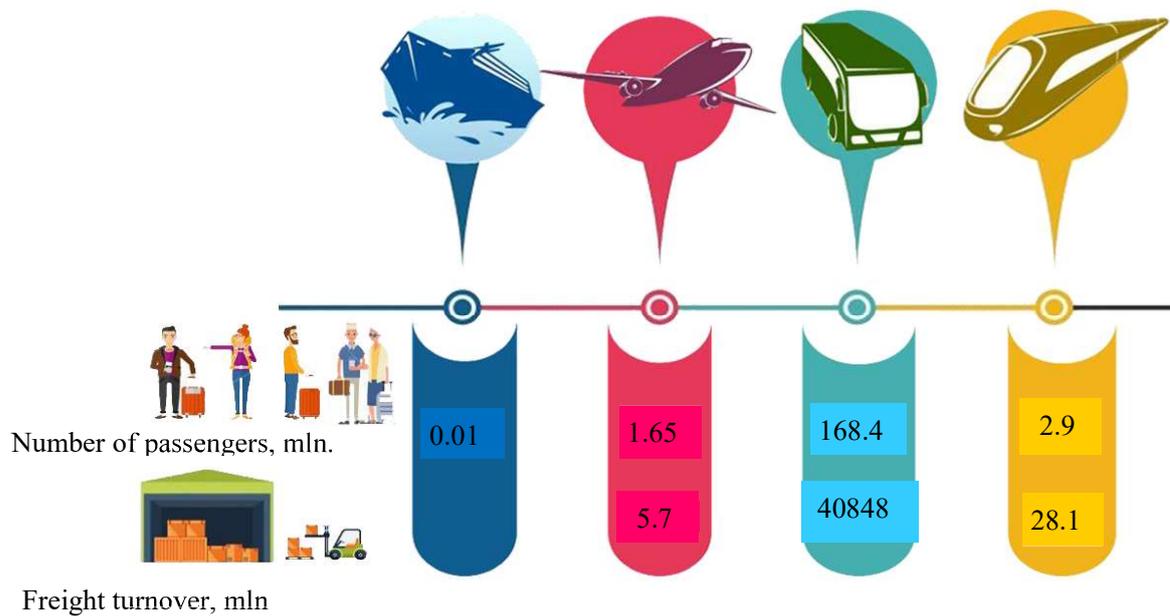


Figure 1. Passenger and freight traffic (2019)

Mongolia is ranked 102 out of 141 countries in the 2019 Competitiveness Report from the World Economic Forum. In particular, the development of the country's infrastructure at an insufficient level in comparison with other countries (Table 4).

Table 4. Index of the infrastructure of Mongolia

INDEX COMPONENT	VALUE (RANG)
Transport infrastructure	3,1 (101)
Quality of road infrastructure	3,1 (112)
Efficiency of train services	3,5 (55)
Efficiency of seaport services	1,6 (137)
Efficiency of air transport services	3,6 (117)
Electricity supply quality	11,5 (73)
Mobile-cellular telephone subscriptions per 100 pop	133,2 (36)
Internet users % of adult population	23,7 (119)

Source: WEF The Global Competitiveness Report 2019

The figure (Figure 2) shows the main road routes through the territory of Mongolia.



Figure 2. Transport infrastructure of Mongolia

2.2. Problems Confronting the Development of the Transport and Logistics System

World material flows run along the horizontal axis Europe-Asia-America and are the main corridors for investment, finance and information.

Only between the Europe-Asia-Pacific regions, an average of 6 million containers are transported annually, of which about 97 percent are transported by sea, and the rest - by other means of transport. However, delivery of one container by sea takes 45 days, and by rail - 12-15 days. In other words, the quality of the Europe-Asia railway and road network, the availability of logistics facilities, the quality of services, standards, mutual understanding between countries, the scope of cooperation, and geopolitical issues impede the movement of this material flow.

Today Mongolia can be called a potential point of growth and integration of the transport system of Asia to the European continent. However, its low level of development does not satisfy the rapid growth rate of the international transport service market.

The main difficulties that currently hinder the development of the country's transport and logistics systems are the infrastructure of the transport systems, the existing geopolitics of the country, reduced investment in the transport sector, the development of road services, and the instability of government policies in the transport and logistics sector cannot be ruled out.

Another important factor hindering the movement of transit cargo across borders by rail is the difference in gauge between Mongolia and China. As a result, cargo moves between trains at the border, resulting in additional procedures, costs and delays.

Solving problems in the development of Mongolia's transport and logistics infrastructure, accelerating the introduction of new innovative technologies and developing transport and logistics services that meet international standards is to create a supporting network of logistics terminals and multimodal transport and logistics centers, united into an integrated regional transport and logistics system.

3. ECONOMIC CORRIDOR - A FACTOR OF ECONOMIC GROWTH IN THE REGION

Economic corridors act as a tool for spatial organization, since they are aimed at ensuring the interconnectedness of territories, increasing competitiveness in the global market, as well as developing a sense of community within the region.

The key priorities of cooperation between states should be based on the provision of the "five interrelationships": political coordination, interconnected infrastructure, unhindered trade, free movement of capital, increased proximity between the peoples.

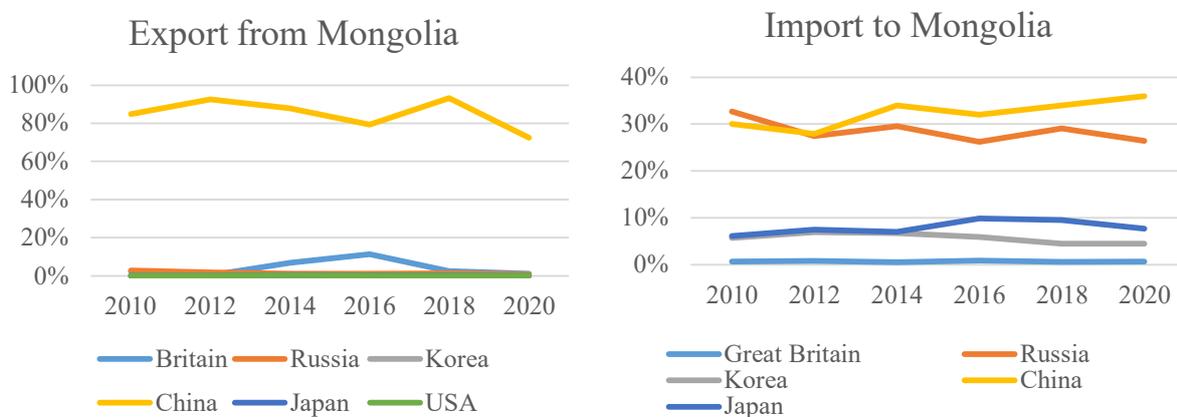
The concept of development of regional corridors continues to be improved and enriched with practical experience. It is difficult to give an unambiguous definition of the term "economic corridor", but it should be noted that it is determined by the geographic space in which the flow of target areas of economic activity prevails. Hence, an economic corridor cannot be created from scratch and must link active international markets.

To implement the project, first of all economic corridors must form and improve infrastructure. It is important to consider not only the "hardware" component of the infrastructure, i.e. a kind of "material frame" of the economic corridor (roads, electrical networks, telecommunications), but also its "software" component: education, health care, trade facilitation measures, etc.

The creation of economic corridors is possible only after ensuring transport links and building supply chains. The directions of the economic corridor are selected based on an assessment of five factors: existing traffic volumes, prospects for economic growth, opportunities for increasing connectivity between settlements, potential for reducing delays and minimizing other obstacles, economic and financial sustainability.

Macrological platforms can be formed as interregional transport and logistics clusters, in which regional and interregional integration is carried out on the basis of innovative technologies, the formation and implementation of integrated information, organizational and economic, regulatory, legal, scientific, technical and human resources.

The share of partner countries in Mongolia's exports and imports shows that most of our foreign trade is with our neighbors, China and Russia, for this region, establishing economic corridors can be a tool for efficient supply chain management and cost reduction. (Figure 3)



Source: Statistics book Mongolia 2020

Figure 3. Export and Import of Mongolia

4. ECONOMIC CORRIDOR CHINA-MONGOLIA-RUSSIA - "TEA ROUTE" OF THE 21ST CENTURY

In the China-Mongolia-Russia Economic Corridor Program, adopted by the three countries, the prospect of an economic corridor outlines “the creation and strengthening of a space for joint mutually beneficial economic development, realizing the potential and advantages of each of the parties, contributing to their prosperity and strengthening joint competitiveness in the world market”

The prototype of the China-Mongolia-Russia economic corridor is the Great Tea Route, which passed through the territory of these states and was of great importance for their socio-economic development. For almost 300 years, transit traffic has been carried out through the territory of modern Mongolia not only between Russia and China, but also between Europe and Asia. Having a positive historical experience in establishing trade ties and taking into account the significant geopolitical changes that are taking place in the Eurasian space, the parties come to the confidence that the creation of this economic corridor “will contribute to the deepening of regional economic integration, creating conditions for combining development strategies and infrastructural interconnection, stable and progressive development of trade and investment, as well as the coordination of economic policy and strengthening of humanitarian contacts ”

The desire to strengthen economic and humanitarian ties between the three neighboring countries and develop the potential of the border region is the basis for creating an attractive international route based on cities and sites for cooperation in important trade and industrial areas. At the same time, Mongolia and neighboring regions of Russia and China will receive an impetus for joint development.

The pairing of the national strategies of the three countries and the creation of the China-Mongolia-Russia economic corridor are not possible without developing a common vision for organizing the economic space and strategic planning for the development of the territories involved. In turn, a wide field for researchers is presented by both the study of the features of the

economic functioning of the areas adjacent to Mongolia and China, and the search for effective forms of regional cooperation.

Today, despite the listed problems facing the transport and logistics system of the country and taking into account the prospects for the development of Mongolia at the international level, programs are required to develop relations not only with the region, but also with third countries. There are three main routes of Manchuria, Mongolia and Kazakhstan to connect Southeast Asia to Europe and Russia and the shortest route is through Mongolia (Figure 4)



Figure 4. Main directions from Southeast Asia to Europe

World experience shows that dynamic economic growth leads to a significant increase in the volume of movement of goods and, accordingly, freight traffic, both domestic and international, including transit. The main advantage of Mongolia's road sector and its network is that the route through Mongolia can be geographically connected to the shortest distance between Europe and Asia by land roads. In turn, only certain transit corridors can “grow” into economic ones, subject to the consolidation and expansion of the diversity of economic activities in their space. In this regard, the economic corridor of three countries: Mongolia, Russia and China is considered as a strategic direction for the economic growth of states - participants in global transport and logistics systems. The launch of economic corridors is a long-term project based on the efficient functioning of transport and transit logistics corridors.

The idea of creating an economic corridor for the three countries emerged several years ago and in June 2016, the leaders of Russia, China and Mongolia - following the results of a trilateral meeting, the “Program for creating an economic corridor China-Mongolia-Russia” was signed, which provides for more than thirty projects in various fields.

Each of the countries in these projects will defend their own interests. Russia has focused on infrastructure initiatives that will participate in the modernization of the Mongolian railway in order to bring its capacity to 100 million tons of cargo per year. In addition, Russia has shown interest in the road freight market, the construction of communication and power transmission lines, and the development of energy delivery routes.

In sequence, the Chinese side has focused on linking the economic corridor with the Chinese initiative for the "Silk Road Economic Belt". It was proposed to focus not only on infrastructure and border trade, but also on the development of industry, tourism and humanitarian ties.

Mongolia, which is in a difficult economic situation, sees the development of the project as an opportunity not only to make money on the transit of goods through its territory, but also to take a step forward in its development.

As a result, the parties agreed on the need to highlight three main projects: the railway sector, which needs to be modernized in Mongolia, the road as part of the regional transport corridor, and the power transmission line from Russia to China through Mongolia.

The list of projects planned for implementation, grouped by separate area, is shown in Table 5.

Table 5. Distribution of projects of the China - Mongolia - Russia economic corridor program in selected directions

Directions	Number of projects
Transport infrastructure	13
Industrial cooperation	2
Modernization of checkpoints	1
Energy cooperation	1
Cooperation in the field of trade, customs, inspection and quarantine	4
Cooperation in the field of environmental protection and ecology	3
Scientific and technical cooperation and education	3
Humanitarian cooperation	3
Agriculture	1
Medicine and healthcare	1
Total projects	32

The list of projects shows that most of the projects are related to transport infrastructure. The highway connecting China, Mongolia and Russia is becoming an important transport artery for the transport of goods, increasing investment and trade.

The formation of an economic corridor consists of the introduction of new innovative technologies and the development of transport and logistics services that meet international standards, the creation of a network of logistics terminals and multimodal centers, united into an integrated world transport and logistics system. In doing so, it must comply with the policy regarding transport networks with the neighboring countries.

From an economic point of view, the main purpose of the corridor is to facilitate domestic and foreign trade by creating more efficient transport and logistics services. Here it is necessary to focus not only on the path and route of the corridor, but also on the quality of transport services. The quality of transport services is reflected in the delivery time of goods, transport costs and flexibility. For priority projects, the economic corridor programs across Mongolia include eastern, central and western road corridors, and eastern, central, western and northern rail corridors linking with two neighboring countries (Figure 5).



Figure 5. Economic corridor in Mongolia

Within the framework of the Mongolia-Russia-China Economic Corridor Program, it has been agreed to transit the Asian Road Network's AN-3 route from the Chinese port of Tianjin through the territory of Mongolia to Ulan-Ude, Russia. The Asian Road Network is connected to the AN-3, AN-4, and AN-32 by 4,286.0 km of roads.

The road network is of great importance as it allows landlocked Mongolia to enter the markets of several foreign countries and engage in export and import trade.

The main significance of the economic corridor for the Mongolian economy:

- Reduce transport costs and time for trading
- Increase in transit traffic through Mongolia
- Creation of favorable conditions for passenger transportation and tourism
- Improvement of transport and logistics services
- Access to seaports through two neighboring countries and creating favorable conditions for third world markets
- Development of border ports
- Creation of a technology park and a free economic cross-border zone
- Development of cross-border tourism
- Environment protection
- Cooperation in the energy sector
- Oil and gas pipelines,
- Internet traffic and e-commerce
- Create space for mutually beneficial economic development
- Ensuring cooperation of the three parties in other areas of the economy.

5. CONCLUSION

In the context of world globalization, the need to expand the flow of goods is increasing, in order to ensure stable economic growth. To solve the problem of entering the market, the country's transport system plays the main role. An increase in industrial production by 1% causes an increase in traffic volumes by 1.5-1.7%. But in the conditions of insufficient development of the transport and logistics system, the economic efficiency of production in various industries decreases. The transport and logistics system of Mongolia does not meet the needs not within the country, nor at the regional and international level.

Despite the existing problems, we have the opportunity to develop the transport and logistics system by creating an economic corridor of the three countries. This corridor is becoming a major factor in economic growth not only in our country but also for the region.

6. REFERENCE

- Borisov, F.O. *et al.* (2017) Экономический коридор Китай-Монголия-Россия: режим ожидания [China-Mongolia-Russia economic corridor: standby mode] *ЭКО*, 5, 98-106.
- Ууанаев, С.В. (2016) Трехстороннее сотрудничество "Китай-Монголия-Россия" в контексте евразийских инициатив трех стран [Trilateral cooperation "China-Mongolia-Russia" in the context of the Eurasian initiatives of the three countries], Paper presented at the 2nd International Forum of the Association of Expert Centers of Russia-Mongolia-China "Economic Corridor of China-Mongolia and Russia: Coupling and Development", Huh hoto, China, September 27-28.
- Verevkina, V. (2018) Коридорная реальность. [Corridor reality] [URL: http://www.eastrussia.ru/material/koridornaya-realnost/](http://www.eastrussia.ru/material/koridornaya-realnost/)
- Ууанаев, С.В. (2016) Russia - Mongolia - China: The Revitalization of Trilateral Approach (Results of the 2nd Forum of the Association of Expert Centers of the Russian Federation, Mongolia and China) *Проблемы Дальнего Востока [Far East problems]*, 6, 30-35.
- Unursaikhan, D. *et al.* (2014) Study the possibility of Mongolia joining the Asian regional transport network, Paper presented at the International Conference on Issues of Development of Transport system, Irkutsk, Russia, June 11-12.
- Bulatova, N.N. (2016) Formation and Development of a Regional Integrated Transport and Logistics System, Paper presented at the International Conference on EASTS, Ulaanbaatar, Mongolia, October 05.
- Joint Resolution of the Organizations of Cooperation of Expert Centers of the Trilateral Corridor "China-Mongolia-Russia" (2020) A Joint Initiative to Promote International Cooperation in the Prevention and Control of the Coronavirus Epidemic and High-Quality Development of the China-Mongolia-Russia Economic Corridor.