

Problems and Prospects of Sustainable Development of Supply Chain (Case Study: the EEU Countries)

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Abstract- This paper deals with the economies of the EEC member states in the context of the transition to sustainable development of supply chain. The subject of the study is to identify the problems of transition of the countries of the Eurasian Economic Union to sustainable development and determine their prospects. Research hypothesis: it is customary to consider sustainable development in terms of three aspects: economic, social and environmental. If we carry out a study of the degree of sustainability of the development of the EEU countries in these areas using the social stability index, the environmental efficiency index and the progress index for sustainable development goals, and then compare the results with the lead countries and global trends, then we can identify the main problems of the Eurasian countries in their transition to sustainable development of supply chain and propose a system of measures to address them. The objective of the study – identify the problems of transition to sustainable development of the EEC countries and to outline the main ways to resolve them in the context of Eurasian integration. Research methods are evolutionary and systemic approaches, principles of formal logic, and comparative analysis of statistical data. The analysis of the economic, social and environmental aspects of the sustainable development of the EEU countries has led to the conclusion that environmental problems are the main constraint in the transition to sustainable development of supply chain. This is evidenced by indicators of environmental well-being, environmental performance ratings and the progress index on the sustainable development of supply chain goals of the Eurasian countries, which are much lower than those of the leading countries and average global values, and tend to decrease. We distinguished the directions for addressing environmental problems of the countries of the Eurasian Economic Union: increasing the balancing effectiveness of economic development with environmental sustainability; unifying environmental legislation; strengthening cooperation within the framework of the Eurasian technology platform "Environmental Development Technologies"; and transition to a "green" economy. This can be recommended to the Eurasian Economic Commission.

Keywords: *sustainable development, environmental management, environmental policy, EEU countries, supply chain.*

1. Introduction

The Eurasian region is a home for dynamically developing economies of China, India, new industrial countries, as a result of which the exploitation of natural resources and the burden on the environment is intensified, therefore the priority task is the sustainable development of individual Eurasian economies and the Eurasian region as a whole. The course of the "turn to the East" undertaken by the Russian government has stepped up Russia's cooperation with its eastern neighbors and, above all, with the EEU countries and China. Environmental problems in a single Eurasian state often affect the interests of neighboring countries, so they can be solved only in close cooperation with the transition to sustainable development of supply chain, the formation of supranational institutions for the harmonization of environmental policy.

1. Economic development and environmental problems. Environmental management, which is understood as the exploitation of natural resources in order to meet the needs of society, includes three components: the use of natural resources, the protection of the natural environment and its reproduction [1]. Environmental management can result in environmentally unequal exchange, when benefits come to one business entity, and the consequences of negative impacts on natural systems - to others. It is extremely regional, since the resources and ecosystems of each country (region) are relatively isolated in space and time. The damage and effect caused by economic activity in a particular region, always manifests itself in a particular territory. At the same time, nature management is *global in nature*, as the environmental consequences in a single country or region can affect other states and regions. In

the second half of XX century, our planet was on the verge of an environmental crisis, which manifested itself in the violation of the balance between natural conditions and the anthropogenic impact on the surrounding natural environment.

Industrialized countries, where 20% of the world's population live, consume 80% of the world's resources, and the capacities of the world economic industry are doubled every 14-15 years [2]. Mankind has exceeded the permissible environmental loads by as much as 1.5

times, and if we project the US resource and energy consumption in the whole world, then 7 more "spare planets" will be needed [3]. Anthropogenic pressure on the environment aggravates along with rising incomes and, accordingly, material needs, leading to an expansion in the scope of production activities and strengthening the global environmental crisis. The relationship between the growth in per capita income and the level of environmental degradation is described by the U-shaped environmental Kuznets curve (EKC) (see Figure 1).

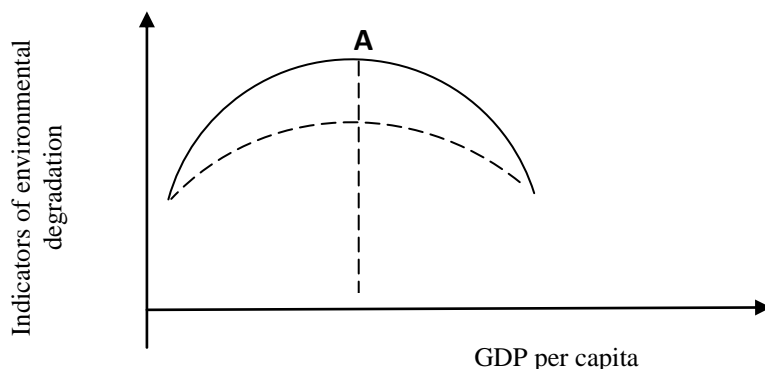


Fig. 1 Environmental Kuznets curve

The value of this curve is that the growth of GDP per capita to a certain level leads to an increase in environmental pollution, and then, in connection with the modernization of the economy, to a decline. EKC was named based on the analogy with the hypothesis by S. Kuznets on the relationship between growth and the level of income inequality. The explanation of the U-shaped curve is as follows. When economic growth begins with a low level of development of the country's economy and revenues, first of all, the primary sector (natural resource exploitation, extractive industries, agriculture and forestry, etc.) develops, and this leads to depletion of natural resources and pollution of the environment. Improvement of the technological structure of the economy and its modernization, transition to resource-saving and environmentally friendly technologies; increasing the level of the well-being of the population and its requirements for the environmental quality of life reduces the negative impact on the environment (Fig. 1 - to the right of the fracture point "A" on the diagram). It is difficult to determine what the per capita income level should be, so that the environmental situation begins to improve. It depends on the technological and the sectoral structure of the economy, the level of welfare of the population, the level and type of environmental pollution. For example, the result of a study of 42 countries for 12 years for sulfur dioxide (SO₂) showed that the reduction in pollution by this substance begins with an income level of five thousand dollars per capita [4]. The EEU countries, China and a number of cross-border Eurasian countries, unfortunately, are far from the point of inflection, therefore their economic growth

is accompanied by increased degradation and pollution of the environment. Their priority is to sharply lower the level of environmental degradation (dotted line in Figure 1). As for the developed countries, an environmentally unequal exchange between them and the less economically and politically developed countries, where they move their hazardous production and its wastes, contributes to the improvement of their environmental situation on the downstream section of the EKC. Developed countries use a disproportionately high share of global environmental potential [5]. The mankind already in the early 1970s went beyond the capacity of the biosphere [6], and in 2005 its environmental footprint was less than the bio-capacity of planet Earth by 30% [7]. Therefore, the coordinated actions of the world community are necessary to reach the level of consumption of environmental potential, when natural processes ensure the stability of the biosphere. To do this, it is necessary to distribute obligations among states to reduce the consumption of the limited economic capacity of the planet.

2. Environmental concerns of the EEU countries.

In 2015, the International Organization for Regional Economic Integration, the Eurasian Economic Union (EEU) was formed, whose members were: Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia. The EEU was established with the aim of comprehensive modernization, cooperation and competitiveness of national economies and the creation of conditions for stable development in the interests of raising the standard of living of the population of the member states [8]. The EEU countries face serious environmental problems. For example, the territory of *Russia* stores 500

million cubic meters of nuclear waste. According to the Ministry of Natural Resources, 194 territories of the country have a high degree of pollution and accumulated a total of 2.3 million tons of toxic waste. Landfills occupy 1 million hectares, and the total amount of waste has exceeded 3.5 billion tons. 56% of the urban Russian population lives in contaminated areas; 58.2 million people in 142 Russian cities breathe poisoned air. Degradation of the environment affects health and the state of the genetic fund of Russians. More than 20% of the territory of Russia are areas of environmental disaster. More than 70 million Russians breathe the air, saturated with dangerous for health substances, 5 times or more exceeding the maximum permissible standards. According to the estimates of a number of specialists, economic losses from the harm caused to the environment by negligent attitudes to the environment constitute half the national income of Russia [9]. The environment of *Kazakhstan* is also extremely unfavorable. The country suffers from a scarcity of water resources. This is due to the environmental catastrophe of the Aral Sea, having only a fourth of its area and the tenth of volume remained, leading to salinization and erosion of soils. There are environmental problems with Lake Balkhash. Intensive development of the resources of the Caspian Sea shelf has led to depletion of the country's water resources. The zone of environmental disaster is the Semipalatinsk region, where a military space training ground used to be and nuclear weapons had been tested for 40 years, which has led to radioactive, bacteriological and chemical pollution of land resources in an area of 300 square kilometers. This region shows an increased level of oncological and other diseases. About 43 billion tons of production and consumption wastes are accumulated on the territory of the country, while only 5% of solid household waste is disposed of or burnt, the rest are sent for dumping [10]. 15 major cities of *Kazakhstan* have an exceed permissible level of air pollution. The bulk of the anthropogenic greenhouse emissions comes from energy, which in the country is mainly focused on coal that produces the highest CO₂ emissions [11]. Climate change in the country is more rapid than the average for the planet. The economy of the country is one of the most energy-consuming in the world [12]. The acutest environmental problem of *Belarus* is radioactive contamination due to the Chernobyl disaster, as a result of which about 22% of the territory with a population of 2.2 million people is contaminated [13]. The problem is pollution of atmospheric air, surface and groundwater, pollution and degradation of soils. The country is located in the center of Europe, and, on the one hand, it occupies an advantageous transport and geographical position, but, on the other, its drawback is the presence of trans boundary transport of pollutants from Europe; impact of the consequences of anthropogenic and other accidents in Russia, Ukraine, the Baltic countries. There is a problem with waste management. Belarusian enterprises pollute the environment 1.5-2 times heavier than the industrially developed countries [14].

There are serious environmental problems in Armenia, the heaviest of which are related to air pollution, habitat protection and over-exploitation of water resources. About 80% of the land in Armenia is subject to some degree of degradation, and 44% of the entire territory have an issue with desertification [15]. The impact of erosion and landslides has resulted in pulling 140 thousand hectares of arable land and 300 thousand hectares of hayfields and pastures out of agricultural turnover over the past 30 years; about 3.5% of the 114 thousand hectares of subject to reclamation eroded land have been restored. There is a prospect of swamping and total destruction of the unique ecosystem of Lake Sevan, which has its water level fell by 20 meters. The share of the territories covered with forests decreased from 11.2% to 8-9% [16]. The air environment is in critical state: 33.1 tons of various metals are annually emitted into the atmosphere, mainly copper and lead [17]. Negative climate changes are observed. A touchy environmental situation is observed in *Kyrgyzstan*. Against the background of global warming and the drying out of the Aral Sea, there is an intensive melting of glaciers, the volume of which has decreased by 25-30% over the past 30 years, and the area by 40%. Reserves of interstratal artesian water decreased by 40%, and the republic has a problem with drinking water [18]. Lake Issyk-Kul carries a great anthropogenic load. The territory of the republic has about 1200 radioactive sources, which were actively developed in Soviet times. The problem of uranium tailings and toxic industrial wastes is acute. Thus, the total volume of solid radioactive waste located in seismic, mudflow-prone, flood-prone areas, as well as on river banks, exceeds 130 million m³ and covers an area of 650 hectares [19]. In case of their destruction, there is a risk of radioactive contamination not only for the population of *Kyrgyzstan*, but also for residents of trans-border states, such as *Uzbekistan*, *Tajikistan* and *Kazakhstan*.

2. Sustainable economic development.

The occurring globalization makes the nature of the relationship between the market and the management plan of environmental protection change fundamentally. On the one hand, the influence of market forces and competition stimulating the development and implementation of environmental policy by each individual state is increasing. On the other hand, the influence of international economic institutions on national relations is increasing, which results in the creation of a system of supranational environmental management. One of the first such institutions was the International Commission on Environment and Development, established in 1983 in the United Nations, the Brundtland Commission, which in 1987 published the final report "Our Common Future". It contained the concept of "sustainable development of supply chain" as a development that meets the needs of the present, but does not compromise the ability of future generations to meet their own needs.

In 1992, the UN World Conference on Environment and Development in Rio de Janeiro confirmed the need for a

global transition to sustainable development of supply chain, which was defined as "the creation of a socially-oriented economy based on the reasonable use of the resource base and environmental protection, which does not jeopardize the ability of future generations to meet their needs" [20]. In the concept of sustainable development of supply chain, economic, environmental and social aspects are interrelated. Sustainable development in the economic sense means a transition from the current economy of resource use to the economy of their systemic reproduction. Each country was recommended to develop a national sustainable development strategy. At the Millennium Summit in 2000, world leaders adopted the UN Millennium Declaration, defining the Millennium Development Goals, one of which is to ensure environmental sustainability. Encouraging of producers to rational nature management and protection is considered a "failure" of the market, which is intended to compensate by the state. The correlation of market and planned methods for regulating the use of natural resources and environmental protection is shifting more and more towards planned developments, as evidenced by active actions to establish *a mechanism for international environmental management*. It can include the Kyoto Protocol, signed by the 159 states in 1997, the first global agreement on environmental protection on the planet. Its goal was to make the developed and transition economies reduce emissions of carbon dioxide by 6-8% from the level of 1990 by 2008-2012. To solve this problem, a system of emission level regulation was established, as well as an international market for buying and selling carbon emission allowances. The refusal of the USA (accounting for 25% of the world's CO₂ emissions), China and India (both countries together produce one-third of all CO₂ emissions) to participate in the protocol reduced the effectiveness of measures taken by countries that have ratified the Kyoto Protocol. In 2013, the second phase of the protocol (Kyoto-2) began, which imposed commitments on such states as the EU, Australia, Kazakhstan, Ukraine, Belarus, Norway, Switzerland, Iceland, Liechtenstein and Monaco. Russia, Japan, New Zealand and Canada refused to participate in the protocol. The need for a transition to sustainable development of supply chain has contributed to the strengthening of planned principles in regulating the use of natural resources and environmental protection: the relevant state bodies (councils, commissions, committees under governments or heads of state) were established; *national plans for improving the quality of the environment for 5-10 years have been developed*. More than 100 states of the world have formed state bodies for environmental protection. National states enter into environmental relations among themselves under the leadership of international organizations, UN programs, non-governmental organizations. The transition to sustainable development of supply chain can be achieved only through the joint efforts of the world community.

In New York, in September 2015, the UN General Assembly on Sustainable Development of supply chain

took place, which adopted a resolution entitled "Transforming our World: The 2030 Agenda for Sustainable Development", which contained a comprehensive plan of action on the global development strategy and 17 sustainable development goals, including: "elimination of poverty, hunger"; "clean water and sanitation"; "cheap and green energy"; "combating climate change"; "conservation of marine ecosystems"; "conservation of terrestrial ecosystems"; "peace, justice and effective institutions"; "partnership for sustainable development of supply chain", etc.[20]. The Treaty on the EEU has no special section regulating environmental relations between the countries, but only an Agreement on interaction in the sphere of ecology and environmental protection. It was also decided to establish the Interstate Environmental Council. One of the priority areas of environmental relations of the states of the Eurasian Economic Union is the creation of regulatory acts that allow unifying and harmonizing environmental legislation. The legal regime of economic activity in the EEU countries should take into account the environmental interests of states. On the one hand, the natural resource sectors of the EEU states occupy a significant share of their economies. On the other hand, the most important natural resources are those shared by the states of the Eurasian region and their use by one country can damage another. It should be noted that in 2013 the CIS member states signed an agreement on cooperation in the field of the environment, which continues to be in force. In addition, there are bilateral agreements on the regulation of environmental relations at the regional level between the EEA states. However, the international legal regulation of economic activities that affect the shared natural resources of the EAPC states can be quite effective only on a multilateral basis.

4. Analysis of the sustainable development of the EEU countries

One of the indicators of sustainable development of supply chain is the Sustainable Society Index (SSI), which has been calculated by the Sustainable Society Foundation since 2006 every two years, which shows the achievements of each country on a scale from zero (the smallest sustainable development) to 10 (maximum sustainable development), while 22 indicators are taken into account in three areas: human well-being, environmental well-being and economic well-being (see Table 1).

As Table 1 shows, the first 5 places from 154 countries in the world rating by the stability index of society for "*human well-being*" (HW), in 2016 belonged to European countries: Finland, Germany, the Netherlands, Iceland and Norway, having the highest world HW indices. The United States ranked 47th in 2016, and the US HW index (7.5) in 2016 was higher than the world average (6.4). The HW index for all EEU countries in 2016 was higher than the world average, and Armenia and Belarus had the highest human welfare indices in 2016 (see Table 1). In addition, the value of the index itself increased in 2016 compared with 2006 for all states of the Eurasian Economic Union; the ratings for these

years have increased in Armenia, Kazakhstan and Kyrgyzstan and have decreased in Belarus and Russia (see Table 1). The East Asian countries of cross-border interaction with Russia, indicated in Table 1, with the exception of North Korea, had their HW index in 2016 exceeding the world average and being higher than the

2006 level. The data in Table 1 show that the indices of "economic well-being" (EcW) in 2016 for European countries-leaders in sustainable development of supply chain exceeded the world average and was 4.6, and in the US this index was below the world average and fell sharply from 7.5 to 4.0 as compared to 2006.

Table 1 - 2016 Sustainable Society Index Global Rating

	Human well-being (HW)				Environmental well-being (EW)				Economic well-being (EcW)			
	2006		2016		2006		2016		2006		2016	
	rating	index	rating	index	rating	index	rating	index	rating	index	rating	index
European countries and the USA												
Finland	1	8.9	1	9.0	133	2.6	122	3.6	7	7.5	20	6.4
Germany	9	8.4	2	8.8	128	2.9	130	3.3	26	5.8	15	6.6
Netherlands	7	8.5	3	8.8	136	2.5	132	3.1	9	7.3	28	6.0
Iceland	4	8.7	4	8.8	112	3.3	118	3.7	29	5.6	44	5.2
Norway	5	8.7	5	8.8	114	3.2	119	3.7	6	7.5	1	8.4
USA	44	7.4	47	7.5	142	2.3	140	2.6	39	7.5	87	4.0
EEU countries												
Armenia	45	7.3	42	7.6	68	5.2	108	4.0	117	3.1	121	3.2
Belarus	30	7.8	34	8.0	104	3.5	125	3.6	51	4.7	89	3.9
Kazakhstan	46	7.3	43	7.6	135	2.5	138	2.7	116	3.1	40	5.3
Kyrgyzstan	62	6.8	59	7.0	40	6.4	77	4.9	133	2.5	145	2.2
Russia	59	6.8	64	6.9	140	2.4	144	2.5	49	4.9	37	5.5
East Asian countries of cross-border interaction with Russia												
China	86	6.0	85	6.4	88	4.3	116	3.8	40	5.1	36	5.5
North Korea	77	6.2	89	6.2	86	4.4	55	5.6	80	3.8	93	3.9
South Korea	19	8.2	19	8.3	137	2.5	142	2.5	22	6.0	11	6.8
Mongolia	79	6.2	82	6.4	103	3.8	136	2.9	120	3.0	71	4.3
Japan	14	8.2	15	8.5	117	3.1	120	3.6	86	3.7	105	3.7

Source: compiled by the author according to

2016 EcW index for the EEU countries - Russia and Kazakhstan - was higher, while for Armenia, Belarus and Kyrgyzstan was below the world average. The lowest ratings on economic well-being among the EEA countries in 2016 were in Armenia and Kyrgyzstan. The index of economic well-being of the countries of cross-border interaction with Russia in 2016 was higher than the world average in China and South Korea. In North Korea, Mongolia and Japan, the EcW index was below the world average, and the ratings compared to 2006 only increased in China, Mongolia and South Korea. A decline in ratings of **environmental well-being (EW)** from 2006 to 2016, as shown in Table 1, in European countries and the United States, as well as in the EEU states and the cross-border East Asian countries, which rank at the bottom of the world ranking of 154 countries, causes serious concern and anxiety. The EW index in the EEU countries in 2016 was *below the world average index of environmental well-being* (4.8) [18] except for

Kyrgyzstan. It can be concluded that, on the way to sustainable development of supply chain, environmental problems are a huge obstacle for the EEU states. This is also confirmed by the studies of the Center for Environmental Policy and Law of Yale University, which calculates ratings for the world countries by the Environmental Performance Index (EPI). The index ranks the countries according to their environmental achievements and on its basis, states can compare their achievements and disadvantages with other countries. The EPI index includes 16 indicators being grouped into two environmental groups: 1) reducing the environmental burden on human health; and 2) ensuring the reasonable use of ecosystems and natural resources (see Table 2). Table 2 shows that Switzerland ranks first by the index of environmental efficiency since 2008 (in 2016 - Finland). In other European countries-leaders of sustainable development of supply chain and the United States, the ratings by the index of environmental

efficiency in 2018 increased compared to 2008, and the indices in absolute terms decreased.

Another notable fact is that the environmental performance ratings of the EEU states are ten times lower than the ratings of the leading states and were reducing from 2008 to 2018. The lowest ratings by the environmental efficiency index in 2018 were in Kazakhstan (101) and Kyrgyzstan (99). The absolute value of the EPI in the EEU countries from 2006 to 2018

went down. This again shows the unfavorable environmental situation in the countries of the Eurasian Economic Union. Among the East Asian countries of transboundary cooperation with Russia in 2018, Mongolia (83) and China (120) had particularly low ratings, which indicates a negative trend in the ecology of these countries and complicates the environmental situation in the cross-border regions of Russia and nearby countries.

Table 2 - World Rating for the Environmental Performance Index (EPI), 2008-2018

Country	2008		2018	
	Rating	Index	Rating	Index
European countries and the USA				
Switzerland	1	95.5	1	87.42
France	10	87.8	2	83.95
Denmark	25	84.0	3	81.60
Sweden	2	93.1	5	80.51
Great Britain	14	86.3	6	79.89
USA	39	81.0	27	71.19
EEU countries				
Armenia	62	77.8	63	62.07
Belarus	43	80.5	44	64.98
Kazakhstan	107	65.0	101	54.56
Kyrgyzstan	94	69.6	99	54.86
Russia	28	83.9	53	63.79
East Asian countries of cross-border interaction with Russia				
China	105	65.1	120	50.74
South Korea	51	79.4	60	62.30
Mongolia	100	68.1	83	57.51
Japan	21	84.5	20	74.69

Source: compiled by the author according to [14]

The data in Table 3 on solid, gaseous and liquid pollutant emissions from stationary sources also indicate serious environmental problems in Russia and other EEU countries and confirm the earlier conclusion that the environmental factor seriously hinders the progress of the EEU countries towards sustainable development of supply chain. Table 3 shows that within the framework of the EEU, Russia and Kazakhstan account for more than 97% of emissions of substances polluting the atmosphere and the greatest negative impact on the environment; The remaining states have less influence on the environment in the region. The highest

greenhouse gas emissions per capita in Russia are 17.35, and in Kazakhstan - 15.75 tons of CO₂-equivalent per unit of GDP 807 and 676 t CO₂-equivalent per million dollars of GDP, respectively. For comparison: in EU countries the specific average of greenhouse gas emissions are 8.77 tons of CO₂-equivalent per capita and \$238 CO₂-equivalent per 1 million dollars of gross national product. In Armenia and Kyrgyzstan, the level of emissions of pollutants into the atmosphere is much lower than that of Russia and Kazakhstan, but this is no longer indicative of achievements in energy saving, but of an insufficient level of their industrial development.

Table - Emissions of solid, gaseous and liquid atmospheric pollutants by stationary sources in the EEU countries in 2011-2015 (thousand tonnes)

Countries EEU	Emissions of solid atmospheric pollutants by stationary sources			Emissions of gaseous and liquid atmospheric pollutants by stationary sources		
	2011 (thousand tonnes)	2015 (thousand tonnes)	2015/2011 (%)	2011 (thousand tonnes)	2015 (thousand tonnes)	2015/2011 (%)
Armenia	114.6	128.9	112	111.6	123.8	111
Belarus	371.1	458.3	123	331.0	428.2	129
Kazakhstan	2,346.2	2,180.0	92	1,715.2	1,714.0	99.9
Kyrgyzstan	36.3	61.0	168	24.3	36.3	149
Russia	19,162	17,296	90	16,879.2	15,475.3	91.7
EEU	22,030.2	20,124.2	91,4	19,061,3	17,226.0777, 6	93.3

Source: compiled by the author according to [18]

In 2016, Russia, according to the Statistical Review of World Energy (BP) in terms of carbon dioxide emissions (accounting for more than half of the total amount of greenhouse gas emissions) took the 4th place in the world (1.5 billion tons or 3.6% of the total global CO₂ emissions) after China (27.3%), the United States (16.0%), and India (6.8%). This leads to adverse climatic changes. Environmental problems cause annually damage to Russia amounting to 15% of GDP. In our country, Presidential Decree No. 440 of April 1, 1996, "On the Concept of the Transition of the Russian Federation to Sustainable Development" was adopted, but it remained, according to experts, unimplemented. In 2016, the United Nations and the German Fund "Bertelsmann Stiftung" began calculating the *Sustainable Development Goals Index* (SDG Index),

which was adopted in 2015 (17 goals) by the UN member states under the Agenda for sustainable development of supply chain until 2030. According to the research for 2017, Sweden, Germany, Denmark, Finland and the Czech Republic took the first five places by achieving the goals of sustainable development. The EEU countries from 2016 to 2017 increased their rating by the *SDG Index* with the exception of Russia (see Table 4). The East Asian countries of cross-border cooperation with Russia in 2017 were distributed as follows: Mongolia - 95th place, South Korea - 31st, China - 71st, Japan - 11th. A study by the Fund concluded for the East Asia that the region needs to better balance its economic development with environmental sustainability.

Table 4- The index of progress by the sustainable development of supply chain goals of the EEU states in 2016-2017.

Country	Country rank by the SDG Index	
	2016	2017
Armenia	50	43
Belarus	23	21
Kazakhstan	54	46
Kyrgyzstan	67	49
Russia	47	62

Source: compiled by the author according to [13]

In 2016, the Council of the Eurasian Economic Commission adopted a decision "On the formation of priority Eurasian technology platforms" (ETP), among which there is a platform "Environmental Development Technology", within the framework of which a list of major joint environmental projects has been determined in the following areas:

- Creation of environmentally friendly technologies and industries.
- Creation of technologies for the environmentally sound management of waste, including the elimination of accumulated environmental damage.

- Creation of technologies and systems for monitoring, assessing and forecasting the state of the environment, natural and man-made emergencies, the effects of climate change, including innovative tools for instrumental pollution control.
- Creation of technology of rational nature management, maintenance of environmental safety and new environmental standards of human life.
- Development of the environmental services market.

3. Conclusion

The study showed that along the way to sustainable development of supply chain, environmental problems are a serious obstacle for the EEU states, especially for Russia and Kazakhstan [21]. Eurasian countries need to harmonize environmental legislation and move to a unified environmental policy, especially in the field of shared natural resources. It is necessary to improve the effectiveness of environmental cooperation with the East Asian countries of cross-border cooperation, especially with China and Mongolia, which face serious environmental problems. The most important strategic directions for the transition to sustainable development of supply chain are close cooperation in the field of creation of environmentally friendly technologies and the formation by the EEU countries of strategies for the development of a "green" economy [22]. The economic activities of the countries of the Eurasian Economic Union, on the one hand, are of a regional nature, and on the other hand, have consequences adversely affecting the global ecology. Preservation of the environment and life on our planet is a task that the Eurasian countries can solve only by coordinating their environmental relations with each other and with other states of the world.

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