

# The possibilities of implementing the ideas of sustainable development in the content of school geography

*Aizhan Bazilova*<sup>1</sup>, *Kulyash Kaimuldinova*<sup>1\*</sup>, *Emin Atasoy*<sup>2</sup>, *Nurzhanat Shakirova*<sup>1</sup>, and *Gulnaray Sabdenalieva*<sup>1</sup>

<sup>1</sup>Abai Kazakh National Pedagogical University, Almaty, Kazakhstan

<sup>2</sup>Bursa Uludağ Universities, Bursa, Turkey

**Abstract.** The article analyzes the possibilities of implementing the ideas of sustainable development in school geography. A review of the literature conducted through keywords shows that there are problems in introducing the ideas of sustainable development into school geography curricula, which is due to the different status of the geography subject in different countries and the predominance of some sustainable development goals over others. In particular, the school geography is dominated by the environmental component of the sustainable development goals, it is expressed mainly in the form of suggestions on how to behave in nature, etc. The results of the analysis of the content of the school geography curriculum in Kazakhstan are presented. In addition, within the framework of the geography course at the school, an attempt was made to identify the main ways to implement the ideas of sustainable development.

## 1 Introduction

In September 2015, world leaders adopted the Sustainable Development Goals (SDGs) at the UN Summit [1]. It covers almost all areas of human life: the poverty reduction, human rights, health, education, environmental protection, etc. This document, called «Agenda 2030», contains 17 Sustainable Development Goals (SDGs) that call for urgent action for all countries, each of which has the necessary tasks to achieve this goal (174 in total) and indicators for each target goal (231 in total) [2].

The 4th goal, which is important for achieving all these goals, is related to education. The framework of action «Education – 2030» sets out the guiding principles for achieving this goal and the obligations of states in this area [3]. By providing education through sustainable development, we can find ways to solve future and current global problems. At the same time, the viability of society falls behind.

UNESCO coordinates the framework program Education for Sustainable Development (ESD) for the period up to 2030 and thus supports the implementation of sustainable development ideas in the field of education at the international level [4, 5]. This, in turn, will allow school teachers to implement many large-scale projects, starting with online courses

---

\* Corresponding author: [kaimuldinovakulyash@gmail.com](mailto:kaimuldinovakulyash@gmail.com)

(due to climate change). Today, another group of scientists disagrees with this view, considering education for sustainable development (ESD) as a program that saves not only the general education system, but the entire planet [6].

In order for people to participate in solving global problems and take responsibility for what is happening around them, the education system must support critical thinking and high-quality education. This allows you to make the right decisions from your point of view, predict the future. To do this, the education system needs new approaches. Only then can dynamic development, an ecological society and a global economy flourish, and humanity can be educated and educated in a new way. This requires an education system designed to implement the Sustainable Development Goals at the global level.

Highly developed countries around the world have made great progress in education for sustainable development over the past 20-25 years. This is based on the understanding that the main guarantee of sustainable development in developed countries is the development of human capital. The results of the research of Swedish scientists show that in achieving sustainable development in developed countries, attention is paid to social and environmental factors, and in developing countries-to economic and social factors [7]. For example, in higher education institutions in the United States, thousands of new programs in education for sustainable development have been developed, and the experience of specialties and integrated learning has been formed. In addition, the ideas of sustainable development in this country are also being implemented in the direction of creating sustainable, green schools [8].

In general, green schools are not only an attribute of sustainable development, but also have a positive impact on the aesthetic impact and health of students, as well as their academic achievement. Thus, greening is closely linked with the social goals of sustainable development. Thanks to the experience of research conducted in the school environment in recent years, the results were obtained that the presence of a strong connection with nature has a positive impact on the main factors necessary for students' success in school, including attention and low stress [9, 10]. American scientist Ming Kuo said that greening, is associated with depression and anxiety, diabetes, attention deficit / hyperactivity, various infectious diseases, etc. It has a positive effect on the prevention and treatment of diseases, thereby improving the health of society [11]. This proves that social and environmental factors are interrelated in education in the direction of sustainable development.

Iceland's curriculum for all levels of Public Schools (Primary, Secondary, Higher) also reflects sustainable development education. The researchers specifically analyzed that in these programs the ideas of sustainable development are reflected through the leading concepts of «nature and environment», «rational use of nature», «well-being and health», «equality», etc. [12].

The National Education Standards in Germany are based on the concept of geographical education of the XXI century, systemic competence [13]. In the system concept, the Earth is considered in space as a system of «man – environment». The economic basis of sustainable development is characterized not only by the inclusion of economic activities of human society in the environment, but also by the fact that its consequences complicate the overall system of global relations. This is the main difference between geography and other disciplines - another proof of the consideration of spatial laws of complex relations. The connections in this system are diverse and complex.

School geography, including the course of social geography, is an important tool for implementing the ideas of education for sustainable development. This is because the content of school geography includes the spatial patterns of the trinity of sustainable development (economic, environmental and social).

In this context, we have analyzed the educational potential of school geography for sustainable development on the basis of domestic and foreign experience, based on the specific goals of sustainable development.

## 2 Methodology

The general review of the literature was carried out on the basis of the guidelines of the PRISMA methodology proposed by Moher and others [14]. In this methodology, the advantages are taken into account primarily for systematic analysis and meta-analysis, i.e. when searching for research materials, we are guided by the keywords underlying the research. Thus, we used keywords such as «sustainable development», «sustainable development goals», «social geography», «social stability», «environment», «poverty reduction», «gender equality». During The search and selection of DOAJ, Research Gate, ERIC and Google Scholar databases did not restrict the age of scientific articles and official documents. The main principle here was the relevance of the topic under consideration and the value of the research materials. However, the analytical review pays special attention to foreign publications published in recent years. As a result of the search, about 100 sources related to the research topic were collected.

The next stage of the study was the grouping of the collected materials. For this purpose, a classification was made on the basis of headings and annotations of full-text sources. At this stage, we were guided by the principles of relevance, authority and relevance of resource selection proposed by M. Browning and A. Rigolon, 2019. In this context, the level of research on sustainable development issues and the relevance of the reviewed sources in relation to the research topic were analyzed. An analysis of the content of school geography programs in Kazakhstan was carried out in the context of opportunities to cover the sustainable development goals. Analytical materials are summarized in the form of tables and presented as opportunities for implementing SDGs in the educational process. In the course of the study, a descriptive analysis of the possibilities of introducing the problem of education for sustainable development into the educational process of schools, including in relation to the content of the subject of geography, was carried out. Based on this, our article has acquired a review character.

## 3 Discussion

Education is the first element of sustainable development. It not only develops scientific and technical skills, but also stimulates the younger generation through the formation of cognitive, social skills, interaction skills. The international community believes that through education, students can develop educational skills and lifestyles for a sustainable future. Education is an educational process that helps the ideas of sustainable development to make the right long-term decisions in the economic, environmental and social spheres. Inequality, social fragmentation, and political extremism have led many societies to crisis. Advances in digital communications, artificial intelligence, and biotechnology have great potential, but they are also causing ethical and managerial problems. Knowledge and education are the most important renewable resources of humanity to respond to challenges and alternative inventions. In this context, we would like to emphasize that knowledge can not only respond to a changing world, but also change the course of the entire world (UNESCO launches).

The main goals of sustainable development should be implemented on the basis of quality education, and these ideas should be equally understood by people of all ages of society. In order to use the collective intelligence of humanity, it is necessary to mobilize many rich ways of living and learning, relying, in turn, on a broad, open consultative process in which

young people, educators, civil society, governments, business circles and other stakeholders participate.

It is important that the idea turns into action, so during the analysis of the document "the basis for action in the field of education for Sustainable Development after 2019", we have visually summarized the list of actions presented here (Figure 1).



**Fig. 1.** Priority areas of action in the direction of ESD

This document provides for the mobilization of interested parties and assistance in the development of comprehensive partnership relations and networks for the implementation of the ESD until 2030. At the same time, the need for active awareness-raising and communication work to demonstrate the importance of ESD in achieving sustainable development is emphasized (UNESCO General Conference, 2019).

One of the priority areas of activity of ESD is teachers. Teachers of schools and teaching staff of universities, regardless of what subject they teach, should provide education in the direction of sustainable development within the framework of the content of their subject. Therefore, in increasing the subject competencies of teachers, it is very important to make effective methods for implementing the Sustainable Development Goals and new knowledge in this direction available. K. WoonSun [15], which conducted a special survey of 245 teachers in schools in the Republic of Korea, noted that, enabled them to work with students in the future by incorporating ESD related materials into future teacher training programs at pedagogical universities. Abai Kazakh National Pedagogical University, as a representative of Kazakh universities from 16 universities in 9 Asian countries, participates in the project «Promoting the training of teachers for education related to climate change through cooperation between Asian centers of excellence in education for Sustainable Development» (2021-2024). It is expected that within the framework of this project, a common Asian document will be developed on preparing future teachers for climate change training.

Croatian researchers [16] have specifically considered the possibilities of geographical education for sustainable development. They noted that the implementation of the concept of sustainable development depends on educated and motivated individuals, and that the priority of geographical education is to address issues in environmental, economic, technological and

socio-cultural terms. According to scientists, it is important to change the content of geographical education in the context of sustainable development ideas in order to form students' knowledge and qualifications in the direction of sustainable development. From this point of view, it is necessary to teach students a sustainable lifestyle, the idea of peace and tolerance, and the assessment of cultural diversity. The researchers suggest that in the content of geographical education, education in the direction of sustainable development should be carried out through school projects. We believe that student projects aimed at revealing local manifestations of sustainable development ideas should be considered as another important opportunity for school geography in education in the direction of sustainable development.

Researchers [17] have noted that in the context of the coverage of geography textbooks for high school in Germany on the issues of sustainable development, this issue is not uniform in the content of geography. Based on the data of other researchers, scientists analyzed the level of coverage of topics related to energy, noting that agriculture, spatial differences, water and Coast, and migration flows are considered a little. One of the most important sustainable development goals is called «Affordable and clean energy», which is why this study focuses on the fact that energy consumption and saving are very important topics from a social point of view and are necessary for students. An analysis of 15 geography textbooks of secondary schools in Thuringia and North Rhine-Westphalia showed that the problems of sustainable energy are presented in these textbooks only in the direction of review and mainly in the context of their relationship with environmental problems, priority attention is paid to technologies, it is not aimed at showing the relationship of energy with real social problems, developing a critical attitude of students, offering them alternative ways of economic development. In this context, we would like to note that there are no such specific studies on certain topics in Geography textbooks for schools in Kazakhstan.

Geography is an ancient and well-known field that formulates the relationship between man and the environment by combining elements of natural and social sciences [18]. Usually, there is enough research on the direct and indirect impact of environmental factors on the development of society. For example, the diversity of climatic conditions on Earth determines the economic specialization and lifestyle of the population. Recent research [19] proves the impact of climate on technological development [19]. In this context, the Sustainable Development Goals reflect the close relationship between natural science and social issues. Therefore, the subject of geography at school, along with other subjects of the Natural Science cycle, has the potential to form students not only a natural science picture of the world, but also a scientifically based view of the prospects for sustainable development of human society. But whether these issues are covered in geography programs for the school is another matter.

Issues of sustainable development, involving the harmony of nature and society, cover all major sections of school geography in modern Kazakhstan (physical geography, economic geography, social geography, geoecology and nature management, political geography and geopolitics). The content of school geography programs for grades 7-9 in Kazakhstan was analyzed (Educational programs. 2017). The analysis considered the possibility of implementing ESD in the educational process (Table 1).

There are many problems in our society on the way to sustainable development, but they remain in social networks and publications. As you can see in Table 1, the potential of the topics presented in the program is high, but they are not used in the learning process. It is up to the methodologists to determine in which direction the problematic issues should be raised, which methods should be given priority.

**Table 1.** Opportunities for implementing SDGs in the content of school geography in grades 7-9 in Kazakhstan

| Section                   | Subdivision                       | Topics                                                                                                                                                   | Possibility to cover SDG (Sustainable Development Goal) within the topics                                                                                                                                                                                                                                                                   |
|---------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical geography</b> | Litosphere                        | Problems associated with the development of mineral resources                                                                                            | <ul style="list-style-type: none"><li>• Responsible consumption and production</li><li>• Sustainable cities and communities</li></ul>                                                                                                                                                                                                       |
|                           | Atmosphere                        | Adverse atmospheric phenomena related to local climate change<br><br>The negative impact of human activities on the atmosphere                           | <ul style="list-style-type: none"><li>• Climate action</li><li>• Life on land</li><li>• Sustainable cities and communities</li></ul>                                                                                                                                                                                                        |
|                           | Hydrosphere                       | Importance of water resources<br><br>Environmental problems of inland waters<br><br>Water disasters<br><br>Environmental problems of water resources     | <ul style="list-style-type: none"><li>• Clean water and sanitation</li><li>• Sustainable cities and communities</li><li>• Climate action</li><li>• Responsible consumption and production</li></ul>                                                                                                                                         |
|                           |                                   | Ways to solve the problems of the World Ocean                                                                                                            | <ul style="list-style-type: none"><li>• Climate action</li><li>• Life below water</li><li>• Responsible consumption and production</li></ul>                                                                                                                                                                                                |
|                           | Biosphere                         | Biosphere and its components<br><br>Soil ecological problems<br>Life in the oceans                                                                       | <ul style="list-style-type: none"><li>• Life on land</li><li>• Climate action</li><li>• Responsible consumption and production</li><li>• Life below water</li></ul>                                                                                                                                                                         |
|                           |                                   | Protection of flora and fauna<br>Types of specially protected natural areas<br><br>Natural heritage of Kazakhstan                                        | <ul style="list-style-type: none"><li>• Clean water and sanitation</li></ul>                                                                                                                                                                                                                                                                |
|                           |                                   | Natural and territorial complexes<br><br>Anthropogenic factors affecting natural complexes<br><br>Ways to improve anthropogenic landscapes               | <ul style="list-style-type: none"><li>• Life on land</li><li>• Clean water and sanitation</li></ul>                                                                                                                                                                                                                                         |
|                           | Natural and territorial complexes | Anthropogenic factors affecting natural complexes<br><br>Ways to improve anthropogenic landscapes                                                        | <ul style="list-style-type: none"><li>• Life on land</li><li>• Clean water and sanitation</li></ul>                                                                                                                                                                                                                                         |
| <b>Social geography</b>   | Population geography              | Demographic indicators and demographic situation<br><br>Demographic problems<br>Problems of settlements in Kazakhstan<br><br>The process of urbanization | <ul style="list-style-type: none"><li>• Zero hunger</li><li>• No poverty</li><li>• Good health and well-being</li><li>• Gender equality</li><li>• Reduced inequalities</li><li>• Quality education</li><li>• Decent work and economic growth</li><li>• Peace, justice and strong institutions</li><li>• Partnership for the Goals</li></ul> |

|                                                          |                                                         |                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Economic geography</b>                                | Natural resources                                       | Problems associated with the development of natural resources<br><br>Technology of processing of natural resources, centers and types of finished products<br><br>Problems related to nature management in Kazakhstan | <ul style="list-style-type: none"><li>• Life on land</li><li>• Responsible consumption and production</li><li>• Clean water and sanitation</li><li>• Industry, innovation and infrastructure</li></ul>                                                                                                                                                          |
|                                                          | Sectoral and territorial structure of the world economy | Sectors of the world economy: agriculture and industry                                                                                                                                                                | <ul style="list-style-type: none"><li>• Industry, innovation and infrastructure</li><li>• Climate action</li><li>• No poverty</li><li>• Zero hunger</li></ul>                                                                                                                                                                                                   |
|                                                          | Socio-economic resources                                | Indicators of the Human Development Index<br><br>Development of human capital in Kazakhstan                                                                                                                           | <ul style="list-style-type: none"><li>• No poverty</li><li>• Zero hunger</li><li>• Decent work and economic growth</li><li>• Gender equality</li><li>• Quality education</li></ul>                                                                                                                                                                              |
|                                                          | Trends and indicators of world economic development     | Indicators of World Economic Development<br><br>Types of international economic relations                                                                                                                             | <ul style="list-style-type: none"><li>• No poverty</li><li>• Zero hunger</li><li>• Affordable and clean energy</li><li>• Industry, innovation and infrastructure</li><li>• Reduced inequalities</li><li>• Responsible consumption and production</li></ul>                                                                                                      |
| <b>Basics of country studies and political geography</b> | Countries around the world                              | Political map of the world<br><br>Political and geographical situation of the countries<br><br>Classification of countries by level of economic development<br><br>Levels and goals of international organizations    | <ul style="list-style-type: none"><li>• No poverty</li><li>• Zero hunger</li><li>• Good health and well-being</li><li>• Quality education</li><li>• Affordable and clean energy</li><li>• Industry, innovation and infrastructure</li><li>• Reduced inequalities</li><li>• Peace, justice and strong institutions</li><li>• Partnership for the Goals</li></ul> |

In this article, we provide a brief overview of some of the Sustainable Development Goals related to social geography. Out of 17 goals of sustainable development, 9 goals (eradication of poverty, hunger, health, quality education, gender equality, decent work and economic growth, reduction of inequality, peace, rights and effective institutions, partnership for sustainable development) include social orientation. Many other goals are also closely related to social issues, and in this case, the breadth of the subject of geography helps us, that is, it proves the importance of the subject in education for sustainable development. UN Secretary-General Antonio Guterres, speaking to the participants of the International Labour Organization forum, also stressed the need to put people first on the issue of climate change (UN Secretary General, 2022). This proves that all Sustainable Development Goals have a social «image».

One of the sustainable development goals is to eradicate poverty. According to the UN, more than 800 million people currently live on the poverty line in countries around the world [20]. The objectives of sustainable development aimed at eradicating poverty include reducing poverty by 50% worldwide by 2030; ensuring that almost all men and women have equal rights to technology and economic resources; and the formation of a social protection system. Around the world, 4 billion people are still not covered by social protection, and the number of people forced to starve in 2020 due to the coronavirus pandemic increased by another 83-132 million people and reached 771-820 million people (The Poverty and Shared Prosperity 2020).

It is important to promote poverty eradication in education. It should be noted that it is one of the largest global problems, and solutions should be considered at the same time. The United Nations categorizes all people living on less than \$ 1.9 a day as poor. The poverty rate calculated by this method differs significantly in individual regions (Table 2).

**Table 2.** Poverty level in the regions of the world in 1990–2018,% (The Poverty and Shared Prosperity 2020).

| Regions                          | 1990 | 1996 | 2002 | 2008 | 2011 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|
| East Asia and the Pacific region | 60,9 | 40,4 | 29,1 | 14,8 | 8,1  | 2,6  | 2,1  | 1,7  | 1,4  | 1,2  |
| Europe and Central Asia          | 3,1  | 7,0  | 5,7  | 2,7  | 2,0  | 1,8  | 1,5  | 1,3  | 1,3  | 1,1  |
| Latin America and the Caribbean  | 15,2 | 13,9 | 12,1 | 7,0  | 5,7  | 4,1  | 3,8  | 3,9  | 3,9  | 3,8  |
| Middle East and North Africa     | 6,6  | 6,3  | 3,4  | 2,8  | 2,3  | 2,7  | 3,8  | 5,1  | 6,3  | 7,2  |
| South Asia                       | 48,7 | 41,6 | 39,8 | 30,6 | 20,9 | 15,2 | -    | -    | -    | -    |
| Sub-Saharan Africa               | 55,7 | 59,8 | 56,4 | 49,0 | 45,3 | 42,1 | 41,8 | 41,7 | 41,0 | 40,2 |
| The world                        | 0,4  | 0,6  | 0,5  | 0,5  | 0,6  | 0,6  | 0,7  | 0,6  | 0,6  | 0,6  |

Poverty reduction is one of the main goals of the Sustainable Development Agenda 2030 (General Assembly UN,2018-2021). In turn, it is closely linked to gender equality, quality education, health and the environment, which are important for the sustainable development of mankind. These indicators are indicators of socio-economic development of the population. To this end, the issue of poverty should be considered in depth in the school's social geography department. Geography textbooks for secondary schools in Kazakhstan include materials on poverty eradication. For example, a geography textbook for 10th grade in science and mathematics introduces the concept of income poverty and gives examples. It is important to include information on poverty and the fight against poverty in the content of school geography.

Ensuring gender equality and empowering all women and girls is one of the goals of sustainable development. Ensuring gender equality should also be considered in all areas of education. Including in the department of social geography. Implementation of the Strategy for Gender Equality is one of the key objectives of the United Nations Development Program. In order to achieve the goals of the agenda of the organization in the field of sustainable development until 2030, the issue of expanding the rights and opportunities of women, as well as ensuring gender equality, is very important, because it is impossible to implement sustainable development in the world if the rights and opportunities of the second part of humanity are not fully realized [1].

If we consider gender equality across the country, the Constitution of Kazakhstan prohibits discrimination based on gender. Over the past 14 years, a number of strategies and

laws have been adopted in this direction. In particular, the strategy of gender equality of the Republic of Kazakhstan for 2006-2016 was developed, and the law «on state guarantees of equal rights and equal opportunities for men and women» was adopted in 2009. In addition, in 2016, the concept of family and gender policy in the Republic of Kazakhstan until 2030 was published. The National Bureau of statistics of the agency for Strategic Planning and reform of the Republic of Kazakhstan systematically conducts gender statistics in the country (Gender statistics in Kazakhstan 2021). As a result of the ongoing gender equality policy, more than 70% of girls aged 18-22 are covered by higher education in 2020 (Table 3).

**Table 3.** Gross coefficient of higher education in Kazakhstan by gender, in% (gender.stat.gov.kz)

|              | 2000  | 2005  | 2010  | 2015  | 2019  | 2020  |
|--------------|-------|-------|-------|-------|-------|-------|
| <b>Total</b> | 37,76 | 57,16 | 49,50 | 48,44 | 66,98 | 64,07 |
| including:   |       |       |       |       |       |       |
| girls        | 41,29 | 66,71 | 55,33 | 53,86 | 73,18 | 70,35 |
| boys         | 34,32 | 47,87 | 43,63 | 43,22 | 61,05 | 58,07 |

In school geography textbooks, gender issues are reflected only in the form of social indicators. In the geography program for the 10th grade on the topic «comparison of countries in the world», a comparison of countries by gender balance is considered. As if this is not enough, the geography teacher needs to form students ' knowledge of this issue through examples and tasks based on specific facts about gender balance in the classroom.

The fourth goal of sustainable development is quality education. The objectives of this goal include ensuring free quality education for all boys and girls until 2030; improving literacy by 2030; providing opportunities for universal lifelong learning. Quality education forms the basis for improving the living conditions of people and ensuring sustainable development. Great progress has been made in expanding access to education at all levels, increasing the coverage of women and girls with school education. There is a significant increase in the level of basic literacy, but it is necessary to take even more decisive measures to achieve the goals of ensuring universal education. For example, the world has created equal conditions for primary education for boys and girls, but there are not many countries that have been able to achieve this at all levels of education. According to the UNESCO Institute of Statistics, 63 million (6-12 years old) children do not go to primary school worldwide, 61 million (12-14 years old) children go to secondary school, and 139 million teenagers (15-17 years old) do not continue their studies in high school (One in Five Children, 2018).

The problem of quality education is reflected in the geography of schools in Kazakhstan. For example, in the geography textbook for the 10th grade of the natural and mathematical direction, the topic «social indicators used in the comparison of countries of the world» is given, where the indicators of Kazakhstan in the field of education, ratings of national education systems in the formation of the concept of «index of social progress» are analyzed [20]. In addition, it is covered in a number of sections in the form of separate examples and explanations.

In general, the ideas of sustainable development should be implemented in the field of Education. In particular, it is necessary to conduct a comprehensive analysis of the main Sustainable Development Goals, which will be considered by the Department of social geography. It will allow students to understand the environment, solve simple and complex problems, understand the problems of poverty, hunger, health problems, gender inequality, etc.that threaten the future, and bring new ideas.

## 4 Conclusion

Geographical education at any level is based on the science of geography in terms of content and information. School geography also relies on the science of geography. The importance of linking the Sustainable Development Goals with current trends in geographical science is determined by the ability of geography to study the spatial laws of World Development. Thus, the information on sustainable development included in the content of school geography should be scientifically based. In this context, it is very important to analyze the state of study of each Sustainable Development Goal in the context of modern Geographical Science. It is established that the possibilities of implementing the ideas of sustainable development in the content of school geography require special study.

The results of the study confirm that the need to include SDGs in the content of school geography should be clarified on specific topics, although there is no doubt. A broad presentation of the Sustainable Development Goals from different angles is not superfluous, because it is the key to the stability of society. A special feature of this study is that the issue of SDGs implementation has never been specifically addressed in the content of school geography in Kazakhstan. The results of the study showed us another big problem, that is, the need to include materials about SDGs in the content of subjects in the curriculum (Ecology and sustainable development, Geoecology, social and economic geography of the world, etc.) in the training of future geography teachers. Only teachers trained in this way can increase the self-effectiveness of teaching the content of knowledge about SDGs included in the school curriculum. We believe that improving the knowledge of school teachers in the SDGs will not only increase their competence in the subject, but also contribute to the education of a socially responsible generation.

Since this study considers only in the form of a generalized review of the possibilities of implementing the ideas of sustainable development in the current content of school geography in Kazakhstan, it needs to be clarified experimentally in the future.

### Conflicts of interest

The authors declare that they have no conflicts of interest.

## References

1. Transformation of our world: Agenda of the day in the field of sustainable development for the period up to 2030: Resolution adopted by the General Assembly on September 25 (2015). Available from: <https://undocs.org/ru/A/RES/70/1>: Accessed 07.03.2022
2. SDG Indicators: Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development. (2018-2021). Available from: [https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202021%20refinement\\_Eng.pdf](https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202021%20refinement_Eng.pdf) Accessed 25.02.2022
3. The purpose of education in the interests of sustainable development: Tasks of training (2017). Available from: <https://unesdoc.unesco.org/ark:/48223/pf0000247444> Accessed 25.02.2023)
4. Framework for action in the field of education for Sustainable Development (ESD) in the period after 2019: UNESCO General Conference, 40th, 2019. – 19 p. Available from: [https://unesdoc.unesco.org/ark:/48223/pf0000370215\\_rus](https://unesdoc.unesco.org/ark:/48223/pf0000370215_rus) Accessed: 20.02.2022
5. Framework for the Implementation of Education for Sustainable Development (ESD) beyond 2019, 40C, 23, 3 September 2019 (2019). Available from: <https://unesdoc.unesco.org/ark:/48223/pf0000370215>

6. H. Pedersen, S. Windsor, B. Knutsson, et.al., *Educational Philosophy and Theory* **54**, 3, 224-227 (2022). DOI: 10.1080 / 00131857.2021.1987880
7. R. Bali Swain, F. Yang-Wallentin, *Int. J. of Sust. Development & World Ecology* **27:2**, 96-106 (2020), DOI: 10.1080 / 13504509.2019.1692316
8. D. Rowe, et.al., *Applied Environmental Education & Communication*, **14:2**, 112-120 (2015), DOI: 10.1080/1533015X.2014.978048
9. C. Becker, G. Lauterbach, S. Spengler, et.al., *International journal of environmental research and public health* **14(5)**, 485 (2017). DOI: 10.3390/ijerph14050485
10. M. Browning, A. Rigolon, *International Journal of Environmental Research and Public Health* **16(3)**, 429 (2019). DOI: 10.3390/ijerph16030429
11. M. Kuo, *Frontiers in psychology* **6**, 1093 (2015). DOI: 10.3389/fpsyg.2015.0109314.
12. I.A. Johannesson, et.al., *Environmental Education Research* **17:3**, 375-391 (2011), DOI: 10.1080/13504622.2010.545872
13. A. Rempfler, R. Uphues, *Eur. J. of Geography* **3**, 1, 6-22 (2012)
14. D. Moher, et.al., *PLoS Medicine* **6**, 7 (2009). DOI: 10.1371/journal.pmed.1000097
15. K. Woonson, *Cypriot J. of Educat. Sci.* **16(5)**, 2412-2533 (2021). DOI: 0.18844/cjes.v16i5.6344
16. J. Brkić-Vejmelka, A. Pejdo, N. Segarić, *Eur. J. of Geography* **9**, 1, 121-132 (2018)
17. F. Pettig, M. Kuckuck, *Rev. of Int. Geogr. Education (RIGEO)* **11(2)**, 605-628 (2021). doi: 10.33403rigeo.81060
18. T. Skou Grinsted, *Eur. J. of Geograpy* **3(4)**, 6-20 (2013)
19. M. Coccia, *Prometheus* **33**, 2, 165-186 (2015). DOI: 10.1080/08109028.2015.1095979
20. K. Kaimuldinova, S. Abilmazhinova, *Geography. Textbook for the 10th grade of general education schools of the natural and mathematical direction*. Approved by the Ministry of education and science of the Republic of Kazakhstan. Almaty, Mektep, 288 (2019)