

# **Education for sustainable development: the experience of the Republic of Tatarstan**

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**Abstract.** The article discusses the problems of education, which is designed to promote the idea of sustainable development of society, to form an ecocentric consciousness aimed at protecting the environment. The future of the country depends on the state of education for sustainable development. The research results confirm the existing contradiction between the needs of society in the field of education for sustainable development, and its real state. Despite the fact that students are well aware of what needs to be done for the sustainable development of society, the case study showed a significant discrepancy between intentions, and real actions, and everyday environmental practices of young people.

**Keywords:** sustainable development, education for sustainable development, sociological research, environmental awareness, greening education, environmental practices.

## **Introduction**

In the second half of the XX century, mankind faced a contradiction between its growing needs and the biosphere's ability to provide them. After the Second World War, the planet's economy grew 7 times, but the gap between the poor and the rich countries not only did not decrease, but grew more and more. The concept of sustainable development, which was developed in 1987 by the International Commission on Environment and Development under the leadership of the former Prime Minister of Norway, Gro Harlem Brundtland, is intended to reduce anthropogenic pressure on nature. According to the Commission's definition, sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their needs. "Today it is vitally important to understand that the logic of the entire history and development of human society warns us of the possibility of a new global ecological crisis if ... humanity follows this logic and does not change its behavior, does not find the strength to form a new development paradigm and a new morality, - wrote the outstanding mathematician and the deepest thinker of our time Nikita

Nikolaevich Moiseev. - And there will be a change of both: the social structure of society, and worldview universals! " [1, p. 158].

### Research methods

To study the value of sustainable development in the minds of students of a higher educational institution in 2017, a sociological survey was conducted using the method of a formalized written interview. In total, 105 students from three groups of the final fourth year of the specialty "State and Municipal Management" of the Kazan National Research Technological University took part in the survey, who attended the course "Social Ecology". Students answered the questions: 1. "What do you mean by the term "sustainable development"; 2. "What are you personally ready to take to improve the environment, and which of the above actions have you taken during the year"; 3. "What, in your opinion, needs to be done for the country's transition to sustainable development."

The answers showed that the students correctly answered the question what is "sustainable development", since the topic "Concept of sustainable development" was included in the course "Social ecology". The ratio of answers to the question of what students are willing to do to improve the state of the environment turned out to be interesting, and what specifically they did for this over the past year:

Tab.1

The ratio of intentions and actions (in% of the number of respondents)

What are you personally ready to take to improve the environment	%	Which of the following actions did you take during the year	%
Refuse to use harmful chemicals in the household and in summer cottages	7,31	Stopped using chemically harmful substances in the household, in the country, in the garden	19,9
Boycott food with questionable properties	70,1	Refused to eat foods with questionable properties	25,7
Voluntarily participate in actions to clean up the territory from garbage and waste	52,2	Participated in actions to clean up the area from garbage and waste	8,2
Conserve water, gas, electricity	37,3	Purposefully conserved water, gas, electricity	10,5
Vote for candidates with an environmental program	32,8	Voted for candidates with an environmental program	1,2
Participate in the work of environmental organizations	28,4	Took part in the work of environmental organizations	18,7
Take part in the improvement of the local area	13,4	Took part in the improvement of the local area	12,9
Transfer certain amounts for nature protection	6,0	Contributed certain amounts to nature conservation	1,8

As can be seen from the above table, environmental values are rather declarative in nature - they do not pass into everyday environmental practices: almost all actions, except for refusal to use harmful chemicals, are much lower than intentions. There are especially large differences between the intention to boycott food of dubious quality and the real refusal to consume food with dubious properties - 70.1% and 25.7%; the intention to participate in actions to clean up the territories from accumulated garbage, and real participation in such actions - 52.2% and 8.2%. But if the refusal to boycott goods with dubious properties can still be explained by the financial situation of the majority of students, then the refusal to participate in actions to collect garbage in parks, city gardens, on the banks of rivers and lakes cannot be explained by anything, especially since 18.7% of students answered that they took part in the work of environmental organizations, and the main goal of such organizations is educational and organizational. Nevertheless, the movement for preserving the cleanliness of the environment among young people is gaining momentum: according to the Ministry of Ecology and Natural Resources of the Republic of Tatarstan, in 2020, within the framework of the federal project "Preservation of Unique Water Bodies", over 100 thousand young people took part in the cleaning of river banks, they cleaned 1.5 thousand kilometers of territory [2]. Answers to the third question, what needs to be done for the country's transition to sustainable development, showed that students are quite well aware of all the "pain points" of the modern environmental situation and offer reasonable ways to achieve sustainable development of the country. So, for example, understanding of the global nature of environmental problems was expressed in the desire "to pay more attention to foreign experience" (the answers retained the authors' style). Understanding of the dependence of the future of the country on the awareness of all citizens of the state of the environment is manifested in the answers: "always remember about the future generation and about the inheritance for them"; "to love nature, constantly think about what we will leave to descendants, whether they will see the clear sky, whether they will hear the joyful sounds of nature". The students suggested "to engage in security in earnest, and not on paper", "to create expeditions and examine the ecological situation in all regions of the republic, attracting specialists from institutes and universities and the necessary laboratories to cooperation"; "it is necessary that the laws are respected by all without exception"; "we need clear legislation and strict implementation"; "more penalties".

### **Research results and conclusions**

The goals and values of sustainable development do not coincide with the goals of a market economy, therefore they are brought in from outside - from civil society, which self-regulates by creating environmental public organizations. So, for example, in the Republic of Tatarstan already in 2001 there were 25 environmental organizations. In 2015, the environmental

youth movement "Will be clean" was created, for 2020 it had 8666 members. For 5 years, they have given 530 lessons in environmental knowledge, the guys - members of the organization - have won a grant from the President of the Russian Federation for holding ecological holidays "Clean Games". Since 2018, 103 Environmental Education Centers have been operating in the republic, 2000 schoolchildren participate in the Young Naturalist movement [2]. The state and the international community have the right to establish environmental and ethical boundaries for the expansion of the economy into nature, which was demonstrated at the world conference under the auspices of the United Nations at the Conference on Environment and Sustainable Development in Rio de Janeiro (1992). It was attended by 18 thousand delegates from 179 countries, heads of 100 states and governments. The slogan of the conference was proclaimed by the Secretary General of the conference, Maurice Strong: "We must save the whole world, or none of us will be saved." The special role of the state and international organizations is determined by the fact that only they have the right and are able to ensure that business entities comply with environmental laws and norms that meet the criteria of sustainable development.

In the Russian Federation, the Concept of Transition to Sustainable Development was adopted by Presidential Decree № 440 of April 1, 1996. In the preamble of the Concept it is written: "Following the recommendations and principles set forth in the documents of the UN Conference on Environment and Sustainable Development (Rio de Janeiro, 1992), and being guided by them, it seems necessary and possible to carry out a gradual transition to sustainable development in the Russian Federation, ensuring balanced solution of socio-economic problems and problems of preserving a favorable environment and natural resource potential in order to meet the needs of present and future generations of people."

Among the main directions of Russia's transition to sustainable development are such as "the formation of an effective system for promoting the ideas of sustainable development and the creation of an appropriate system of education and training." As VI Danilov-Danilyan and KS Losev, famous Russian scientists and public figures, believe, "education should acquire a clearly expressed humanitarian and environmental connotation. All natural science, technical and humanitarian disciplines must be "green". Only after this can we expect a significant greening of practical activity" [3, p. 325]. Achieving sustainable development is impossible without changing the guidelines of public consciousness, establishing a new paradigm of social development and replacing the technocratic type of thinking with the ecological one. Creating an acceptable future involves a fundamental shift in the scale of values. This shift is based on the transition from the ideology of ruling to the ideology of mutual partnership - partnership between countries with different levels of economic development, different cultures, religions, between

different social groups, between men and women, between people and nature. The awareness that man is an integral part of nature should underlie all human activity [4].

To promote the idea of sustainable development in the country's higher educational institutions, special departments have been opened: for example, in Moscow, 33 universities are engaged in professional environmental training; in the Russian Chemical-Technological Institute named after D.I. Mendeleev, the departments "Industrial Ecology" and "Sustainable Development of Society" worked, and since 2000, the Institute for Problems of Sustainable Development was opened, which included the departments of sociology, basics of life safety, sustainable development, college energy and resource saving. At the Lomonosov Moscow State University, 42 departments with a specialization in ecology work at 8 faculties, the Ecology Council of the UMO of the university has been created. The Center for Theory and Methods of Environmental Education was opened at the Russian Academy of Education, and the Federation for Environmental Education was opened in St. Petersburg [5, p.145].

In the Republic of Tatarstan, students of all universities receive environmental knowledge on the subject "Fundamentals of Life Safety" for up to 100 hours; the first department related to nature conservation was opened at Kazan State University in the 70s of the XX century. In 1989, the first environmental faculty was opened at KSU; Since 1976, the Department of Engineering Ecology has been functioning at the Kazan National Research Technological University, which annually graduates 50 people with a degree in environmental engineering. Kazan State Power Engineering University graduates environmental engineers of heat and power systems. At the Kazan State Construction Academy, the Department of Landscape Architecture is engaged in education for sustainable development, which has been transformed into the School of Landscape Design [5, p.145]. In addition to academic work, students participate in research competitions and receive grants. In 2020, students of Tatarstan took part in the competition of scientific research works on environmental topics, in total 37 reports were sent to the competition [6].

### **Conclusion**

The interconnection of social, economic and environmental problems has now become obvious to everyone. The governments of all developed countries of the world are making efforts to contain irreversible processes in the environment. One of the main directions of changing the ecological consciousness of people is the promotion of education for sustainable development, that is, education that gives students a clear understanding of personal responsibility for the preservation and restoration of the natural environment, the careful use of its resources, as well as for the formation of appropriate norms of behavior. The same principles underlie the concept of sustainable development, which presupposes such a development of society in which the

satisfaction of the needs of the present generation does not jeopardize the satisfaction of the needs of future generations. This means, first of all, the preservation of resources, untouched economic activities of human lands, reduction of energy consumption, consumption of fresh drinking water, preservation of biodiversity by all people living on the planet. However, as sociological studies show, the environmental practices of young people do not correspond to their intentions, young people are limited to participating in subbotniks, planting trees and shrubs near their homes. In fact, today there is a rather acute contradiction between the demands of young people in the environmental sphere, and the real state of education for sustainable development.

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