

The concept of sustainable development in teaching of geography and economy in the new educational realities

Yeni eğitim gerçeklerinde coğrafya ve ekonomi öğretiminde sürdürülebilir kalkınma kavramı

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ABSTRACT

The school geographic education is a conductor to the concept of sustainable development. The new educational realities and reforms of 2016, which are still ongoing are reflect to the objectives of school education. One of the main objectives of pre-school and school education, regulated by the educational law, is the acquisition of competencies for implementing the principles of sustainable development. The geography and economics training ensures the introduction of sustainable development principles , including ecological, economical and social dimensions, aimed at delineation of a long-term vision for society. The educational policy in school geography aims to build skills for personal responsibility for a sustainable future. Training on sustainable development through school geographic education is defined in the specific objectives of the state standards as continuing the formation of pupils' geographical culture as part of their common culture for orientation and prudent activity in the geographical area at global, regional and national level. The conceptual educational idea of the principles of sustainable development is part of the interdisciplinary synthesis of geography with other subjects that contain the content frameworks of the concept of sustainable development – philosophy, civic education, in technology and entrepreneurship, arts. Combining educational - cognitive and educational - meaningful synthesis in sustainable development training the geography and economics course provides geography, literacy and behavioral patterns in a geographic space for a better life - conscious and oriented towards protecting the health of man and to provide a full life in harmony with nature.

Keywords: Sustainable development, curricula, geography and economy.

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1. INTRODUCTION

„The future generation has the right to an unpolluted and undisturbed Earth”.

J. Y. Cousteau

The global education and sustainable development are sensitive topics with great societal importance and priority in the development of the personality and citizenship, as phenomena and carriers of change in thought patterns and stereotypes, critical thinking and existential philosophy for life, for conscious and reasonable behavior and decisions, who are required to attend and accompany the person throughout life in all types of educational vectors – formal, non-formal and informal. In the modern society, ongoing transformation processes, changes and modulations in the entire global geographical space are constantly taking place in the conditions of active anthropogenic activity over the environment.

A modern educational strategy is the education for sustainable development, which is part of school education, and geography training is its guide. The global and the complex character of sustainable development, as well as its integrated analysis and synthesis, makes the school geography a path, means and a way to change and harmonize relations between nature and man.

Sustainable development, such as the condition of the environment, efficient use of natural resources and satisfaction the needs of the present without threatens the ability of future generations to satisfy their needs, is a global phenomenon that is rooted in every educational system. In its essence, sustainable development is a long-term mission and vision for people’s values, for relations between people and the balance of interests, between humanity and the environment. The roots of such a thought model on a holistic basis and in the long-term framework provides a quality geographical education.

2. THE IDEA FOR SUSTAINABLE DEVELOPMENT IN THE NORMATIVE DOCUMENTS

„If we take care of our planet and for each other, we will have everything we need”.

Ken Robinson

2.1. EDUCATIONAL LAW

The school geographic education is a carrier of the concept of sustainable development, as through the process of training are transmitted knowledges, skills and values, patterns and models of behavior. The new educational reality and reform are a reflection of the goals of trends in school global education.

The education as a process of training, upbringing and socialization is realized in accordance with specific principles, which have a new normative framework from 2016 in Bulgaria (Figure 1). The principles of the new educational changes are arranged in 11 directions, which are explicitly and implicitly linked in different degree and content to the principles of sustainable development. The new realities suggest that the idea of sustainable development put the national priority - *education*, as an idea-strategy for the unity and multidimensionality nature of interactions between nature and society.

The presence of the concept of sustainable development in basic educational principles is a mirror of the realized need for a total readjustment of society’s thinking for the practical realization of the concept. Geographical education is one of the most important tools for the practical application of the concept of sustainable development and a key to shaping the global thinking. A total of 12 main objectives have been operationalized and defined in the *Pre-school and School Education Law*, like the fourth objective fully linked to education for sustainable development: *„acquiring competencies to apply the principles of sustainable development”* (ZPUO, 2015).

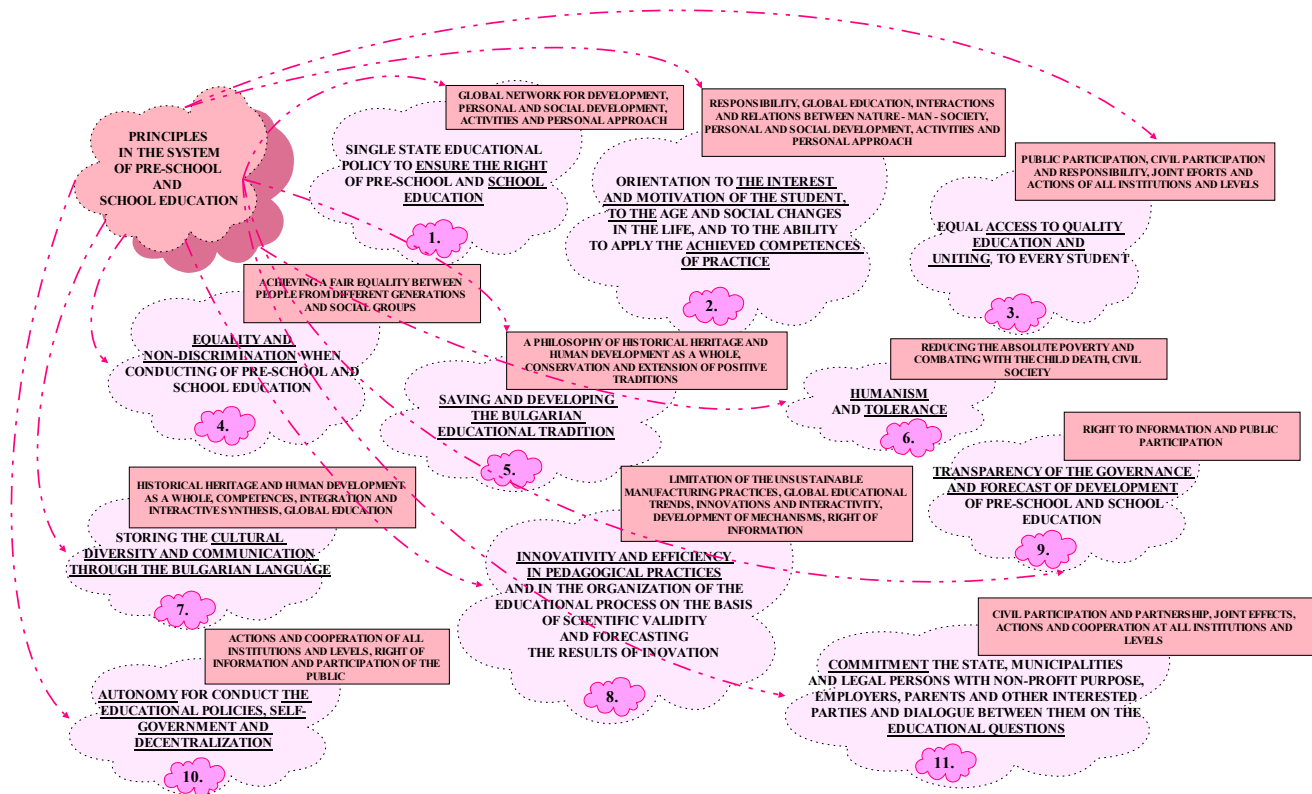


Figure 1: Generalized synthesis model of the Bulgarian educational principles and the principles of sustainable development (ZPUO, 2015; Sustainable Development Goals, 2015)

A key accent of the multidimensionality of the interaction between society and nature on the one hand and on the other hand of the education for sustainable development is a long-term vision for society through acquisition of key competences in order to apply the principles of sustainable development. The formation of a thinking global society that has the knowledges, skills and competences to apply the principles of sustainable development can only be a fact when providing quality education for all. Comparison of the goals of the Bulgarian education and the new aims of sustainable development reveals the role of the education as object and subject of the idea of achieving a better and more sustainable future for all. The challenge is to form an integrated knowledge of the global issues that are in content and goals in the context of sustainable development are inseparably linked to the development of direct and indirect relationships, interactions and interdependence. The main goals in the educational law of Bulgaria are direct and indirect carriers of the new aims of sustainable development (Figure 2).

It is difficult to distinguish between global goals when compared to the aims of education in Bulgaria, because of the large integral dependence between the purposes of sustainable development. The ZPUO sets out the main goals that cover the pre-school and school education in one large age range and does not have a aim that is not designed, adapted and expanded in a purposeful and strategic plan with some of the global goals of sustainable development. The law contains the main goals that overlap with the 17 sustainable development goals, which are a synergistic unified model of relationships - for example: 4, 10, 11, 12 (Figure 2). The principles and the main goals of education are revealed in chronological, chorological and holistic aspect, with „*common civilization priorities, spatial limitations and interdependence of modern development, in the framework of geographical envelope of the Earth...*” with the principles, goals and tasks of the sustainable development (Rusev&Shopova, 2008).

Global sustainable development goal 4 - *quality education*, present in all the aims of the network model, because the education is in closely interconnection and interaction with all other purposes, as through education the opportunities for employees to work are increasing; not to transmit poverty between generations; reducing malnutrition; reducing overweight; health care provision and awareness; widening the horizon of life for women and girls; reducing early marriage rates; mothers’ education has saved millions of children’s lives and more (BPMR, 2015).

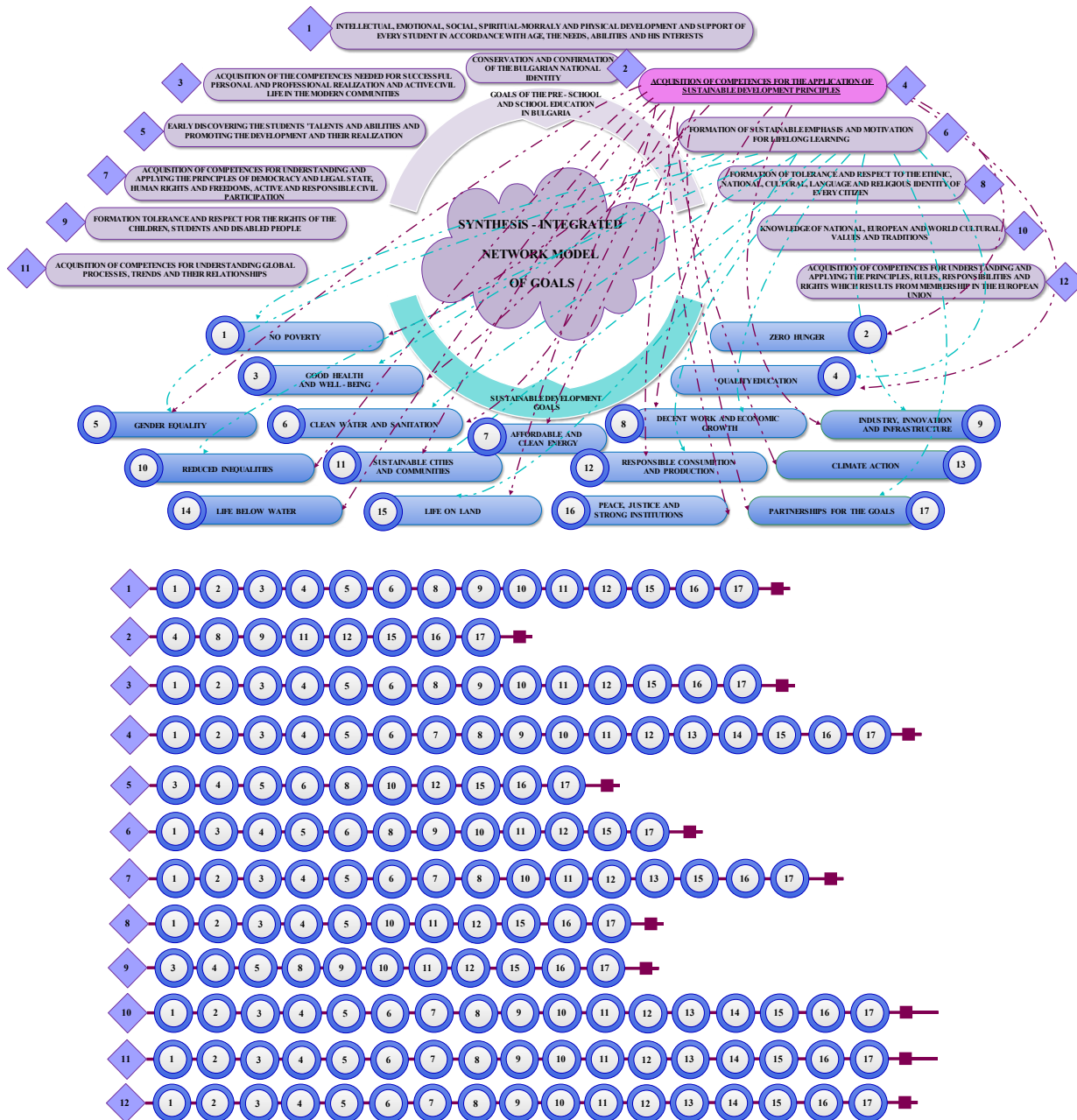


Figure 2: Network synthesis - integrated model between the goals of the education in Bulgaria and the global aims of sustainable development (ZPUO, 2015; Sustainable Development Goals, 2015)

All the new global sustainable development goals are a single set of complex from interconnected and interacting needs of the present stage of human development, which require policies at national level that, in parallel and at the same time, pass into a global dimension. The 17 sustainable development goals are an opportunity for parity and prosperity, which have a new vision since 1 January 2016 (accepted by all UN Member States in 2015) and are a continuation of the existential idea of guaranteed protection of the planet through joining forces of all countries - poor, rich and medium developed. The new goals are already part of the national goals and mechanisms, of the normative and strategic documents and institutions, structures and concepts in all spheres of anthropogenic activity and development.

The educational reform in Bulgaria is also based on the goals of sustainable development. The timeline is identical to the new law for Bulgaria on *Pre-school and School Education* of 2015 and its entry into force in 2016. Education is one of the goals, but also a tool for achieving the other aims of sustainable development, because the illiterate person does not have the capacity to form critical thinking and formed behavioral models in response to global problems and trends. Geography and economics training ensures the introduction,

acquisition of competencies to apply the principles and realization of sustainable development goals, including environmental, economic and social projections. Educational policy in school geographical education aims to build the skills to take personal responsibility for a sustainable future. One of the modern challenges facing the geographic education today is education for sustainable development.

2.2. STATE EDUCATIONAL STANDARD (DOS) IN GEOGRAPHY AND ECONOMY

According to R. Valchev, „*education in the context of sustainable development means lifelong learning education, adapting to the individual, directed practically, developing a harmonious personality, providing different and meaningful experiences, aimed at adapting it to the conditions of the global society*” or the education is the subject and the means of „*sustainable between knowledges and skills, between personal and social, between social and nature, between present and future, between emotions and reason*” (Valchev, 2004).

In the overall state - educational regulatory framework transparent and present the idea of the sustainable development, including geography and economics training: ZPUO, DOS in geography and economics, curricula in geography and economics, etc.

The state educational standards for all general school subjects from the general educational preparation include links to individual key competences (including group 9) with the expected learning outcomes of knowledge, skills and attitudes by areas of competences.

Geographical education is a tool for realizing the idea of sustainable development as one of the compulsory general education subjects in the Bulgarian school. The acquisition of general education preparation during the whole school training is realized by groups of key competences - 9 in total. The last group of key competences contains the idea of sustainable development - „*9. skills to support the sustainable development and a healthy lifestyle and sport*” (Naredba № 5, 2015).

Achieving general education preparation through geography and economics training is in „*Supporting sustainable development principles, incorporating environmental, economic and social dimensions and aiming at outlining a long-term vision for society ... and aims to build a personal responsibility for a sustainable future*” (Naredba № 5, 2015).

The conceptual educational idea of the principles of sustainable development is part of intra-disciplinary synthesis, as well as of the inter-disciplinary geography with other school subjects that contain the basic framework for sustainable development. Part of the conceptual idea and goals for sustainable development are also contained in the specific learning objectives of the relevant school subject. School subject that stand out with the significant presence of the key competences group 9 on DOS, with integrative influence and supporting geography and economics training with various expected results, activities and initiatives are: *Environment, Human and Nature, Civic Education, Technology and entrepreneurship, Biology and health education, Arts* and others.

The global sustainable development goals in the school subject *Geography and Economics* are implicitly set in the specific training objectives without the terminological concept of *sustainable development* (Figure 3).

The DOS in geography and economics for primary and secondary education degree is distinguished by the presence of the idea of sustainable development for all areas of competence by key competence group 9, with the exception of *Planet Earth*, which has no logical explanation. The area of competence contains the expected training results of the knowledges, skills and attitudes that are carriers of the macro - idea of sustainable development. In the primary and secondary degrees in both educational stages, there are differences in the two fields of competence in the area of competence *Geographic information*, where the idea of sustainable development is reflected on group 9 only for the upper secondary stage of education, but it is also present in the first high school stage.

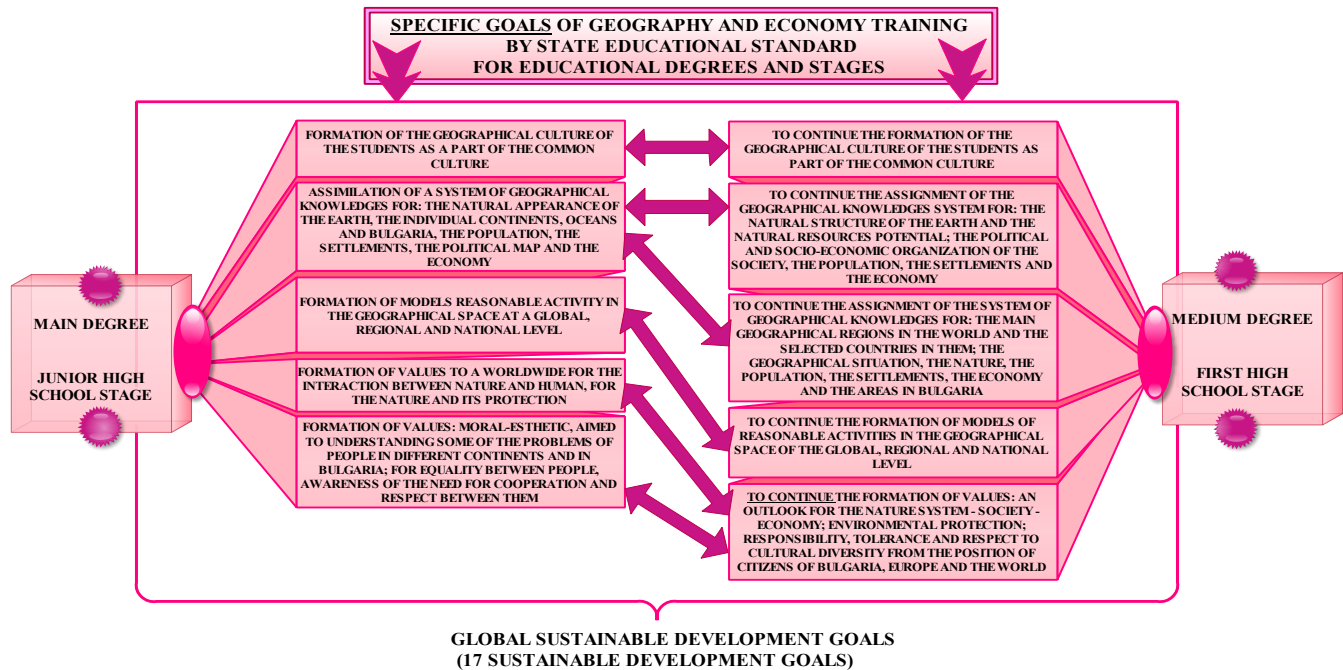


Figure 3: Graphic model - synthesis of the specific aims of training in geography and economics on DOS (Sustainable Development Goals, 2015; the 2030 Agenda for Sustainable Development, 2015; Naredba № 5, 2015)

The concept of sustainable development is, on average degree, at the first stage of upper high school education, where it is determined as the expected result for students to „define the *idea of sustainable development* and explain the global problems” in the area of competence *Geography of nature* (Naredba № 5, 2015). Both active verbs refer to *recognition* (factual knowledge) and *understanding* (conceptual knowledge), which determine the reproductive character of the learning process, which is not in accordance with the age characteristics of the students in the first high school stage, where it is important and necessary to dominate productivity in the training.

All the expected results for knowledges, skills and attitudes in geography and economics for the two educational degrees and stages are relevant in content to the idea of sustainable development, to the conceptual framework of the principles, aims and tasks of training. The expected results are defined by the active verbs on the six levels of B. Bloom’s Taxonomy and define the activity - functional expansion of the learning content, covering the four groups of knowledge - *factual, conceptual, procedural* and *meta-cognitive knowledge*.

2.3. CURRICULA IN GEOGRAPHY AND ECONOMICS

The education for sustainable development has its place, role and importance in all curricula in geography and economics in the compulsory preparation from grades V to X of the Bulgarian school.

In the junior high school stage (V -VII class) sustainable development ideas present in the *main goal, the curriculum content* implicitly in competencies as expected training results on specific topics without being present conceptually. The aims and principles of sustainable development are also identified in the part of *activities for the acquisition of key competences 9* and in *the inter-subject links* with *Man and nature, Man and society, Biology and health education* (Figure 4). Integrative synthesis in the field of sustainable development is also being found in other subjects, which are composed of the other eight key competences.

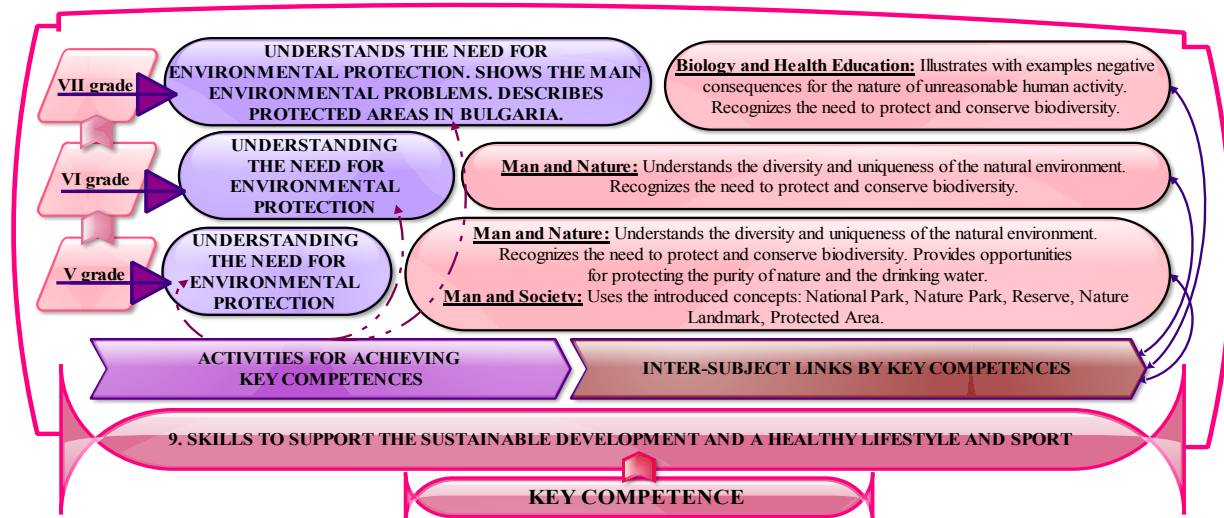


Figure 4: The place of the idea of sustainable development in the curricula on geography and economics for the junior high school stage of the basic educational degree (Uчебna programa – V klas, 2015; Uчебna programa – VI klas, 2016; Uчебna programa – VII klas, 2017)

The main goal of the curricula in geography and economics for the **VIII-th grade** explicitly is defined the importance of the concept of sustainable development - „*The training is aimed at acquiring key competences by mastering knowledges, skills and attitudes related to the nature of the Earth, its natural resource potential and the sustainable development of geographical space. The formation of the geographical culture of the students continues*” (Uчебna programa - VIII klas, 2016). At *theme 2. Geography of nature* and sub-theme 2.19. *Global problems of modernity* in the curriculum content a specific competence has been assigned as the expected result of the training - „*Knows the essence of the idea of sustainable development*” (Uчебna programa - VIII klas, 2016). In VIII grade, the idea of sustainable development is also part of the activities of key competence 9 related to „*Awareness of the need for environmental protection*” (Uчебna programa - VIII klas, 2016). The curriculum provides guidelines for the realization of horizontal links, which, with key competence 9, provides clear examples of realization in the context of sustainable development:

- „**Physical education and sports:** *Knows the natural mountain and tourist resources and the protected areas and knows the local winds. Lists rules for protection against rain and wind;*
- **Biology and health education:** *Presents verbally the essence and importance of sustainable development for the humanity. Predicts the results of human impacts on the nature. Describes and illustrates with examples Bulgaria’s biodiversity and protected natural objects in Bulgaria*” (Uчебna programa - VIII klas, 2016).

In **IX grade** the sustainable development ideas only present in activities and inter - subject links on key competence 9:

- activities: „*Predicts the results of human impacts on nature. Realizes the need for environmental protection*”;
- inter-subjects links: **Biology and health education:** *Realizes the need for environmental protection*” (Uчебna programa - IX klas, 2017).

In **X grade**, the curriculum in geography and economics contains the most content in topics and sub-topics in the context of sustainable development (Table 1). The data in Table 1 present only one side of the clear conceptual highlighting of the concept of sustainable development, but in all other topics there are content elements of the idea. The main presence of geography training in the context of sustainable development is in natural geography, as observed the identical wording in terms of competencies as an expected results from the training. An active verb has been used - *comments*, which refers to the group of meta-cognitive knowledge and requires operationalization of the learning process on a productive basis.

Table 1: Systematic vision of geography and economics training in X grade in the context of sustainable development in the curricula (Uчебna programa - X klas, 2018)

2. Theme NATURAL ENVIRONMENT OF BULGARIA. NATURAL COMPONENTS	
Subtheme	Competencies as expected training results
2.2. Minerals	<i>Comments on problems related to mining minerals in the context of sustainable development.</i>
2.4. Water	<i>Comments on water problems in the context of sustainable development.</i>
2.5. Soils, vegetation and wildlife	<i>Comments on problems related to soil, vegetation and wildlife in the context of sustainable development.</i>
3. Theme NATURAL ENVIRONMENT OF BULGARIA	
3.1. Danubian Plain	<i>Comments on problems in the context of the idea of sustainable development.</i>
3.2. Stara Planina Region	<i>Comments on problems in the context of the idea of sustainable development; adverse natural phenomena.</i>
3.3. – 3.5. Kraishtensko – Srednogorska area 3.3. Zadbalkanski kotlovini	<i>Comments on problems in the context of the idea of sustainable development; adverse natural phenomena.</i>
3.4. Kraishite	<i>Comments on problems in the context of the idea of sustainable development; adverse natural phenomena.</i>
3.5. Srednogorie	<i>Comments on problems in the context of the idea of sustainable development; adverse natural phenomena.</i>
3.6. Trakiysko – Strandzhanska area	<i>Comments on problems in the context of the idea of sustainable development; adverse natural phenomena.</i>
3.7. - 3.9. Rilo – Rodopska area	<i>Comments on problems in the context of the idea of sustainable development; adverse natural phenomena.</i>
3.10. Bulgarian Black Sea Coast. Black Sea	<i>Comments on problems in the context of the idea of sustainable development; adverse natural phenomena.</i>

The X grade curriculum includes activities and inter – disciplinary links in the context of sustainable development towards key competences 9:

➤ activity: „*Visits a protected area. Realizes the need for environmental protection*”;

➤ inter – disciplinary links: **Physical education and sport**: *Knows and applies nature conservation measures; **Biology and health education**: Knows the nature and importance of sustainable development for humanity. Predicts the results of human impacts on nature. Describes and illustrates with examples biodiversity and the protected natural objects in Bulgaria*” (Uчебna programa - X klas, 2018).

3. CONCLUSION

School geographical education is a carrier of knowledges, skills and competences that have the vision and the mission of a specific educational and social nuance that develops the conceptual model for achieving sustainable development.

The geography and economics training in the Bulgarian school based on the ideas of sustainable development is a significant and important aspect for understanding the place of the people in the world and the interactions between people and nature. Provides the introduction of the principles and the objectives of sustainable development, including ecological, economic and social dimensions, designed to outline a long-term vision for society and the world.

The school geography aims to form knowledges, skills and competences for personal responsibility and attitude towards nature, for behavioral models for a sustainable future.

The whole educational cycle of school training in geography and economics presents the idea, principles and goals of sustainable development in the context of activities, inter-subject links and topics in the curricula content of the syllabuses in geography and economics, with the largest volume, presence and content in X grade.

A complex structural - content and methodological - didactic system is formed for the achievement of logical regularities and productive thought process in students, as a universal global value. For the modern young person, sustainable development is a global value that requires sustainable quality education at different levels of the social and educational system through lifelong learning.

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