

Environmental education in the aspect of sustainable development

Edukacja ekologiczna w aspekcie zrównoważonego rozwoju

Key words: eco-development, sustainable development, environmental education, environment management, eco-system.

Słowa kluczowe: ekorozwój, zrównoważony rozwój, edukacja ekologiczna, gospodarowanie środowiskiem, ekosystem.

Streszczenie. Autorzy podejmują bardzo ważny problem dotyczący edukacji ekologicznej, poprzez ukazanie jej założeń i znaczenia we współczesnym świecie. Zwracają szczególną uwagę na miejsce edukacji ekologicznej w procesie kształcenia zgodnie z zasadami zrównoważonego rozwoju. Przybliżają zagadnienia związane z pojęciem ekorozwoju i zrównoważonego rozwoju w odniesieniu do trzech podstawowych relacji: środowisko–gospodarka, społeczeństwo–gospodarka, społeczeństwo–środowisko oraz przedstawiają ich realizację w praktycznym działaniu.

Introduction. Nowadays, the main message of sustainable development refers to the dependence and mutual conditions of environmental protection, economic growth and human development (both in the individual and social aspects). In order to maintain the quality of life and of the environment, each person has a duty to solve the problems caused by his/her reckless decisions and actions. The article presents the importance of the natural environment in human life. It shows both benefits and drawbacks of the rapid social and economic development. Namely, on the one hand, it has led to the development of urbanization, industrialization, motorization, and computerization. On the other hand, it has caused the overexploitation of ecosystems and negative effects on the society. The article also demonstrates the actions that should have been undertaken while dealing with such issues. The idea of sustainable development was one of such issues. Unfortunately, it has been always referred to just one of the dimensions in the range of the civilization progress. The article also identifies three main concepts associated with the relation of the term ‘sustainability’ (eco-development) with the term ‘sustainable development’. The important role is also played by the presented objectives and principles of sustainable development as well as their implementation in practice. Nevertheless, to act cautiously in accordance with the principles of sustainable development in the field of the natural resources

management, it is our duty to care for the quality of life of inhabitants. Therefore, the ecological education for sustainable development has to face the significant challenges. The position of the ecological education in the modern world and its assumptions have become an important indicator of the lifelong education aiming at developing the rational society, which can accept the principles of sustainable development, the society that can evaluate the state of ecological safety and participate in the decision-making processes.

‘Sustainability’ and ‘sustainable development’ – comparative study. The natural environment from the beginning of the mankind has always fulfilled a similar function in both human life and the life of organisms; moreover, it has been involved in the process of their existence. Due to the development of the settled agricultural economy, the natural environment has undergone some transformations. As a result of the dynamic growth of the world’s population, the increase of the human interferences, causing profound changes of the environment, has appeared.

In the twentieth century the rapid development of industry and urbanization took place. It resulted in the significant environmental changes and its degradation as well as in numerous ecological disasters. Such negative phenomena caused violent protests of environmentalists, the objection of the societies and became the issues for the discussions related to the environmental protection. The representatives of the United Nations were the first ones to initiate to the world and to develop the term ‘sustainability’. To be precise, this term was used for the first time¹ in 1972 at the International Conference held in Stockholm, i.e., The United Nations Conference on the Human Environment and it was specified during the Third Session of the Governing Council of the United Nations Environment Programme (UNEP) in 1975 [Kozłowski 1996]. At that time, it was defined as “such course of inevitable and desirable economic development which does not affect human environment significantly and irreversibly, does not result in biosphere degradation and reconciles the laws of nature, economy and culture” [Kozłowski 1996 p. 19]. The definition of the idea of sustainability (eco-development) clearly emphasized its multidimensionality and being open to the possibility of its various interpretations.

The most common understanding of the idea of sustainability referred to one of the dimensions of the civilization progress, expressed by the reconciliation of both the superior objectives and forms of managing, nevertheless, with widely perceived environmental conditions. In its axiological assumptions, such approach does not go beyond the framework of the various anthropocentric suggestions in the range of the philosophy of life, in which the uniqueness of human regarding nature, and at the same time his/her superiority as well as the priority of objectives and interests towards the environment were emphasized. Sustainability, in this sense, had to contribute, on the one hand, to the maintenance (restoration) of the natural environment parameters, which enable the achievement of the existing objectives of the development (i.e. rapid

¹ It is also true that the term ‘sustainability’ was first used in 1972 in the context of man's future. It appeared in a British book *Blueprint for Survival*, Furthermore, in the United States the term was first used in 1974 to justify a ‘no growth’ economy.

increase of prosperity, quality of life, growth of consumption, etc.), on the other hand, to ensure the prevention of human and ecosystem from the biological degradation and destruction. Such an approach in understating the concept of sustainability was prevailed especially among politicians, businessmen and economic activists and technocrats and often found its reflection in the government and parliamentary documents, etc.

Such approach to sustainability (eco-development) and associated with it terms differ from another approach emphasising the necessity of increasing the quality of life [Poskrobko 1998] showing both social conditions and axiological aspects of sustainability. The concept of sustainability was understood in a similar sense, in the theses, which were included in the programme of the Polish Ecological Club as well as in the concept of „*sustainable development*” (sustainable development, self-sustaining), formulated by the World Commission on Environment and Development (the United Nations) [“the Report of the World Commission. on Environment and Development” The UN Resolution 42/187 of 11 December 1987]. In this report the Commission stresses that “sustainable development requires the promotion of values that encourage consumption standards that are within the bounds of the ecological possible and to which all can reasonably aspire”. The report referred to the need of respecting the limitations and ecological conditions of production too.

This thought was also expressed in the documents of the so-called “Earth Summit” in Rio de Janeiro in 1992. The demonstrated there concept of sustainability tended to go further in the field of the enlargement of this concept and its reference to the wide-ranging understanding of the human development. Sustainability is related to such civilization development, which, in its long-term perspective, is ecologically acceptable, axiological desirable and socially acceptable and economically efficient (rational). One can notice that as a result of the conflict between those criteria, the absolute priority should be given to ecological criteria – since a basic condition for the civilization development in the world is to maintain a dynamic balance of all ecosystems in the biosphere as a whole. In the existing literature on sustainability, one can determine three main views regarding the relation of this term with the term “sustainable development” [Kistowski 2003]. In one of the views, the authors consider sustainability as a concept that is wider in its meaning than sustainable development, as they believe that only the synergistic achievement of the fundamental objectives, such as: ecological, economic, social and spatial ones, which appear to be the result of sustainable development, can contribute to the effective existence of sustainable development, which, in turn, is the result of the consistency of these processes [Parteka 2001] [Kassenberg 2001]. According to other authors, referring also to the English publications, sustainable development is a broader concept than sustainability [Kołodziejski 1997], [Kozłowski 1998], since it is based on both the ecological criteria realised in agreement with nature conditions and on social and economic criteria realised without the degradation of the environment. However, from another point of view, according to Kozłowski, in practice, the approach to sustainable development is applied to equally and interchangeably for both these terms [Kistowski 2009, p. 25]. From this perspective of understanding sustainability, the achievement of the ecological objectives relates to both achieving social and economic objectives. A broad view and perception of sustainability has contributed significantly to the use and enrichment of various concepts

and directions of activities occurring in the existing areas of sustainable development. In the sphere of ecology they are associated with a variety of concepts of the environmental protection and nature conservation, which is one of the issues of the National Environmental Policy (eco-politics).

Objectives and principles of sustainable development. An important role in shaping the environment as a result of human activities is connected with the objectives of sustainable development. They are divided into social objectives, which are also the primary objectives (prosperity, justice, and security), idealised objectives resulting from the maintenance of ecological functions, mainly, in the natural environment, and empirical objectives, which essence is a constant source of natural capital [Borys 1999, p. 78]. In a slightly different way the objectives of sustainable development are determined by other authors. As the primary objectives of sustainable development, they consider the preservation of the ecological balance in existing ecosystems and the environment safe for the human health by creating the necessary conditions for the renewal of human biological forces, allowing further economic development [Kozłowski 1985]. However, according to F. Capra [Borys 1999, p. 79], the main objective of sustainability is the long-term use of renewable natural resources, the nature conservation, the efficient use of non-renewable energy sources and the improvement of the health of societies, and their safety and well-being. As concluded from the objectives of sustainable development, its essence refers to the dynamic development of the economy and society in agreement with the ecological balance. It is subject to constant changes and evolution in its various aspects, therefore, It is important to establish and to accept a strategy allowing for its initiation, implementation, and monitoring of its course. The main principles of sustainable development policy relate to three basic relations: environment – economy, society – economy, society – environment, at all levels of administration and management in the country and to international relations. The most important of them should be those that focus on sustainable development of societies, who have the right to the creative and healthy life in harmony with nature, and, at the same time they eliminate the existing world poverty by preventing from its creation [Poskrobko 1998].

Implementation of the principles of sustainable development in practice. The principles of sustainable development, as well as its very essence, are understood in different ways. The developing countries (the poor ones), most commonly, identify such development with the increase expressed in the rates of the consumption increase, while in the developed countries (the rich ones), this term is closely associated with the change of the current model of consumption, with the environmental protection and the rational management of natural resources. The implementation of the principles of sustainable development is possible in practice through ecological education and the increase in the range of the environmental awareness of the society, the preservation of ecological balance in the relation: economy – environment – society and decision-making regarding the use of natural resources (environmental management) [Kozłowski 1993].

The concept of sustainable development is considered in three aspects. Firstly, it can be perceived as ecological sustainable development (its prime understanding with

the idea of avoiding the so-called wasteful economy). Secondly, it can be understood as economic sustainable development in which the society should not live above their abilities (responsible consumption). Thirdly, it can be considered as social sustainable development (the social structure should function in such a way that it can limit social concerns and the conflicts should be resolved by the use of the dialogue. The idea of sustainable development has, therefore, three interrelated dimensions: natural, economical (economic) and social (human). According to the idea of sustainable development, everything happens within the 'ecosphere' the environment that allows life on the Earth together with its all forms, including the culture of human societies (community) and their economy (economics). The environmental resources are limited, though; if there is too rapid economic and population development, the overexploitation of such resources can cause the disruption of the ecological balance [Wójtowicz 2010]. In Poland the principles of sustainable development have even gained the constitutional status, namely, it is recorded in the 5th article of the Constitution of Poland: "The Republic of Poland shall safeguard the independence and integrity of its territory and ensure the freedoms and rights of persons and citizens, the security of the citizens, safeguard the national heritage and shall ensure the protection of the natural environment pursuant to the principles of sustainable development".

As it results from the definition, sustainable development is not the ecological fundamentalism exhorting, to return to nature". Sustainability is of a pragmatic character, assuming obviously that people will strive for the development, which is understood as something improving the quality of their lives, their children's lives, the supporters of sustainability try to prevent the results of such development the regression and destruction. The contemporary approach results from being aware that the instrumental use of nature and its resources creates a real threat to the future of human existence as a species. The postulate of sustainability comes down to the search for the best way of meeting many important needs when the resources used for these purposes are limited. Such implementation of sustainability requires the compromise.

In Poland, the concept of sustainable development is also often defined as the balance between the three spheres of human life, i.e., economical (economical development and fair sharing of benefits resulting from it), social (continuous social development, the access to education and Health services) and the environment (rational management of environmental resources, limitation of its degradation).

Ecological education in the modern world and its assumptions. It was only at the turn of the 19th and 20th centuries when the certain events associated with the increase in the social and economic development were noticed, namely, they underlined that the ecological education of the society appeared as one of the most important factors for maintaining the diversity of life on our planet. Nevertheless, the most important of such events tend to be the Earth Summit in Rio de Janeiro in 1992, and the International Congress of Ecological in Manchester in 1994. The significant role was also played by the Conference of the Education Committee of the International Union for Conservation of Nature in Riga (1994), during which the results of studies demonstrating the dependences of the environmental awareness of

the society and the state of the natural environment were presented. It was noted that different environmental actions are undertaken willingly by the people with the higher level of their education in this field. This confirms the belief that the improvement of environmental awareness in every society is particularly affected by the ecological education, including the widest possible groups of people. Another important issue deals with the flow of information and the wide access to it through the use of it.



Fig. 1. The interdependences between the realization of the objectives of ecological education and sustainable development

The ecological education in the world is conducted both formally and informally. Analyzing the changes in the formal ecological education in the world, one can state that, starting from the 90s of the 20th century, in some Western European countries (e.g. The United Kingdom, the Netherlands, Germany) in the curricula, the concepts of the environment and environmental protection were expanded to the greater degree, at the same time, connecting them with sustainable development. Thus, the ecological education was replaced by the concept of education for sustainable development and such recording exists in the curricula of the education at all levels of education. Also, some changes have been introduced in the range of the objectives of the ecological education, namely, from the objective “behavioural changes” to “preparing to take action” According to the trends in the EU education, the society learns to take decisions, to create hypotheses and cooperate within groups [Pachociński 1999]. Education for sustainable development focuses not only on persuading about its importance and necessity of its conducting, but also on advising how to raise the environmental awareness of different social groups [Tarabula, Grodzinska-Jurczak, Mętel 2004]. The characteristic feature of the education of people in the world today is the openness towards the whole society, towards all social and professional groups and all levels of education and interdependent processes of teaching and reality. It is also important for this process to be continuous. The ecological education should involve matters relating to the natural environment as well as social and economic environment, including in particular the human development.

Ecological education in the teaching process in accordance with the principles of sustainable development. In the life of every human being education plays an important role. It is never understood as a passive acceptance of the knowledge and skills [Kupisiewicz 1978, Okoń 1970]. Education (Lat. *educatio-*

upbringing) is an important concept in the ecological education. Education is perceived as the totality of processes, which aims at changing people, especially children and adolescents by initiating appropriate ideals and objectives of education in the given society [Okoń 1996]. The essential element of ecological education at all levels of the educational process is education for sustainable development. It involves the introduction to curricula at all levels of education, the issues relating to the improvement of natural environment and its protection. The term ecological education (environmental education) refers to the concept of teaching and upbringing of the society according to the respect for the natural environment in agreement with the principles of sustainable development. In the colloquial sense, ecological education is understood as all forms of activities that aim at influencing the level of environmental awareness around the world.

Ecological education is now present in the formal education system at all levels of education [Regulation of the Minister of National Education and Sport of February 26, 2002]. Ecological education should be implemented by the employment of the appropriate use of ecological issues contained in both curricula, school textbooks and also by informal education. The main objective of the ecological education is to create the awareness and attitudes, by initiating the principle that every human being is „eco-citizen”. The ecological education is associated with the specific actions in the environment and for the environment by creating such situations, which enable the society to independently investigate certain truths, principles, in order to skilfully analyze, draw the conclusions and refer to perspective thinking [Angiel 2000].

The main objective of the ecological education should refer to the change in the way of thinking by young people in the range of the natural environment [Wójtowicz 1993]. Planning for the future in the constantly changing world tends to be important in the life of the society, and especially young people. This applies mainly to the school education and individual school subjects. Therefore, the education about nature and the ecological education are oriented towards the change and the future. The most important values for the ecological education occur to be the educational reform in Poland, the assumptions of which perceive the attitude of innovative modern teaching according to the principles of sustainable development. These include: **activism, intellectualism, innovation, orientation towards the future, and individualism** The main objective of education is also teaching that will provide the holistic recognition of phenomena and processes occurring in nature through a synthetic summary of knowledge about the environment and combining it into a single, relatively coherent picture of the world, including the local environment as well as solving problems [Wójtowicz 2010].

The important role of education in accordance with the principles of sustainable development is to sensitize people and make them involved in solving the environmental problems, not to mention to educate people – the so-called decision makers. In the ecological education one should look for all kinds of sources in order to acquire the necessary skills to predict the effects of wrong economic decisions and social behaviour. The important role is played by the assumption that the lives of the present generation and the future generations require sacrifices. People should create a new system of values – particularly a sense of responsibility, a sense of brotherhood

and participation and perception of everyday needs of all living creatures on the Earth. Respecting the international arrangements and decisions, the developed countries promote the development of the environmental education (ecological education). The curricula, at all levels of education, aim at restoring the environment by the change of the style of human behaviour, by reducing the consumption and the economical management of natural resources for sustainable development. An important role in education is played not only by the substantial preparation, but also by acknowledging new, attractive forms of providing contents in the context of the science, and to shape the environmental awareness also in the upbringing programmes.

Education tends to be a multi-faceted and multi-stage process associated closely with the teaching and upbringing [Okoń 1996]. The educational reform and all changes in Polish schools, related to the contents of teaching, curricula as well as structural ones, created the appropriate situation to promote education for sustainable development, which should be reflected in the learning outcomes and mainly in the undertaken innovative actions for the environment. Both formal and informal, but properly conducted ecological education for sustainable development should initiate the desired results in the future in the form of environmentally friendly habits and eco-friendly attitudes and contribute to the popularization of the principles of sustainable development among wider groups of our society.

It must be emphasized that the introduction of the concept of sustainable development to education is just the beginning of a long and difficult way. People should be aware that all actions in their everyday activities that are connected with the environment in they live in, should be recognized and implemented through the prism of sustainable development. Sustainability is not yet one more subject of the classes, which one must learn, but the way – to acknowledge actions and attitudes. The idea of education for sustainable development is to search for the achievement of the balance between the social and economic welfare, and culture, tradition and the protection of the Earth's natural resources. Education for sustainable development means much more than just the ecological education. It also involves human rights, conflict resolutions, good way of governing, economy, culture and art. Education for sustainable development also refers to the multi-disciplinary approach to the education reform, which offers to all people in all educational contexts and in all phases of their lives the opportunity to learn a life-style that will provide them with sustainable development. The main objective of the ecological education in the modern world is to create the appropriate awareness, the responsibility towards the environment. The actions dealing with the education process assimilation to the research process have been undertaken for many years. During the ecological education various methods must be paid attention to, namely, activating methods as well as research methods, valorisation methods (expression and impression), and project methods. Education in accordance with the principles of sustainable development requires the direct contact with the natural environment. Therefore, the great emphasis is put on the implementation of field activities, which influence the development of observation skills, the skills of imagination and they also allow the improvement of practical skills.

Bibliography

1. Angiel J. 2000. *Zieloną ścieżką przez geografę. Edukacja ekologiczna w gimnazjum*, WSiP, Warszawa.
2. Borys T. (red). 1999. *Wskaźniki ekorozwoju*. Wyd. Ekonomia i Środowisko, Białystok, s. 79.
3. Goldsmith E., Allen R. 1972. *A Blueprint for Survival*. The Ecologist, Styczeń 1972, London: Pinguin Special-Ecosystems Ltd.
4. Kassenberg A. 2001. *Ocena ekoinnowacyjności w wybranych dokumentach strategicznych. Polityka Przestrzennego Zagospodarowania Kraju*, [w:] *Ekoinnowacyjność dokumentów strategicznych*. Próba oceny, Raport 1, Instytut na Rzecz Ekorozwoju, Warszawa.
5. Kistowski M. 2003. *Regionalny model zrównoważonego rozwoju i ochrony środowiska*. Polska strategia rozwoju województw, Wyd. UG, Bogucki Wyd. Naukowe, Gdańsk – Poznań.
6. Kistowski M. 2009. *Koncepcja ekorozwoju profesora Stanisława Kozłowskiego*, [w:] *Od koncepcji ekorozwoju do ekonomii zrównoważonego rozwoju*, red. D. Kielczewski, Wyd. WSE, Białystok, s. 25.
7. Kołodziejcki J. 1997. *Strategia zrównoważonego rozwoju – Podstawa koncepcji polityki przestrzennego zagospodarowania kraju*, Polska 2000 plus, Biuletyn KPZK, 176, Warszawa.
8. Kozłowski S. 1985. *Ekorozwój. Koncepcja rozwoju*, Człowiek i Światopogląd, nr 5.
9. Kozłowski S. 1993. *Ochrona kopalin*, [w:] *Interdyscyplinarne podstawy środowiska geograficznego*. Kompendium do nauczania i studiowania. Praca zbiorowa pod kierunkiem Barbary Prandeckiej. Wrocław, Warszawa, Kraków. Wydawnictwo Zakład Narodowy Ossolińskich. s. 199–212.
10. Kozłowski S. 1996. *Czy transformacja polskiej gospodarki zmierza w kierunku rozwoju zrównoważonego*, [w:] *Mechanizmy i uwarunkowania ekorozwoju*, Wyd. KE i ZOŚ Politechniki Białostockiej, Białystok.
11. Kozłowski S. 1998. *Ekologiczne problemy przyszłości świata i Polski*, „Komitet Prognoz Polska w XXI wieku”, Warszawa.
12. Kupisiewicz Cz. 1978. *Podstawy dydaktyki*, PWN, Warszawa.
13. Okoń W. 1970. *Zarys dydaktyki ogólnej*, PZWS, Warszawa.
14. Okoń W. 1996. *Wstęp do dydaktyki ogólnej*, PWN, Warszawa.
15. Pachociński r. 1999. *Oświata XXI wieku: Kierunki przeobrażeń*, IBE, Warszawa.
16. Parteka T. 2001. *Planowanie strategiczne i przestrzenne kształtowanie ładu metropolii*, [w:] *Kształtowanie ładu przestrzennego polskich metropolii w procesie transformacji ustrojowej III RP*, Biuletyn KPZK PAN, z. 193, Warszawa.
17. Poskrobko B. 1998. *Podstawy polityki ekologicznej*, [w:] *Ochrona środowiska, Problemy społeczne, ekonomiczne i prawne*, red. K. Górka, B. Poskrobko, W. Radecki, PWE, Warszawa.
18. Raport Światowej Komisji ds. Środowiska i Rozwoju Rezolucja ONZ 42/187 z dnia 11 grudnia 1987.
19. Rozporządzenie Ministra Edukacji Narodowej i Sportu z dnia 26 lutego 2002 roku.
20. Tarabula M. Grodzińska-Jurczak M. Mętel A. 2004. *Kształtowanie świadomości na przykładzie doradców domowych*, Edukacja Biologiczna i Środowiskowa, nr 2–3.
21. Wójtowicz B. 1993. *Geografia a wiedza o środowisku przyrodniczym*, [w:] *II Ogólnopolska konferencja Ochrona Środowiska w nauczaniu i wychowaniu. Materiały Konferencyjne*. Środkowo-Europejski Instytut Badań nad Środowiskiem. Politechnika Lubelska. Lublin. s. 297–300.
22. Wójtowicz B. 2010. *Geografia, Rozwój Zrównoważony, Edukacja Ekologiczna*. Prace Monograficzne, 575, Wydawnictwo Naukowe UP, Kraków, s. 254.

prof. nadzw. dr hab. Bożena WÓJTOWICZ

Institute of Geography, Pedagogical University of Cracow
boz.wojt@gmail.com

prof. nadzw. dr hab. Ilona ŻEBER-DZIKOWSKA

Institute of Humanities and Social Sciences, The State School of Higher Professional Education in Płock
Institute of Biology, the Jan Kochanowski University in Kielce
ilona.zeber-dzikowska@ujk.edu.pl

dr JAROSŁAW CHMIELEWSKI

Institute of Environmental Protection-National Research Institute
jaroslaw.chmielewski@ios.gov.pl