

ECOLOGICAL EDUCATION FOR SUSTAINABLE DEVELOPMENT OF RURAL AREAS

Izabela Wielewska¹, PhD.; **Maciej Gliniak**², PhD. Eng.; **Wiktoria Sobczyk**³, PhD. D.Sc. Eng.
Associate Professor; **Piotr Prus**⁴, PhD. Eng

^{1,4}UTP University of Science and Technology in Bydgoszcz; ²University of Agriculture in Krakow; ³AGH University of Science and Technology in Krakow

Abstract. The specific system of processing the natural resources, which has evolved throughout centuries, has made the globe a large industrial centre and an area of intensive agricultural exploitation – which both constitute considerable burden for the natural environment. The consequences of the anthropogenic impact on the environment, which trigger harmful degradation of the environmental balance, call for firm counteraction as well as an increase in the environmental awareness. One of the sources of the increase in responsibility for the environment is the education for sustainable development. It should negate the consumerist character of existence and focus on environmental values both in agriculture and daily life. It should also make social norms subordinate to those values. Thanks to education on different levels, the society has a possibility to gain knowledge in sustainable development, also that of rural areas.

The aim of this article is to present students' opinions on education for sustainable development of rural areas. Research conducted included a diagnostic survey in a group of 144 students, who attend agriculture-profiled classes, in their final years of secondary schools from Counties of Chojnice and Czulchow.

The research has shown that the issues of education for sustainable development in rural areas do concern the youths, especially in the environmental aspect. The students notice the presence of these issues, they appear to have a certain level of environmental awareness and some of the aspects of sustainable development.

It is necessary to constantly broaden children's, youths' and their teachers' educational capabilities, including study of responsibility for the environment and sustainable development of rural areas.

Key words: environmental education, education for sustainable development, rural areas.

JEL code: Q01, Q56, I29

Introduction

Agriculture in Poland serves as the most important economic element of rural areas. Along with forestry, it is the sector of economy that significantly shapes the natural conditions and affects the state of the environment. Changes that have occurred in Polish agriculture have been related to the great need of restructuring of the agriculture and rural areas as well as European Union integration. They have brought about an increase in various dangers. There was a trend for the maximisation of profit (according to the principles of market economy), which led to the demise of small and highly specialized farms. In turn, the imperative to increase the crop yield resulted in an increased use of herbicides, pesticides and artificial fertilizers (Adamowicz, 2006). Some negative effects of this kind of activity are not only the contamination of the soil and water with chemicals, but also the creation of large monoculture areas, degradation of pastures and meadows, and destruction of tree

populations and small ponds – consequently, the impoverishment of biological variety (Kowalczyk-Jusko, 2005). It became necessary to undertake urgent precautions and make a reflection on the directions of today's change and its stimuli for the development of the civilisation of the world. This also concerns rural areas (Roman, 2014a).

Sustainable development of rural areas should include a reasonable management of resources, proper production profiling, and mobility control. The changes in the course of intensive farming also meant a rapid increase in unemployment rates in the country and even greater difficulty selling the crops. At the same time, this most anti-environment form of agriculture would lead to a considerable increase in severe pollution of the soil, surface and ground waters, as well as quick impoverishment of wildlife (Adamowicz, 2006). In turn, sustainable farming is aimed at such use of the natural resources that will not destroy their natural sources, but allows the satisfaction of the needs of future generations of

¹ Corresponding author. Tel.: +48 52 340 80 47; fax: +48 52 340 80 84. E-mail address: izabel2000@wp.pl.

producers and consumers (Wielewska, 2006). Its essence is such activity of individuals that does not jeopardize long-term interest of the community.

The concept of sustainable development plays an important role in levelling the causes of the environmental deadlock. This concept has been described as *the right to satisfy the developmental aspirations of the present generation without limiting the rights of the future generations to satisfy their developmental aspirations* (Drelichowski, 2001). It is clear from this definition that economic and civilisation development of the present generation should not progress at the expense of the depletion of non-renewable resources and the destruction of the environment, for the sake of the future generations (Drelichowski, 2001). It is based on some key notions: basic needs and limited capabilities, particularly the endurance of the global ecosystem. With reference to the needs – it particularly concerns the basic needs of the poorest in the world, which require the highest priority. When speaking of limitations – it is about the existing (imposed) potential of the environment to satisfy both the present and future needs by the state of technology and social organization (Roman, 2014b). According to the idea of sustainable development, the society ought to live whilst taking into account the calculation of the cost of its decisions (Runowski, 2004).

With the advent of the idea of sustainable development, a necessity arose for another approach towards the very essence of development, both ecological, social and economic (Zuzek, 2010). This reorientation assumed, amongst others, the conformity with the environment or friendliness towards the environment, the popularisation of the development of new technologies in environmental protection, the creation of improvement and innovative activities, the necessity to preserve the resources and

contribution to the reduction of pollution, the limitation of the amount and toxicity of waste as well as favouring the extension of the variety of pro-environmental behaviours (Sieminski, 2008).

It must also be noted that the principles of fully sustainable development pertain to the following criteria:

- respect and care for local communities;
- improvement in the quality of life;
- more effective protection of essential and varied resources of the Earth;
- minimisation of the use of the non-renewable resources;
- exploitation of the natural resources of the Earth within reasonable limits;
- transformation of customs and individual practices of inhabitants;
- access for local communities to possibilities of protecting their own environment;
- on the level of the state – creation of the basis for the integration of economic growth and environmental protection;
- on the global level – creation of an alliance in the aspect of environmental behaviours (Prus, 2010).

One of the factors that determine sustainable development is environmental education.

The research was conducted with the use of the diagnostic survey. The aim of the research was to present the opinions of secondary school students on the issues of education for sustainable development of rural areas.

The research touched upon the following questions:

- 1) How do the surveyed identify the notion of *sustainable development of rural areas*?
- 2) How do the students assess the level of their own environmental awareness and knowledge of sustainable development and its usefulness?
- 3) Where do they look for the sources of knowledge of sustainable development?

The survey research was conducted in a group of 144 students of final grades of secondary

schools in the Counties of Chojnice and Czluchow, who attend agriculture-profiled classes. The purposefulness of the exclusive selection of the youths from agriculture-profiled classes arose from the subject of the research, which oscillated around sustainable development of rural areas.

The research procedure was first discussed with the teachers of the selected classes. Then the research was conducted. The students were given questionnaires, which they filled out for about 20 minutes. Before the commencement of the survey, the youths had been informed about the purpose and anonymity of the research. The research was conducted in December 2014 and its results were ordered; then, the results were analysed qualitatively and quantitatively.

Research results and discussion

The effective environmental protection is possible when the entire society is involved in cooperation.

In the relation of man and nature, the suppression of negative phenomena conditioned by instrumental pragmatism creates the need to provide the society not only with knowledge of the functioning of the environment, but also to adopt such a system of values that will allow to choose what is good in the global scale (Domka, 2001).

The environmental education, which affects environmental awareness and change in human behaviour, plays a particular role in this process (Sikora, 2012; Pawul, Sobczyk, 2011; Zuzek, Wielewska, 2015). It constitutes an important domain of education, as its contents are the basis of the formation of man's approach towards the natural environment. In turn, the health and the quality of life of the inhabitants depend on the condition of this environment (Słota, 2012). The qualitative changes mainly include technological progress (Strzelecki, 2008).

The environmental (ecological) education constitutes *the entirety of activities and educational processes enabling people to*

orientate in the surrounding natural reality and affecting their attitude towards the surrounding environment (Cichy, 2003). The term *environmental education* began to function practically in 1969, when the famous U'Thant's report was published. It pointed out threats for human life and the danger of an environmental disaster caused by the excessive development of the civilisation.

The notion broader than the environmental education is the education for sustainable development. There is little or no coherent understanding of this notion in the subject literature. The education for sustainable development means the education that:

- enables the learner to acquire knowledge, skills and features which provide him with stable development;
- is geared towards criticism and problem solving, i.e. signifying a potential to deal with dilemmas and challenges of sustainable development;
- is equally accessible on all levels and in all social contexts (family, school, work, local community);
- builds a civil responsibility and promotes democracy by making the individual aware of their duties and rights;
- uses various methods of training whilst looking for creative ways of expressing new ideas;
- is based on the principle of learning throughout the entire lifetime;
- is concerned with local matters, rather than global ones (Godlewska, 2009).

The education for sustained development is found mainly in natural science. The main aims of the education for sustained development are:

- to give the educational activities for sustainable development a priority, so that the environmental awareness can develop, which protects the globe and civilisation from destruction;

- to develop learning about the limitation of consumption needs, which leads to an increase in respecting natural resources, rationalisation of production and using a system of values that is different than that of today;
- to learn how to introduce sustainable social and economic development in every country, so that we may all live worthily today, and the future generations tomorrow (Hlobil, 2010a).

Table 1

Issues of education for sustainable development

Area of sustainable development	Issues
Social	– human rights – peace and safety – gender equality – cultural variety and mutual understanding of cultures – health, incl. AIDS prevention – good governing
Environmental	– natural resources – climate change – development of agriculture – sustainable urbanisation – prevention of disasters and alleviation of their effects
Economic	– decreasing the scale of poverty – responsibility of businesses – market economy

Source: J. Godlewska, Education for Sustainable Development, [in:] Sustainable Development – aspects of the development of local communities, Fundacja Forum Inicjatyw Rozwojowych, Białystok 2009:16-17

The education for sustainable development of rural areas leads to the popularisation of the pattern of ecological culture in the people of these areas. Its idea is to reach a balance between the protection of natural resources and the social and economic common good and the culture and tradition prevailing in the rural areas.

It ought to give a foundation for the formation and enhancement of the possibilities to solve important environmental problems.

The research included 77 girls (53.5 %) and 67 boys (46.5 %).

The content-related part of the survey began with the question about the identification by the

students of the notion of *sustainable development of rural areas* (Table 2).

The surveyed youths (63.2 %) perceive the notion of *sustainable development of rural areas* mainly as one including components contained in the triad of the model of sustainable development (social, environmental and economic). This choice can be described as the most accurate, as the integration and coherence of the economic, social and environmental spheres constitutes the essence of *sustainable development*, as it is the way to economic growth, an increase in the quality of living and an improvement in the condition of the environment and preserving it in this good condition for the future generations.

Table 2

Identification of the notion of sustainable development of rural areas by the surveyed students

No	Notion	Number	%
1.	Sustainable development is a concept of eco-development based on national economies managed according to environmental conditions, with an assumption that the environment issues are a priority.	23	16.0
2.	Sustainable development is a process, which ideally allows to reduce contemporary differences in the social and economic situation of particular social categories, and to improve the standards of living of local communities that are in the worst situation.	19	13.2
3.	Sustainable development is such social and economic development that – in order to balance chances for access to the environment for particular communities or their citizens – both for the present and future generations – integrates political, economic and social efforts, while preserving the environmental balance and the stability of the basic natural processes.	91	63.2
4.	Difficult to say	11	7.6
5.	Total	144	100.0

Source: authors' study based on the research conducted

Some students (16 %) have chosen the definition which emphasizes the environmental dimension of sustainable development. A little over 13 % of the surveyed thought that the social-economic reference was the definition of *sustainable development of rural areas*.

The basis of the formation of social awareness supplemented by environmental awareness, as an integral part of sustainable development, is knowledge, its acquisition, processing and use in life (Hlobil, 2010). The surveyed were asked to assess the level of their own environmental awareness and knowledge of sustainable development (Table 3).

Table 3

Self-assessment of the level of their own environmental awareness in the students

No	Level of awareness	Number	%
1.	High	49	34.0
2.	Medium	56	38.9
3.	Low	32	22.2
4.	Difficult to say	7	4.9
5.	Total	144	100.0

Source: authors' study based on the research conducted

The students describe the level of their own environmental awareness mostly as medium (38.9 %) and high (34 %). However, it must be noted that although young people generally believe that they have a high environmental erudition, their activities do not go hand in hand with this knowledge. In everyday life, the youths are driven by fashion, comfort and consumerism rather than the environment protection oriented values. 22.2 % of the surveyed have estimated their level of environmental awareness as low; 4.9 % have not had any opinion in this matter.

It is clear from the above that the environmental awareness of the surveyed is still on an unsatisfactory level.

Further in the questionnaire, the surveyed were asked to determine in which sphere of sustainable development (social, economic, environmental) they have the highest level of knowledge (Table 4).

42.4 % have pointed out the environmental sphere as the one in which they have the highest level of knowledge. This might result from the fact that children are introduced to the rules of environmental education as early as kindergarten. This knowledge is later expanded in the following stages of their education.

Table 4

Spheres of sustainable development in which the surveyed have the highest level of knowledge

No	Sphere of sustainable development	Number	%
1.	Economic	39	27.1
2.	Social	36	25.0
3.	Environmental	61	42.4
4.	Difficult to say	8	5.5
5.	Total	144	100.0

Source: authors' study based on the research conducted

A little more than a quarter of the surveyed (27.1 %) concluded that they have more to say in the economic sphere of sustainable development. Another 25 % claimed that they know quite a lot about the social dimension of sustainable development. Part of the surveyed (5.5 %) could not express their opinions in the matter.

According to the Core Curriculum and the guidelines contained in the National Qualification Framework, the education for sustainable development should be included in those curricula which are used in pre-school education, early school education, elementary/junior high schools, high schools and some university or college specialties. Thanks to the education on particular levels of schooling, the society has a possibility to acquire knowledge of sustainable development, also in rural areas.

Table 5

Self-assessment of the general level of the youths' knowledge of sustainable development in rural areas

No	Level of knowledge	Number	%
1.	High	26	18.0
2.	Medium	37	25.7
3.	Low	59	41.0
4.	Difficult to say	22	15.3
5.	Total	144	100.0

Source: authors' study based on the research conducted

The surveyed students variously estimated their level of knowledge of sustainable development in rural areas (Table 5). A large extent of knowledge in this aspect was declared by 18 % of the students. Another 25.7 % of the surveyed estimated it as medium. There are gaps in the education for sustainable development in rural areas, since as many as 41 % of the surveyed admitted that their knowledge is poor, and another 15 % did not have an opinion.

Another aspect of the research concerned the sources of knowledge of sustainable development of rural areas, where the youths can learn about it (Table 6).

Table 6

The youths' sources of knowledge of sustainable development of rural areas

No	Sources of knowledge	Number	%
1.	Internet	92	63.9
2.	Television and radio	46	31.9
3.	Press	39	27.1
4.	School	117	81.3
5.	Others	15	10.4

Source: authors' study based on the research conducted

School (81.3 %) and the Internet (63.9 %) were indicated as the most important sources of knowledge of sustainable development of rural areas. The surveyed youths also gain their knowledge through television and radio (31.9 %) as well as the press (27.1 %).

Amongst other sources of knowledge of sustainable development of rural areas, the students mentioned environmental workshops, green schools, field trips with extensive natural

science curricula, occasional leaflets. In addition, local governments, institutions, non-government organisations and Ministry of Environment organize many events in the subject.

It must be noted that the environmental education should be interdisciplinary and intergenerational. It will serve the purposes for which it was predestined only if it covers all areas and levels of both formal and informal education (Hlobil, 2010).

Table 7

The presence of the education for sustainable development of rural areas in school curricula

No	Presence	Number	%
1.	Definitely YES	24	16.7
2.	Rather YES	59	41.0
3.	Difficult to say	14	9.7
4.	Rather NO	35	24.3
5.	Definitely NO	12	8.3
6.	Total	144	100.0

Source: authors' study based on the research conducted

It must be noted that the education for sustainable development found its place thanks to the Core Curriculum in formal education. Its presence (Table 7) was partially noticed by the surveyed youths (57.7 %). A little over a third were of a different opinion, and 9.7 % of the surveyed did not specify their opinions in the matter.

Many experts in the field of education for sustainable development have pointed out considerable shortage of teachers' training in this area. The surveyed youths were asked to estimate the level of teachers' qualifications in the researched aspect (Table 8).

It must be noted that the surveyed assessed the level of teachers' training in teaching about sustainable development of rural areas as high (30.6 %) or medium (46.5 %). Only 14.6 % perceive it as low and another 8.3 % did not have an opinion in the matter.

Table 8

Evaluation of the level of teachers' training in teaching

about sustainable development of rural areas, in the opinions of the surveyed

No	Level of training	Number	%
1.	High	44	30.6
2.	Medium	67	46.5
3.	Low	21	14.6
4.	Difficult to say	12	8.3
5.	Total	144	100.0

Source: authors' study based on the research conducted

The surveyed were also asked to evaluate the usefulness of knowledge of sustainable development of rural areas in practice (Table 9).

Table 9

Usefulness of knowledge of sustainable development of rural areas in practice, in the opinions of the surveyed students

No	Usefulness	Number	%
1.	High	23	16.0
2.	Medium	74	51.4
3.	Low	28	19.4
4.	Difficult to say	19	13.2
5.	Total	144	100.0

Source: authors' study based on the research conducted

16 % of the surveyed saw the usefulness of knowledge of sustainable development of rural areas as high, and another 51.4 % as medium. 19.4 % of the surveyed saw it as low and another 13.2 % did not have an opinion in the matter.

To conclude, it is worth quoting Kofi Annan: *"Our biggest challenge in this new century is to take an idea that seems abstract – sustainable development – and turn it into a reality for all the world's people." Only then will the chance for access to sustainable environment be preserved for the future generations.*

Conclusions, proposals, recommendations

A new dimension of activity is required in the relationship between humanity (which can be described by the increasing industrial and technological potential), and the Earth's biosphere (which is the natural environment for

human life). This becomes possible to achieve through education.

The aim of the research conducted was to present the opinions of high school students about education for sustainable development of rural areas. It has shown that the young generation does understand the notion of *sustainable development of rural areas* as integration and coherence of the economic, social and environmental activities, leading to economic growth, an increase in the quality of living and an improvement in the condition of the environment and preserving it in this good condition for the future generations.

Those surveyed admitted that the highest level of knowledge that they have is in the environmental sphere of sustainable development. They estimated their own level of environmental awareness mostly as medium and high. However, it must be noted that, in spite of that, they are driven by fashion, comfort and consumerism in their daily life, rather than the values of environmental protection. Only a fifth of the surveyed described their level of knowledge of sustainable development of rural areas as high. The sources of this knowledge primarily include school, which passes the knowledge from the earliest years with the help of well-trained teachers, as well as the Internet, television, radio, press, environmental workshops, green schools, field trips with extensive natural science curricula. The surveyed maintain that the education for sustainable development of rural areas will be useful to them later in life.

To conclude, it must be emphasized that a reorientation of the system of values towards nature must become the chief task of education for sustainable development of rural areas. This means the creation of such a system that will be based upon dialogue with nature, the one that will identify and create new behaviours and activities and social norms in the social and natural environment.

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