

Ligia Tuszyńska\*, Agnieszka Pawlak\*\*

\* The Maria Grzegorzewska University in Warsaw, ORCID: 0000-0003-1400-2958

\*\*The Maria Grzegorzewska University in Warsaw, ORCID: 0000-0002-9189-6636

DOI: <https://doi.org/10.35464/1642-672X.PS.2019.2.04>

## Human health in education for sustainable development

**ABSTRACT:** The development of civilization on the one hand brings many positive effects for humans, and on the other hand – makes it easier to forget that humans themselves are part of nature and live in its environment. The paper presents dependencies and determinants between the society's health and natural environment. The concept of transformations, known as the idea of sustainable development, highlights the disproportionality of the pace of occurrence of threats to human health and the pace of increase of social awareness of these threats. The human impact on the natural environment brings many negative effects, some of which constitute a real threat to the health and maybe even survival of the humankind. It is clearly visible on the example of the climate crisis. Environmental pollution, which is the source of this crisis, is a very good media topic, but there are still very few measures that would remedy it and thus better protect human health and wellbeing. In conclusion, the authors, on the basis of the statement that only higher ecological and health awareness can change the current state of affairs, which has lately become a strong demand of younger generation, point out the importance of social pedagogy in preparing teachers and education leaders in local communities. Young people, who are more affected by the future of the Earth than today's decision-makers, have recently started to spontaneously demand such real measures (ecological movements, school youth manifestations). It seems that this is finally the result of persistent and many years long „work at the grass roots“ in the form of education for sustainable development.

**KEYWORDS:** Health education, natural environment, social awareness, sustainable development.

### The history of the concept of sustainable development

The term sustainable development refers to a now commonly accepted concept of social, economic and environmental transformations, which emphasizes the responsibility of current generations for the future ones.

Sustainable development aims to meet the needs of the present without compromising the future generations' development opportunities. The concept originated in the realization that human activity, which threatens nature is in fact a threat to themselves. The history of the idea of sustainable development dates back to the 18th century. It was then that the industrial revolution, which on the one hand was the driving force behind the rapid demographic growth, accelerated urbanization and mass production of goods to meet the needs of the growing population, and on the other hand, began intensive degradation of the natural environment. As a result of these phenomena, a reflection on the aim and path of development appeared. The term „sustainable development” is derived from German forestry education. It was introduced by the Saxon starost, Hans Carl von Carlowitz, who fought against mass deforestation in Germany. He implemented into forest management the principle of „sustainable development”: the number of trees felled in the forest must be equal to the number of trees that can be planted in order to balance the ecosystem and protect it from total destruction. At the beginning of the 19th century, this concept gained the recognition of all German Forestry Universities. At the time the German forestry had a good reputation all over the world and the concept of sustainable development became widespread among scientists from other European countries.

In the mid-20th century politicians also noticed that the expansive development of civilization destroys ecosystems and environmental degradation has its social consequences. In 1952 air pollution in London resulted in around four thousand victims. In the years 1953–1970, on the island of Kyushu in Japan, in the Minamata Bay, as a result of the discharge of mercury-containing sewage into the Bay, more than a thousand inhabitants of the coast, eating mainly fish, were poisoned. They exhibited characteristic symptoms of nervous system disease, later named the Minamata disease. It was only then, after the catastrophe, that environmental protection initiatives began to be taken seriously. In 1969, the report of the Secretary-General of the United Nations, U. Thant, entitled *Man and his environment* was published. In 1972 the United Nations Conference was held in Stockholm under the motto *Only One Earth*. This was the first time that the term *sustainable development* was used in a scientific and more general sense.

In the second half of the 20th century, the idea of sustainable development was embraced by environmental movements. Gro Harlem Brundtland contributed to the popularization of this concept. As both Prime Minister of Norway and Chair of the World Commission on Environment and Development, Brundtland has gained international recognition with her fight

for sustainable development. As a doctor, her priority was, among other things, solving children's health problems and preventing breast cancer in women, as well as promoting care services, especially all-day childcare (Witoszek 2011, p. 37). In 1987, the report of the World Commission on Environment and Development entitled *Our Common Future*, presented by Brundtland, included a definition of sustainable development that has been used to this day: „Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (UNESCO). This vision of sustainable development took into account its three main aspects: the environment, society and economy.

### **Sustainable development as a social challenge**

A milestone in the idea of sustainable development was the first Earth Summit in Rio de Janeiro in 1992. It resulted in *Agenda 21* – a development strategy for the world. It was here that for the first time attention was drawn to the need for educating the society in the context of health and environmental protection. The social aspect of sustainable development was emphasized: the fact that responsibility for the future requires self-control and self-discipline of contemporaries and their participation in the decision-making process. The social diseases of the modern and postmodern age were named: poverty, gender inequality, human rights abuses, lack of security, education for everyone, the right to health and intercultural dialog.

Ten years after the publication of *Agenda 21* it was already clear that – both in Poland and in other countries – the implementation of the idea of sustainable development is progressing too slowly, and the expansion of civilization is causing further devastation of the natural environment. Hence the new UN initiative: the global project titled „Decade of Education for Sustainable Development 2005–2014”. The „Decade” was to be a future-oriented, comprehensive project focusing on education. It was recognized that education is a fundamental human right and a factor in social transformation towards sustainable development. The main educational tasks of the „Decade” were to address the issue of human rights, counteracting poverty, health promotion, protection of natural resources, international cooperation and providing society with access to information technologies. In Poland, these activities involved mainly social organizations and passionate teachers (mostly naturalists), with little support from educational authorities. Already in the course the „Decade” (in 2008) it was indicated in Poland that there was not enough support for institutions, lack of systemic education taking into

account all pillars of sustainable development, lack of sufficient interest and involvement of politicians (Borys, Rogala 2008).

In the „Decade” projects, the greatest forces at the state level involved in the measures for environmental and health education were employed by the National Fund for Environmental Protection and Water Management. This is where the funding for many educational projects related to health and environmental protection came from. At that time, using these funds, forest services contributed greatly to the education of society, building educational paths and providing „forest education” in nature reserves, national parks and landscape parks.

After the completion of the global project it turned out that the effects of the measures are very diverse in various countries. The report from the analysis of the research on the ecological awareness of the Polish society indicated that: „Poles increasingly notice the connection between the impact of their own behavior on the quality of the environment. It seems that this is the best indicator of the effectiveness of environmental education of Poles. The analysis of the overview of researches unambiguously indicates that the group of people representing the so-called attitude of ecological indifference is decreasing in favor of the increase in the number of unambiguously pro-ecological people” (Spike 2015). Once again, the importance of education as a means of effectively implementing the concept of sustainable development in societies has been stressed.

The first twenty years of the 21st century, which have now passed, clearly show that not only have the problems of the previous century not yet been solved, but new ones have arisen, as evidenced by migration movements on an unprecedented scale. In this regard, sustainable development theoreticians are calling for a new strategy, or at least a redefinition of priorities and a return to the ‚work at grassroots level’ – which is education.

In our country, the compendium of knowledge on the principles of sustainable development has so far been the publication entitled *Wyzwania zrównoważonego rozwoju w Polsce (Challenges of Sustainable Development in Poland)* (Kronenberg, Bergier 2010). Its authors present the society and economy as systems dependent on the natural environment. Unfortunately: only a little part of this paper refers to the educational aspects of the concept of sustainable development. The result of neglecting the role of education for sustainable development is today in Poland insufficient commitment of educators in solving problems of natural environment protection and, therefore, human health. Meanwhile, the main task of pedagogy is to shape human capital, which consists of knowledge, skills, values, personal and

social competences of a person. The vastness of problems sometimes requires combining knowledge and tools of various scientific disciplines (Gara 2014). Pedagogy is a science about education based on values. Its sub-discipline, social pedagogy, is particularly predestined to use the achievements and tools of other branches of knowledge about society: for example, health and environmental sciences. The common denominator here is education for sustainable development, important enough to try to call its theory the pedagogy of sustainable development (Tuszyńska 2018).

### **„Global Goals”**

The *2030 Agenda for Sustainable Development*, adopted in 2015 by 193 UN member states, titled *Transforming our world*, aims to achieve 17 so-called „global goals”. They can be considered as challenges for contemporary pedagogy and concern the already known tasks faced by humanity:

- fighting against poverty,
- food security,
- pro-health measures,
- actions aimed at ensuring gender equality,
- providing humanity with access to clean water, hygiene and sanitation,
- inexpensive and sustainable energy sources,
- inclusive and sustainable economic growth and employment,
- development of inclusive and sustainable industrialization,
- reducing inequalities within and between countries,
- ensuring safety,
- sustainable consumption and production patterns,
- combating climate change and its consequences,
- protection and sustainable use of water resources,
- protection and promotion of the sustainable use of terrestrial ecosystems,
- promotion of peaceful societies and efforts towards inclusive and sustainable development,
- global partnership for sustainable development (UNIC).

One of the most important goals is once again to ensure that humanity has access to education, also the inclusive one and education promoting lifelong learning opportunities for all.

This time, for a better implementation of the new goals, the process of monitoring the implementation of *the Agenda* was also included. Attention was drawn to the need to encourage all schools and universities to implement

education for sustainable development. It was stressed that the achievement of the *Agenda 2030* goals requires „global education”: teaching and civic education that supports attitudes of responsibility. Such education should take place through raising awareness of the interdependence between people and places around the world. The term ‚global education’ is a broader concept than education for sustainable development. Its objectives point to the need for lifelong learning and the need to develop the values inherent in people regardless of their nationality, cultural differences, physical and intellectual fitness. Every child and every person has a fundamental right to education, regardless of individual characteristics, interests, learning abilities and needs. Both education systems and curricula should respect the diversity of these needs. Children with special educational needs should have access to common schools where the pupil is treated as an individual and can satisfy their individual needs. It was acknowledged that inclusive education is the most effective means of combating discrimination, building friendship and an open society, as well as of implementing the postulate of „education for all” (Szumski, Firkowska-Mankiewicz 2010).

### **Health in global education**

The responsibility for the implementation of global education that fulfills the objectives of health and environmental protection, lies to the greatest extent with politicians and educators. The former are responsible for putting the content of „ global objectives” into core curricula. The latter – for their implementation. Many of the goals concern the knowledge of the principles of healthy lifestyle, healthy eating, prevention of metabolic and infectious diseases. In the 1970s the Canadian Minister of Health, Marc Lalonde, divided the determinants of human health and established their impact on the well-being of the average population (Lalonde, 1974). He called them „determinants of health” (Fig. 1). He proved that lifestyle is crucial for human health: in half of the cases it is lifestyle that determines maintaining good health in patients. In his ‚lifestyle’, he included behaviors such as healthy eating (consumption of non-polluting products) and physical activity in a clean environment – so-called environmental factors. He claimed that genetic factors (traits inherited from ancestors) only affect human health in 20%. The least important (about 10%), according to him, was medical care. Hence the postulate to increase the expenditure on education aimed at the implementation of sustainable development objectives: the greater the awareness of what healthy consumption is and what are its consequences, the healthier and more active are societies.

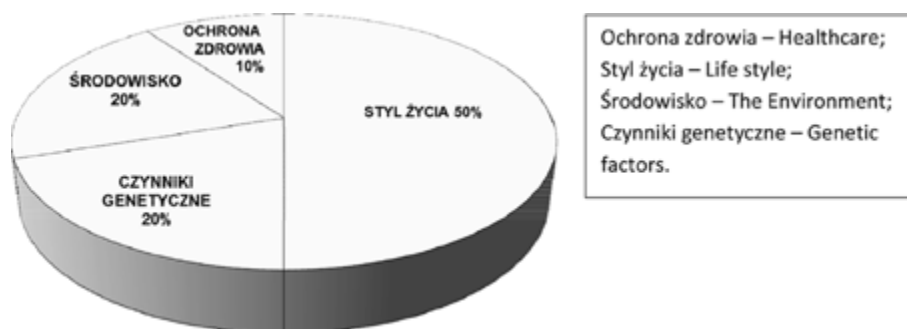


Fig. 1. Determinants of health according to Marc Lalonde  
Source: own elaboration.

## Health education in the face of social crises caused by the development of civilization

One of the „global goals” points to the need for combating climate change and its consequences. The effects of climate change are increasingly frequent weather anomalies, floods, hurricanes and natural disasters in many parts of the world. It has long been known that the causes of this situation are mainly due to human activity. Burning fossil fuels, deforestation, water, soil and air pollution through waste incineration and livestock farming are all having an increasing impact on the climate and the temperature of the earth’s surface. As a result of human activity, the amount of greenhouse gases in the atmosphere has increased. This, in turn, has led to an increase in the greenhouse effect and global warming.

The costs of civilization changes are borne by individuals, but these are also social costs. „The impact of climate change is already being felt today, and forecasts suggest that the resulting threat to human health is high and potentially catastrophic” (Gore 2018, p. 108). If the particulate matter standard is exceeded in the air, the level of pollutants in the apartment is only about 30% lower than the level which is currently outside. Health effects that can be caused by breathing polluted air include lung diseases caused by particulate matter PM 10 and PM 2.5, among others. During the heating season, all measurement stations in Poland report that the level of benzopyrene exceeds the European standard by 2 to 16 times. Benzopyrene, which is a component of PM 2,5 dust, is a highly carcinogenic and mutagenic substance. It causes inflammations in the respiratory system. Its effect on the human body may be chronic obstructive pulmonary disease. The representatives of the Krakow

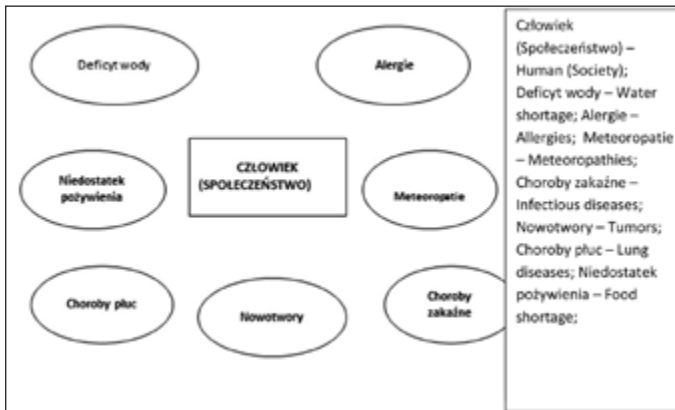


Fig. 2. Consequences of climate change  
 Source: own elaboration based on Gore 2018.

Smog Alert calculated that every year every resident of Krakow inhales the same amount of benzopyrene as the amount that penetrates the body of an addicted smoker with 2500 cigarettes. The costs of treating addicted smokers and smog victims are borne by all taxpayers. Since tobacco companies began to lose court cases brought against them by victims of addiction, the knowledge about the harmfulness of smoking has become common knowledge. The consequences of air pollution are still underestimated by both politicians and society.

Health, like education, is a fundamental human right. As stated by J. Szymborski, „investing in children and young people today will lead to the establishment of a healthier society in future years, bringing also social and economic benefits felt by the whole society and its individual members” (Szymborski 2007, p. 297). This is the basic principle of sustainable development.

The history of health education in school curricula is rather short. In the second half of the 20th century, the contents concerning hygiene and health were included in the curriculum of the subject „biology with hygiene”. It was only after the transformation, in the 1990s, that the education system reform resulted in the so-called cross-curricular programs, i.e. environmental education and health education, being included in core curricula. However, before teachers became prepared to conduct these classes, further reforms took place and both cross-curricular programs were abandoned and their contents were assigned to various subjects, mainly physical education, nature and biology. Frequent changes in the core curricula are not helpful in preparing



teachers to conduct a systematic didactic and educational process. During pedagogical studies, there are too few general academic subjects related to shaping civic awareness of teachers and increasing their (and thus their pupil's) social competences in the scope of environmental protection and human health. Lifelong learning refers not only to professional development or other forms of non-formal education. It should be the duty of schools and universities towards society. Teachers seem to be the natural leaders of lifelong learning. Meanwhile, the analysis of curricula at the pedagogical faculties of 16 largest universities in Poland (in the academic year 2016/2017) revealed that there is no subject directly related to the idea of sustainable development in any of the curricula. In 2017, the Maria Grzegorzewska University in Warsaw introduced the subject "Education for Sustainable Development" into its curriculum of second degree studies in pedagogy. The survey among the successive years of students starting this course, which has already been conducted twice, shows that the students are interested in health and environmental education, but the knowledge about this subject is mainly obtained from the media. This reveals negligence also in the lower stages of education.

The term „sustainable development” was only introduced to the objectives of Polish schools in 2017: „The school is committed to educating children and youth in the spirit of acceptance and respect for others, it shapes the attitude of respect for the natural environment, including the popularization of knowledge about the principles of sustainable development, motivates to act for the benefit of environmental protection and develops interest in ecology” (Regulation of the Ministry of Education 2017).

It is clear that the problems of environmental protection (and therefore also of human health) require a proper status in the education system. It is necessary to transform the idea of sustainable development: from theory (hermetic knowledge) to pedagogical practice, to translate postulates into influence (informative, but first of all educational), not only in relation to children, but also to the whole society. A method tried on a small scale in various parts of the world is the activation of local communities. In the didactic process good results are achieved by alternative education with the use of activation methods which takes place directly in the natural environment. Various ecological and health projects are open to both children and adults. In this respect, the activity of non-governmental organizations should be an inspiration for our schools.

## References

- Bińczycka J. (red.), (2007), *Prawo dziecka do zdrowia*, Oficyna Wydawnicza „Impuls”, Kraków.
- Borys T., Rogala P., (2008), *Jakość życia na poziomie lokalnym*, UNDP Polska, Warszawa.
- Gara J., (2018), *Idea interdyscyplinarności i interdyscyplinarna natura wiedzy pedagogicznej*, „Forum Pedagogiczne”, 1.
- Gore A., (2018), *Prawda dalej niewygodna. Dlaczego i jak musimy się zmienić*, Wydawnictwo Post Factum, Katowice.
- Gotówka A., (2019), *Wdech, wydech, smog! Jak zanieczyszczone powietrze wpływa na zdrowie. Dbaj o zdrowie*, „Smak Natury”, 1(50).
- Kłos L., (2015), *Świadomość ekologiczna Polaków – przegląd badań*, „Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania”, 2(42).
- Kronenberg J., Bergier T. (eds.), (2010), *Wyzwania zrównoważonego rozwoju w Polsce*, Fundacja Sendzimira, Kraków.
- Szumski G., Firkowska-Mankiewicz A., (2010), *Wokół edukacji włączającej. Efekty kształcenia uczniów z niepełnosprawnością intelektualną w stopniu lekkim w klasach specjalnych, integracyjnych i ogólnodostępnych*, Wydawnictwo Akademii Pedagogiki Specjalnej, Warszawa.
- Szyborski J., (2018), *Sytuacja zdrowotna dzieci i młodzieży w Polsce i w Europie – tezy do dyskusji nad narodowym programem zdrowia*, Wydawnictwo Post Factum, Katowice.
- Tuszyńska L., (2018), *Pedagogika zrównoważonego rozwoju z przyrodą w tle*, Wydawnictwo Adam Marszałek, Toruń.
- Witoszek N., (2011), *Najlepszy kraj na świecie*, [in:] *Norwegia. Przewodnik nieturystyczny*, Wydawnictwo Krytyki Politycznej, Warszawa.

## Źródła internetowe

- Rozporządzenie MEN z dn. 14 lutego 2017 r. w sprawie podstawy programowej wychowania przedszkolnego oraz podstawy programowej kształcenia ogólnego <http://dziennikustaw.gov.pl/du/2017/356/1> (09.09.2018).
- UNESCO a Dekada Edukacji dla Zrównoważonego Rozwoju, <http://www.unesco.pl/edukacja/dekada-edukacji-nt-zrownowazonego-rozwoju/unesco-a-zrownowazony-rozwoj/> (data pobrania: 18.03.2019).
- UNIC Warsaw, *Zrównoważony rozwój – cele*, <http://www.unic.un.org.pl/zrownowazony-rozwoj---cele/szczyt> (data pobrania: 12.03.2019).