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Sustainable development of the country – analysis of investment expenditure on environmental protection in Poland

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ABSTRACT

The following study addresses the subject of Poland's sustainable development. Sustainable development is a concept increasingly considered both on the local and national scale. The theoretical part presents the essence of the concept of sustainable development. An important element of the implementation of sustainable development is the allocation of specific funds for this purpose. The empirical study analyzes the investment expenditures on environmental protection in Poland.

Keywords: Sustainable development, environmental protection, investment expenditures on environmental protection

1. INTRODUCTION

The development of civilization is ours a boon and a curse. Favors, because the development of science and technology improves and improves our lives, changes its quality, we have a chance to gain and discover the world, cure people, get to know each other new horizons, etc. But it is also a curse, because it also leads to a decrease in the quality of life, threats to mental and physical health, disasters, disasters, destruction of natural resources, and other undesirable effects of civilization. Model of socio-economic development based on

continuous growth of consumption of goods and services, fossil fuels, development of motorization, manufacturing massively disposable and cumulative products waste, it destroys the ecosystems we are from dependent in our biological existence. Such an increase economic development and civilization development can not last without end, because it will not meet the future needs of the growing world population. A deliberately determined attempt avoiding self-destruction, maintaining high quality natural environment with simultaneous progress of civilization is the idea of sustainable development. The main idea of this idea, there is progress, but with the use and respect values and resources of the natural environment.

From the observation of people's behaviors and trends prevailing in modern highly developed societies, one can conclude that the destiny of the 21st century man is first and foremost success, understood as material well-being - high wages enabling high consumption, promotion opportunities, and possessions. More accurate analysis, however, you can see and other expectations modern man. In this way, every man would like to feel satisfaction with the fulfillment of his desires and needs. However, cultural, civilization and the natural nature of human existence, more and more often and increasingly exposed to various kind of crisis, caused too expansive and unrestrained development of civilization

The idea of sustainable development appeared at the moment in which a number of problems of the modern world have been noticed. They were related with fast and unrestrained population growth rate, uncontrolled consumption of natural resources, growing degradation of the natural environment, increase in consumption and with deepening the disproportions between highly developed countries a developing in terms of the quality of life of their residents.

The idea of sustainable development, also called the idea of eco-development, was based on considerations about the necessity of introducing fundamental changes in the global economy. Sustainable development is a term that is still gaining popularity, for years widely used in scientific literature, legal acts or strategic documents. Progressive degradation of the natural environment, increasing poisoning of air, water and land caused a threat to the health of an increasing number of people. [1] In addition, there were also economic arguments about the threat to future economic growth as a result of depletion of natural resources. Gradually, an awareness of the overall perception of phenomena and processes taking place in the areas of social, economic and natural life was created. This was the basis for the mobilization of the world of science, politics and business to develop the basis for joint efforts for further and lasting - for future generations - socio-economic development friendly to the natural environment.

The concept of sustainable development is often analyzed in economic terms as the best idea to overcome socio-economic and economic crisis. It is also underlined priority of economic development, which is expressed in the definition that "sustainable development is socially indicated, purposeful economically and ecologically desirable economic development strategy. Sustainable development, which is expressed in the above mentioned three key aspects should aim primarily at sustainable production and consumption, and create economic systems that would respect the value of the natural environment. Then, further actions would be aimed, among others, at down reducing social inequalities, stunting growth demographic, international economic integration based on the principle of equal rights, ecological responsibility and mutual benefits, supplementing and improving environmental law, and raising ecological awareness. The term "sustainable development" usually appears in two contexts. The first one is a discussion about development goals and tools leading to its achievement. In this case, it is

therefore naming a certain type of socio-economic development, which is currently considered the most desirable, which results from its strong criticism of the existing development mechanisms. The second context, with a much wider meaning, is the concept of "sustainable development" as a new concept of the relationship between man and the environment, which must be shaped on new principles. [2]

Creating sustainable development is associated with ecological awareness of the society, the important element of which is the feeling of threat to nature surrounding humanity, belonging and social responsibility. You can observe in recent years concern about the state of the natural environment, which is why a significant goal is to shape an appropriate relationship between society and the environment, as well as the need to solve many problems occurring in both the economic and social spheres. Sustainable development refers to many issues related to environmental protection as well as social issues. This concept can be referenced in most important international and national documents.

Sustainable development has become one of the most popular developmental concepts that has officially met with unprecedented acceptance - practically all over the world (at least on the general assumption level. [3] This type of socio-economic development over the past few decades is permanently present in public discussion and the media. In Poland, for its name, the terms such as eco-development, sustainable development (or sustainable development), stable and self-sustaining development are used quite freely.

Industrialization and globalization make the concept of sustainable development more and more important. Sustainable development occurs in the economic and social areas and influences the maintenance of the balance in the natural environment. Its primary goal is to meet elementary social needs. The concept of sustainable development also assumes that human activities should affect the natural environment as little as possible, because they should be left in the best condition for future generations.

Maintaining economic growth that respects the needs of the environment requires a wide range of information on, for example, the amount of available natural resources; the consequences of economic activity in depleting natural resources and deteriorating the quality of the environment; expenditures involved in environmental protection, expenditures necessary to prevent or repair harmful effects that appear as a result of a degraded environment; effective economic instruments for environmental management. [4] All of the above scopes of information are used to protect the environment. It can be said that environmental protection is an activity whose main purpose is to collect, neutralize, reduce, prevent or eliminate pollution or losses resulting from human activity. [5]

2. THE ESSENCE OF SUSTAINABLE DEVELOPMENT

Economic growth is a relatively new phenomenon, which is related to the fact that the economy has not developed for many years and the growth rate was zero. It was not until the industrial revolution, which was the result of above all the mechanization of labor, that the growth rate in Great Britain rose from zero to 0.5%. From that moment, economic growth in European countries and the United States in the nineteenth century acceleration. The economists are among the main drivers of economic growth: labor force (expressed in the number of economically active population), physical capital (all kinds of for the production of goods and services, natural resources, both renewable and also non-renewable, being a product

of nature) and progress technical, which determines the efficiency of using the above components. Economic growth takes place along with individual stages of development economic, which adequately represent higher and higher level of income and development from the previous form.

Many argue that the dynamic economic growth that has occurred in the twentieth century along with the construction of factories, the development of transport, and finally with increased consumerism, contributed to pollution air, water, forest felling, which has contributed to climate change in the world and led to degradation of the natural environment. It has contributed to harmful practices, such as the use of fossil fuels on a massive scale, or excessive water consumption. These are just some examples confirming the complete concern for the natural environment. On the other hand, there are a number of positives to which he contributed, such as better education, improvement of the standard of living, improvement of the condition and scope of health care, reduction of transport costs. This state of affairs is noticeable above all in high countries developed; (United States, Japan) or in Western European countries.

Global production of goods and services has increased significantly, the number of people in the world has doubled, and food production has grown exponentially. However more and more signals connected with global ones have started to appear problems of the modern world, such as: the exhaustibility of raw materials natural or degradation of the natural environment as a result anthropogenic activity. To meet the growing environmental problems that have become the result of rapid economic development has been formulated concept of sustainable development. The above-mentioned concept is a permanent and permanent assumption economic and social progress that must be harmonized with natural environment. Sustainable development becomes not only an idea, to which we try to strive in our lives, but a specific set of rules and the guidelines that must be met by the given administrative units

Environmental protection is currently a complex of very diverse activities undertaken by many different entities. It is obvious that in the system of a democratic state of law these activities must be based in law, above all also because they are considered to be of fundamental importance for the existence of contemporary societies. It is also important that in these activities the state should actively participate, because environmental protection is considered one of the most important so-called state integration functions. The aim of such state actions is to ensure the functioning of society as a whole, by creating conditions to guarantee basic living conditions. [6]

Challenges faced by the modern world, especially resource constraints, increased social inequalities, climate change, growing expectations of various interest groups, require quick and effective reactions, both on a macro and microeconomic scale.[7] The principles of sustainable development, and in particular the implementation of the Sustainable Development Goals, as well as the principles of social responsibility can be an effective response to these challenges, referring to economic, environmental and social issues, taking into account the long-term perspective and intergenerational integration. [8]

People in biological development was dependent on many environmental factors. From the moment when abstract thinking appeared, natural barriers were exceeded, biological development stopped and civilization development began. It led to many facilities in the life and activity of man, but also introduced major changes and created a new order, which in time stood in opposition to nature. Acceleration of the civilization development that we have been observing since the end of the 18th century, apart from the achievements, has resulted the depletion of natural resources, the depletion of the biosphere, the disturbance of ecological

balance and brought a lot destruction, disasters and threats. Our constantly developing scientific and technical civilization faced a serious global crisis. The fact is that for a long time, man's relationships with nature have been leading to the growth of civilization problems, manifested in the disturbance of social and biological structure human existence. Reconciling the development of civilization with the proper functioning of the natural environment, it is a complicated and difficult thing right now. An alternative to this state of affairs is the continuation of further civilization development based on the principles of sustainable development. This idea presents a number of leading solutions to protect and secure three stages of development, ie society (culture), nature (nature) and economy (economics). It assumes a re-evaluation of the current way of thinking and acting without giving up and not even lowering the current level of civilization development. The concept of sustainable development consists in incorporating the natural environment into the socio-economic development of the region, the country or in the approach global world. It assumes permanent improvement of the quality of life of contemporary and future generations, which is integrally connected with the improvement of the human environment. It also indicates the need for spiritual development of a human being and exchange of developmental goals from material to non-material. Introduction of sustainable development on a scale global is an opportunity for further development of civilization. Unfortunately, this introduction is difficult today through world unilateralism.

Assuming that protection of the environment, understood as striving to maintain ecological balance in the environment, is one of the most important goals of the modern state, and taking appropriate action is one of the most important tasks, it should be said that the law in this field should play a double role. Legal norms should define, first of all, tasks that are necessary to achieve the assumed goal, and secondly, they should be a means (tool) by means of which these tasks will be performed. The environment and its protection is one of the basic values of modern law. Thus, the legislator, who refers to the environment and its protection, shows that this value has a special meaning for him.

Defining the term by the legislator indicates that it is an important value, and in addition allows you to orientate in a precise way about this concept. Well, the term environment can be understood differently. This state of affairs depends on the problem or profile of the research for which the definitions have been created. According to the definition contained in the universal encyclopedia, the environment "is a total of abiotic and biotic factors directly affecting the life of the organism of a given species or its population. The concept stressing the need to care for the environment and the environment is sustainable development. [9]

Sustainable development means the ability to develop materially in order to maintain the long-term existence of the human population on Earth, while ensuring the efficient use of natural resources, environmentally safe and the condition of human development, creating equal opportunities for present and future generations. It becomes necessary to balance environmental protection with the need for development. The analysis of systems: economic, social and ecological as well as simultaneous implementation of economic, social and ecological goals becomes crucial. It is important to manage the available resources - economical and effective - with the possibility of recycling products offered. Sustainable development as a concept is global and should be taken into account by all types of organizations, regardless of the type of business. [10]

The objectives of environmental and economic policy are set out in the Report of the World Commission for Environment and Development:

- restoring economic growth and changing its quality,
- satisfying the existential needs of man and humanity in the area of food, hygiene, work and energy,
- stabilization of the population,
- protection and restoration of endogenous natural resources,
- innovation and change of technological profile,
- synergy of ecological and economic laws in the decision-making process.

The effect of implementing the idea of sustainable development should be an increase in the quality of life, both on the social and individual grounds. The idea of sustainable development often discussed recently in various forums is also reflected in business. In Poland, it manifests itself in the sphere of social responsibility and undertaking responsible behavior by enterprises that concern both environmental, social and economic issues. Implementation of the idea of sustainable development does not mean giving up the pursuit of profit as one of the basic goals of the company.

There are benefits in the form of a positive image, interest on the part of recipients, effective cooperation with stakeholders, which brings positive effects both for the enterprises themselves and for society. Such incentives for undertaking initiatives consistent with the concept of sustainable development and social responsibility are also guided by enterprises participating in surveys. This raises the hope that domestic enterprises, although confronted with companies from other countries, do not stand out with their activities in this field, they become more aware of the challenges they face and are more and more responsible about the role they have to play for society.

Sustainable development is a political idea. How little that idea has been translated into the language of politics and law, strategies and political, economic and social programs. It is at the center of attention from the United Nations, through international organizations such as the European Union, to nation-states, local self-governments and non-governmental organizations. Implementation of the idea is both one of the most important topics of practical philosophy, which includes the philosophy of sustainable development, as well as political science, which aims to describe and explain contemporary political reality and, on this basis, formulate forecasts for the future.

The problem of realizing an idea brings together in itself, like a lens, various bundles of theoretical themes and practical issues. Taking into account the problem of evaluating the process or the chances of implementing the idea of sustainable development, it is worth emphasizing that authors who speak in these matters very often argue that sustainable development is a civilizational alternative to the development line implemented since the first industrial revolution.

This is an important issue because their views on the extent of differences between current and "sustainable" development trends are for them a very important premise for applying for the implementation of sustainable development. The presented view on the alternative character of the discussed idea shares a number of authors publishing in *Problems of Sustainable Development*. Sustainable development is an alternative to social and economic development, in which the objectives are consistent with the principles of respect and protection of the natural environment, and cultural, social and awareness grounds are taken into account at all levels of political, economic and cultural decision-making. [11]

3. ANALYSIS OF INVESTMENT EXPENDITURE ON ENVIRONMENTAL PROTECTION IN POLAND

Expenditure on environmental protection is the sum of investment outlays and running costs (including household expenses) incurred for activities related to environmental protection, reduction of pollution or repair of environmental damage. Expenses for environmental protection are not expenses that can have a positive impact on the environment, and whose main purpose is to meet other needs, such as increasing profit, occupational health and safety, or improving production efficiency.

Table 1. Expenditure on environmental protection

Specification	2000	2005	2010	2015	2016	2017
Total in mln PLN	46505,9	38061,4	48837,8	44111,3	28990,4	29331,3
In relation to Gross Domestic Product in %	4,4	3,1	3,1	2,4	1,5	1,5
Per capita in PLN	1223,0	1003,1	1278,5	1147,6	754,3	763,2
Outlays on fixed assets Total in mln PLN	9450,5	7519,4	11980,7	15370,5	6647,7	6825,4
In relation to Gross Domestic Product in %	0,9	0,6	0,8	0,8	0,4	0,3
Per capita in PLN	244,6	197,1	313,6	399,9	173,0	177,6
Net Current costs Total in mln PLN	14528,2	9477,5	10321,1	8972,8	3232,2	3286,6
In relation to Gross Domestic Product in %	1,4	0,8	0,7	0,5	0,2	0,2
Per capita in PLN	376,9	248,5	270,2	233,4	84,1	85,5
Household Expenditure	22527,3	21064,3	26536,1	19768,0	19110,8	19219,3

Total in mln PLN						
In relation to Gross Domestic Product in %	2,1	1,7	1,7	1,1	1,0	1,0
Per capita in PLN	589,1	552,0	694,7	514,3	497,3	500,1

[Source: Environment 2018, Statistics Poland, Spatial and Environmental Surveys Department, Warsaw 2018]

The structure of expenditure on environmental protection is dominated by expenses incurred by households. In 2017, their share amounted to approx. 66%, expenditure on fixed assets for environmental protection accounted for 23%, and current costs of environmental protection - approx. 11%

Table 2. Outlays on fixed assets for environmental protection by direction of investing

Direction of investing	2000	2005	2010	2015	2016	2017
Total	6570,3	5986,5	10926,2	15160,0	6517,0	6825,4
Protection of air and climate	2417,8	1149,5	2219,4	4259,5	2520,7	2315,5
Wastewater management and water protection	3341,2	3615,6	7206,1	6644,7	2277,3	2715,2
Waste management	582,4	752,7	919,3	3069,4	904,2	868,7
Protection of soil, groundwater and surface water	68,3	94,8	70,1	68,7	60,1	46,3
Noise and vibration reduction	47,3	113,9	141,6	350,1	186,8	67,5
Protection of biodiversity and landscape	4,0	7,6	27,4	48,7	109,1	136,9

Protection against ionizing radiation	0,3	0,3	0,4	0,0	0,9	0,4
Research and development activity	10,1	0,4	4,6	3,9	4,6	17,9
Other environmental protection activities	98,9	251,6	337,4	715,1	453,1	657,0

[Source: Environment 2018, Statistics Poland, Spatial and Environmental Surveys Department, Warsaw 2018]

The structure of expenditures on fixed assets for environmental protection in Poland is dominated by the expenditure on wastewater management and water protection as well as on the protection of atmospheric air and climate. In the years 2000-2017, expenditures on wastewater management and water protection constituted from 35% to 66% of outlays on fixed assets serving the protection of the environment in general, expenditures on atmospheric air and climate protection and from 19% to 39%. 9% to 20% of expenditures were spent on waste management.

In 2017, the share of expenditures on wastewater management and water protection as well as on the protection of atmospheric air and climate amounted to 39.8% and 33.9% respectively. The remaining 26.3% is spent on waste management (12.7%), biodiversity and landscape protection (2.0%), noise and vibration reduction (1.0%), and soil and groundwater and surface water protection (0.7%), for research and development (0.3%) and other activities related to environmental protection (9.6%).

Expenditure on fixed assets for sewage and water protection in 2017 amounted to PLN 2.7 billion, which was 19% more than in 2016. The investments related to sewage management and water protection include equipment for disposal and treatment of industrial sewage. , municipal, rainwater (sewage) rainwater and contaminated mine water discharged directly into surface waters and into the ground. They include sewage treatment plants or their elements according to the purification technology (mechanical, chemical, biological and increased biogen removal, as well as individual household sewage treatment and investments related to initial sewage treatment), equipment for the economic use of sewage, for the utilization, collection and transport of saline waters , for collecting sewage, as well as equipping sewage treatment plants with equipment and control and measuring apparatus in cases where they are not included in the costs of construction of sewage treatment plants. The scope of data also includes: construction of a sanitary sewage system discharging sewage and rainwater; equipment for treatment and management of sludge from sewage treatment plants; circulating water supply systems; protection against penetration into rivers, seas and other pollution areas created during water transport; creation of protection zones for sources and water intakes.

In 2017, fixed capital expenditure for the protection of atmospheric air and climate amounted to PLN 2.3 billion and was lower than in the previous year by 8%.

Investments related to the protection of atmospheric air and climate include installations of purification devices and installations using chemical reactions to substances that are less

burdensome to the environment, complete equipment and a set of necessary auxiliary equipment to ensure proper operation of the installation and devices and equipment to reduce the number or concentrations arising or pollutants emitted, tasks related to the provision of air pollution control and measurement equipment. In addition, it includes: new fuel combustion technologies and technologies; modernization of boiler rooms and heat plants to reduce contaminants discharged to the air arising in the combustion process; unconventional energy sources (eg wind farms, use of geothermal waters); adaptation of internal combustion engines to gas fuel, as well as the construction of a hydrocracking unit. In fixed capital expenditure for air and climate protection, equipment that reduces pollution and forms an integral part of the technological process ensuring adequate quality of raw materials and semi-finished products for subsequent stages of production is not included. This also applies to the installation of auxiliary equipment necessary for technological or scientific reasons for the production plant.

4. CONCLUSIONS

Dynamic economic development and the state of the natural environment arouses in recent years, anxiety, which is why it is important to shape the right relationship of society to the natural environment. Therefore it is necessary a flexible approach to the relationship between man - the economy and the environment. The concept of sustainable development serves to build these relationships. It assumes the integration of political, economic and social activities aimed at satisfying the needs, taking into account the natural balance. The goal of sustainable development is to ensure an adequate quality of social life.

Civilization, which is the sum of activity that confirms the truth of human existence and creates conditions the authentic development of the human community, still looking for new solutions and ways of development. Progress we owe our civilization to searching for new roads enriching and improving our behavior. At the beginning of the 21st century, an alternative to this process the concept of sustainable development becomes. She is on a global scale, a chance for survival and continuation further development of our civilization. Unfortunately, world unilateralism limits it for now great possibilities. With time, however, the world inevitably look for new solutions. Ready proposals are presented in the concept presented above. It seems that the initiation of the civilization of sustainable development is at the present stage of the search, the best one an alternative to further civilization development. one must only to implement in the practice of human life this philosophy of new goals and development opportunities.

Environmental protection is "an area of law of an interdisciplinary nature, in which the use of concepts appropriate for natural, technical and chemical sciences is the rule, while sustainable development is an expression through which is understood the socio-economic development in which the process of integrating political activities takes place, economic and social, while maintaining the natural balance and durability of basic natural processes, in order to guarantee the possibility of satisfying the basic needs of individual communities or citizens of both the modern generation and future generations. It should be emphasized that the term "sustainable development" should be distinguished from the term "sustainable development". Sustainable development is characterized by durability and the ability to self-sustainability, while sustainable development concerns only respect for and protection of the natural environment. The concept of sustainable and sustainable development assumes meeting the needs of contemporary generations without compromising the ability to satisfy the analogous

needs of future generations. Theoretically speaking, the full implementation of this concept means providing so-called strong durability, i.e. preserving for the future generations all natural resources and other economic resources. [12] Problems related to sustainable development are becoming more and more popular, although the popularity of this concept has exceeded the importance and practical effectiveness of it. This concept remains the subject of a thorough analysis of commentators and representatives of the doctrine in the field of environmental law. [13]

The necessity to implement sustainable development results first of all from economic (economic) premises, because otherwise material existence on Earth may encounter ecological barrier due to depletion of natural resources and growing pollution and environmental degradation. This rather obvious task does not always meet with social understanding, especially in the case of recommendations for compliance with planning and zoning requirements, and financing of protective investments. Therefore, both the explanation of goals and the implementation of the principles of sustainable development are increasingly focused on aspects and factors of a social nature, including ethical and moral. [14]

References

- [1] Feiock, R. C., Stream, C. (2001). Environmental Protection Versus Economic Development: A False Trade-Off? *Public Administration Review* 61(3), 313-321
- [2] Redclift, M. (2002). Sustainable development: Exploring the contradictions. Routledge, p. 20.
- [3] Cash, D. W., Clark, W. C., Alcock, F., Dickson, N. M., Eckley, N., Guston, D. H., Mitchell, R. B. (2003). Knowledge systems for sustainable development. *Proceedings of the National Academy of Sciences* 100(14), 8086-8091
- [4] Hironaka, A. (2002). The globalization of environmental protection: The case of environmental impact assessment. *International Journal of Comparative Sociology* 43(1), 65-78
- [5] Panwar, N. L., Kaushik, S. C., S. Kothari, Role of renewable energy sources in environmental protection: A review. *Renewable and Sustainable Energy Reviews* 2011, no 15(3), 1513-1524
- [6] Kolstad, C. Intermediate Environmental Economics: International Edition. *OUP Catalogue* 2011, p. 12.
- [7] Morgenstern, R. D., Pizer, W. A., & Shih, J. S. The cost of environmental protection. *Review of Economics and Statistics* 2001, no 83(4), 732-738
- [8] S. Schaltegger M. Wagner, Sustainable entrepreneurship and sustainability innovation: categories and interactions. *Business Strategy and the Environment* 2011, Vol. 20, Issue 4, p. 10.
- [9] D. E. Ellis. Sustainable remediation white paper—Integrating sustainable principles, practices, and metrics into remediation projects. *Remediation Journal* 2009, Vol. 19, Issue 3, p. 2.

- [10] F. Montabon, M. Pagell, Z. Wu. Making Sustainability Sustainable. *Journal of Supply Chain Management* 2015, Vol. 52, Issue 2, 120
- [11] J. Kerr L. Foster. Sustainable consumption – UK Government activity. *Nutrition Bulletin* 2011, Vol. 36, Issue 4, 23.
- [12] M. Whitehead. Hollow Sustainabilities? Perspectives on Sustainable Development in the Post-socialist World. *Geography Compass* 2010, Vol. 4, Issue 11, 22.
- [13] Gechev R. (2005). The Essence of Sustainable Development, [in:] Sustainable Development, Economic Aspects, University of Indianapolis Press, Indianapolis, p. 18.
- [14] E. Holden K. Linnerud. The sustainable development area: satisfying basic needs and safeguarding ecological sustainability. *Sustainable Development* 2006, Vol. 15, Issue 3, 29.