
Sustainable Development as a Determinant of Poland's Economic, Social and Environmental Security

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Abstract:

Purpose: The aim of the study was to provide a concise description of the objectives, targets and degree of implementation of the Agenda 2030 for Sustainable Development adopted in 2015, whose implementation contributes to improving national security. The specific objectives included the quantitative and qualitative analysis of selected sustainable development indicators assigned to individual goals of Agenda 2030, as well as the examination of the degree of their implementation in Poland in the 2010-2020 period.

Design/Methodology/Approach: To achieve the set objectives, the research process used the 2019 UN Report, Poland on the way to SDGs. Report 2020 as well as data obtained from official statistics in the form of indicators for national priorities.

Findings: As a result of the conducted research, it was proved that the assumptions of the sustainable development concept influence the state and level of national security.

Practical Implications: Government entities as well as the industry sector are recommended to continuously and widely educate the public on the necessity of implementing the principles of sustainable development. National priorities also need to be supplemented with additional indicators to provide a complete picture of the implementation of certain objectives.

Originality/Value: Security in every dimension should be the primary concern of the state, businesses and consumers. An effective way to achieve this is through the implementation of the concept of sustainable development, of which Agenda 2030 is the current indicator.

Keywords: Sustainable development, security, economic security, Agenda 2030.

JEL codes: M10, M20, Q56, Q58.

Paper type: Research article.

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1. Introduction

Sustainable development is one of the fundamental factors in guaranteeing national security. In economic, social and environmental terms, security and sustainability are interlinked and interact with each other, thereby resulting in increased levels of security. One of the foundations of the sustainable development concept is the focus on economic objectives, which determines the provision of economic security. Implementation of sustainable development principles also leads to the improvement of social security, reducing the probability of undesirable social phenomena (difficulties) and limiting risks related to survival and quality of life in the economic and cultural sphere. And environmental security is directly affected by the improvement of the state of the environment and the analysis of its threats as well as by the focus on ecological objectives and eco-efficiency. The analysis of economic, social and environmental risks carried out in relation to the state is undoubtedly a contribution to developing its security level that guarantees the development of the organisation and an adequate standard of living for its citizens.

2. Literature Review

2.1 Sustainable Development Principles

The concept of sustainable development emerged in the 1980s and is one of the most important contemporary concepts of social and economic development. Its creation is closely linked to the disastrous state of natural environment, which translates into economic and social issues. The emergence of the sustainable development concept is a result of the global accumulation of ecological threats and the related process of changing social awareness, criticism of traditional theories of growth, as well as gradual recognition of the need to take environmental protection into account in development processes. This concept is closely related to the reports of the Club of Rome, especially its report on the limits of economic growth that proposes zero economic growth as long as such growth slows down the degradation of the human environment (Buszko, 2012).

In contemporary conditions, the process of development of the concept of sustainable development should consider as particularly important the approach of M. Prasopchoke who tries to make the ruling classes aware that economic growth cannot consist only in the growth of GDP, production, employment or income, but must still at least maintain the existing level of social, relational and natural capital, which will ensure intergenerational equity. Barlett and Chase (2014) argue that sustainable growth is about meeting the current needs of the society in such a way that future generations will also be able to meet their needs. According to Komiyama and Takeuchi (2006), the concept of sustainable development places strong emphasis not only on the elimination of barriers to growth, poverty, the implementation of innovative solutions and the growth of intangible assets, but also on environmental

protection and the possibility of the renewal of resources, which is of particular importance in the new global conditions (Latoszek, 2016).

Sustainable development can be defined as development that ensures the right to satisfy the development aspirations of the present generation without limiting the rights of future generations (Kośmicki, 2010). According to the Brundtland Commission: *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"* (Rogall, 2010). The definition contained in the standards and documents of the United Nations states that *"Sustainable development of the Earth is development that meets the basic needs of all people and at the same time protects, maintains and restores the health and integrity of the Earth's ecological systems without the risk that the needs of future generations cannot be met and the limits of the Earth's sustainability are exceeded."* (Nowosielski, Spilka, and Kania 2010).

The definition of sustainable development directly identifies its three main features, i.e., sustainability, durability and self-sustainability. The 1983 Brundtland Report most often marks the beginning of the spread of the idea of sustainable development that has been adopted as the overarching goal of economic policy, social development and environmental protection. The Brundtland Report allowed for the spread of the idea of sustainable development and made people realise that a healthy economy depends on a good environment, and therefore there is a need to integrate environmental policy into general economic policy. The Report also strongly emphasised the fact that sustainable development means integrating economics and ecology with a long-term development strategy. And this can guarantee the satisfaction of material needs for present and future generations (Pessoa and Rui Silva, 2009; Söderbaum, 2011).

Numerous important documents relating to the implementation of the principle of sustainable development have been published since the Report. One of the most important in recent times is the 2030 Agenda for Sustainable Development adopted by the UN General Assembly on 25 September 2015. The European Union has pledged to move towards an economically sustainable Europe in which people *"live well within the limits of our planet's capacity"*. Achieving this objective requires, among other things, a change in the way we think about the use of natural resources, produce and use energy, produce and consume food, organise transport and achieve a high level of competitiveness for manufactured goods with low carbon consumption (<https://www.un.org/humansecurity/agenda-2030/>) (Latoszek, 2017).

2.2 Security Considerations in Relation to Sustainable Development

Principles of the sustainable development concept also refer to the category of national security, especially in its economic, social and ecological dimension. Security is a state that provides a sense of certainty of existence and a guarantee of its preservation as well as the opportunity to develop and improve. This certainty is

the result not only of the absence of threats (their non-existence or elimination), but also arises from the creative activity of the subject in question and varies over time, i.e., it has the nature of a social process (Zięba, 2008). Security is characterised by an acceptable level of risk of losing something particularly important to a person, such as life, health, work, respect, feelings or material goods (Wojtaszczyk, 2009). Hence, security is a paramount necessity not only for human beings, but also for social groups, countries and international systems. Importantly, security is one of the fundamental functions of the state that is regarded as a public good, which is the basis for the interventionism of public authorities. As a complex phenomenon, security is classified using different types of criteria appropriate to specific potential needs. In this case, the division using the subject criterion seems to be universal.

Subject criterion narrows the understanding of security to the issue of what it relates to. This includes the man-made areas of activity as well as the relationships and assumptions underlying the activities undertaken to ensure security. Thus, in addition to classical military and political aspects, the concept of security also includes economic and technological factors, raw material resources, as well as demographic, social and humanitarian policies. Moreover, nowadays security also includes matters relating to the preservation of national identity and ensures participation in the global civilisational development. Consequently, this division often covers different areas of the surrounding reality. Following the assumptions of this study, the subject criterion allows for the differentiation of economic, social and ecological security.

One dimension of national security is economic security. This category enables the sustainable development of the economy while ensuring an adequate standard of living for its inhabitants through unhindered access to raw materials, markets, capital, modern technologies and information. The very concept of economic security grew out of the general concept of security and acknowledges the importance of threats to the quality of life of individuals, social groups and the country. Economic security refers to a state in which sustainable economic development is possible, on the one hand, through unhindered access to capital, consisting in maintaining its basic development indicators and ensuring a comparative balance with the economies of other countries, markets, technologies, raw materials, and, on the other hand, through a stable and predictable state policy. Economic security is, therefore, the ability of the economic system of a country (group of countries) to use internal development factors and international economic interdependence in such a way as to guarantee its unthreatened development (Frejtag-Mika, Kołodziejak, and Putkiewicz 1996).

Economic security also defines the perception of actual or potential economic threats, which is influenced by the general state of economic dependence of a country, which determines the degree of effectiveness of external economic interference in the internal economic development, defence capability and stability of a country's socio-political system. Economic security, in this sense, expresses the

degree of vulnerability of a country to the transmission of political actions through the economic plane, mainly through the transmission through channels and mechanisms of economic dependence (Michałowski, 1991). A greater or lesser degree of state interference in the economy is therefore inevitable. Economic security is therefore derived from the state of the political and economic system, as the level of national economic security is affected by the manner in which politicians regulate the functioning of economic entities and the interrelations between these entities and state institutions, as well as the principles of international relations (Redo and Siemiątkowski 2017).

Thus, economic security refers to such a state of the political system and the resulting economic system that ensures the freedom of economic entities to conduct their activities, the stability of the macroeconomic conditions for conducting these activities, a relatively low bureaucratic and tax burden, sufficiently regulated relations of international exchange to ensure comparable conditions of competition and participation in international alliances that increase relative resistance to the negative impact of the external environment (Siemiątkowski, 2015). The activities of the state aimed at ensuring economic security should therefore have a planned and institutionalised character, oriented towards conscious management of this security.

The contemporary understanding of economic security refers primarily to macroeconomic issues, beginning with the structure of the economy, its technological advancement, the state of the country's finances expressed primarily by the size of the public debt, the extent of interdependence and the degree of dependence on trade with certain partners or in certain commodity groups. This applies in particular to energy resources and therefore refers to a country's vulnerability to external pressures or sudden interruptions in their supply. It is important to understand that threats to economic security can affect the stability of the functioning of a country and especially its economy. These can be both internal problems, i.e. flawed economic policies, loss of stability in the budget or pension sector, and international spillovers of negative phenomena, i.e., the effects of financial crises or bad alliance policies concerning national public finances, or the effects of changes in resource prices.

Economic security is thus a process that aims to ensure a specific economic order oriented towards obtaining stable and economically viable production (Duer, 1994) in sufficient quantity, with acceptable quality and good productivity (Adamowicz, 2000). This order can be summarised as a set of sustainable development principles which are used as a basis for grouping them under different domains (Milewski, 2001). Economic order is analysed in the following areas: energy and raw materials consumption, environmental impact, social impact, employment structure, profit generation, entrepreneurship and economic structure, availability of products and services, environmental performance of products and services, agriculture and infrastructure. Economic security therefore refers to threats to prosperity, free access to markets, financial resources and natural resources that guarantee the continued

development of a country and the maintenance of its position (Badak, 2010). These values are also undoubtedly the basis of the concept of sustainable development.

Another area generated by the principles and implementation of sustainable development is social security. Social security encompasses the whole range of legal, organisational activities carried out by governmental (national and international), non-governmental entities and citizens themselves that aim to ensure a certain standard of living for individuals, families and social groups and to prevent their marginalisation and social exclusion.

According to International Labour Organization (ILO) – *“Social security is the protection that a society provides to individuals and households to ensure access to health care and to guarantee income security, particularly in cases of old age, unemployment, sickness, invalidity, work injury, maternity or loss of a breadwinner”* (ILO 2021). The term "social security" was first used officially in the USA in the title of the Act of 1935 on social programmes applicable in the case of old age, death, disability and unemployment. In Poland, the term first appeared in 2001 when it was included in the Lexicon of Social Policy edited by Rysz-Kowalczyk (2002) as a certain state of freedom from both social and psychosocial risks and threats.

The essence of social security is reflected in the need to focus the attention of the state, its institutions and society itself (family, social groups, associations and NGOs) on providing citizens with a certain level of existence, conditions for development, adequate employment, education and other benefits. Social security as a process is the permanently maintained certainty of survival of a specific social group in the face of evolving threats to social interests (needs, aspirations, desires). Social security can also be considered from the perspective of the individual (as the social security of the individual satisfied at the existential-emotional, psychic-emotional, educational-cultural and interactional levels) and of the state (as the national social security defined by areas such as the social structure, culture of the given society or the system of division of labour) (Wasiuta, Klepka, and Kopeć 2018).

The social dimension of sustainability concerns the impact of an organisation on the social systems within which it operates. The Social Performance Indicators, developed by Global Initiative Reporting, identify their key aspects in terms of employment and decent work practices, respect for human rights, society and responsibility for the product.

According to ISO/FDIS 26000:2010 Guidance on social responsibility, social responsibility is defined as: the responsibility of an organisation to determine the impact of its decisions and actions on society and to behave ethically and transparently in ways that contribute to sustainable development, including the protection of society's health and well-being, taking into account the expectations of

stakeholders, compliance with applicable laws and international standards and integrating actions throughout the organisation (ISO 26000).

The ISO 26000 standard emphasises the differences in the understanding of the two terms: *sustainable development* and *social responsibility*. *Sustainable development* means meeting the needs of society without compromising the ability of future generations to meet their needs. *Sustainable development* focuses on achieving the organisation's objectives in three interrelated dimensions – economic, social and environmental. For example, eradicating poverty requires promoting social justice and economic development as well as environmental protection.

Social responsibility towards society and the environment is closely linked to sustainable development. Since sustainable development implies that organisations focus on economic, social and environmental goals, it can be seen as a way to meet stakeholder expectations that must be taken into account by organisations seeking to act responsibly. Therefore, the overarching goal of an organisation's social responsibility should be to contribute to sustainable development. Functioning of such an organisation as a country should also be based on these values, since the proper functioning of a country is essential for sustainable development. The role of the state is to ensure the effective application of the law and to protect human rights (ISO 26000, 2021).

The global nature of some environmental and health issues around the world, the assumption of responsibility for poverty eradication, financial and economic development, interdependence and more geographically dispersed value chains mean that the state must also take into account individual problems occurring on a global scale, not just those in its immediate environment.

The most effective way to implement these principles is to focus on creating shared value by generating economic value, including benefits for society (Porter and Kramer, 2011). This approach undoubtedly relates to the concept of social security and is an idea that has underpinned the construction of sustainable development principles. Another area generated in the implementation of the concept of sustainable development is environmental security, which is defined as the desired state of the natural environment, free from threats that upset the balance of ecosystems and the biosphere (Ciszek, 2012). Environmental security can also be understood as a "*sustained and continuous process aimed at achieving a desired ecological state, securing the peaceful and healthy existence of all elements of the ecosystem, using various means consistent with the principles of internal coexistence of the state and international communities*" (Wawrzusiszyn, 2015).

Environmental security is mainly related to access to natural resources and a clean natural environment as well as to the preservation of biodiversity and adaptation to climate change. Environmental security can be considered in terms of eliminating threats to the natural environment and in terms of preventing the occurrence of such

threats. This understanding of environmental security fits very well with the idea of sustainable development, which, as should be stressed, is a constitutional norm of the Republic of Poland. It assumes that the country's socio-economic development should be harmonised with the natural environment. Environmental security is inextricably linked to environmental threats, i.e., the progressive worldwide destruction of natural environment.

An ecological hazard is a natural phenomenon or process that can worsen an individual's life situation as a result of interference in the satisfaction of needs ranging from the most elementary needs, such as life or health, to needs of a higher order, such as contact with beauty, regardless of the will of the affected individual or social group. Environmental threats are related to the increasing pollution of natural environment, which affects not only individual countries but also regions and even the entire global system (Wawrzusiszyn, 2015).

Environmental hazards can include all factors that reduce the safety of citizens in their use of environmental components, namely, air, water, soil, mineral resources, flora, fauna, landscape, relief and climate. The overriding issue in ensuring environmental security is properly conducted protection of natural environment which includes the protection of air, water, land, minerals, animals and plants. We can also identify the factors against which the environment is protected. These include: noise, electromagnetic fields, chemicals, waste and other pollutants and extraordinary hazards (Gajdzik and Wyciślik 2008). Disturbance of environmental security is linked to the devastation of the natural environment, which has been recognised as a global concern of our time.

Nowadays, the most alarming ecological threats include air pollution, which largely determines quality of human life and often leads to diseases, as well as the related global climate change stemming largely from excessive greenhouse gas emissions caused by ever-increasing industrial production (Raczkowski, 2012; Kośmicki, 2009; Serzysko, 2014). Equally important to the loss of environmental security is the reduction in biodiversity, which affects the functioning of entire ecosystems. Of significance are environmental disasters that occur in a completely unforeseen way and cause long-term nuisance to the natural environment (Wawrzusiszyn, 2015). Water pollution is also a threat to environmental security, as is the unavailability of clean water that lacks substitutes and is an essential resource required for survival and for shaping production processes (Książpolski, 2011). Of concern is the increasing amount of post-consumer and post-production waste, which is still a threat despite ongoing waste management (Hadryjańska, 2015).

However, one of the greatest threats of an ecological nature is the overexploitation of non-renewable natural resources. A global threat to any economy is the rapid depletion of fossils that are the main energy resource (Kłosiński, 2006). Some of the most severe consequences of air pollution include: global warming, reduction of the stratospheric ozone layer and the formation of tropospheric ozone, toxic

contamination of food chains on land and in the ocean, increased acidity of surface water (especially lakes), and forest dieback due to acid rain and sulphur dioxide (Hadryjańska, 2015).

It follows from the above that environmental threats are related to environmental disasters, inappropriate use of natural resources, inadequate safety standards in industrial production, land pollution by industrial and hazardous waste as well as soil erosion through over-intensive agricultural production. These are undoubtedly global issues of the contemporary world that the sustainable development concept tries to reduce or eliminate and thus achieve the desired state of universal environmental security.

In conclusion, security is one of the fundamental social rights that are the product of the moral, political and economic agreements that people make between each other and that are the expression of a compromise that captures the essence of humanity's civilizational development, becoming the inalienable right of every human being. These are therefore the overarching values that underpin the concept of sustainable development for current and future generations.

3. Research Methodology and Results

The purpose of the study was to provide a concise description of the objectives, targets and degree of implementation of the 2030 Agenda for Sustainable Development (Agenda 2030) adopted in 2015 whose implementation contributes to improving national security. The specific objectives included the quantitative and qualitative analysis of selected sustainable development indicators assigned to individual goals of Agenda 2030, as well as the examination of the degree of their implementation in Poland in the period 2010–2019. For this purpose, a comparative analysis has been carried out taking into account a 10-year period and the different degree of achievement of the different objectives of the Agenda 2030. The research issues arising from the existing research gap include:

- Does the implementation of the sustainable development goals translate into concrete practical actions and concrete results?
- What quantitative changes in sustainable development indicators have been recorded between 2010 and 2019?
- Which of the three aspects of sustainable development is implemented to the greatest extent?
- Which of the security dimensions (economic, social, environmental) is best supported by the implementation of Agenda 2030 and which is least supported?
- What recommendations should be addressed first in order to ensure that the Agenda's objectives can be achieved?

The analysis draws on the 2019 UN Report, Poland on the way to SDGs. Report 2020, as well as data obtained from official SDGs statistics in the form of indicators for national priorities and data described in the 17 Goals Campaign, <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf>; <https://raportsdg.stat.gov.pl/2020/o%20publikacji.html>; <https://kampania17celow.pl/>.

The 2030 Agenda indicates the need for so-called official statistics to monitor progress towards the sustainable development goals. Monitoring takes place at three levels:

- global – this level is coordinated by the UN Statistical Commission;
- world regions – in this case responsibility lies with regional UN agencies (for our region: the United Nations Economic Commission for Europe – UNECE);
- national – handled by national statistical offices (Statistics Poland in Poland).

A set of so-called global indicators (SDG indicators) is used to assess progress at global and regional levels. Global and regional values are calculated by international organisations, based mainly on official statistics extracted from individual countries. At the national level, instead of global indicators, countries can use their own sets of indicators to monitor those areas and issues that are most important to a particular country. Such a solution has been adopted in Poland. Indicators for national priorities were first made available in 2018. Following development work, the set has been updated and more strongly linked to national priorities in achieving the SDGs. Progress made across the world and its regions is presented by the UN in annual reports.

The 2019 Report emphasises areas that are in a satisfactory state of implementation and can be considered as drivers for achieving all 17 goals of the Agenda 2030. They include, funding, flexibility, an inclusive and sustainable economy, more effective institutions, local activity, better use of data, harnessing science, technology and innovation, greater emphasis on digital transformation, or environmental and conservation issues.

Based on the Report's findings, it appears that in practice the main aspects of achieving sustainable development are economic, social and environmental aspects. The implementation of the economic aspect in practice, in relation to the Strategy for Responsible Development (Strategy, 2017), refers primarily to the main objective of this strategy, which is sustainable economic growth based on knowledge, data and organisational excellence. This objective is implemented based on such areas of the country's economic security as reindustrialisation, development of innovative companies, operation of small and medium-sized enterprises, allocation of capital for development and foreign expansion. A set of targets and indicators monitoring the national priorities has been developed in order to monitor the priorities of sustainable development in Poland, established at the ministerial level and defined in

the report titled "Implementation of Sustainable Development Goals in Poland. Report 2018 (Implementation 2018)", as well as to monitor the state of security, including its economic security. The national economic security in this respect is composed of 4 Goals:

- Goal 8 – Decent Work and Economic Growth,
- Goal 9 – Industry, Innovation and Infrastructure,
- Goal 11 – Sustainable Cities and Communities,
- Goal 12 – Responsible Consumption and Production.

In the economic sphere, defined in Goals 8 and 9, Poland prioritises the establishment of a strong industry, support for entrepreneurship in all dimensions (including the improvement of competitiveness of agricultural holdings and agri-food producers, development of the highly productive services sector), coherent and comprehensive investments, in particular investments in innovations, foreign expansion of Polish business, making the most of the achievements of the digital revolution, dynamic development and widespread use of information technologies. In addition, the state supports the internationalisation of Polish enterprises and the creation of Polish brands abroad.

Under Goal 11, special attention is given to three impact areas, i.e.: major agglomerations, medium-sized cities losing social and economic functions and areas threatened by permanent marginalisation. The Government's priority for Goal 12 is to increase resource efficiency and to change its approach to resources away from linear resource management, as well as to change consumption patterns. Other priorities include the further development of organic farming, given that it is one of the fastest growing branches of agriculture in the world today.

Table 1. Implementation of the Agenda 2030 economic indicators in Poland (2010-2019)

Target Indicators/year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
selected indicators of Goal 8										
Real growth of domestic product per capita (in %)	3.6	4.7	1.3	1.2	3.4	4.3	3.2	4.8	5.4	4.6
selected indicators for Goal 9										
Gross domestic expenditure on R&D in relation to GDP (in %)	0.72	0.75	0.88	0.88	0.94	1	0.96	1.03	1.21	1.32
selected indicators for Goal 11										
Average floor area of a dwelling per 1 person in cities (in m ²)	24.7	25	25.4	25.7	26.1	26.4	26.8	27.2	27.7	28.1
selected indicators for Goal 12										
Resource productivity (euro/kg)	0.56	0.48	0.56	0.6	0.62	0.65	0.64	0.64	0.65	0.71

Source: Own study based on https://sdg.gov.pl/statistics_nat/.

National indicators for Goal 8 show positive trends over the 2010-2019 period (Table 1). Real gross domestic product per capita growth increased from 3.6% in 2010 to 4.6% in 2019. There was an increase in the employment rate, defined as the percentage of employed people in the total population (from 50.0% to 54.4%). The percentage of people employed under an employment contract has remained consistently high (73.8% in 2010 and 74.2% in 2019). Recent progress in the country's development is confirmed by the Goal 9 indicators. Between 2010 and 2019, the *Gross domestic expenditure on R&D to GDP* indicator increased from 0.72% to 1.32% and the business sector expenditure on R&D to GDP indicator increased from 0.19% to 0.83%.

Positive trends are also shown by the indicators of Goal 11, where, for example, the indicator *Average floor area of a dwelling per person in urban areas* has increased from 24.7 m² to 28.1 m². The Goal 12 indicator of resource productivity, which determines the ratio of Gross Domestic Product (GDP) to Domestic Material Consumption (DMC), is also increasing. Domestic Material Consumption (DMC) includes all materials directly consumed in economic processes within a given economy. It represents the sum of materials sourced domestically and imported minus materials exported to other countries. This indicator has changed from 0.56 euros/kg to 0.71 euros/kg between 2010 and 2019. Implementation of the social aspect of sustainable development is based on the 9 Goals described in the Agenda 2030 as:

- Goal 1 – No Poverty,
- Goal 2 – Zero Hunger,
- Goal 3 – Good Health and Well-Being,
- Goal 4 – Quality Education,
- Goal 5 – Gender Equality,
- Goal 10 – Reducing Inequality,
- Goal 16 – Peace, Justice and Strong Institutions,
- Goal 17 – Partnerships for the Goals.

Under Goal 1, the priority measures are those aimed at increasing the real income of households, increasing the activation of socially excluded persons, improving accessibility to social services and improving the housing situation of the society. Implementation of Goal 2 requires primarily support in increasing the competitiveness of agriculture and producers of food products, improving food safety and quality, promoting healthy lifestyles.

Goal 3 promotes practices aimed at improving health, improving the quality of the environment, improving access to and the functioning of health care, improving health awareness.

Goal 4 concerns the provision of high quality and innovative education at various levels.

Goal 5 involves strengthening the implementation of the principles of equality between women and men and the promotion of family-friendly policies.

Goal 10 prioritises the reduction of disparities in the social and economic development of regions, preventing the formation of new development disproportions, and the creation of jobs in areas with less favourable development conditions.

Goal 16 aims at increasing the effectiveness of the state and institutions serving growth and social and economic inclusion, improving the quality of legislation, the efficiency of public institutions, including the efficiency of resource use, and the increased use of information and communication technologies in state management and communication with citizens.

The final Goal 17 sets out the geographical priorities for Polish development assistance.

Table 2. Implementation of the social indicators of the Agenda 2030 in Poland (2010-2019)

selected indicators of Goal 1										
Target Indicators/year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Relative poverty rate	17.4	16.9	16.3	16.2	16.2	15.5	13.9	13.4	14.2	13
Gross real disposable income of households per capita (2008=100)	107.6	107.9	108.8	110.3	113.7	118.5	125.2	129.2	133.3	141.4
selected indicators for Goal 2										
Agricultural R&D expenditures in relation to GDP (%)	0.06	0.05	0.04	0.04	0.06	0.05	0.04	0.05	0.05	0.06
Agriculture Orientation Index (AOI)	0.73	0.61	0.59	0.46	0.37	0.4	0.42	0.36	0.58	
selected indicators for Goal 3										
Number of doctors per 10,000 inhabitants	20.6	20.9	22.1	22.1	22.8	23	23.9	23.5	23.3	23.7
Healthy life expectancy for men (years)	58.5	59.1	59.1	59.2	59.8	60.1	61.3	60.6	60.5	
Healthy life expectancy for women (years)	62.3	63.2	62.8	62.7	62.7	63.2	64.6	63.5	64.3	
selected indicators for Goal 4										
Share of unemployed graduates aged 15–30	36.1	40.6	41.6	43.2	38.8	33.8	35	31.5	27.3	26.3
selected indicators for Goal 5										
Gender pay gap (%)	4.5	5.5	6.4	7.1	7.7	7.4	7.1	7.2	8.8	8.8
Employment gap between women and men (aged 25-54) (%)	10.8	11.5	11.4	11.5	11.2	11	11.6	12	11.6	12.8
selected indicators for Goal 10										
Ratio of average annual net disposable income per person in a rural to urban household	66.5	67.5	67.2	69	68	69.5	71.6	68.9	71.7	77.1
Gini coefficient – income distribution index	31.1	31.1	30.9	30.7	30.8	30.6	29.8	29.2	27.8	28.5
selected indicators for Goal 16										
Percentage of people who believe that life in Poland is safe (%)	70	75	66	64	70	66	80	89	86	89
Assessment of the quality of public service provision,	0.64	0.62	0.68	0.72	0.83	0.8	0.71	0.64	0.66	0.6

quality of bureaucracy										
selected indicators for Goal 17										
Volume of ODA disbursed in USD million (current prices)	377.8	417.5	421.1	487.1	451.8	440.9	663	679.5	766	766.6

Source: own study based on https://sdg.gov.pl/statistics_nat/

National indicators for Goal 1 show positive trends over the 2010-2019 period (Table 2). The *relative poverty rate expressed as a percentage* (the proportion of people in households who live below the relative poverty line, which is taken to be 50% of the average expenditure of all households) decreased from 17.4% in 2010 to 13% in 2019. The analysis of Goal 2 indicators showed that agricultural R&D expenditures as a percentage of GDP (%) have not changed between 2010 and 2019. This is an area in need of improvement and refinancing. The share of government expenditure allocated to agriculture in total government expenditure, related to the share of agriculture in GDP was 0.73 in 2010 and 0.58 in 2018. Positive trends in improving the health and quality of life of Poland's population are shown by the growing number of doctors, which reached 20.6 per 10,000 residents in 2010 and 23.7 in 2019. Healthy life expectancy is also increasing for both men and women.

The analysis of selected indicators for Goal 4 shows that the share of unemployed graduates aged 15–30 who graduated from post-secondary, secondary vocational or basic vocational schools in the last 12 months and do not continue their education in the total number of professionally active graduates aged 15–30 with post-secondary, secondary or basic vocational education has a downward trend, it amounted to 36.1% in 2010 and 26,3% in 2019. Another indicator – *the Gender employment gap (aged 25-54) (%)* also followed an upward trend and reached 12.8% in 2019. Indicators for Goal 5 include *Gender pay gap* which stood at 4.5% in 2010 and 8.8% in 2019. 8,8%.

The share of annual average disposable income per person in a rural household to average disposable income in urban areas over the period 2010 to 2019 shows an upward trend, with 66.5% in 2010 and an increase to 77.1% in 2019. As for the Gini coefficient – a measure of income distribution – its value has been falling over the analysed period; it amounted to 31.1 points in 2010 and 28.5 in 2019. This indicator measures the inequality of the income distribution. It ranges between 0 and 100; the higher the value, the greater the concentration of income and the greater the variation in income. This shows that income inequality in Poland has decreased over the period under consideration.

Under Goal 16, the indicator concerning the *Percentage of people who believe that Poland is safe to live in (%)* was identified. Its analysis in the period between 2010 and 2019 shows that the sense of security is increasing – in 2019 as many as 89% of respondents in Poland felt safe. An analysis of another indicator, the *Assessment of the quality of public service provision, the quality of bureaucracy, the competence of public servants, the independence of the state administration (civil service) from*

political pressure, the social credibility of the authorities in terms of policy (points, the scale of all indicators ranges from -2.5 to +2.5), shows a downward trend. The final social indicator examined was the *Volume of ODA disbursed* indicator, which stood at USD 776.56 million (at current prices) in 2019. The implementation of the environmental aspect of sustainable development is based on the 5 goals outlined in Agenda 2030 as:

- Goal 6 – Clean Water and Sanitation,
- Goal 7 – Affordable and Clean Energy,
- Goal 13 – Climate Action,
- Goal 14 – Life Below Water,
- Goal 15 – Life on Land.

National priorities related to the implementation of Goal 6 concern the increase of available water resources, improvement of their ecological condition and chemical quality and the establishment of legal and financial mechanisms conducive to the rational use of water resources and the implementation of water-saving technologies, as well as the construction and modernisation of wastewater treatment plants.

The implementation of Goal 7 is aimed at improving energy efficiency, creating conditions for a permanent and sustainable development of the energy sector, limiting the impact of energy on the environment, ensuring national energy security, and meeting the energy needs of businesses and households. National priorities in relation to the implementation of Goal 13 are the effective reduction of CO₂ concentration in the atmosphere and the introduction of innovative technologies for the use of available energy sources, including the development of geothermal energy.

In implementing Goal 14, it is particularly important to ensure the efficient and sustainable use of marine resources for various social and economic purposes, to ensure coherent management of marine and coastal areas, including the resources of the Baltic Sea, to increase the maritime sector's contribution to GDP and employment in the maritime economy, and to ensure maritime safety.

Goal 15 aims to protect and improve the quality of the environment through the protection of biodiversity, including area-based forms of nature conservation, the waste management system, the improvement of water quality and the protection of water purity, the modernisation and expansion of sewage treatment plants and sewerage systems, as well as air protection (elimination of pollution emission sources or reduction of their impact) and soil protection.

Table 3. Implementation of the environmental indicators of the Agenda 2030 (2010–2019)

Target Indicators/year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
selected indicators for Goal 6										
Percentage of population supplied with off-specification water from the water supply network	6.4	4.4	3.7	3.6	1.8	1.1	0.6	0.3	0.3	0.3
Percentage of population using sewage treatment plants	64.7	65.7	68.6	70.3	71.5	72.7	73.5	73.6	74	74.5
selected indicators for Goal 7										
Share of energy from renewable sources in gross final energy consumption [%]	9.3	10.35	10.97	11.46	11.61	11.89	11.4	11.12	11.48	12.16
Share of average monthly expenditure on energy carriers in total household expenditure	11.9	12.3	12.1	12.2	11.5	11.4	10.8	10.7	10.3	9.8
selected indicators for Goal 13										
Dynamics of CO emissions (2010=100)	100	99.8	97.5	96.3	92.6	93.6	96.8	100.8	100.9	.
Dynamics of greenhouse gas emissions (2010=100)	100	99.8	98	97.1	94.1	94.9	96.9	100.4	100	.
selected indicators for Goal 14										
Seaport cargo turnover [mln tons]	59.5	57.7	58.8	64.3	68.7	69.5	72.9	78.1	91.8	93.9
selected indicators for Goal 15										
Share of woodland area in the land area [%]	30.5	30.5	30.6	30.6	30.7	30.8	30.8	30.9	30.9	30.9
National Average Exposure Index for PM2.5 [µg/m]	28	27	26	25	24	23	22	22	22	21

Source: Own study based on https://sdg.gov.pl/statistics_nat/

National indicators for Goal 6 have improved between 2010 and 2019 (Table 3). The proportion of the population supplied with water that does not meet requirements from the water supply network has decreased significantly (from 6.4% to 0.3%), while the proportion of the population using sewage treatment plants has increased by almost 10%. There has been an increase in the share of renewable energy in gross final energy consumption (from 9.3 to 12.1). The share of average monthly expenditure on energy carriers in total household expenditure decreased (by more than 2%). Climate action shows little momentum for positive change. CO2 emissions and greenhouse gas emissions in general have not changed over the past 10 years. The only positive sign is the improvement in the share of renewable energy in final energy consumption. One of the priorities related to Goal 14 for Poland is strengthening the position of Polish sea ports and increasing the competitiveness of maritime transport. The indicator related to seaport cargo turnover reported in million tonnes increased by almost 60% between 2010 and 2019. Indicators related

to life on land, such as the proportion of woodland areas and the national average PM2.5 exposure index, have improved, albeit moderately.

4. Conclusion

The sustainable development goals adopted for Poland and the degree of their implementation specified in the "Implementation of Sustainable Development Goals in Poland" Report prove that economic, social and environmental aspects of sustainable development implemented through the guidelines of Agenda 2030 are undoubtedly a factor influencing national security. The analysis carried out in this study identifies specific links between individual objectives and their components of sustainable development and specific aspects of national security. These analyses prove that the implementation of sustainable development goals influences the state of economic, social and environmental security.

Poland's great success is the nearly twofold increase in GDP per capita that took place during the examined period. Economic progress has been accompanied by significant social achievements. The overall poverty rate is close to the average for OECD countries. The labour market participation rate has improved, although it is relatively low compared to the average, especially among older people.

Nevertheless, it is important to understand that the Polish economy needs long-term investors who have a stabilising effect on the capital market and provide capital to support the development of businesses. This is the reason behind the importance of building people's trust in financial institutions and encouraging them to invest. Poland has also been performing increasingly well with regard to environmental aspects of sustainable development, although the analysis shows that these changes are not being carried out very dynamically. It should also be stressed that air quality, which is of vital importance for the lives of all citizens, has not improved, despite the increased use of renewable energy sources, and that indicators relating to life on land are showing a positive trend, although the pace of progress is insufficient.

The analysis result also revealed some methodological shortcomings of the national concept of sustainable development, as the set of national indicators lacks those that include waste management and detailed indicators on water pollution and water resources protection.

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