

Goals for a sustainable development and the environmental protection

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Abstract

Sustainable Development became from the start one of the most essential elements of global policy. The interest in the future of our planet modified people's mentality concerning economic development. A number of changes were developed over the years in direct connection with environmental stability. The linear economy turned into a circular one, preservation of carbon resources, "green processes" in industry and agriculture, as well as pollution elimination from air, land, and water represent ways to safer society progress. New tools were created for sustainable development. Among these, the Sustainable Development Goals are of great importance as they clarify of the targets to be fulfilled. These targets are obviously in close relation to the measures for environmental protection. The paper presents the 17 Sustainable Development Goals with their targets as well as the connection of these to the safety of the environment. The role of education and information in the field and the need for global cooperation are underlined.

Keywords: *sustainable development, pollution elimination, sustainable development goals, education, information*

HISTORY

The Sustainable Development (SD) was mentioned for the first time in the so called Brundtland Report "Our common future" released in 1987. It was defined as: "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" [1]. The Report was elaborated by the World Commission on Environment and Development (WCED) created by the United Nations (UN) General Assembly in response to the concern regarding the global warming, ozone depletion and other phenomena regarding the environment. The environmental degradation causes were analyzed in the context of social equity and economic growth. The WCED Report called for a UN Programme of Action on SD.

The SD was first time institutionalized by the UN Conference on Environment and Development (UNCED), known as the "Earth Summit", which was held in Brazil, in 1992. The conference imposed SD as compulsory for all the people of the world and sustained the necessity to balance the economic, social and environmental aspects for future development. The ways to produce and to consume were analyzed and the need for new perceptions was evidenced. The result of the conference was the "Agenda 21" which represents the action plan for SD [2]. "Agenda 21" started a new global partnership for future developments.

The Sustainable Development Goals (SDGs) have been adopted by the Resolution 70/1 of the UN General Assembly from 2015, namely: "Transforming our world: the 2030 Agenda for Sustainable Development" [3]. The 17 goals focus on global challenges such as climate change, environmental degradation, inequality and poverty as well as peace and justice (Fig. 1). The UN Resolution of 2017 defined the specific targets for each goal with indicators for measuring the progress toward these goals.

THE SUSTAINABLE DEVELOPMENT GOALS

The SDG 1 refers to the eradication of poverty. It aims to eliminate any form of poverty regarding food, clean drinking water and sanitation. Poverty eradication ensures reduction of inequality as well as political stability. A number of seven targets were defined for this goal as well as the indicators measuring the progress [4]. The targets concern: the eradication of extreme poverty (1.1), reduce by half the people living in poverty (1.2), implement proper social protection (1.3), equal rights to economic resources (1.4), reduce the exposure to extreme events (1.5), ensure mobilization of resources and adequate programmes for the least developed countries (1a) and create policy frameworks for the eradication of poverty [4].



Fig. 1. Sustainable Development Goals

The second SDG is directly connected to the first one, hunger being connected to poverty. The targets established for this goal are: ensure safe, nutritious and sufficient food (2.1), end the malnutrition especially for children and pregnant and lactating women (2.2), double the agriculture production as well as the income of small-scale producers (2.3), ensure a sustainable food production facing climate changes (2.4), maintain the genetic diversity of plants and animals (2.5), increase investment in agriculture and rural areas (2.a), regulate world agriculture markets (2.b) and ensure the correct functioning of food markets to avoid the price volatility (2.c) [4].

The third SDG refers to health and wellbeing necessary for realizing a sustainable development. The targets are the following: reduce the maternal mortality (3.1), prevent death of newborns and children (3.2), end the epidemics (TBC, AIDS, tropical diseases, etc.) (3.3), promotion of mental health and well being (3.4), prevention and treatment of substance abuse (alcohol, drugs, etc.) (3.5), reduction of injuries and death due to traffic accidents (3.6), ensure programs for integration of reproductive health (3.7), access to medical services affordable treatments and vaccines for all (3.8), reduction of death and injuries due to pollution (3.9), reduction of tobacco consumption (3.a), development of research for treatment of diseases (3.b), increase health financing (3.c) and management and reduction of health risks [4].

The progress of any society depends on the quality of the education performed. The SDG 4 targets propose: a complete free primary and secondary education by 2030 (4.1), a preliminary education to prepare for primary school (4.2), equal access to tertiary education (4.3), increase the number of youth with skills for a large variety of jobs (4.4), eliminate all the disparities in the access to education (4.5), ensure the alphabetization (4.6), ensure the education for sustainable development (4.7), provide a safe, including environment in education (4.a), enhance the number of scholarships especially for people from developing countries (4.b) and increase the number of qualified teachers by international cooperation (4.c) [6].

During the last years the SDG 5 registered some progress. The targets of this goal are as follows: end of women discrimination (5.1), elimination of violence against women (5.2), elimination of all the harmful practices (5.3), recognize the value of domestic work (5.4), ensure the effective participation of women in economic, political and public life (5.5), access to reproductive rights and health (5.6), confer equal rights to economic resources (5.a), use of new communication technologies for women promotion (5.b) and adopt legislation for promotion of gender equality [7].

The access to clean water is compulsory for life. Thus, the targets for SDG 6 require: affordable access to clean water (6.1), equitable sanitation and hygiene for all (6.2), reducing pollution and increasing recycling of water (6.3), increase the water use efficiency in all sectors (6.4), implementation of water resources management at all levels (6.5), preservation of water related ecosystems (6.6), support to developing countries to apply new technologies for obtaining, saving and recycling water (6.a) and encourage communities to improve water use and sanitation [8].

The energy is necessary for any development. Lately the problem of “green energy” was of great interest the replacement of fossil fuel by renewable sources being a priority. The SDG 7 has the following targets: access to affordable energy (7.1), increase of renewable energy segment (7.2), improve energy efficiency (7.3), international cooperation in investment for clean energy (7.a) and supply of modern energy services especially in developing countries (7.b) [9].

A sustainable development has to generate new jobs and improve the living standards. The SDG 8 targets are: sustain the economic growth (8.1), realize high level of productivity (8.2), build up policies for development sustaining especially small and medium enterprises (8.3), improve the resource efficiency and avoid environmental degradation (8.4), offer decent employment for all the people (8.5), reduce the number of unemployed young people and/or which are not included in educational programmes (8.6), eliminate children exploitation (8.7), protect labor rights (8.8), develop sustainable tourism (8.9), ensure financial services for everybody (8.10), increase the trade support for less developed countries (8.a) and develop a strategy for youth employment (8.b) [10].

New “green” technologies play an important role in a sustainable development. The targets of SDG 9 are focused on: developing a modern infrastructure (9.1), promote a sustainable industrialization (9.2), access to financial services especially for small enterprises (9.3), upgrading infrastructure and old enterprises (9.4), increase scientific research role (9.5), ensure financial, technical and technological support for developing countries (9.a), sustain a research for development in agreement with the environment preservation (9.b) and increase the access to information (9.c) [11].

Reducing inequality ensures a climate for a sustainable development. The SDG 10 promotes: income growth (10.1), economical, social and political inclusion (10.2), elimination of discriminatory laws (10.3), policy for greater equality (10.4), financial equitable regulations (10.5), enhance the representation of developing countries at global level (10.6), safe migration and mobility (10.7), respect World Trade Organization regulation regarding the non-developed countries (10.a), ensure assistance for poor countries (10.b) and reduce migrants remittances (10.c) [12].

The world is nowadays mostly urbanized. The cities are the nucleus of development. At the same time the migration to cities creates problems concerning houses, infrastructure, transport, pollution, etc. The SDG 11 recommends: adequate houses (11.1), reliable urban transport (11.2), sustainable

urbanization plans (11.3), protection of the cultural heritage (11.4), avoid disasters and protect people in need (11.5), improve air quality and adopt a good management for waste (11.6), provide access to green, public spaces (11.7), support regional and national links (11.a), increase the human settlements taking into account the risk area (11.b) and support least developed countries to build sustainable houses with local materials (11.c) [13].

Over the last century the economic development had a destructive impact on the environment. Thus, SDG 12 includes the following targets: implement plans for sustainable consumption and production (12.1), rational use of natural resources (12.2), reduce food waste at all levels (12.3), reduce the release of pollutants (12.4), reduce waste by prevention, as well as recycle and reuse (12.5), adoption of sustainable practice in industry (12.6), promote sustainable procurement practices (12.7), spread information concerning sustainable development (12.8), support developing countries in adopting a sustainable patterns of consumption and production (12.a), develop tools for monitoring the sustainable development of tourism (12.b) and eliminate, where possible, fossil fuel subsidies (12.c) [14].

The climate change is one of the reasons for a sustainable development necessity. Increase of pollution and inappropriate exploitation of resources lead to disasters in many part of the world: floods, water shortage, hurricanes, forest fires, etc. The GSD 13 aim to: develop the capacity to adapt to climate change worldwide (13.1), integrate the climate change measures into national policies and planning (13.2), improve education concerning climate change (13.3), ensure the financial part for solving problems due to climate change (13.a) and support less developed countries to face climate changes (13.b) [15].

The ocean makes our planet suitable for living on. The preservation of ocean biodiversity is compulsory. Thus, the targets for SDG 14 are: reduce marine pollution (14.1), protect marine and coastal ecosystems (14.2), solve the ocean acidification problem (14.3), regulate fishing activity (14.4), conserve coastal and marine areas based on national legislation (14.5), eliminate certain incorrect fisheries subsidies (14.6), increase the economic benefit of less developed countries (14.7), increase scientific knowledge and marine technology transfer to improve ocean health (14.a), provide access of artisanal fishers to marine resources and market (14.b), ensure sustainable use of ocean resources (14.c) [16].

Life on land depends on the preservation of terrestrial ecosystems. Deforestation and desertification determined by climate change and human activities represent a challenge for a sustainable development. Thus SDG 15 introduced the following targets: sustainable use of fresh water resources (15.1), sustainable management of forests (15.2), combat desertification (15.3), conservation of mountain ecosystems including their biodiversity (15.4), protect the threatened species (15.5), sharing the benefits arising from the utilization of genetic resources (15.6), end the illegal commerce with wildlife species (15.7), reduce the impact of alien species invasion (15.8), integrate ecosystem and biodiversity values in national development planning (15.9), increase financial resources for conservation of biodiversity (15.a), mobilize resources for forest management (15.b), enhance support to protect against the traffic of protected species (15.c) [17].

A sustainable development needs a climate of peace and justice. The SDG 16 promotes the following targets: reduce violence (16.1), end abuse, traffic and exploitation (16.2), access to justice for everybody (16.3), reduce illicit activities (16.4), reduce corruption (16.5), ensure active participation to decisions (16.6), develop transparent institutions (16.7), ensure the participation of all countries to global decisions (16.8), provide legal identity (16.9), access to information (16.10), enforce relevant national institutions against violence, terrorism and crime (16.a), promote non-discriminatory laws (16.b) [18].

For achieving a sustainable development a global partnership has to be established. SDG 17 imposes as targets: improve domestic capacity for revenues collection (17.1), implement development assistance for less developed countries (17.2), mobilize financial resources for less

developed countries (17.3), assist less developed countries in solving their debts (17.4), investment promotion for the less developed countries (17.5), access to science, innovations and technologies by cooperation of all countries (17.6), global dissemination of new technologies (17.7), enhance the use of technology especially in information-communication field (17.8), support implementation of sustainable development (17.9), install an equitable world trade (17.10), increase export (17.11), duty-free and quota free market access (17.12), enhance macroeconomic stability (17.13), implement policy for a sustainable development (17.14), respect national policy (17.15), develop cooperation to fulfill SDGs (17.16), sustain partnership between society members (17.17), enhance the capacity for data collection (17.18) and develop tools to measure the sustainable development progress in all countries (17.19) [19].

ENVIRONMENTAL PROTECTION AND SDGs

There is a close connection between many SDGs and the environment. A clean environment is compulsory for a SD. Some of the goals are involved directly in the environmental protection. The SDG 13 is such an example. Climate change may generate floods, drought, water acidification, and destruction of forests by fire, glacier retreat. The main causes for climate change are “greenhouse effect”, deforestation, dumping of waste into rivers and ocean. A sustainable development demands a new policy concerning the environment by reducing all pollutants generated by human activities. The climate change affects the SDG 1 by asking for new “green jobs”. Such jobs may decrease poverty. The climate change influences also the agriculture development, consequently the diminishing of pollution leads to increased harvests and decreases people’s hunger (SDG 2). Pollution of the environment is also a cause for spreading diseases, with an impact on SDG 3.

For fulfilling SDG 6 a reduction of land water pollution is compulsory. Use of “green energy” (SDG 7), decreases the “greenhouse effect” leading to a SD.

The SDG 8 includes among its targets the efficient consumption of resources and the environmental protection (8.3). Development of “green technologies” through research and innovation (SDG 9) protects also the environment by reducing the carbon footprint.

The elimination of pollution from cities by “green processes” is the main concern of SDG 11.

SDG 12 promotes elimination of waste by responsible consumption and production, the prevention and the reuse and recycle of waste, which are a source of pollution, being considered.

The SDGs 14 and 15 endorse a clean water and land with preservation of ecosystems.

Creation of strong institutions (SDG 16) is a condition for the application of laws in all domains including the protection of the environment. For a global policy concerning the environment, a strong cooperation is compulsory (SDG 17). Not all these SDGs can be fulfilled without a solid background obtained by a quality education (SDG 4).

CONCLUSIONS

The SDGs are strongly related to the protection of the environment. The implement of “green activities”, the reduction of fossil fuel consumption, and the decrease of waste in all fields, the reuse and recycling of waste avoiding landfill process represent a sustainable development with direct impact on the environment. The progress in the accomplishment of SDGs targets may be realized by informing all people about their importance as well as by a global cooperation.

REFERENCES

[1]. WCED, Report of the World Commission on Environment and Development: Our Common Future, Annex to document A/42/427 - Development and International Cooperation: Environment,

<https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/brundtland-report.html>.

[2]. UN, Agenda 21, United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992, <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>

[3]. UN, Transforming our world: the 2030 Agenda for Sustainable Development, <https://sdgs.un.org/2030Agenda>.

[4]. THE DANISH INSTITUTE OF HUMAN RIGHTS, The Human Rights Guide to the Sustainable Development Goals, <https://sdg.humanrights.dk/en/goals-and-target>.

[5]. UN, Sustainable Development Goals (SDG 3), <https://unric.org/en/sdg-3/>.

[6]. UN, Sustainable Development Goals (SDG 4), <https://unric.org/en/sdg-4/>.

[7]. UN, Sustainable Development Goals (SDG 5), <https://unric.org/en/sdg-5/>.

[8]. UN, Sustainable Development Goals (SDG 6), <https://unric.org/en/sdg-6/>.

[9]. UN, Sustainable Development Goals (SDG 7), <https://unric.org/en/sdg-7/>.

[10]. UN, Sustainable Development Goals (SDG 8), <https://unric.org/en/sdg-8/>.

[11]. UN, Sustainable Development Goals (SDG 9), <https://unric.org/en/sdg-9/>.

[12]. UN, Sustainable Development Goals (SDG 10), <https://unric.org/en/sdg-10/>.

[13]. UN, Sustainable Development Goals (SDG 11), <https://unric.org/en/sdg-11/>.

[14]. UN, Sustainable Development Goals (SDG 12), <https://unric.org/en/sdg-12/>.

[15]. UN, Sustainable Development Goals (SDG 13), <https://unric.org/en/sdg-13/>.

[16]. UN, Sustainable Development Goals (SDG 14), <https://unric.org/en/sdg-14/>.

[17]. UN, Sustainable Development Goals (SDG 15), <https://unric.org/en/sdg-15/>.

[18]. UN, Sustainable Development Goals (SDG 16), <https://unric.org/en/sdg-16/>.

[19]. UN, Sustainable Development Goals (SDG 17), <https://unric.org/en/sdg-17/>.

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