

## REFLECTIONS ON SUSTAINABLE DEVELOPMENT AND DURABILITY OF RESOURCES

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### Abstract

*The aim of this paper is to make a short incursion of the concept and importance of sustainable development in close connection with the sustainability of resources over time and to reflect on the ways of promotion throughout the society, of its awareness of this major problem that is threatening the 21st century. The basis of a sustainable development of the human society is given by the way in which its natural, current and future resources are managed, as well as the energetic, informational and material resources, against the objectives of the growth of the economic field and guaranteeing the quality of life and the environment. Most human entities claim to realize the development of the economy in order to secure the increase of the standard of living as well as to protect the environment that surrounds us, at present, as well as for the generations to come. These two notions represent the centre of the concept of sustainable development that is synthesized by "ecosystem-eco-efficiency dualism".*

**Key words:** *sustainable development; principles and criteria; economic sustainability; social sustainability; environmental sustainability.*

**JEL Classification:** *Q01, Q32, Q56.*

### I. INTRODUCTION

The roots of the concept of sustainable development originate in promoting the sustainable use of natural resources. Legal regimes aimed at the conservation of marine resources, wildlife, habitat protection, cultural and natural heritage protection, Antarctic area protection, etc. aim to protect the resources of the global environment and indicate a wide international acceptance of the sustainable use of natural resources (Bejan & Rusu, 2007: 23). Generally, sustainable development can be applied in almost all categories of activities, in order to meet the essential material needs or to improve the quality of life from the point of view of health and education. In order to develop economically, as in the case of any type of development, it is necessary to implement measures for the efficiency of human resources but also of other resources.

Zaman and Gherasim (2007: 137) considered that "one of the major challenges of sustainable development is to find ways to encourage environmentally friendly economic activities and to discourage activities that cause environmental damage (air, water and soil pollution, and subsoil, respectively)".

Therefore, the notion of sustainable development "has as its premise the finding that human civilization is a subsystem of the eco-sphere, dependent on the fluxes of matter and energy within it, on its stability and self-regulation capacity. The public policies which are being elaborated on this basis, such as the present National Strategy for Sustainable Development of Romania, aim to restore and maintain a rational, long-term balance between the economic development and the integrity of the natural environment in forms understood and accepted by the society" (see <http://www.mmediu.ro/beta/domenii/dezvoltare-durabila/strategia-nationala-a-romaniei-2013-2020-2030/>).

In the economic vision, the sustainable development has the role to increase the performances of the organizations, because "the objectives regarding the sustainability of the businesses have acquired more and more importance for the companies, but also for the parties interested by the activity of the companies" (Gănescu, 2012: 93-109).

Sustainability can be at the same time an idea, a lifestyle, a way of producing. Huckle (1996) asserted that, as with freedom, justice and democracy, sustainability does not have a single recognized meaning, but it changes its meaning according to the different ideologies and the different programs promoted by different values, knowledge and philosophies. It is observed that sustainable development is not a constant state of harmony, but rather a process of changes in which the scale of exploitation of resources, the direction of capital investments, the orientation of technical development and institutional changes are in line with current and future needs.

Sustainable development has become a ubiquitous development paradigm - "the chart for international aid agencies, the jargon of development planners, the theme of conferences and academic papers, and the slogan of environmental and development activists" (Ukaga, Maser & Reichenbach, 2011; Burciu, Bostan, Condrea &

Grosu, 2010). However, despite its ability and popularity, some authors (Mensah & Enu-Kwesi, 2018; Tolba, 1984) consider that sustainable development risks becoming - "a fashionable and rhetorical phrase - to which everyone pays tribute," but which no one seems to define precisely and accurately".

## II. THE CONCEPT OF SUSTAINABLE DEVELOPMENT

The usual vocabulary of sustainable development theory dates back to the early 1980s, although concerns about finding a viable alternative to the post-war economic growth type precede its theoretical conceptualization long beforehand (Pohoata, 2012: 8). Although this idea of development has spread only in recent years, the roots of "sustainable development", understood as a concern for the needs of future generations, come from quite far back. The first documented indications were found in the history of the Irokoses tribes in North America. In fact, these peoples have asked that their tribal leaders, when making a decision, evaluate and consider the needs of future generations.

In Europe, the concept of sustainable development was applied for the first time in the field of forestry: as early as the thirteenth century, for example, there were rules regarding the sustainable use of forests.

In more recent times, the term sustainability - understood in a context of natural resource protection - was probably introduced by Robert Malthus, who recognized the concept of limited resources on the planet in his famous essay on the world population (Malthus, 1798).

Internationally, in the 1970s at the UN conference in Stockholm on June 16<sup>th</sup>, 1972, more attention was being paid to the environment and global ecological disasters. This Conference presented the guidelines for the governments of the participating States on the initiative on: freedom, equality and the right to adequate living conditions; the protection and rationalization of natural resources for the benefit of future generations and not least, the conservation of natural resources, which must play a fundamental role in the legislative and economic processes of the states. Although used in the early 1980s at the International Conference on Environmental Conservation and in UNDP texts, the term durable (sustainable) development is launched with the publication of the 1987 Brundtland Report of the World Environment Commission suggestively titled "Our Common Future". Advocating for reconciliation between the economy and the environment, the report aims to find "a path of development that supports human progress not only in a few places and for a few years, but for the whole planet and for a distant future". Also in the vision of this report, sustainable development (viable and sustained) is regarded as that type of development that responds to the needs of the present without compromising the ability of future generations to meet their own. The definition shows that sustainability is understood as a model of development that takes into account not only economic growth, but also:

- the quality of the environment;
- the quality of life (health, cultural, social conditions of the population);
- essential needs;
- recognition of the limitations imposed by the state of technology.

Compared to its first versions, the concept of sustainability, as defined, focuses not only on the protection and management of natural resources, but also on the economic and social aspects essential to the development of society. In fact, the term has undergone a profound evolution which, starting from a vision focused mainly on ecological aspects, has reached a more global meaning, which takes into account the dimensions of the environment, economic and social.

Of fundamental importance were the Rio Declaration on environment and development aimed at defining the universal rights, responsibilities and obligations of nations with regard to sustainable development and Agenda 21, which states that sustainable development must be a perspective to be pursued for all people. In order for Europe to respond positively to the challenge of sustainable development, other conferences followed (Aalborg Conference in Denmark 1994; Lisbon Conference 1996) which addressed particularly important issues such as: the European campaign "Sustainable cities", the reduction with 5% of greenhouse gas emissions, etc.

Sustainable development has also become an objective of the European Union since 1997, when it was included in the Treaty of Maastricht, and in 2001 the Goetheborg summit adopted the EU's Sustainable Development Strategy, to which was added an external dimension in Barcelona in 2002 (Grosu, 2017: 116).

As the new millennium enters, new conferences have been organized to evaluate the results achieved by sustainable instruments/acts implemented in previous years. Thus, in the following years there were numerous conferences that led to the appearance of several documents on the management of natural resources, environmental legislation and finally climate change. Delicate issues such as climate, gas emissions, greenhouse effect and "global warming" were addressed.

Although the terms "durability" and "sustainability" first appeared in the Oxford English Dictionary in the second half of the twentieth century, they have been used for centuries (Van Zon, 2002: 20).

Several analysts have stated that the concept is much broader and, by its outline, it is possible to identify certain aspects that are all present in the idea of sustainable development. The main forms of sustainability can be divided into: environmental sustainability, economic sustainability, demographic sustainability, social sustainability, geographical sustainability and cultural sustainability (Bordean, Turtureanu, Tureac & Modiga, 2009: 53; Socoliuc, Grosu, Hlaciuc & Stanciu, 2018; Mihalciuc & Apetri, 2017).

The first form considers primarily the integrity of the terrestrial ecosystem and the quality of the environment, understood as an asset that allows to improve the quality of life and, therefore, of development. Environmental sustainability can also be understood as the ability to maintain the quality and reproducibility of natural resources. Misuse and mismanagement of these resources can lead to a collapse of our system.

Economic sustainability is the ability to generate income and work for the livelihood of the population. It consists both in the pursuit of economic efficiency through careful management of non-renewable resources, as well as in a development that regulates investments and work for an intra-generational, long-term capital. Economic sustainability requires knowing the limits and potential of economic growth and knowing their impact on society and the environment. It is necessary to generate income and to work sustainably for the livelihood of the population, through the rational and efficient use of resources and by reducing the use of non-renewable ones.

Closely related to economic sustainability, demographic sustainability takes into account the "transport capacity" of each territory in relation to the population in order to achieve a fair standard of living. It consisted of the number of inhabitants who is capable of hosting a territory while maintaining an acceptable quality of life. Population development on earth was influenced by natural factors (climate, environment and resources) and human factors (economic development, available technologies, etc.).

Another form of sustainability considered within the concept of sustainable development is social. Kha (1995) argues that "achieving environmental and economic sustainability must be hand in hand with social sustainability and one cannot be achieved to the detriment of the others". The author stated that social sustainability includes equity, empowerment, accessibility, participation, cultural identity and institutional stability. These are variables that focus attention on a socially equitable distribution of costs and benefits arising from the way the man manages the environment; a way that must become more and more global (for the diversification and integration of human, socio-cultural and economic resources), different (for the improvement of local identities and biodiversity), non-hierarchical (to create participatory and non-hierarchical participatory organizational systems) and evolutionary (to support diversity, equity, democracy, resource conservation and higher quality of life). The concept can be defined as the ability to guarantee conditions of human well-being (safety, health, education) equally distributed across classes and sexes (Dempsey, Bramley, Power & Brown, 2011).

Regarding the concept of "transport capacity", geographical sustainability has been a major topic of discussion in recent years (Nedelea, Grosu & Elmazi, 2008; Hlaciuc, Morariu, Mihalciu, Iancu, & Cosma, 2008). This form of sustainability consists in avoiding territorial imbalances in population distribution, human settlements, economic activities, exploitation of soil and resources. Within this concept, there is the policy of the protected areas for the conservation of the biodiversity present in the different regions of the Earth and for the defence of the environments of special naturalistic interest.

Finally, the last form of sustainability, no less important than the others, is cultural. Cultural sustainability is the ability to maintain diversity and local identities unchanged. Development does not have to take place on a single line, but must be proportionate to the needs and means of individual cultures, whose particularities must be preserved. Compared to these global approval processes, local particularities must be preserved as "reservoirs of diversity" and places of identity increasingly regarded as resources and values to be preserved.

### **III. PRINCIPLES AND CRITERIA OF SUSTAINABLE DEVELOPMENT**

A principle of sustainability is a principle envisaged in substantiating the strategic and integrated management of sustainable development. A sustainability criterion implies that, at a minimum level, future generations could not live worse than the present generations. Apart from eliminating the positive discount rate, the present value criterion can be supplemented with other criteria, such as, for example, sustainability" (Zaman & Gherasim, 2007: 137).

The Commission of the European Community has established, from 1993 onwards, the following fundamental criteria of sustainable development: "maintaining the quality of life in its entirety; maintaining continuous access to natural resources; avoiding permanent damage to the surrounding environment. "

A classification of the criteria, from another perspective, is shown below in Figure 1.

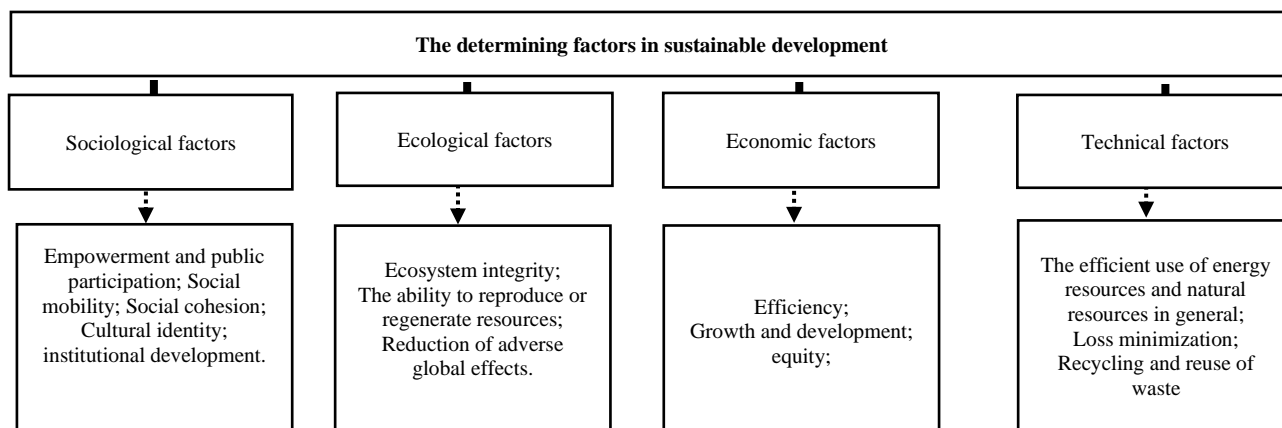


Figure 1 - Classification of the fundamental criteria of sustainable development

Source: Adaptation by Zaman & Gherasim, 2007

In economic history there are several paradigms of development, more precisely: traditional development and sustainable development. As for traditional development, it is the form of development that characterizes human history from the earliest civilizations until today. Nature is the place that needs to be modified or exploited to improve the lives of the population. Sustainable development represents a new paradigm of development designed in the twentieth century to address the world's great environmental problems and the shortage of natural resources. At this moment, it is still an academic concept, a future for which we must pursue it, even if the international community is progressively trying to implement it.

It is important to mention that the traditional development can be evaluated with the help of the rule of the three E, because it deals only with the economy, while the sustainable development, mainly deals with the problems of environment and social equity. For this reason, the concept of sustainable development is associated with the rule of the three E's: Economics, Environment, Equity (see [https://www.ecoage.it/s\\_developpo-sostenibile.htm](https://www.ecoage.it/s_developpo-sostenibile.htm)).

Going back to sustainable development, this does not mean reducing the stock of natural resources and respecting the environmental limits. In the paradigm of sustainability, economic growth is in direct correlation with environmental protection, meaning it is no longer in antagonism.

The main objective of implementing the principles of sustainability is to safeguard an optimal amount of general capital (or a different amount of capital) for future generations.

In order to support the capacity of natural systems to provide natural resources and ecosystem services on which the economy and society depend, the principle of meeting human development objectives should be respected (Cerin, 2006). The process of sustainable development, even from immemorial times, has been given a special importance, and in the context in which the population continues to grow, but the natural resources available to mankind remain the same, it can be said that its relevance deepens even more. Aware of this phenomenon, global concerns have always been expressed for the judicious use of available resources.

The latest such concerns have been translated into the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs). Despite the relative effectiveness of the MDGs and the fact that within 15 years (2000-2015), not all the eight objectives were achieved, the introduction of the MDGs was made to continue with the development agenda. As part of this new development roadmap, on September 25<sup>th</sup>, 2015, at the Summit on Sustainable Development, 193 UN member states adopted the 2030 Agenda for Sustainable Development, which calls for action to protect the planet, end poverty and guarantee human well-being (Taylor, 2016). The 17 SDGs are primarily trying to achieve the following summarized goals (see Figure 2).

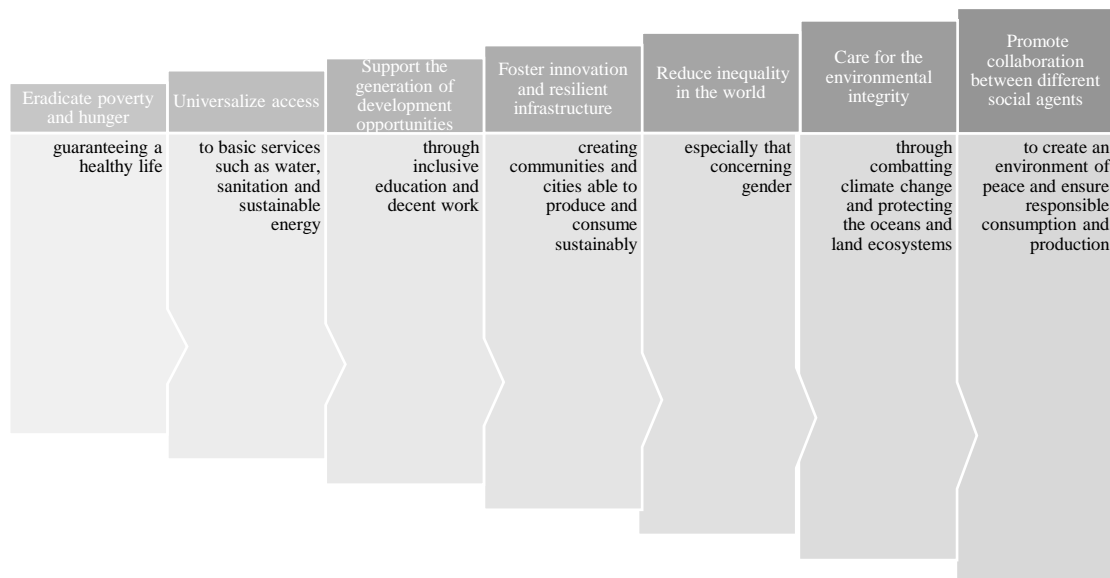


Figure 2 - Summary of the 17 Sustainable Development Goals (SDGs)

Source: Adaptation by Saner, Yiu & Nguyen, 2019

Achieving sustainable development is based on a number of principles. However, the predominant message regarding the principles of sustainable development gravitates towards the economy, environment and society. More specifically, they refer, among other things, to ecosystem and biodiversity conservation, production systems, population control, human resource management, progressive culture conservation and human participation (Ben-Eli, 2015). A key principle of sustainable development is the conservation of the ecosystem, so it would be of real use to resort to alternative sources of energy, such as solar energy, instead of consuming petroleum products and hydroelectricity. In order to achieve sustainable development it is necessary to refer also to the fact that due to population growth, human needs increase, while the resources available in the world to meet these needs cannot always be increased to meet the requirements, therefore population control and management are essential for sustainable development.

I support the assertion that the proper management of human resources is another important principle of sustainable development, in the sense that people have a responsibility to use and conserve the environment, ensuring that there is peace, and this implies that they develop knowledge and skills to protect the environment, economy and society (Collste, Pedercini & Cornell, 2017). Also, I believe that this aspect could be achieved through education and training, as well as through appropriate healthcare services, which in turn could help develop a positive attitude towards nature (preserving the environment and appreciating human values as well as acceptable production methods).

Another important point also highlighted by Guo (2017), would be that in order to make significant progress the process of sustainable development must be regarded as a collective responsibility, in the sense that it must represent the effort of several people/all persons or organizations.

Therefore, SDGs reflects a balanced agenda of economic, social and environmental goals and targets (Mensah, 2019). In achieving the SDGs, countries will need to recognize and appreciate the existence of potential trade-offs and develop ways of managing them. It should also identify complementarities that can promote significant progress.

#### IV. CONCLUSION

Development has always been associated with the growth of the gross domestic product (GDP) of the state, which measures the production of goods and services valued at market prices. Hence the usual distinction between "developed" and "developing" or "underdeveloped" countries. Initially, the development was evaluated only from an economic perspective, but later it was given a more balanced and rational interpretation, to be included in the term of "development" and in the process of growth a number of factors that are not strictly of an economic nature, such as social aspects (or the possibility of accessing a qualified education).

Therefore, from a purely economic first vision, which emphasized only the material well-being of the human being, we went to a second phase in which the development is evaluated and based on a series of social variables (education, health, civil and political rights, the protection of minorities, etc.) considered fundamental in this process.

Although, in general, the need for sustainable development is now accepted by almost everyone, the understanding of sustainability varies widely, especially among those who have complete access to resources, in other words, the most economically advanced countries and they tend to keep their consumption high, while trying to limit waste and environmental damage, and those who are not able to use them (economically disadvantaged countries) who would like to reduce the consumption of the rich.

Although ensuring sustainability should be a concern for each of us, I believe that in order to be able to ensure sustainable development, there is a need for certain integrated efforts at different levels (ownership, leadership and citizenship) of international organizations and agencies such as the UN, the government of different countries, non-governmental organizations and civil society organizations, in order to manage the tensions, compromises and synergies between these dimensions.

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