

SUSTAINABILITY AND ITS IMPORTANCE IN ENVIRONMENT PROTECTION

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Abstract

With the evolution of the human society, the need for intense industrial exploitation has also emerged, leading to the continuous degradation of the environment. Therefore, there was a need to protect these resources without depleting them, even if environmental protection and industrial development are antagonistic processes. Thus came the term "sustainability" of the environment to optimize the interaction between society and nature. This paper highlights the importance of sustainability and of the concept of carrying out activities without depleting available resources and without destroying the environment, so without compromising the possibilities of meeting the needs of future generations. The concept involves establishing a balance between economic growth and environmental protection and finding alternative resources.

Thus, sustainability aimed at introducing some phrases: ecological balance, economic security and social equity. Therefore, sustainability does not only refer to the change of societal behavior regarding the environment, but also to the change of the conception regarding the economy, society and politics. A strategy at the level of the European Union has been developed and implemented in this sense, disseminated at the level of the member states that have taken over and adopted starting from the political level to the economic societies and citizens. This strategy with key objectives has materialized through the implementation of laws, clear procedures for implementation, monitoring and compliance, with the obligation to report from the European Commission and the member states on the commitments made. It was concluded that an adequate number of collaboration networks between the various institutions, agencies, should be created as tools to promote good practices to provide all stakeholders with important resources and support in addressing sustainability.

Keywords: Sustainability, Economy, Concept, Strategy, Human Society, Available Resources.

JEL Classification: Q01, Q50.

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Introduction

Introduction contains all the necessary ideas to introduce the reader in the topic of the paper and the research performed by the author. It shows the importance of the subject and the approach used by the author in dealing with it. It is necessary for the author to formulate clearly the research question and the main hypotheses considered in this research.

Intensive industrial exploitation of resources and excessive urbanization have led to the continuous degradation of the environment generating a large ecological crisis. The need to solve this problem of humanity has resulted in ***sustainable development*** that designates ways to use resources to meet the societal need for development while protecting the environment, so that these needs can be met not only now but also in the future (Goodland, 1995).

At the same time, the Brundtland Report acknowledged that economic development could not be stopped, but that strategies must be changed to suit the ecological limits offered by the environment and the planet's resources. At the end of the report, the commission stressed the need for an international conference on sustainable development (Gilpin, 2000).

Currently, in OECD Report, Built to Last: Designing a Flexible and Durable Climate Change Agreement, 2015, the concept has expanded on the quality of life in its complexity and in economic and social terms, thus, it intends to find a stable theoretical framework for decision-making in any situation where there is a human-environment relationship, whether it is the environment, the economic environment or the social environment.

Thus, environmental issues, economic development and social development must be treated as a single theme (Munasinghe et al, 2005). A sound ecosystem and resource management are vital in the context of promoting sustainable economic growth, are closely linked to low-carbon development, and also contribute significantly to strengthening the capacity to withstand the effects of climate change. In other words, for development to become sustainable, economic development must be decoupled from the negative impact on the environment and should rely on sustainable production and consumption patterns (Zafar, 2005).

Literature review

Sustainable development and interconnection of domains

From a conceptual point of view, sustainable development takes into account the confluence of three areas: environment, economic and social. Figure 1. Sustainable development is not just about environmental issues (Amory, 2001).

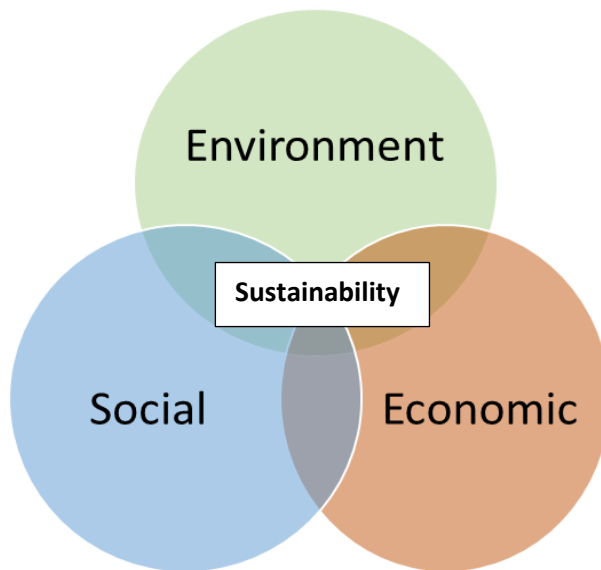


Figure 1. Sustainability as intersection of three major areas: environment, economic and social

Source: www.mdpi.com/2071-1050/4/2/154/htm.

The most important problem of sustainable development is the combination of two human aspirations, which, through their content support the need for economic and social development but also for the protection of the environment, as a method of increasing the quality of life and economic progress (Cleveland et al, 2001). National and international authorities and institutions through specialists and scientists from the, mentioned fields have reported problems that the humanity is currently facing by degrading the environment and aggravating the natural imbalances by uncontrolled expansion of urbanization and industrial intensification (Birner et al 2003).

The negative effects of the current type of economic growth have been on the world economic level, and studies on the theory and practice of sustainable development have been addressed worldwide. At national level, concerns in the field of sustainability appeared much later, at first limited to some ecological, educational and then economic aspects but which were not addressed in terms of interdependencies between them (Dahl, 2015).

The major principles of sustainable development aim at:

- concern for equity and fairness between countries and between generations;
- long-term vision of the development process;
- systematic thinking, interconnection between economy, society and environment

Differentiating the points of view through which sustainability is addressed:

- **economical**, based on the principle of generating a maximum income under the conditions of maintaining the capital (natural, human). In economic terms, development consists in accumulations that must exceed consumption, i.e. in terms of economic efficiency;

- **ecological**, based on the support of natural biological and anthropogenic systems, sustainable development is approached in the form of a constantly growing population and a consumption of resources that reduces stocks and recovery potential, with undesirable consequences on the overall ecological balance. In the tendency to offer as many opportunities as possible to future generations, there is also the conservation of global biodiversity and the protection of ecosystems.

- **social**, based on maintaining the stability of social, educational and cultural systems to determine equity between generations, by preserving cultural diversity and encouraging pluralism of ideas, effect of a permanent education aimed at enhancing human potential, improving it with new Values, ensuring more efficient use of production factors;

Other secondary points of view are also involved:

- **moral and spiritual**, based on the relationship of ethical values of human behaviour, as a factor in increasing the efficiency of social work;

- **temporal**, is approached in the sense of improving the measurement of sustainability through a system of indicators to highlight the size of the processes of replacement and renewal in relation to those of depreciation, premiums to exceed or at most be equal, in the short term, compared to the other part of equation.

Thus, sustainability is not limited to ecological aspects of sustainable development, on the contrary, having a global character, all natural, economic and social factors being important will be treated equally and it refers to resource optimization, environmental management, but not at the expense of social development (Anderson, 2004).

The transition to sustainability involved the introduction of some terms: **environmental balance, economic prosperity and social equality** (Peet, 1992).

The environmental balance represents the set of conditions and interrelationships between the components of an ecological system, which ensures the maintenance of the structure, its functioning and ideal dynamics.

In the ecological sense, ecological balance (dynamic, biological) means the state in which a biological system (individual, population, biocenosis) or mixed (ecosystem) is maintained within approximately the same limits, showing weak fluctuations in time and space due to the interdependence of the individuals or of the parts that make it up.

The economic prosperity is achieved in the strategic ecological vision, involves "measures to reduce poverty, to accelerate rural development and business, to improve education and labour development, by promoting the creation of green businesses. Thus, a priority of the UN is to "continuously improve the well-being of people", achieving over time, an extension of the concepts of welfare and development, in the sense of a development with the protection of the environment, with respecting and preserving it and passing it on as a healthy and clean environment, rich in resources, to future generations.

The social equality - the issue of social equity is not only about the distribution of benefits among abstract entities or among different sectors of users, but it is also about the final well-being obtained from the environment to the people in a society.

Methodology

Sustainable Development Strategy

The author should make references to some previous research similar to the present one, if that is the case. Also, the author should mention the software programs used for processing statistical data, if it is the case.

At international level, the European Union must consider environmental issues in its external relations, including the areas of trade, development, security and, above all, to press for the implementation of the most important global environmental conventions, in particular those relating to climate change, biodiversity conservation, discussed on OECD Expert Workshop. Paris. Organisation for Economic Cooperation and Development. (2000) Frameworks to Measure Sustainable Development.

To this end, a strategy has been adopted with the general objective of carrying out actions to enable the European Union to carry out activities for the perpetuation of the quality of life for future and present generations by creating sustainable communities that use and manage resources efficiently and to capitalize on the potential of ecological and social innovation of the economy in order to ensure prosperity, environmental protection and social cohesion.

The European Union and the Member States, respectively all the institutional components at Community and national level are directly responsible for the implementation of this Strategy, but it is also necessary to collaborate with civil society, social partners, local communities and citizens.

There are four key objectives for implementing the Strategy (Munasinghe, 2003):

- environmental protection through measures to ensure the delimitation of economic growth from its negative consequences on the environment;
- equality and social cohesion, by respecting fundamental rights, cultural diversity, equal opportunities and combating discrimination of any kind;
- economic prosperity, for the achievement of which it is necessary to promote knowledge, innovation, competitiveness in order to ensure high living standards, numerous and well-paid jobs;
- fulfilling the European Union's international responsibilities by promoting democratic institutions for peace, security, freedom and global "environmentally friendly" principles and practices.

The elaboration of the Strategy in Romania is the result of the obligation assumed by Romania as a member state of the European Union according to the objectives agreed at community level, especially those mentioned in the Accession Treaty, in the Strategy elaborated in Lisbon and the renewed Strategy of the European Union for Sustainable Development 2006 (Rojanschi et al, 1997).

The economic evaluation of the resources can be done according to the appreciation of the following indicators (Morse, 2000):

- absolute value – it is made in accordance with the size of the expenses made for the research, capitalization and exploitation of the given resources. Thus, some ecological-economic models are taken into account.

Ecological-economic models (Schaper, 2005)

Ecological-economic models in which the balance of raw materials (balance of materials) are taken into account, can be quantitative or qualitative, static or dynamic, descriptive, prospective, depending on the objective pursued.

In the model with the involvement of material balance, energy is a form of expression of the interaction between the environment and the economic process, of continuous transformation of matter and energy, which results in the degradation of part of energy in the form of unusable heat which leads to increased system entropy, according to the 2nd law of thermodynamics.

Economic activities (according to the Karl-Goran-Maler model) Figure 2, exert a pressure on the environment by undervaluing basic resources and transferring residues (result - overexploitation of natural resources and increase of residues that spread in the environment).

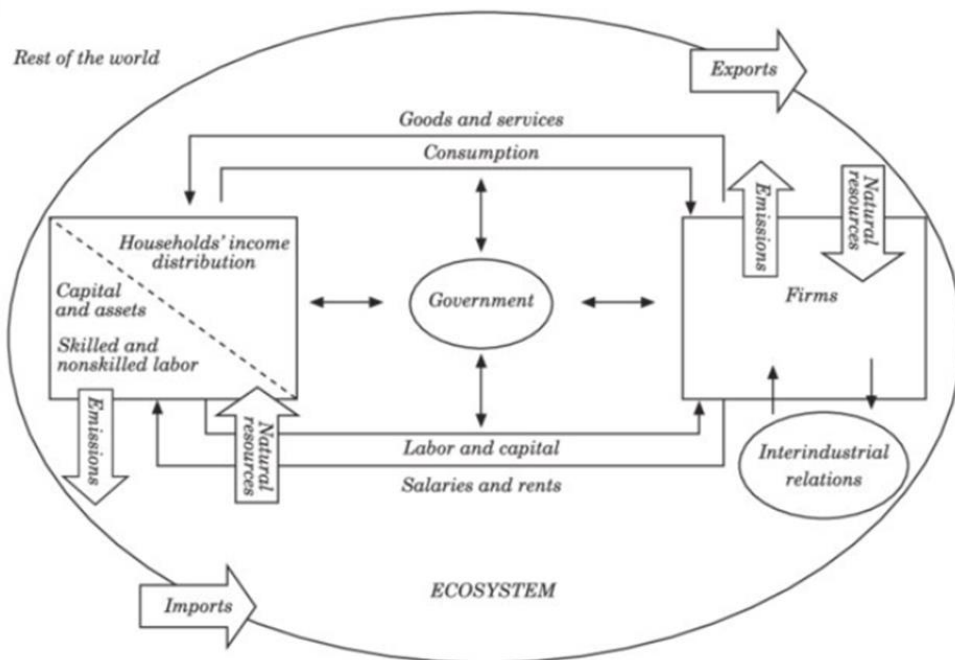


Figure 2. Karl-Goran-Maler Model

Source: Handbook of Environmental Economics, Volume 2, 1st Edition, Karl-Goran-Maler

By reference to the first law of thermodynamics (transformation and conservation of energy) and to that of the constant of living substance (at the geological time scale and planetary level, the amount of biomass in the biosphere remains constant) results that the temporal accumulation of energy in the form of funds and stocks, the amount of residues transferred to the environment through the economic system can be equivalent to the extracted natural resources. (Biller, 2003)

In the action of recovery / recycling of residues, not only the economic criteria must be taken into account, but also the limited stock of natural resources, the capacity

to assimilate the residues and to deposit from external sources of low entropy (Abraham, 2006).

Collaboration networks between various institutions, agencies, environmental organizations.

In general, the Romanian authorities are involved in EU initiatives on environmental protection and climate change. The European Union is committed to strengthening environmental legislation and its implementation globally. The EU therefore continues to support the process leading to a Global Agreement for the Environment, launched by the United Nations General Assembly in May 2018. EIR is one of the tools by which Member States set a good example of compliance with the European Union environmental policies and legislation, as well as international agreements. Regarding cooperation (Article 12 of the EUTR), Romania reports the existence of collaboration between various government institutions.

Thus, at the governmental level, there are three environmental protection institutions, the Ministry of Environment, the Environmental Protection Agency and the Environmental Guard, and several state institutes that carry out environmental analyses and environmental NGOs that report irregularities in the system.

Results and discussions

Environmental economics is a challenge for the theory of sustainable development insofar as it seeks, among other things, the attempt to humanize and green the economy. Moreover, if it sets such goals, then it faces a problem - that of integrating the environment and its problems into the structure and philosophy of neoclassical economic theory. We say this because, despite all the criticism, in the field of economics, the neoclassical approach has been and remains dominant.

Moreover, its adaptation to the requirements of sustainable development and, in particular, to specific environmental issues, is not an easy matter. They make difficult the task, both the strong inertias of a theoretical, learned, academic, super-formalized system and, through this, amazing but detached from reality, as well as the limits imposed on the theory by the concreteness of environmental phenomenology as such.

Conclusion

Speaking of development as "meeting the needs of present generations without compromising the ability of future generations to meet their needs", the report of the Brundtland Commission, *Our Common Future*, highlighted the need to simultaneously address development and environmental imperatives. Since then, substantial work has been done to operationalize the concept of development, and efforts will be made to the extent that the integration of three points of view will succeed:

- Of economists, whose methods seek to maximize welfare in the conditions of constraints imposed by the existing capital stock and available technologies;
- Of environmentalists, who emphasize the preservation of the integrity of ecological subsystems considered vital for the stability of the global ecosystem. Some advocate the preservation of all ecosystems, while others speak of maintaining the resilience and dynamic adaptability of life-supporting natural systems. The units of calculation that respond to this last desideratum are not

monetary, but physical, and the predominant disciplines that study them are biology, geology, chemistry and natural sciences in general;

- Of sociologists, who emphasize that the key actors are human beings, whose models of social organization are crucial for identifying viable solutions to achieve sustainable development. Indeed, the evidence is that underestimation of social factors in the development process seriously jeopardizes the efficiency of various development programs and projects.

In conclusion, in the current approach all three dimensions of the concept of sustainable development, respectively, ecological, economic and social must be related.

In this type of approach, the listed dimensions will be connected to the specific development needs of Romania. Ensuring the compatibility of economic, social and environmental policies with the main strand of development within the EU requires the active and responsible involvement of central and local public institutions, the private sector, professional associations, social partners and civil society in maintaining a business environment favourable for domestic and foreign capital investments aimed at modernization and sustainable development of the country

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