

CONSIDERATION REGARDING GENERAL LINES OF THE SUSTAINABLE DEVELOPMENT STRATEGY IN ROMANIA IN THE CONTEXT OF EUROPEAN DEVELOPMENTS

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ABSTRACT: Sustainable development is a complex and fundamental concept in current policy. It allows a nation to plan, to implement and monitor the progress of society, in view of achieving long-term objectives, of meeting the demands of the present generation without preventing the future generations from satisfying their own needs.

The Romanian national sustainable development strategy was finalized in 1999 by a work group created through the Government Decision no. 305/1999. Although written in a participative manner, the strategy did not stipulate the adequate mechanism for implementation monitoring which can support its periodical revision.

The present paper aims at highlighting the general lines that Romania, as a member state of the European Union, must consider. European developments intend to identify and extend actions that can lead to an improvement in life quality for the present and future generations, by sustainable communities that are capable of managing and using resources efficiently and of exploiting the ecological and social innovating potential of economy, thus ensuring prosperity, environmental protection and social cohesion.

Keywords: sustainable development, environmental protection, European general lines, scientific activity

The idea of ecological crisis is usually associated with major accidents, with a strong negative impact on environment. It is an impressive driving force, meant to encourage the actions of various groups of interest. The concept was created in the 70s, when environmental problems (unasked for but inevitable) were commonly believed to be the side effects of scientific and technological progress. The decision factors at that time were convinced that those problems could have been solved through technology adjustment, through new restrictive norms or vehement protests.

1. Sustainable development Areas of expansion

In the past few years, debates on environmental issues have touched new areas.

A first change was one of zoning, of area identification. At first, environmental problems were considered to be those which

occurred in inhabited areas or in areas close by (such as the issue of the London smog or noise pollution). In the early 70s, it became a clear fact that environmental issues touched much more extensive areas, as regards both causes and effects (for instance: reducing the quantity of ozone in the stratosphere and global climate changes). A varied range of environmental issues occur at different geographic levels, from local to regional, river or continent-related, up to a global level. Thus, it is essential to understand the dynamics of relations between the inside properties of an ecological problem and the mechanism to address the problem, as the dynamics of relations shifts with the scale of manifestation. The more extended the scale of manifestation, the bigger the system's ability for attenuation (support capacity) and the consequences are delayed. Also, an extensive manifestation scale leads to an increase in the difficulty to address the issue and to address the complexity of the process of decision involved.

A second direction for extending debates on environmental is orientation. It has become obvious that ecological problems are also connected to social and economic metabolism. For instance, Agenda 21 (1992), provides the guidelines and the set of tools for community orientation (at a global level) when making decisions related to the aims, objectives, priorities, allocating responsibilities and resources associated with the environment and with the development problems that the contemporary world faces. Agenda 21 also analyzes the social and economic aspects of contemporary environmental problems: fighting against poverty, changing production and consumption strategies, demographic dynamics, human settlements, the environment and health). However, looking at norms and values from a historical perspective, we notice that there are no **generally valid ethical principles** for all the ages or cultures. Values originate in the people's individual and social life; society produces rules not only for individual behaviour but also for the behaviour of communities, which influence the survival of society in its whole. A value becomes significant only in an individual and social context. When speaking of environmental ethics, to refer to a value means to ask ourselves how much something is worth (for instance: how much is water or air quality worth?). Values should be appreciated in relation to neighbours, plant, animal or human population or to the future environments. A. Schweitzer said that: "the problem with ethics so far is that they have been limited to a human-to-human consideration". Thus, the concept of **sustainable development** appeared. The sustainable development paradigm has been at the top of environmental debates over the last two decades.

At the present time, a new paradigm takes shape: ecological safety. The Brundtland report defines sustainability as the rearrangement of technical, scientific,

ecological and social resources so that the resulting heterogeneous system can be maintained in a space-and-time balance. Sustainable development is defined as enhancing "both current and future potential to meet human needs and aspirations" (W. C. E. D., 1987). The space reference for sustainable development is the entire planet while the time reference is present and future generations (thus connecting sustainability to the ethical problems related to "the rights of future generations") connected to a coordination of social, economic and environmental requests. Schutz (1966) also described other ethical dimensions of the concept of sustainability: besides ecological and economy problems, sustainability has cultural particularities (customs, myths, taboos and beliefs). Any definition of sustainability has to be culturally accepted in order to be effectively applied. The relation between sustainable development and ethics becomes difficult when we ask ourselves if science (science of nature, of humanities, applied science) and ethics are enough so that sustainability can be achieved. The missing element is the binder of the two, which some believe to be legitimacy, loyalty or respect. In any case, present debates show that the issue of the content of sustainability has not been solved and ethical considerations related to the term "ecological safety", have become increasingly important.

2. Approaching sustainability

Sustainability has been approached by several fields as an essential coordinate in establishing society development policies.

Their specificity lies in separating the different points of view in addressing sustainability, and namely:

- the **economic perspective**, based on generating maximum income when capital remains unchanged (physical, natural, human); sustainable development refers to the value of capital

(natural and human). On an accounting level, sustainable development takes into consideration economic efficiency and consists in accumulations which must exceed consumption;

- the **ecologic perspective**, based on supporting natural biological and anthropic systems; sustainable development is seen as increasingly growing population and as resource consumption leading to stock decrease and less regeneration potential, with unwanted consequences on the general ecologic environment. Preserving global biodiversity, irrespective of the known advantages for some species falls within the tendency to provide future generations with as many opportunities as possible;
- the **socio-cultural perspective**, based on maintaining the health of social, educational and cultural systems to

determine intra- and intergeneration equity, by preserving cultural diversity and encouraging pluralism of ideas, the effect of a permanent generation aiming to boost human potential, to give it new significances, thus ensuring a more efficient use of material production factors;

- from the **moral and spiritual perspective**, sustainability is placed in relation with the ethical values of human behaviour, as a factor of increasing social work efficiency;
- from a **time perspective**, sustainability can be better measured through a system of indicators that highlight the size of replacement and renewal processes as compared to depreciation processes. The former have to exceed or at least be equal to the latter, on a short term

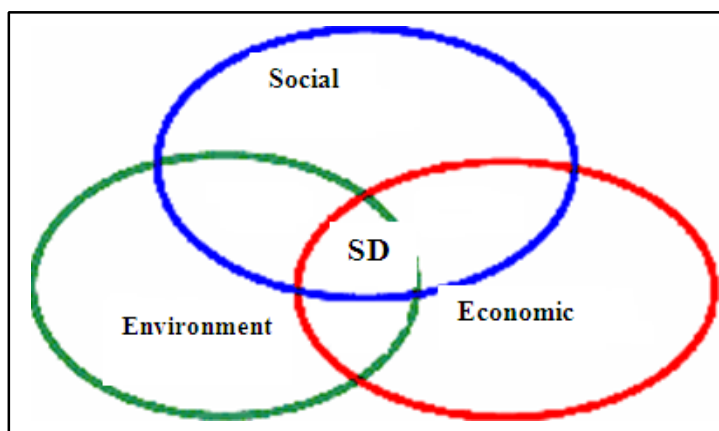


Fig.1. The three pillars: social, economic and environmental

3. General lines of sustainable development connected with the scientific activity

The scientists' activity helps us better understand phenomena such as climate changes, accelerating resource consumption, demographic trends, environmental

degradation etc. When writing long-term development strategies, considering such phenomena is absolutely necessary. Science must play an increasing role in ensuring sustainable development by increasing the efficiency of resource use, by developing new technologies, ecological and highly productive, which use few material and

energy resources, by identifying new resources etc. It must be seen as an essential element of society and economy restructuring so as to ensure sustainable development. The scientific evaluation of the current conditions and of the potential perspectives, based on the existing and on the future scientific innovations must support the development policy writing process.

In this context, the main lines of action have to be known:

- 1 Developing the scientific base of sustainable management ;
- 1 Increase the level of scientific knowledge;
- 1 Improve scientific evaluation quality on the long term;
- 1 Developing scientific capacity and capability

Sustainable development requires prognoses on the long term that can include the local and regional outcomes of global change in the development process. This must be re-evaluated from time to time depending on the results of scientific research, aiming that the use of resources can have a minimum impact on the environment. The *objectives* of these actions are:

- To develop scientific capacities and abilities in fields that are relevant for the environment and for development;
- To write development and environment policies based on the latest developments of science and engineering;
- To improve cooperation between scientists to promote interdisciplinary research programs and activities;
- To encourage citizens to participate in setting priorities and making decisions on sustainable development;
- To develop education and training systems and research and development facilities;
- Quantity and quality development of infrastructure in scientific research;
- To increase the number of experts in fundamental scientific disciplines;

- To increase the number of experts in scientific disciplines connected to the environment issue;
- To improve the access of scientists and decision factors to information that is relevant for environmental issues;
- To strengthen national and international cooperation in scientific research programs concerning the environment and development.

Due to the role that this knowledge plays in environmental and development policy writing, we have to develop and increase scientific and technical capacities for an active participation in scientific research activities and in using its results. Some of the most important *means to develop scientific and technological capacities* are:

- Education and practical training in science and technology;
- International assistance to develop research and development infrastructure;
- Implementing tools to encourage scientific research and use its results in the productive sectors of economy;
- Increase the number of experts in the relevant areas to cope with the complex nature and the extensive number of environmental problems.

Activities

- Draw up an inventory of results from the natural and social sciences that are relevant for promoting sustainable development;
- Identify lines of research and set priorities in the context of international efforts in the field;
- Create and use relevant tools for sustainable development:
 - 1 Indicators of life quality regarding the state of health, education, the status of the environment, the economy, etc;
 - 1 New structures for a better resource management;
 - 1 Formulate environment protection policies on the long term.
- Collect, analyze and integrate data regarding the connection between the

- state of different ecosystems and the state of health of human collectives to improve knowledge of costs and benefits for different development policies and strategies;
- Scientific studies at a national and regional level regarding methods of achieving sustainable development, using comparative and complementary methodologies;
 - Coordinate relevant data and statistics for environment and development problems as a support for elaborating long-term scientific evaluations (such as data on resource depletion, demographic trends, etc);
 - Develop methodologies to carry out national, regional and global auditing which allow examining the ability of regional and global systems to satisfy the needs of human and non-human life forms and to identify areas and resources vulnerable for future degradation.
 - Educate and train scientists to increase their ability identify, manage and integrate environmental protection aspects in research projects;
 - Train experts to work in interdisciplinary research programs connected to the environment and development;
 - To develop the scientific infrastructure in schools, universities and research institutes;
 - To promote the sharing of scientific and technology information and own databases to centers and networks of national and regional data;
 - To develop partnerships between institutes and universities so as to facilitate the exchange of scientific and technological data and ensure the necessary technical support for sustainable development and environment protection;
 - To compile, analyze and publish scientific, technical and environmental knowledge

Means of implementation

- Evaluate costs and identify funding sources;
- Develop the necessary technological and scientific means:
 - ┆ New scientific research programs including human and social and economic aspects to strengthen interdisciplinary research on environment degradation and rehabilitation technologies;
 - ┆ Demonstrative models of various kinds (social and economic, environment conditions etc.) to study and evaluate the proposed methodologies;
 - ┆ Develop methods to evaluate the relative risk to assist the factors of decision in setting scientific research priorities.
- Extend research programs and networks and make them more efficient so they can lead to scientific knowledge that is relevant for sustainable development policy making;
- Develop monitoring, evaluation, information and database systems.

Conclusions

Sustainable development requires long-term prognoses that include local and regional outcomes of global change in the development process. Development must be periodically re-evaluated depending on the scientific research results, so that use of resources has a minimum impact on the environment.

The accumulated scientific knowledge can be used to carry out scientific evaluations of the current status and to make predictions about future tendencies. On this basis, the actions to be avoided or to be carried out in order to maintain the health of the biosphere and to minimize biodiversity decline.

European evolutions aim at developing and identifying actions that can lead to an improvement of life quality for the present

and future generations, by creating sustainable communities that are able to administrate and use resources efficiently and to exploit the innovative ecological and

social potential of economy, thus ensuring prosperity, environment protection and social cohesion.

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