

THE ROLE OF ECONOMICS IN THE PROCESS OF SUSTAINABLE DEVELOPMENT

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During the last decades of this century, in addition to former troubles, humankind has had to face a major new problem. Will human society be able to choose a new path of development, in the future, to avoid potential large catastrophes? Rapid growth of the world's population, immense depletion of natural resources, extinction of species, anticipation of climatic changes and many other risks related to the environment and life, warn us that it is no longer enough to merely discuss these problems theoretically. We must find a new way to develop this path and make it into a real action-programme for individual nations and for the world as a whole.

Since the 1970's, these global problems have become the focal point of interest for science and then for policy. A number of analyses and proposals arose. However, in general, they gave no answers as to how present generations should form the future, nor at the same time how to adopt solutions that could be widely implemented. In the course of discussion the idea of sustainability emerged. The concept can hardly be interpreted in isolation, unless it is incorporated within a process, thus sustainable development found its way into the vocabulary of science and policy as the future strategy of mankind.

Sustainable development was set as a target by the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The theory and action programme of sustainable development implies that humankind has the ability to make development sustainable, in other words, to meet our present needs without putting into jeopardy the coming generations' ability to meet their likely future needs. The concept of sustainable development, of course, has its restrictions too. These are not absolute thresholds or normative restrictions, but rather limits defined by the present technology-level, by human activities which draw on natural resources, and by the ability of the biosphere to tolerate human activities. The concept of sustainable development does not offer general solutions, obligatory for each nation. Individual countries must define, in accordance with their own conditions, the tasks necessary to meet the requirements of sustainable development, in such a way that they can be instrumental in maintaining it on a global scale.

The concept and definition of sustainable development should be interpreted in a wider sense than just economic development, i.e. growth. Sustainable development is a series of measures aimed at maintaining the balance, over time and in space, of the multi-faceted world system, while drawing on technical, scientific, economic, social and environmental resources. Moreover, apart from meeting the basic subsistence needs of human beings, the concept can be interpreted simultaneously as education, health and social justice, as well as harmony and co-operation among people.

The concept and tasks are presented on a large scale; their feasibility raises doubts among many ecologists, environmentalists and politicians about the present State of the World. It should be added that the concept seems to be an acceptable compromise between the North and the South, raising hopes that social justice can also be achieved on an international level. To this end, the reduction of the increasing hazard of environmental catastrophes, affecting everyone, should be of utmost interest on the part of the industrialised countries, since these hazards have been created mainly by their economies. It is obvious that if developing countries choose a developmental path similar to that which developed countries have already taken, within a short period of time, the exploitation of natural resources and pollution will reach a level that will make it impossible to avoid catastrophe. It cannot be questioned that these developing countries have the right to build their economies, which in practice means ensuring their progress through sustainable development, so that they will not run the risk of destroying their own environment, as a result of their progress.

Main Components of Sustainable Development

Sustainable development means maintaining the ability of the environment to provide for present and future needs. Consequently, the main components of sustainable development are as follows:

- The highest emphasis should be placed on protection of the biosphere, if only because humanity, itself, is part of the biosphere, thus being the greatest guarantee for maintaining life.
- In a broader sense, the prevention of a decrease in the carrying capacity of the earth by avoiding over-distribution of resources and an increase in the degradation of the environment.
- Regeneration abilities, physical/biological changes in the narrow sense, and technological/cultural in the wider sense, should also be regarded as components of sustainable development.
- Human reactions to global changes are far from being sufficient at present, because of a conflict of interests, information and cultural barriers, as well as basic selfishness, as an eternal human feature. To change the situation, one must rely more on education, including the

mass media, to intensify the process of social learning.

- The economic approach to sustainable development must not be forgotten since its realisation requires the optimal allocation of resources. Allocation, between present and future, should be carried out in such a way that the process of social and structural change, which optimises present capacities, would not jeopardise similar capabilities in the future.
- Finally, mention should be made of the fact that economic and social phenomena occur in both space and time. Sustainable development has a global dimension, but its time-horizon can hardly be defined: starting from the present it may encompass several generations.

Protection of Biological Diversity within the Framework of Agenda 21

The United Nations Conference on Environment and Development in 1992 elaborated an overall programme of sustainable development that came to be known as Agenda 21. The programme discusses, in detail, those tasks of societies which should be solved jointly. The programme clearly reflects the fact that the well-being of individual societies is connected with the development of others, and that societies are connected with each other through their dependence on natural resources, and through changes in the state of their individual environments.

Agenda 21 includes "protection of biological diversity," which has already been supported by an international agreement. The vital goods and services provided by the Earth, depend upon the diversity and variability of its ecological systems, species, populations and genes. As a part of our renewable resources, biological systems create our food, clothes, shelter, and medicines. Moreover, they partly meet the needs of our bodies and souls. The risk of a decline in biological diversity is increasing, and is mainly the result of human activities. Thus, the protection of biological diversity is one of the fundamental aspects of sustainable development.

The maintenance of biological diversity - like the protection of human life - requires complex activities and decisions which require great effort. These include:

- the elaboration of national strategies to preserve biological diversity. (Within this lies the development of strategies for the maintenance of biological resources, and their integration into various sectoral policies.)
- the fair distribution of the use of biological resources
- the preservation and renewal of traditional forms of utilisation, in harmony with the environment, while placing emphasis on the role of local communities
- the launch of research programmes aimed at preserving biological diversity, as well as its sustainable use, and the development of biotechnology, to make it safe and transfer its knowledge
- the development of wide-range regional and international co-operation, and within this framework, the provision of financial support for developing countries

The value of biological diversity lies in its ecological, genetic, scientific, educational, social, economic, cultural and aesthetic features as well as in the possible and actual uses given to them.

Some Problems of the Economic Interpretation of the Environment

Sustainable development may become only an illusion of mankind if we do not succeed in developing a differentiated, effective system, a mechanism of economic means, suited to our aims and accepted also at an international level. It makes it imperative that we should change the traditional economic mentality, and it should be done across a very wide spectrum.

Behind the problem lies the debate, the difference of opinion as to whether values or real prices can be attached to environmental goods. Economic schools of thought usually distinguish between free goods and economic goods. The land has been defined as an economic good, whether it is a means of production, a reservoir and carrier of water, a mine or mineral resources, or finally, a production site. On the other hand, wind and solar energy, the air (atmosphere) and water have been defined as free goods, being indivisible at the same time. That is why economic interpretation follows these two different lines:

- The environment is the site of the exploitation and utilisation of natural resources. In this case, nature is a commodity which offers inputs for the economy, therefore, it is subject to a market economy and part of the competitive sphere where exploited goods have prices.
- The environment is the place of human existence and the recipient of pollution, being damaged and destroyed in its environmental media (air, water and soil) by pollutants and production wastes (i.e. by the outputs of production). In this case the environment can be regarded as a form of public goods, the object of public consumption, which is beyond the competitive sphere, and thus it has either no price or the price is grossly understated.

Environmental problems, seen primarily from the economic point of view, arise from this dichotomy. It should be added to the above philosophy that the scope of free goods has been narrowed as a result of the increased utilisation of nature for human purposes. The international practice of

accounting national wealth, already treats land, standing timber and mineral resources as a part of that national wealth, in the form of assets provided by nature.

The contribution of flora and fauna is, however, left out when accounting national wealth since, according to economic interpretation, this part cannot be expressed in value terms. This applies particularly to the elements of flora and fauna which fall beyond ownership (i.e. marine species in international waters). These problems hamper the protection of biodiversity. In the practice of environmental protection, a so-called ideal price is defined, although not in accordance with economic concepts, for endangered plant and animal species.

In light of the above definition, environment can be defined in economic terms as the source of aggregate use value. That can also be interpreted in such a way that part of the environmental factors of production, in the form they actually present themselves, have direct-use values, with regard to specific human needs. Thus, the total economic value of the environment can be determined as the sum of several factors. Nevertheless, there is still an area of the environment which does not come into direct contact with the economy, the valuation of which, in monetary terms, is troublesome or impracticable and, therefore, it cannot be treated in the same way as economic goods.

Modern economics, mainly that aspect which deals with the environment, introduced two new concepts of value: option value and existence value. These value concepts mean something different from the use value. There are three characteristics of the natural environment which should definitely be kept in mind: irreversibility, uncertainty and uniqueness.

The option value is based, as has been shown above, on the premise that the future is uncertain and extinction is forever. You cannot define, in advance, which species will be most valuable in the future, e.g. what scale of genetic diversity will be necessary in order to maintain agriculture. The value of landscape areas and game preserves lies in the fact that they prevent the loss of genetic information and species.

The option value may maintain, with significant uncertainty and in conditions of irreversibility, the social option for coming generations to select the species best suited to their needs. In effect, it is risk-reduction behaviour. If an area of uncultivated land may irreversibly be altered by bringing it into cultivation, we should consider the values which would be lost through ruling out any option in the future. So you can speak about so-called access option value, which also includes the possibility of access to resources. While the option value rates the options of the present and future generations, the existence value is the inner immanent value of nature, which is independent of human judgement.

The option and existence value defined above are only one element of social judgement. Social judgement frequently takes into account inconsistent aims, which in essence reflect different interests. The interests differ both in space and time, as well as in environmental components. You must be prepared to handle, under irreversibility and uncertainty, various social conflicts arising as a result of environmental tensions.

In the course of implementing sustainable development, a risk of conflict will present itself, between environmental interests and various financial circles, if governments introduce certain taxes or take other actions to reduce the use of the environment. Agenda 21 deals with the question of how financial groups could be involved in using environmentally friendly technologies or in manufacturing such products.

References

1. UNCED (1992) Agenda 21. Proceedings from the Rio de Janeiro Conference
2. Barbier, E.B. (1989) Economics, natural resource scarcity and development, conventions and alternative views. Earthscan, London
3. Daly, H.E. (1990) Sustainable growth and impossible theorem development. Rome
4. WCED (1987) Our common future. Oxford University Press
5. Pierce, D. and Turner, R.K. (1991) Economics of natural resources and the environment. John Hopkins University Press, Baltimore
6. Tietenberg, T. (1982) Environmental and natural resources economics. Harper Collins, New York

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