



Studies on Science and Culture

**Sustainable Development:
Theory and Practice Regarding the Transition
of Socio-Economic Systems towards Sustainability**

Angheluță Vădineanu



UNESCO-CEPES (European Centre for Higher Education/Centre Européen pour l'Enseignement Supérieur), a decentralized office of the UNESCO Secretariat, was established in September 1972 with a view to promoting co-operation in higher education among Member States of the Europe Region (the countries of Europe, North America, and Israel). In addition to this major mission, UNESCO-CEPES also serves as a field office representing UNESCO in Romania.

Although the activities of UNESCO-CEPES are focused foremost on higher education in the Europe Region, the Centre also maintains contacts with relevant organizations and institutions in other regions, in conformity with the universal vocation of UNESCO.

Through its pan-European mission and specific competence and experience in Central, Southeastern, and Eastern Europe, developed over nearly thirty years of presence in the region, UNESCO-CEPES is, in its own way, a unique institution that deals with higher education in the Europe Region by providing bridges for active international co-operation.

UNESCO-CEPES is focusing its activities along the following four main strands:

- Policy and Reform of Higher Education;
- Inter-university Co-operation and Academic Mobility;
- Publications, Studies, and Information Services;
- Status of Teachers and Teaching/Learning in the Information Society.

It also:

- provides consulting services;
- participates in the activities of other governmental and non-governmental organizations;
- serves as a link between UNESCO Headquarters and Romania in relation to the activities of the Organization in Romania.

In order to respond to the need for topical actions in support of the processes of reform and development of higher education in Central and Eastern Europe, including Southeastern Europe, UNESCO-CEPES has focused its current activities on the making and implementation of higher education policy, legislative reforms in education, academic quality assurance and accreditation, and the recognition of academic and professional qualifications.

It is also concerned with new approaches to governance and institutional management, university autonomy and academic freedom, the status of teachers and their training, university-industry relations, the use of new information technologies, including the Internet/virtual university, and transnational education.

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Preface

This volume, the third one to be published in the UNESCO-CEPES series, "Studies on Science and Culture", deals with aspects of the theory and practice of sustainable economic development. Its subject thus reflects both the basis for and the object of the activities of one of the oldest UNESCO Chairs in Romania. It also reflects both the new and the old in the panoply of activities undertaken by UNESCO-CEPES.

The series itself, "Studies on Science and Culture", is new, having been inaugurated in 1999 to serve as a vehicle for the publication of research findings, particularly those generated by the UNESCO Chairs (also the reflection of a relatively new UNESCO programme) in subject areas other than higher education.

At the same time, the subject of the study reflects a strong degree of continuity in the UNESCO-CEPES publication programme as well as an on-going interest in environmental concerns. Three times since its founding in 1976, the UNESCO-CEPES quarterly review, *Higher Education in Europe*, has devoted themed issues to problems of the environmental sciences and higher education (1979, 1984, and 1990). Now is the time for a book-length study on the subject.

This volume, that proposes the application of systems ecology to sustainable development, is a contribution to the environmental sciences, a domain that is very much based on an interdisciplinary approach. Its author, Dr. Angheluță Vădineanu, has been the holder of the UNESCO-Cousteau International Ecotechnie Chair at the University of Bucharest since the Chair was founded in 1993.

The UNITWIN/UNESCO Chairs programme itself was launched in 1991, the acronym, UNITWIN, standing for "Programme for Reinforcing Inter-University Co-operation and Academic Mobility through Twinning Arrangements". In the words of Dr. Dumitru Chițoran, (*in, Higher Education*

in Europe 21 2-3 [1996]: 91-92), one of the initiators, the programme "...was meant to mark a return to the spirit of international academic solidarity, through twinning, networking, and other linking arrangements among universities. The Programme was also designed as an innovative form for the rapid transfer of knowledge and for institutional development in higher education, including the establishment of transnational centres for advanced studies and research, as a means to redress the widening knowledge gap between industrially developed and developing countries. One other aim of the programme is to alleviate the negative effects of the brain drain."

According to the UNESCO publication, *Directory/Répertoire UNESCO Chairs UNITWIN Chaires UNESCO* (Paris: UNESCO, 1999), the UNESCO-Cousteau International Ecotechnie Chair has the following objectives:

- to promote, within the framework of the European Postgraduate Ecotechnie Programme, advanced research and high-level training in ecology, ecotechnology, and the protection of the environment; to make the results of research known to governments and decision-makers as well as to the general public;
- to encourage international co-operation between universities in Western and Eastern Europe as well as in developing countries.

To fulfill these objectives, this UNESCO Chair and its chairholder participate in the work of several inter-linked regional and worldwide UNITWIN networks devoted to ecotechnie and ecotechnics. The basic twinning link is that of the UNESCO-Cousteau International Chairs/Network in Ecotechnics of the Free University of Brussels and of the University of Bucharest, founded in 1993, composed of the UNESCO-Cousteau International Ecotechnie Chairs at both universities. This twinning is, in turn, linked to the International Network of UNESCO-Cousteau Ecotechnie Chairs coordinated by the UNESCO Ecotechnie Centre and the Equipe Cousteau of Paris that collaborate with a network of university ecotechnie and related chairs in Argentina, Belgium, Brazil, Egypt, India, Moldova, Sweden, and the United States, in addition to Romania. Moreover, the basic twinning arrangement of the two UNESCO-Cousteau Chairs was integrated into the UNESCO Man and the Biosphere

Programme in 1995. It and the two constituent Chairs are also members of the European Postgraduate Ecotechnie Programme that includes Friedrich Schiller University (Jena, Germany), Complutense University (Madrid, Spain), the University of Huddersfield (United Kingdom), and the University of Szeged (Hungary). In short, ecology and sustainable development are major concerns both of UNESCO and of higher education institutions all over the world.

The publication of the present volume had its conceptual origins in a study on sustainable development prepared by the author and published in Romanian by the University of Bucharest Press. The study as a whole was inspired both by the author's participation in the preparations for and the activity of the 1992 United Nations Conference on Environment and Development (UNCED) and by his dismay that "over seven years after Rio, only very insignificant results in preparing and starting the vital global transition of the socio-economic system towards the sustainable development model has been achieved". He has also been motivated to prepare this study for use by students enrolled in the European Programme in Eco-Technology offered by his Chair in Ecotechnie. But he also intends it to be read by "experts in developing policies, strategies, and management programmes for socio-economic development, politicians, decision-makers, teaching staff, and most importantly, those persons acting in the ecological movements promoting the socio-economic transition towards sustainable development".

This study particularly concentrates on the fundamental concepts of systems ecology, a holistic approach to the study of ecological systems and of the environment, including the so-called human socio-economic system. The author guides the reader through an understanding of the "dynamics of the relations between the socio-economic system and the natural components of the environment" to an understanding of "ecological crisis" and to an "outline of the co-ordinates of the sustainable development model". While Parts I and II of this volume present the basic outline of a science of sustainable development, Part III is a case study presentation of how Romania, having undergone political transition, and still undergoing socio-economic transition, might best take advantage of the situation of flux in which it finds itself to adopt a model of sustainable development.

The author writes with urgency and with passion, stressing over and over that the world faces an increasingly severe ecological crisis that will become increasingly difficult to overcome if measures are not taken now. He cites many specific examples of the results of this crisis as well as of missed opportunities. His hope is that this study and the persons who read it will be motivated to bring about the necessary changes in attitudes, policies, and socio-economic systems so as to make sustainable socio-economic development a reality.

Jan Sadlak
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