

HUMAN ECOLOGY AS AN EXAMPLE OF INTERDISCIPLINARY COOPERATION

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Introduction

An International University for the Bio-Environment (I.U.B.E.) has, of course, to take into account programs in existing universities, to take into account that bio-environment and environmental education are on the comeback trail and that environmental courses are back in the curricula. The interdisciplinary nature of teaching remains, however, often in question: the lack of integration of previous mono-disciplinary training in interdisciplinary group work is one of the major failures in university teaching in environmental sciences.

At the level of curriculum development, an international university must consider interdisciplinary and inter-university collaboration as main goals.

Human ecology in Europe

The concepts developed in the field of Human Ecology all are unified under the perspective of the relationships between man, his societies and the environment. The purpose is to understand the ecological framework in terms of its broad complexity and to stimulate thinking about solutions for ecological problems. Our program intends to reach an international audience of participants with different scientific backgrounds who will be trained in analysis and solutions for ecological problems. In fact, human ecology in Europe has not only scientific roots but complex social and political roots. The nature conservation movement, consumers' organizations, international opposition against the use of nuclear arms, and raising the attention of governments and of international organizations for environmental problems have influenced universities and academic attention for man-environment relationships.

Master's program in Human Ecology

At the Free University Brussels (V.U.B.), the aim of the Master in Human Ecology is to have a holistic approach using the methodology of the biological environmental and behavioral sciences and using the combination and emphasis placed upon these subject areas. The purpose is to understand the complexity of the ecological situation and to stimulate thinking about solutions. Interdisciplinarity must be also a key concept. In our program, it is reflected:

- A. By the opening of the program to everybody who has a bachelors' degree, resulting in the intake of students with variable basic trainings, this is a guarantee for pluridisciplinary inbring.
- B. By the integration of the knowledge originating from different fields such as biological, physical, chemical and geographical sciences but also psychological, sociological and economical aspects of the human environment, as well as legal aspects, engineering sciences, medical and policy aspects of relevance for environmental management and for human ecology.
- C. By the choice of the final thesis work, which is preferentially chosen in transboundary and interdisciplinary problems of man-environment aspects.

At the Free University of Brussels (V.U.B)

In 1975, a postgraduate program on human ecology was inaugurated originally only in Dutch. Since 1988, an English lectured version was established. We developed also a special section dedicated to environmental impact assessment. The aims of the program also coincide with the objectives of the UNESCO's MAB program. Moreover the program is structured according to the general rules reviewed by UNESCO for university postgraduate programs on environmental sciences. Therefore the program has the endorsement of UNESCO. Also the program is organized under the auspices of the World Health Organization. We placed this program in an international network through a European Center as a central core and an Erasmus-Tempus program as supplementary collaboration.

European Center and European Association

In 1973 a bilateral convention was established between the University of Geneva (Universite de Geneve), Switzerland and the University of Paris V (Universite de Paris V, Rene Descartes), by which a specialization program in human ecology was founded. This convention was

during the same year enlarged to include the University of Toulouse (Universite de Toulouse III, Paul Sabatier) France. This convention also offers the possibility to extend the aims and the realizations towards other universities by consensus agreement. By this procedure the following universities adhered to the program:

- in 1974, the University of Bordeaux (Universite de Bordeaux I), France and the University of Aix-Marseille (Universite d' Aix-Marseille II) France,
- in 1975, both the French and Flemish University of Brussels (Universite Libre de Bruxelles, ULB, and Vrije Universiteit Brussel, V.U.B.) Belgium,
- in 1976, the University of Padua (Universita di Padova), Italy, and the university of Evora (Univerisdade de Evora) Portugal.

It was agreed with the Regional Copenhagen Office of the World Health Organization, that the certificate originating from this specialization program was placed under the auspices of this Office. According to the bylaws, the main aim of the program is "the training of qualified people dealing with problems in the interaction field of man and his environment." The program provides education at the post graduate level and intends "to encourage interdisciplinarity and interuniversity cooperation."

One of the most visible signs of the collaboration is that the students finishing the program in one of the nine universities, all obtain the same "International Certificate of Human Ecology". This scientific degree is recognized by the different universities and the Copenhagen office of the WHO. To allow interuniversity collaboration with a wider range of participants, the European Association for Human Ecology (EAHE) was established in 1989. This is a society of institutions, university departments and schools for higher education which are active in the field of human ecology.

Erasmus and Tempus programs

The aim of Erasmus financial support is to encourage long-lasting cooperation between different member state universities which, amongst themselves, have established inter-university cooperation agreements regarding students and/or staff mobility and/or the joint realization of certain teaching activities. Erasmus grants may only be awarded to students who receive total academic recognition testified by an appropriate formal certificate from their home university for the studies they have undertaken in another member state. The students will spend at least three months and at most a year in another member state. The aim of the Tempus program is to promote the quality of the higher education systems in the countries of Central Eastern Europe.

When the V.U.B. took the initiative to create this network, it was, of course, in the philosophy of the Erasmus scheme of mobility of university students and of collaboration at teaching level between European universities. Therefore, we decided not to limit the program to postgraduate studies or to very specialized topics. On the contrary, the normal and legal curriculum of biological sciences was taken globally. The postgraduate in human ecology is included in this program, it provides the possibility of spending a recognized period of study in another university. This period will be fully credited to our students when awarding their final diploma. This European network foresees for the moment D: Göttingen, DK: Aarhus, E: Madrid Complutense and Autonoma, Bilbao, Barcelona, F: Toulouse, Montpellier, Aix-Marseille, G: Thessaloniki, Crete, I: Roma Tor Vergata, Firenze, Torino, Irl: Dublin, NL: Leiden, P: Lisboa, UK: King's College London, Bangor. From 1991-92, it will include: CS: Praha, Bratislava, D: Mainz, Jena, Köln, H: Budapest, Szeged, NL: Gröningen, PL: Krakow, Warsaw, Wrocław, UK: Manchester, as well as from 1992-93 Wien, Geneve and some Scandinavian and Yugoslavian universities.

Conclusion: networking in human ecology as one of the possibilities for the International University for the Bio-Environment

The concept. "Human ecology might be seen either as the beginning of a new scientific discipline, or as a reflection on science and its values, or as an approach to societies in their environment. More precisely, human ecology initiates, starting from different disciplinary approaches, a methodological step forwards, taking into account the dynamics of the biocultural interactions in the ecosystems. This integrating, scientific attitude allows the opening of fields of knowledge by the study of the dynamic equilibria in the ecosystems where man is implicating himself or is implicated." This approach refers to a number of basic elements in human ecology:

- a. According to the definition, human ecology deals with a number of methods. This links the definition with the historical scientific evolution: human ecology has its roots in the ecological approach of (botanical) naturalists as E. Warming and A.F.W. Schimper, but is also characterized by the impact of sociologists, like the Chicago school, and a number of other fundamental scientific disciplines like geography, anthropology, psychology and a number of applied sciences.
- b. These methods are used by people with different (basically scientific) backgrounds, who study one or more aspects of the (dynamical equilibria) ecosystems in which man is involved. Here it is made clear that not only do biological systems belong to the field of study of the human ecologist, but one is also interested in analyzing aspects of man's cultural, psychological, sociological, economical and political behavior.
- c. It is not sufficient to describe and analyze these different aspects from a multi-disciplinary point of view. The human ecologist tries to obtain an integrating, globalizing and holistic view on the different bio-cultural manenvironment interactions.

The program. There is no common program as such for the different universities. However, the common basis of the program is:

- a. Attention is paid to the basic concepts of biosphere structure and processes. These basic principles are well established in ecology and natural sciences.
- b. Moreover specific attention is paid to an introduction to the specific field of human ecology. In particular the links between the concepts originating from the natural sciences on the one hand, with elements in human and applied sciences on the other hand and a description of the specificity of human ecology is discussed.
- c. Different topical courses are implemented. They are chosen on a thematic approach basis. Environmental issues, environmental management and interaction of ecological information are the main organizing principles. One of the relative disadvantages of this approach is that this grouping is somewhat arbitrary and overlapping. On the other hand this issue related approach (much more than the traditional ones, which are based on water, air, soil, mayor forms of land use, etc...) offers much more possibilities to show how human ecologists deal with environmental problems. In a course as health and nutrition e.g., apart from the basic biological concepts and facts, there is need for knowledge concerning the interaction between health and nutrition on the one hand and the environment on the other. Moreover environment not only covers physicochemical aspects, but the area of health and nutrition also clearly demonstrates the environmental effects of poverty, unemployment, poor housing quality, etc. The socio-economical aspects of health and nutrition belong to the basic facts and concepts that are needed in this area. An analogous remark can be made for the field of hazards management. Here the basic scientific knowledge concerning risk assessment and evaluation, technical control methods, and basic knowledge of environmental effects are important but not sole components. Economical, social and psychological factors are as important to be dealt with in the hazards management area.
- d. Most of the variation results from the issues chosen (there is a broad selection possibility) rather than from the way the subjects are treated.

Inside this existing European network, other collaborations are of course welcome. Moreover, an African and an Asiatic network focusing on their specific topics could be created and could be one of the activities of the international university of the bio-environment.

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