The present compilation will aid the specialist active in the fields of water evaluation and judgement of water quality. Well proven, uncomplicated analytical techniques are emphasized. Particular importance is placed on methods for quality control, sampling and evaluation of experimental results. The publication is intended especially for use in training courses and in further education as well as for personnel involved in development aid schemes.

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This practical work summarizes the development of organophosphorus chemistry in topical areas and details the discipline’s current state, providing applications and experimental procedures throughout. Among others, the book examines advances in the mechanistic understanding of the Perkow and related organophosphorus reactions; describes methods for the reduction of quinquevalent to trivalent phosphorus and their applications to standard synthetic procedures; emphasizes the preparation of phosphonates bearing hydroxy, amino, and thiol functions at the α-position relative to the phosphoryl group; reviews the basics of NMR as it applies to the 31P nucleus, considering the use of the latest measurement techniques in solving structural and mechanistic problems; compares the characteristics of polymer-based and monomeric materials; presents recent progress in the design of insecticides and covers their chemical and biological characteristics.

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arenal is a complementary module of the agro-ecological land evaluation methods within MicroLEIS (Microcomputer-based Mediterranean Land Evaluation Information System) software package. It estimates the relative vulnerability of different fields to agrochemical compounds, in terms of soil and groundwater diffuse contamination. Through a microcomputer Basic program, soil factors and related agricultural land features are combined with management system criteria in Mediterranean conditions. ALES system was previously applied to get the computer-captured expert knowledge and data from soil science and related disciplines which deal with agricultural land management. The model, as a simple and qualitative-empirical approach, uses basically input data or “key” parameters from soil survey and other natural resource inventory information.

arenal program is an environmental impact evaluation procedure for sustainable land management. This method and the other evaluation methods included in MicroLEIS compose a “case of useful tools” to be used in order to identify environmentally and economically sustainable agricultural systems. The programme on diskette is provided as an integral part of MicroLEIS Version 3.1 package.

**Request to:** Instituto de Recursos Naturales y Agrobiologia, CSIC, P.O.Box 1052, E-41080 Sevilla, Spain.


Biohistory, as defined in this book, is the study of the biological background to human situations and of the interplay in history and at the present time between cultural and natural processes. After introducing the conceptual framework of the biohistorical approach, the book offers a discussion of the evolution, interdependencies, diversity and sensitivities of living organisms and systems.

The main part of the book is concerned with the impacts of culture-induced human activities on natural systems, from the emergence of humankind in evolution to the present day. The emphasis throughout is on the implications of these impacts for the health and well-being, both of humans themselves and of the ecosystems of the biosphere. Attention is drawn to important
biohistorical principles that help us to understand the human situation today. Emphasis is given to the fact that the biosphere, as a system capable of supporting humanity, will not tolerate indefinitely the present patterns of resource and energy use by human society.

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Today's environment is largely a function of decisions made 10-20 years ago. Concerned about the lag between policy decisions, land use change and environmental improvement, this book identifies policy changes that will stimulate investment for a sustainable future. Written in language that ecologists, economists and policy makers can understand, it argues that much more investment is necessary and shows how this can be achieved whilst maintaining environmental integrity.

By focusing on the incentives that drive investment and resource use, governments can build a platform that will lead to sustainable development. Recognizing three social goals - economic efficiency, ecological integrity and equity - formal constraints to policy formulation are identified, and a set of policy prescriptions is developed.

Guidelines for the design of resource-right systems and macro-economic policies are put forward. Taking a market-friendly approach, the widespread use of a precautionary Principle, a User-Pays Principle and a Beneficiary-Compensates Principle is advocated.

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Conservation and sustainable development are two sides of the same coin. An integrated approach involving these two concepts demands satisfying basic human needs, equity with social justice and maintenance of social, cultural and biological diversity as well as the ecological integrity of the system. This case study is an in-depth analysis of the integrated approach.

The book has three parts. The first one on agroecosystem and village-system function addresses such topics as cropping and yield patterns, energy budgets, ecological and economic efficiencies of various land-use systems, weed potential, soil fertility patterns, and nutrient budgets. The second part on secondary successional patterns and processes is concerned with vegetation dynamics, nutrient cycling, early successional strategies and shrub and tree architecture. Management implications are addressed in the third part.

**Orders to:** The Unesco Press Commercial Services, 7 place de Fontenoy, F-75700 Paris, France; or: Parthenon Publishing, Casterton Hall, Carnforth, Lancs. LA6 2LA, U.K.


This volume examines the effect of ecotone patterning on community diversity and landscape functioning. Ecotones (transition zones between ecosystems) define ecosystem boundaries and may control the flow of energy, material, and organisms between ecosystems. This book explores the role of ecotones in controlling these flows thereby influencing landscape functioning. It synthesizes existing theory, evaluates central hypotheses relative to empirical and simulation data, and puts forth new hypotheses. This volume addresses the following questions:

1. Do ecotones control ecological flows among ecosystems and hence influence landscape dynamics?
2. How do patterns of biodiversity relate to landscape dynamics?
3. Can monitoring of ecotones allow early detection of global change?
4. How can landscape patterns be managed to achieve sustainability?

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