

## Environmental Impact Assessment Methodologies 2nd Edition

This Second Edition of Environmental Impact Assessment Methodologies covers basic concepts and important methodologies. It details the prediction and assessment of impacts on soil and groundwater management, surface water management, biological environment, air environment, the impact of noise on the environment, and of socio-economic and human health impacts. This new edition contains an additional chapter on environmental risk assessment and risk management, a chapter on the application of remote sensing and GIS in EIA and a chapter with EIA case studies. Written clearly and concisely, it presents the fundamentals of EIA and how to apply these in practice. This volume is intended for a global audience of advanced students and practitioners in environmental management and planning. Environmental Impact Assessment (EIA) has become a vital management tool worldwide. EIA is a means of evaluating the likely consequences of a proposed major action which will significantly affect the environment, before that action is taken. This new edition of Wood's key text provides an authoritative, international review of environmental impact assessment, comparing systems used in the UK, USA, the Netherlands, Canada, the Commonwealth of Australia and New Zealand and South Africa.

This comprehensive treatment of environmental impact assessment (EIA) provides an authoritative contemporary review of theory and practice over the past ten years. EIA is viewed as both science and art, reflecting the concern both with technical aspects of appraisal and the effects of EIA on the decision-making process. Adopted in many countries, with different degrees of enthusiasm, since its inception in the early 1970's, EIA is established as a major procedure for assessing the environmental implications of legislation, the implementation of policy and plans and the initiation of development projects. EIA is increasingly an essential part of environmental management

The second edition of the Impact Evaluation in Practice handbook is a comprehensive and accessible introduction to impact evaluation for policy makers and development practitioners. First published in 2011, it has been used widely across the development and academic communities. The book incorporates real-world examples to present practical guidelines for designing and implementing impact evaluations. Readers will gain an understanding of impact evaluations and the best ways to use them to design evidence-based policies and programs. The updated version covers the newest techniques for evaluating programs and includes state-of-the-art implementation advice, as well as an expanded set of examples and case studies that draw on recent development challenges. It also includes new material on research ethics and partnerships to conduct impact evaluation. The handbook is divided into four sections: Part One discusses what to evaluate and why; Part Two presents the main impact evaluation methods; Part Three addresses how to manage impact evaluations; Part Four reviews impact evaluation sampling and data collection. Case studies illustrate different applications of impact evaluations. The book links to complementary instructional material available online, including an applied case as well as questions and answers. The updated second edition will be a valuable resource for the international development community, universities, and policy makers looking to build better evidence around what works in development.

The earthquake and tsunami of 26 December 2004 devastated coastal communities in 12 countries in the Indian Ocean region, with Aceh Province, Sumatra, Indonesia the hardest hit. This report sets out the findings of the UNEP Asian Tsunami Disaster Task Force, set up to help national environmental authorities in the affected countries with their assessment and response to the environmental impact of the disaster. It summarises the interim findings from ongoing assessments in Indonesia, the Maldives, the Seychelles, Somalia, Sri Lanka, Thailand and Yemen, including evidence of environmental concerns that require immediate action. The short term clean-up programme must be coupled with policy development and strengthened institutions, and the recovery agenda will require the clean-up of contamination hotspots, and rehabilitation of critical livelihoods and ecosystems.

The purpose of this book is to collect a high-quality selection of contemporary research articles on life cycle perspectives when we want to assess and predict the sustainability of solutions that lie in front of us. The book focuses on methodologies and tools used for life cycle sustainability management covering environmental, social, and economic aspects in business practices, including modeling and simulation-based approaches. In particular, the book aims to collect research, applications, and case studies in the field of environmental analysis and industrial ecology, with a focus on how to assess contributions to increase resource efficiency and reduce environmental impact on production and service systems in a life cycle perspective (raw material extraction, production, use, and end-of-life management). This book is intended to be a useful resource for anyone who deals with this issue.

Offers a comprehensive coverage of the methods used in environmental impact assessment, which is now firmly established as an obligatory procedure in proposing or launching any development project with possible impacts on the environment.

This comprehensive guide provides readers with strategies for teaching Environmental Impact Assessment (EIA) in all its forms, whether through formal university programmes or in the form of short courses offered to professionals and practitioners.

This work presents an accessible, comparative, step-by-step review of international EIA procedures and practice.

The Joint Research Centre of the European Communities, and in particular the Institute for Systems Engineering and Informatics (ISEI) at Ispra, have well established competences in risk analysis, uncertainty analysis and statistical data treatment. More recently, work on Environmental Impact Assessment (EIA), particularly on environmental indicators and indices and on a "system engineering approach" to EIA, has started. This approach attempts to move towards "unified" procedures to investigate normal operation and accidental risks; these are problems concerned within both the EIA Directive 85/337/EEC and the "Seveso" Directive 82/1501/EEC. In May 1990, a Workshop on "Indicators and Indices for Environmental Impact Assessment and Risk Analysis" was organized at the JRC, Ispra. The Proceedings of this Workshop (Report EUR 13060 EN, 1990) are a reference document in the field. This book is based on the papers presented at the Eurocourse EIA/91 held at the JRC, Ispra in the Autumn of 1991. This was the first course on Environmental Impact Assessment given in the JRC's Eurocourse series at Ispra. It was a success because of both the high calibre of the lecturers and the well informed and numerous participants. The work focuses on the broader aspects of EIA, namely: legislation, indicators and indices, approaches and techniques, economic and sociological implications.

The basis of a training course of Prin. of Environmental Impact Assessment (EIA). Designed for policy makers from gov't., academia, and environmental and industrial org. Chapters: what is EIA and why is it important: how may EIA programs evolve in different cultures and countries?; the basis for EIAs; EIA laws and require.; circumstances

requiring EIAs; key considerations in the EIA process; steps in the EIA process; methods for forecasting and assessing impacts; writing, reviewing and evaluating EIA reports; building an effective EIA program; assess. for small projects and contaminated sites; lessons learned from other EIA prog.; info. sources; and model EIA checklists for scoping and impact assess.

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Due to rapid economic growth and enhancing employment opportunities, manufacturing and infrastructural projects play a vital role, especially in developing nations. Even though voluminous literature is available on environmental impact assessment (EIA), guidelines on conducting good quality assessments are lacking. It may be recognized that good EIA reports can only facilitate government decision making with sustainability considerations. The book is the result of the review of more than 150 EIA reports and the analysis of shortcomings observed by the author. It will serve to bridge the gap in the limited understanding of EIA concepts by practitioners and practical aspects by fresh graduates. The book describes the output and salient features of a good quality EIA report and case studies to facilitate professionals preparing and appraising these reports. It will be of immense use to environment ministries, EIA practitioners, EIA appraisal authorities, project proponents, academics, and NGOs, especially in the emerging economies.

First published in 1988. This book has grown from a research workshop that began at the University of North Carolina under the direction of Maynard Hufschmidt. Professor Hufschmidt's long-held interest in the incorporation of environmental and other social values into benefit-cost analysis led to a research project entitled, "The Role of Environmental Indicators in Water Resource Planning and Policy Development," funded by the U.S. Department of the Interior. That project brought together the authors of this volume for a two-year period during which the groundwork for this book was laid.

This book challenges the prevailing assumption that Environmental Impact Assessment (EIA) should be structured around a unitary EIA process. The book begins by identifying, through a scenario, eight recurrent problems in EIA practice. The characteristics of multiple variations of conventional EIA processes, at both the regulatory and applied levels, are then presented. The residual problems that remain after the conventional processes are described and assessed providing the springboard for a description and analysis of eight alternative EIA processes.

At the heart of environmental protection is risk assessment: the likelihood of pollution from accidents; the likelihood of problems from normal and abnormal operation of industrial processes; the likely impacts associated with new synthetic chemicals; and so on. Currently, risk assessment has been very much in the news--the risks from BSE and E. coli, and the public perception of risks from nuclear waste, etc. This new publication explains how scientific methodologies are used to assess risk from human activities and the resultant objects and wastes, on people and the environment. Understanding such risks supplies crucial information--to frame legislation, manage major habitats, businesses and industries, and create development programmes. Unique in combining the science of risk assessment with the development of management strategies. Covers science and social science (politics, economics, psychology) aspects. Very timely - risk assessment lies at the heart of decisionmaking in various topical environmental questions (BSE, Brent Spar, nuclear waste).

Written by experts, this text deals with how environmental impact assessment should be carried out for specific environmental components such as air and water.

Introduction to Environmental Impact Assessment provides students and practitioners with a clearly structured overview of the subject, as well as critical analysis and support for further studies. Written by three authors with extensive research, training and practical experience in EIA (Environmental Impact Assessment), the book covers the latest EIA legislation, guidance and good practice. This edition updates essential information on: • the evolving nature of EIA • experience of the implementation of the changing EU and UK EIA procedures • best practice in the EIA process • other key issues in the process, explored in an extended case studies section • comparative EIA systems worldwide • development of SEA/SA legislation and practice • prospects for the future of EIA. Although the book's focus is on the UK and the EU, the principles and techniques it describes are applicable internationally. With colour images and a new modern design, the book provides an essential introduction to EIA for undergraduate and postgraduate students on planning courses, as well as those studying environmental management and policy, environmental sciences, geography and the built environment. Planners, developers, community groups and decision-makers in government and business will also welcome the book as an effective way to get to grips with this important and evolving subject that affects a wide range of development projects.

Very few books exist on how EIA should be carried out for specific environmental components. Whereas its sister volume, Introduction to environmental impact assessment, concentrates on the EIA principles, procedures and prospects, Methods of environmental impact assessment concentrates on the methods applied for the environmental components. It does not attempt to make specialists of its readers, but aims to foster better communication between experts, a better understanding of how EIAs should be carried out, and better EIA-related decisions. Taken together, the two books provide a comprehensive coverage of the theory and practice of EIA.

Environmental Impact Assessment (EIA) is a significant, anticipatory, environmental management tool. International debate focuses on its enhancement to meet the challenges of sustainable development as well as demands for scientifically robust integrated and participative decision-making. This handbook hopes to improve practices by contributing an international, multidisciplinary, ready-reference source to this debate. Volume I addresses EIA principles, process and methods. Part 1 maps the EIA process and its impact on decision. It positions EIA in the context of sustainable development and relative to other decision tools, including economic valuation. It also positions strategic environmental

assessment (SEA) in a similar way. Part 2 addresses the elements of the EIA process and significant impact assessment topics (air, water, ecological, social, risk, landscape and visual) not only in terms of good practice but also methodological evolution. This volume concludes by addressing cumulative impact assessment and SEA methods. Volume II provides a unique consideration for EIA implementation and practice in Europe, Africa, the Far East, South America and North America. It uses a number of project types to provide 'how to do' guidance and addresses practice in policy and plan assessment. This book should be read by legislators, decision-makers, economists, developers, industrial managers and consultants involved in this significant field.

The United States produces 25% of the world's wood output, and wood supports a major segment of the U.S. industrial base. Trees provide fiber, resins, oils, pulp, food, paper, pharmaceuticals, fuel, many products used in home construction, and numerous other products. The use of wood as a raw material must consider production efficiencies and natural resource conservation as well as efficient, profitable use of solid wood, its residues, and by-products. To better assess the use of wood as a raw material, the U.S. Department of Agriculture's Forest Service asked the National Research Council's Board on Agriculture to bring together experts to review the analytical techniques used to follow the life-cycle of wood production--from tree to product--and assess the environmental impacts. This resulting book provides a base of current knowledge, identifying what data are lacking, where future efforts should be focused, and what is known about the methodologies used to assess environmental impacts. The book also focuses on national and international efforts to develop integrated environmental, economic, and energy accounting methodologies.

Reporting on recent developments in the field of impact assessment, this volume critically analyzes such key areas of assessment as technology, demography, economy, risk, ecology, health, development and climate. Each area is related back to impact assessment as an overall process.

Shows how to navigate federal, state, and local requirements

Impact Assessment is becoming part and parcel of an increasing number of development proposals in the UK and Europe. As the practice of Impact Assessment develops it becomes more standardized and good practice starts to be defined. However, the quality of Impact Assessment is still far from satisfactory. Expert Systems and GIS for Impact Assessment

Through twenty-one chapters that examine current debates, recent cases, and ongoing developments in Canadian EIA, Environmental Impact Assessment reflects the diversity of issues EIA processes now address.

This book presents a comprehensive debate and analysis of existing Territorial Impact Assessment (TIA) methodologies, designed under the auspices of the ESPON programme since the mid-2000s. This is intended to serve as a TIA handbook for the reader, to better understand the main differences, advantages and shortcomings of each presented TIA methodology. It also serves as a manual for professors and students in the field of policy evaluation, and territorial analysis, as it presents concrete examples of the implementation of each TIA methodology, their formulas and intrinsic evaluation elements. The purpose of policy evaluation methodologies is to check the main effects of private and public investments, in order to report back to policymakers and citizens on their efficiency and effectiveness. Over the past decades, both in Europe and worldwide, there has been an increasingly awareness of the need to implement/reinforce policy evaluation practices, at all territorial levels. At the same time, it has become widely accepted that many policy interventions produce impacts in more than one dimensions of territorial development. In this context, the use of a holistic and territorial approach for policy impact assessment evaluation has rapidly been adopted by the European Commission as a mainstream policy evaluation procedure.

This work has been designed as a primary teaching text in environmental impact assessment (EIA). It focuses on procedural training, with an emphasis on good principles and practice and provides a number of case studies from all over the globe.

This book charts the history of the application of science in environmental impact assessment (EIA) and provides a conceptual and technical overview of scientific developments associated with EIA since its inception in the early 1970s. The Application of Science in Environmental Impact Assessment begins by defining an appropriate role for science in EIA. From here it goes on to reflect more closely on empirical and deductive biophysical sciences as they relate to well-known stages of the generic EIA process and explores whether scientific theory and practice are at their vanguard in EIA and related applications. Throughout the book the authors reflect on biophysical science as it applies to stages of the EIA process and also consider debates surrounding the role of science as it relates to political and administrative dimensions of EIA. Based on this review, the book concludes that improvements to the quality of science in EIA will rely on the adoption of stronger participatory and collaborative working arrangements. Covering key topics including foundational scientific guidance materials; frameworks for implementing science amid conflict and uncertainty; and emerging ecological concepts, this book will be of great interest to students, scholars and practitioners of EIA.

Environmental Impact Assessment for Developing Countries is based on selected papers presented at the 1991 International Conference on Environment Impact Assessment, held at New Delhi, India. This work is organized into four parts encompassing 18 chapters. Part I provides an overview and general considerations of balance environmental impact assessment (EIA), with particular emphasis in the developing countries in Asia. Part II highlights various EIA performed in different industry, including chemical plants, coal mining, thermal and power plant, and solid waste disposal. This part also describes the simulation modeling in EIA. Part III discusses the national experiences in EIA. This part elaborates on EIA of development projects in Netherlands, Sweden, Philippines, Tanzania, Canada, India, and United Kingdom. Part IV provides a summary and recommendations. This book will prove useful to environmental and research scientists.

