Second edition

A Directory of Impact Assessment Guidelines

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IIED WRI IUCN

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Part 1

PART ONE

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PREFACE

Preface

The purpose and scope of this directory

The Directory of Impact Assessment Guidelines aims to improve awareness of, and access to, existing impact assessment guidelines. It is directed at planners, decision-makers, practitioners and institutions with a mandate or professional interest in promoting, advising or managing impact assessment. It updates and expands the first edition published in 1995, and contains over 800 bibliographic references and abstracts for more than 90 countries and 45 international development agencies. An important addition to this edition is the inclusion of country status reports, which summarise the legislative and administrative context within which the guidelines operate. These are included for all countries where we have been able to find information (within the resource constraints of this project) and bring the total number of countries included in the Directory to over 140.

As interest in impact assessment has grown, so the volume of impact assessment guidelines has increased dramatically to assist decision- and policy-makers, planners and impact assessment practitioners. Most OECD countries, and a growing number of developing countries, have prepared guidelines for the impact assessment of projects. In addition, as impact assessment processes have evolved and become increasingly complex, the number of agencies involved in impact assessment within countries has increased, with many of these producing their own guidelines. Almost all bilateral, multilateral and United Nations agencies have also prepared internal guidelines.

The overwhelming majority of these documents are in forms that are not necessarily available to people involved in impact assessment, particularly those in developing countries where considerable efforts are being made to promote EIA. This presents two problems. Firstly, and most importantly, decision-makers, planners and practitioners in need of guidance may either be unaware of the existence of such literature, or cannot gain access to it. This may pose a barrier to effective impact assessment, particularly for developing countries. Secondly, poor awareness of existing literature sources amongst 'development professionals' has led to the duplication of work, resulting in the wastage of scarce human and financial resources.

Part I comprises four chapters. The first is an updated general introduction to impact assessment and guidelines. The other three are new for this edition and address areas of particular interest and current debate: the quality of EIA guidelines, their use and circumnavigation; stakeholder involvement in the EIA process; and strategic environmental assessment. Part II contains the citations and abstracts of the Guidelines themselves, and the country status reports, organised by country and by agency. The Matrix at the beginning of Part II provides a guide to sectoral guidelines cited in the Country and Agency sections, and indicates where these can be found.

Impact assessment and guidelines

In this Directory, '*impact assessment*' is used as an umbrella term for a range of techniques including:

- **environmental impact assessment (EIA)**
- **cumulative effects assessment**
- **environmental health impact assessment (EHIA)**
- **risk assessment**
- **social impact assessment (SIA)**
- **strategic environmental assessment (SEA)**

There is a great deal of guidance material designed to assist with environmental management in general - such as pollution control guidelines, and those for environmental auditing and the use of environmental management systems. Only those documents that contain guidance specific to the assessment of impacts have been included in this Directory. Whilst the distinction has been a necessary one, it has often resulted in difficult and somewhat artificial choices being made.

Three functionally different categories of guidelines are recognised in this Directory:

a. National guidelines

National guidelines provide information on implementing national impact assessment (usually EIA) frameworks. In effect, they provide information on the basic questions of "... who does what, to whom, how and when?" (Bisset, 1995). Such guidelines complement and supplement the "bare" legal requirements and provide guidance on the initiation of development activities, their design and appraisal, authorisation and subsequent implementation and management. They are designed to ensure that all participants in an impact assessment system understand their roles, and that laws or regulations are interpreted correctly and consistently.

b. Donor guidelines

These provide guidance for recipient countries to meet environmental standards in project planning and implementation. They also establish "best practice" procedures for agency staff to follow in project planning, implementation and appraisal. Most United Nations, multilateral and bilateral agencies have compiled guidelines for their development activities.

c. Sectoral guidelines

A considerable proportion of the documents described in this directory provide guidance on the assessment of different categories of projects, such as irrigation, power generation and mining. Many of these guidelines are produced by national governments and by donor agencies. To avoid duplication these are cross-referenced by sector in the Matrix on pages [numbers]. Sectoral guidelines not prepared by national or donor agencies are cited at the end of Part II.

The literature search for guidelines

The search and abstracting for the Latin America section were undertaken by IIED-America Latina in Argentina. The remainder of the work was undertaken by IIED in London between 1996 and 1998.

In carrying out the search for the guidelines, we sought to contact the relevant officers of national government agencies, and other organisations known to have an interest in promoting improved environmental management practices. This process was supplemented by:

- **database searches - in some cases commissioned from organisations with extensive collections of environmental management information**
- **internet searches**
- **appeals for information using email, website notices and listserver mechanisms**
- **information in journals and other impact assessment literature**

Whilst the process has been exhaustive, we acknowledge that gaps still remain, especially where guidelines have been prepared very recently.

For the national guidelines, the focus has been on government and statutory agency documents at the national level - we have not been able to target the numerous guidelines produced at sub-national levels e.g. state, province, territory, county, metropolitan etc. Where possible, however, the Directory includes information on where to obtain further information.

Statutory guidelines embodied within national environmental legislation are generally not included in this directory. They are often integrated with, or inseparable from, general environmental legislation, and can be extremely context-specific. However, they have been included where this is the only information available, or where the legislation itself includes detailed guidance. There are many other good sources for those seeking information on legislation, for example the IUCN Environmental Law Centre in Bonn. We also understand that the United Nations Environment Programme is currently preparing a sourcebook of information on environmental management, which will include a section on EIA legislation for developed and developing countries.

Finally, we have included abstracts only for documents where we have been able to acquire copies- no document has been abstracted using secondary information.

How to Find Guidelines in the Directory

- Use the Contents pages to find National and Agency guidelines
- Use the Matrix at the beginning of Part II to find Sectoral guidelines

Obtaining copies of the guidelines

Each citation includes an address for the publisher or distributor. Where several citations are listed for the same agency, the contact details are included after the last citation. Reprints of journal articles can be obtained through standard procedures, which may vary from country to country.

Subject to copyright restrictions, copies of guidelines may also be obtained through the Information Service operated by IIED's Resource Centre (see below).

Part II of the Directory is available as a searchable database on diskette, which can be purchased from the Resource Centre. We also intend to include this database on the IIED Website in due course.

About the Resource Centre at IIED

Most of the documents cited in this Directory are held in the Impact Assessment (IA) Guidelines collection in the IIED Resource Centre, and can be accessed on a reference basis by visiting the Resource Centre in London (but please make an appointment first). Where copyright restrictions are not imposed by the publisher, photocopies of documents can also be supplied at cost price. Contact:

Resource Centre
IIED, 3 Endsleigh Street
London WC1H 0DD
United Kingdom
Tel: +44 171 388 2117
Fax: +44 171 388 2826
Email: resource.centre@iied.org

As well as IA Guidelines, the Resource Centre collection includes three other categories of documents:

- National conservation strategies, environmental strategies, environmental profiles and action plans, sustainable development strategies and related documents, as listed in the Interaise World Directories of Country Environmental Studies (1990,1993 &1996)
- Participatory Learning & Action (PLA) (also available as a database on diskette)
- Community Wildlife Management (CWM)

PLA and CWM collections can now be searched on-line at the Resource Centre website:
http://www.iied.org/resource

Chapter 1

Introduction to Impact Assessment and Guidelines

This chapter provides a general background to impact assessment at the project level and is intended as a guide for readers who are new to impact assessment. For 'cutting edge' reviews on impact assessment, there are various excellent recent texts, such as Sadler (1995); Vanclay and Bronstein (1997), Canter and Sadler (1997) and Wood (1995).

The changing role of Impact Assessment

All development intrinsically involves 'trade-offs' between potentially conflicting goals, such as between fisheries and agricultural production, or economic growth and conservation. The challenge is to *optimise* these trade-offs between and across the three systems basic to development - the ecological system, the economic system and the social system (Barbier, 1987; Holmberg *et al*, 1991). Impact assessment is one of several tools that can be used to improve the way in which trade-offs are made. The faith that the world community now places in impact assessment is reflected in its widespread inclusion in national and international legislation and declarations, and in donor policy and practice. Principle 17 of the Rio Declaration on Environment and Development, agreed at the 1992 United Nations Conference on Environment and Development, states:

> *"Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority".*

Impact assessment has evolved considerably since its introduction as environmental impact assessment (EIA) in the USA in 1969. Yet by the end of the 1970s, it was clear that more attention was required on the effectiveness, efficacy and relevance of impact assessment. This attention resulted, in the 1980s, in the emergence of several new 'offshoot' techniques such as social and cumulative impact assessment , risk analysis, and more recently still, biodiversity impact assessment. Whilst these developments focused on the science and technical aspects of EIA, it was also clear that other factors, such as resource availability and political will, were constraining EIA effectiveness. For example, Smith (1993) notes that:

> *"Improving the science of environmental analysis per se does nothing to reform the political processes of resource management that govern how the information is utilised. An alternative response is warranted: one that necessitates redefining the role of impact assessment."*

Smith's proposed redefinition of the role of impact assessment was based on the premises that it should integrate the "science of environmental analysis with the politics of resource management", and pay greater attention to the institutional arrangements for decision-making central to the role played by impact assessment in resource management.

There was also a realisation that, to be effective, environmental assessment needed to be more proactive and address the plans, programmes and policies which defined individual projects. Strategic environmental assessment has developed from this realisation (see Chapter 4). However, one of the problems of strategic environmental assessment is that it raises fundamental questions of governance regarding the formulation and implementation of policy and, perhaps for this reason, its adoption (even amongst developed countries) has been patchy and slow.

Clearly then, new challenges still face impact assessment, and particularly in countries where governance, ineffective institutional frameworks and shortages of financial and human resources, may render conventional approaches to impact assessment inappropriate.

What is impact assessment?

Impact assessment is a process to improve decision-making and to ensure that the development options under consideration are environmentally and socially sound and sustainable. It is concerned with identifying, predicting and evaluating the foreseeable impacts, both beneficial and adverse, of public and

private (development) activities, alternatives and mitigating measures, and aims to eliminate or minimise negative impacts and optimise positive impacts. Impact assessment now includes a broad suite of different techniques, including environmental impact assessment (EIA), social impact assessment (SIA), cumulative effects assessment (CEA), environmental health impact assessment (EHIA), risk assessment, strategic environmental assessment (SEA) and biodiversity impact assessment (BIA).

Impact assessment relates to a process rather than a particular activity. At the project level, it should be seen as an integral part of the project cycle. It provides information on the environmental, social and economic effects of proposed activities and is a mechanism by which information can be presented clearly and systematically to decision-makers. To achieve these objectives, impact assessment needs to be process-oriented, multi-disciplinary and interactive and should result in a better understanding of the linkages between ecological, social, economic and political systems. Increasingly, impact assessment is being viewed as a key mechanism for involving different stakeholder groups in the development process (see Chapter 3).

Why is impact assessment important?

Impact assessment is an important management tool for improving the long-term viability of many projects, and its use can help to avoid mistakes that can be expensive and damaging in environmental, social, and/or economic terms. Usually, the cost of undertaking an impact assessment process accounts for only a small proportion of total project costs - often less than 1% of overall project costs. Table 1 shows the costs of EIA represented as a proportion of total project costs in four projects funded by the World Bank.

Proponents of impact assessment argue that, in many cases, impact assessment can bring substantial savings to the project, because it provides an opportunity to learn from experience and thus help to avoid costly mistakes and accidents. Impact assessment, it is argued, can also help improve the way in which resources are managed before, during and after the implementation of a project.

Who prepares the impact assessment statement?

Stakeholder involvement in impact assessment is dealt with in further detail in Chapter 3. In terms of preparation of the Impact assessment statement, responsibility usually rests with the project proponent. Often, impact statements are prepared with the help of external consultants or institutions. In some cases, an independent commission is responsible for ensuring quality control throughout the implementation of the impact assessment, for setting appropriate terms of reference and/or for the external review of the impact statement (IS). In most cases, an impact assessment will require a multidisciplinary team, particularly where scoping exercises indicate the existence of multiple or complex issues. Each impact assessment team is usually coordinated by a team manager.

The agency responsible for receiving the impact assessment, and taking any subsequent action, will usually indicate how the study is to be carried out and how the results should be used in the decision-making process. The institutional structures and agencies responsible for the management and implementation of impact assessment vary amongst countries, reflecting different political, economic and social priorities. Mostly they include local government agencies, NGOs, research institutions and affected groups, feeding into a specialist environmental unit within the implementing agency.

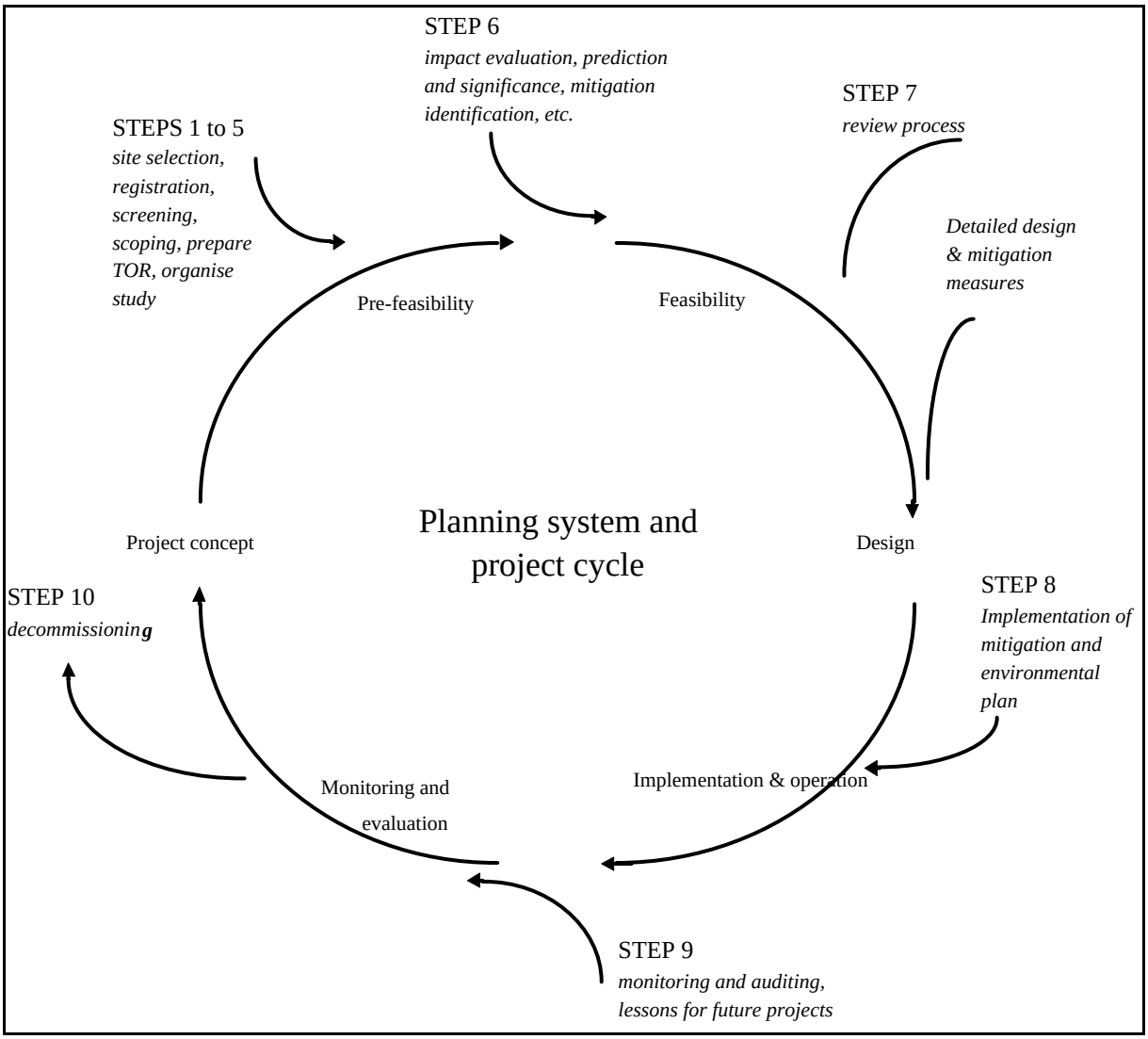
When should the impact assessment be undertaken?

The impact assessment needs to be managed so that it provides information to decision-makers at every stage of the project planning cycle (see Figure 1). It should be initiated as early as possible and should also include a provision to cover the monitoring of project implementation and operation, and eventually an audit of the project. In some cases, it will also be important to include project decommissioning within the impact assessment.

Table 1: Costs of EIA as a proportion of total project costs for large-scale development projects in Africa
(source: Mercier, 1995)

Type of project	Cost of EIA (000, US$)	Project cost (000, US$)	% of total project costs
Thermal power generation, Ghana	250	400,000	0.06
Forest management, Tanzania	131	26,000	0.50
Energy sector development, Kenya	510	1,000,000	0.05
Energy sector development, Malawi	180	231,300	0.08

Figure 1: Impact assessment and the project cycle



The Environmental Impact Assessment process

This section describes the main elements of a "typical" EIA process, although this can vary according to the context and type of a proposed project. Figure 2 outlines the generic stages of the EIA process. Many of the steps described are also common to other forms of impact assessment. Not every development project requires each element of the EIA process. For a major project, an EIA may take considerable time, manpower and resources. The first four stages of the EIA process, *screening, the assessment of alternatives, preliminary assessment* **and** *scoping,* **are therefore extremely important in order to determine the extent and focus of the impact assessment required.**

Screening

Screening helps to focus resources on those projects most likely to have significant impacts, those where the impacts are uncertain and those where environmental management input is likely to be required. Requirements for screening are normally addressed in EIA legislation and/or official guidelines, and is usually done by an EIA Authority. Guidance to assist with the screening process may take several forms: screening criteria such as size, cost, or location of the project; lists of projects which do or do not usually require an EIA; and checklists of project and environment types that require further investigation. The types of projects which generally require an EIA include: :

- **projects which involve a significant change in renewable resource use;**

- **projects which involve a substantial change in farming or fisheries practice;**
- **water resource projects, including dams, irrigation, watershed development;**
- **infrastructure projects;**
- **industrial projects;**
- **extractive industries; and**
- **waste management and disposal.**

The assessment of alternatives

Assessing different project alternatives is a much-neglected, yet vital component of the EIA process. Different project alternatives have varying characteristics, but they can usually be placed into one, or a combination, of the categories listed below:

- **demand alternatives (e.g. using energy more efficiently rather than building more generating capacity);**
- **activity alternatives (e.g. providing public transport rather than increasing road capacity);**
- **locational alternatives, either for the entire proposal or for components (e.g. different routing options for a road or power transmission line; alternative locations for an industrial site);**
- **process and design alternatives (e.g., use of waste-minimising or energy efficient technology, use of different irrigation scheme designs);**
- **scheduling alternatives (e.g. careful timing of water discharges);**
- **input alternatives (e.g. alternative fuel types for power generation; use of pulp from recycled sources, rather than from virgin fibre); and**
- **the 'no project' alternative - i.e. what would happen if the project wasn't implemented at all.**

Preliminary assessment

If the screening process suggests that further assessment is required, or if there is uncertainty about the nature of potential environmental impacts, the next stage is for the proponent to undertake a preliminary assessment. This may employ rapid assessment techniques but should be detailed enough to:

- **identify key impacts on the local environment;**
- **describe the magnitude and significance of the impacts; and**
- **evaluate the importance of the impacts for decision makers.**

Often a preliminary assessment will require the proponent to undertake a number of components of the impact assessment process (see below) at a superficial level. If the screening process or the preliminary assessment indicates that an impact assessment is required, the first task of the study team should be to scope the impact assessment.

Scoping

Scoping is a crucial part of the impact assessment process and involves the identification and 'narrowing-down' of potential environmental impacts to ensure that the assessment focuses on the key issues for decision-making. It also offers a crucial opportunity to involve local people in determining the scope and focus of the impact assessment. In most circumstances, scoping is undertaken by the assessment team, but inherent problems have been noted with this approach since the study team might be influenced by preference, knowledge and biases. Some guidelines have attempted to address this through introducing a more structured and objective approach to the scoping process, but it is clear that problems can still remain. For example, the scoping process can provide an opportunity for vested interests to influence the extent and focus of subsequent stages of the impact assessment procedure. In some countries, such as the Netherlands, it is mandatory to involve an independent EIA commission in the process.

One of the principal functions of scoping is to guide the development of appropriate terms of reference for the EIA process. It also provides a key opportunity to engage with different stakeholders interests (see Chapter 3) to ensure their early involvement in the EIA process as a whole, and to make sure that different stakeholder needs and interests are addressed throughout the rest of the process. The scoping exercise normally indicates detailed information needs and can also be used to review alternative options for project design and siting. Baseline studies can be undertaken to determine the characteristics of the environment and to provide guidelines against which the severity of predicted impacts may be assessed.

The environmental impact assessment study

Each study should ensure that it attempts to answer such questions as :

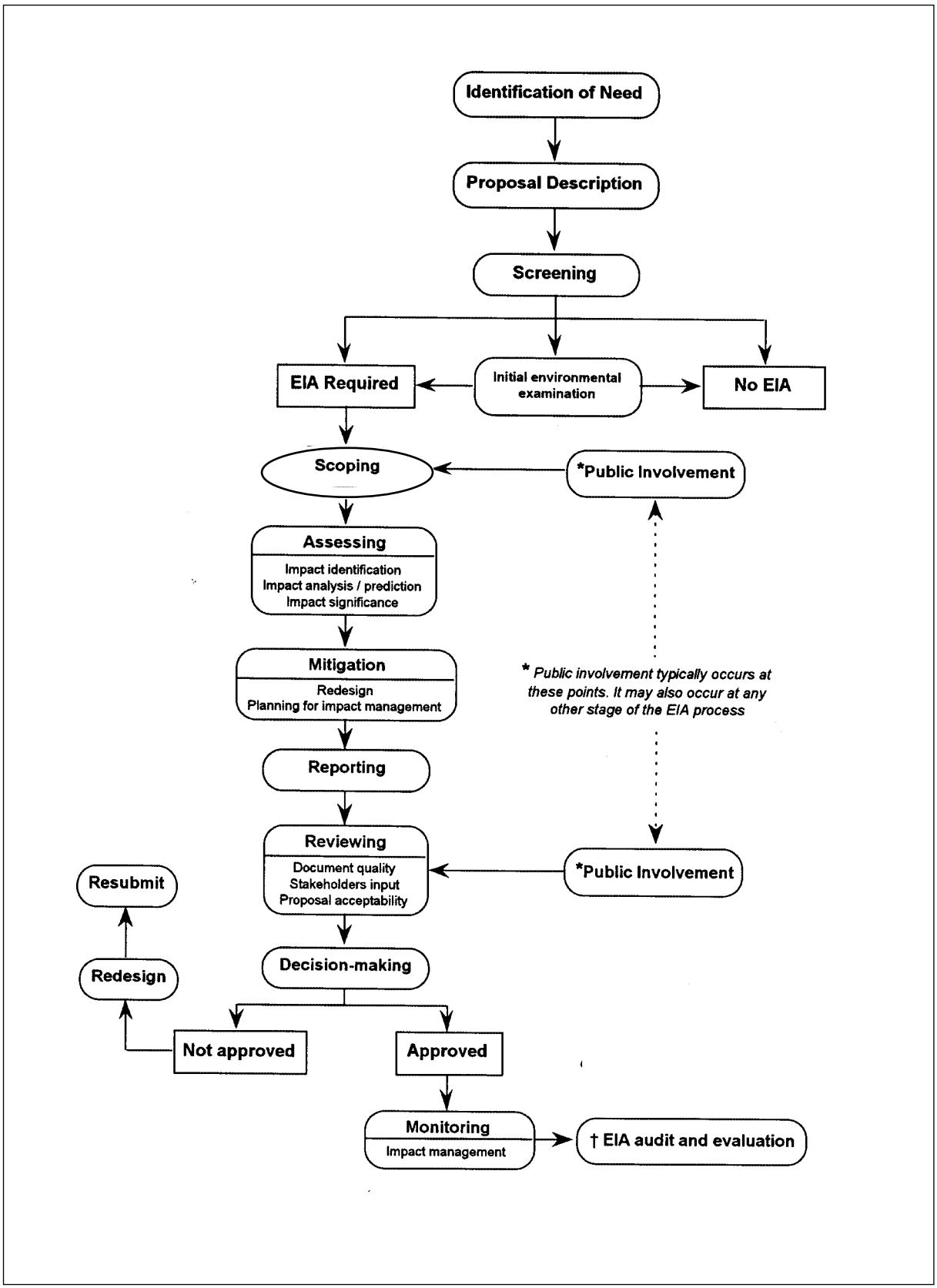
- **what impacts will occur as a result of the project?**
- **what will be the extent, magnitude and duration of the impacts ?**
- **what will be the significance of these impacts within local, national and international contexts?**
- **what can be done to mitigate, reduce or avoid altogether the adverse impacts, or optimise positive impacts ?**

The following steps are undertaken as components of most impact assessment procedures:

Identification

Screening, preliminary assessment and scoping all go some way to addressing the first question - what impacts will occur as a result of the project ? Once

Figure 2: Stages in The EIA Process (after UNEP, 1996)



these steps are completed, the key impacts should have been identified, and the study focused on the most important issues. The EIA can then proceed to identify those impacts that should be investigated in detail. A variety of methods may be used including checklists, questionnaires, matrices, overlays, networks, models and simulations. One of the most simple methods is to compile a list of key impacts that were identified in the impact assessments of other similar projects and compare them to the proposed project.

Examination of alternatives

Consideration should include not only alternative sites for the project, where practicable, but also alternative designs and operating processes, and the environmental implications of each. Even if the alternatives are rejected at this stage, they may be reconsidered should unexpected adverse impacts be identified under the original proposal.

Prediction

Predicting the extent and magnitude of the impacts is perhaps the most difficult part of the study. Prediction attempts to determine the cause and effect of the impacts, although often these are not well-understood. Prediction relies on data and analysis from a variety of sources - physical, biological and sociological. The quality and availability of data often imposes an important constraint on the accuracy and reliability of predictions. In many cases, good quality data are simply not available. In such cases, other more qualitative techniques will need to be used. In some situations, it may not be possible to establish cause-and-effect relationships; and in others, unanticipated factors may also affect the context of the project or the state of the local environment during or after implementation. Prediction, therefore, has to recognise (and not conceal) the uncertainties inherent in the prediction process. In some cases, it is valuable to undertake a sensitivity analysis by testing predictions against different future scenarios, including those identified by risk assessment (see below).

Evaluation of significance

This phase of the EIA process should attempt to determine the significance of impacts, a task that is often subjective and value-laden. For example, an impact at a national level might be regarded as insignificant, but could be highly significant at a local level. The context of the evaluation must therefore be considered at each stage. Various quantitative approaches to assessing the significance of impacts have been developed to assist in quantifying and rating relative impacts (see Canter 1995). However, they tend to rely on the availability of good scientific data. More tangible considerations might include:

- existing legislation, regulations or accepted standards;
- protected status of particular areas or ecosystems, landscapes, and species;
- government policy objectives; and
- acceptability to potentially affected people and the general public.

There are numerous examples of guidelines and standards throughout this directory which may provide a useful basis for countries where standards have not yet been developed. In the absence of the use of standards, the EIA study team will need to define criteria based on professional expertise and experience.

Mitigation

If the evaluation process concludes that the impacts are significant, the next stage of the EIA study is to propose measures to prevent, reduce or rectify the impact(s). Such measures should be identified or negotiated as early as possible in the project cycle process, so that mitigation activities can be built into project design. If none of these measures are appropriate, then a fourth option is to provide compensation. These measures are ideally drawn together into a coherent 'environmental management plan' which itself should be costed into the economic analysis of a particular project. Mitigation measures can include the following:

- selection of alternative sites, processes, designs, raw materials, etc.;
- installation of pollution control or waste treatment technologies;
- use of landscaping, architectural restrictions; and
- provision of monetary compensation, restoration, and off-site community programmes.

Alternative measures can be compared and costed, and a package proposed combining a number of these. The implications of the different alternatives should be made clear to assist decision-makers in their choice of options.

Documentation

The conclusions and recommendations of the EIA process need to be communicated effectively to local people (particularly those that may be affected by a project), interest groups and decision-makers. Conventionally, this is achieved through the compilation of an environmental impact statement (EIS), although it is becoming increasingly recognised that it might be more appropriate to supplement the EIS with alternative communication methods, such as

local language video, presentations, local radio programmes, meetings and workshops. Each of these have particular importance in areas where literacy, social or cultural barriers prevent local people accessing the EIS. The EIS should be a key element of the decision-making process and the summary of the EIS should therefore focus on issues most relevant to decision-making. The presentation of the statement is of utmost importance and should be shaped for the target audience. For example, summaries should be prepared in local languages where these differ from that used in the main statement. It is vital to remember that the EIS does not constitute the end of the impact assessment process. Implementation of mitigation activities must still continue as should activities such as monitoring, evaluation and auditing.

Review

The purpose of an EIA review process is to assess the adequacy of the assessment for decision-making and to consider its implications for project implementation. A formal review procedure for EIA can contribute considerably to the success of the process. In some countries, such as the Netherlands, an independent commission provides a review of each impact assessment. The Organisation for Economic Co-operation and Development (OECD) includes guidance for internal and external review in its 'good practice guidelines' (OECD, 1992), and defines the purpose of the (external) review process as "...to obtain an impartial judgement of the particular, and often conflicting, interests of various parties involved and to avoid unnecessary costs and delays". Guidelines to assist in the review of the quality of EIA, and to provide a framework for coherence and consistency of review quality, have now been prepared for a number of countries (eg. see Lee and Colley, 1990).

Monitoring

The purpose of monitoring is to assess the effect of the project on the natural and cultural environment. To be effective, monitoring needs to collect data and information that is usable, particularly in post-project auditing. Inclusion of a framework for monitoring can significantly improve the effectiveness of EIA since it can provide a mechanism for ensuring whether mitigation measures have been carried-out and whether predictions were accurate.

Post-project audit

The inclusion of guidelines in most national EIA frameworks for post-project (or post-development) audit is comparatively rare and yet, potentially, it is an extremely useful component of the EIA process. Auditing an EIA provides an opportunity and mechanism to learn from experience, and to refine project design and implementation procedures. Auditing also provides regulatory agencies with a framework for checking compliance with, and the performance of, an environmental management plan. In most instances, the auditing process will depend heavily on the existence of relevant and good quality monitoring data.

Other Impact Assessment approaches

The authors of this volume believe that holistic approaches to impact assessment are required. This implies that less emphasis should be placed on developing discipline-oriented approaches to impact assessment, and more on ensuring that different disciplines (such as the consideration of cumulative effects, and impacts on human health, ecology and biodiversity resources etc.) are integrated into impact assessment in general. Box 1 lists some related approaches, for which guidelines are included in the directory where these exist.

Box 1: Examples of impact assessment approaches

Environmental health impact assessment (EHIA) - provides for a more comprehensive and rigorous approach, and is used to identify, predict and appraise those environmental factors which might affect human health (see Birley, 1995).

Social impact assessment (SIA) is an integral component of the Environmental Impact Statement (EIS) required under the US National Environmental Policy Act of 1969. It is used to identify and quantify the impacts on human populations resulting from changes to the natural environment (see Burdge and Vanclay, 1995)

Risk assessment - the emphasis of the technique is on risks to human health from industrial production, use and disposal of hazardous chemicals (see Carpenter, 1995).

Cumulative effects assessment - this technique is designed to assess the combined effects of multiple activities, rather than the effects of specific development activities (see CEQ, 1997).

Biodiversity impact assessment - this emerging technique is based on the belief that 'EIA is not matching its potential in addressing biodiversity issues (see Bagri, McNeely and Vorhies, 1998)'.

Ecological impact assessment - defined as a ...formal process of defining, quantifying and evaluating the potential impacts ... on ecosystems (see Treweek, 1995).

Technology assessment - defined as the systematic study of the effects on society, that may occur when a technology is introduced, extended, or modified, with emphasis on the impacts that are unintended, indirect, or delayed (Coates, 1976; cited by Porter, 1995).

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Chapter 2

Review of the quality of EIA Guidelines, their use and circumnavigation

by Bryan Spooner

Introduction

Bureaucrats feel so much better with 'outputs' in their hands. Far better to have the quick-fix of an output, than to embark on an uncertain path of critical reflection and institutional change! The guideline literature has proliferated greatly in recent years, but few guidelines have been subjected to performance review and critical analysis. Few studies have commented on practical and inherent problems associated with guideline quality and, where they have, most have not looked much beyond their technical content (Lawrence, 1997; Geraghty et al 1996; UNEP, 1996; Brew, 1995). One study by the Organisation for Economic Cooperation and Development (OECD/DAC, 1994) found that few guidelines were implemented in practice because of:

- **lack of human and financial resources;**
- **their general, non-specific and (often) mechanistic nature;**
- **their lack of relevance to the main tasks and problems facing guideline users).**

Guidelines are one of several 'tools' available to impact assessment practitioners and process managers. They are defined by a number of different considerations, including the policies and priorities of the agencies concerned. Often guidelines contain implicit assumptions about such issues as access to science and technology, project cycle management, and even models for economic development. Furthermore, the use of guidelines varies from country to country, from organization to organization, amongst institutions at different stages of development in impact assessment practice, and according to specific social, economic, ecological, and political contexts.

Factors constraining the influence of guidelines

The extent to which guidelines can fulfill their 'perceived' roles is shaped, and often constrained, by the context in which they are expected to be used. Thus, the *'enabling environment'* is often a much more important influence on impact assessment performance than the quality of guideline material. Furthermore, guidelines are often poorly suited to helping users overcome the constraints of the 'environment'. Key constraints include: lack of time and financial resources; lack of institutional coordination; poor policy, programme and project management practices, and bureaucratic impediments.

Box 1: The Review Approach

The research on which this chapter is based included a review of guideline documents prepared by donor, UN, governmental, NGO, research and private sector organizations. The sample also included guidelines targeted at various players including advisers, policy makers, decision-makers, reviewers, desk officers, researchers and practitioners. All the documents reviewed were held in IIED's resource centre.

Each guideline document was review against 40 review criteria. For example:

- were local languages used?
- were they presented clearly?
- do they advocate the assessment of alternatives?
- what type of stakeholder involvement do they advocate?
- do they provide guidance on the assessment of health, transboundary or cumulative impacts?
- are the guidelines applicable to small or community-driven projects?

The literature review was supplemented by a questionnaire, interview and website survey. This included contact with 60 practitioners and other guideline users worldwide, from development assistance agencies, government departments, environment agencies, non governmental organisations, private companies, researchers and independent practitioners.

Guidelines or sidelines?

Where guidelines exist, they are often not used. The interview survey found the following usage levels amongst user groups:

Policy and decision-makers
- **15% never use**
- **49% use only occasionally**

Advisers
- **4% never use**
- **59% use only occasionally**

Field officers/consultants
- **10% never use**
- **60% use only occasionally**

These results raise a number of important questions for policy-makers. Firstly, is the substantial level of expenditure in producing guidelines worthwhile, given the apparent lack of interest in their use? Secondly, do practitioners and process managers who fail to use guidelines, or use them only occasionally, have the competencies required to manage or undertake effective impact assessment anyway; and if they do, are they sufficiently aware of procedural requirements?

Perceptions of weaknesses

Guidelines were criticized during the review for the following reasons:

- **they lack legal status, and they are frequently 'circumnavigated' (avoided);**
- **time and financial constraints eclipse guideline use;**
- **the lack of awareness of their content amongst potential user groups;**
- **guidelines frequently fail to convey best (or 'leading-edge') practice;**
- **they depend on trained staff for implementation;**
- **they over-emphasize negative impacts, and pay insufficient attention to optimizing the positive aspects of development;**
- **they are often too 'technical';**
- **they articulate the needs of bureaucrats and not practitioners; and**
- **they fail to provide guidance of value to impact assessment in the 'real world'.**

Guideline Utility

Several lessons emerged from the review of users' perceptions of guideline utility. Firstly, written guidelines represent only one implement in the impact assessment 'toolkit' and much more attention needs to be given to finding more appropriate ways of improving practice and process management.

Secondly, many bureaucrats and practitioners drew attention to various merits of guideline utility. Some examples are given in Box 2.

Box 2: What practitioners and bureaucrats like about guidelines: some examples

- they assist in the preparation of ToR;
- they provide a useful training resource;
- they simplify decision-making;
- their formulation leads to wider debates on integrating environmental considerations into planning;
- they are perceived as promoting best practice;
- they provide a framework for impact assessment;
- they clarify methodological approaches.

Box 3: Some common expectations of the purpose of guidelines

- endowing quality control for legal and procedural adherence;
- clarifying reporting requirements;
- establishing benchmarks for minimum standards;
- providing technical guidance;
- encouraging transparency in impact assessment practice;
- promoting information flows between impact assessment 'stakeholders';
- improving the formulation of terms of reference;
- simplifying decision-making;
- filling gaps in existing regulations;
- providing a tool for training;
- improving awareness

Thirdly, where guidelines are not made an obligatory requirement of state or institutional practice, they contribute little to improving impact assessment practice; and they will be circumnavigated and/or sidelined.

Fourthly, there is some debate as to whether guidelines are needed at all, and two diametrically opposing views emerged regarding guideline utility:

- **Open, flexible and intuitive approaches to impact assessment are likely to 'deliver' better impact assessment than mechanistic and rigid approaches, such as those espoused in guideline documents. Guidelines limit innovation and 'stifle' the adoption of more appropriate and context-relevant approaches. More effort needs to be devoted to developing good professionals, and fostering institutional change, and less to churning-out yet more guidelines.**

- **Legal and procedural requirements are often complex and cumbersome. Thus, guidelines are required to help 'interpret' these 'rules' for practical implementation. There is no reason why guidelines can't be flexible and easy to update. There is no reason why guidelines shouldn't help to enhance more positive approaches to impact assessment practice, nor why the 'guidelines literature' should not continue to proliferate.**

Whether written guidelines are required or not, it seems likely that some form of guidance will be required for what is, after all, a structured and often a rather complex planning tool.

Finally, our research has revealed that different users have widely varying expectations of the role and purpose of guidelines (Box 3), and often of the same individual guideline document. Hence, respondents perceived guidelines as having multiple roles, and often expectations go far beyond those considered

during their design and formulation. Perhaps it is not surprising therefore that they were frequently criticized for falling short of expectations.

Guideline Effectiveness

For the purposes of this review, guideline effectiveness is defined as the '*potential for guidelines to effect positive change in impact assessment practice'***. The review suggests that, as in the case of utility, guideline effectiveness is constrained by issues that are deeply rooted in institutional management and organizational culture. These issues are shaped by changing commitments to environmental management within the project cycle. Nonetheless, there appears to be a growing realization that guidelines have focused too much on technical issues, whilst neglecting the potentially greater challenge of assisting the management of the impact assessment process. As OECD/DAC (1994) pointed-out:**

> *'.... As now practiced, the challenge of managing the environmental assessment process is equally daunting as the technical complexity. Unfortunately, guidelines for those responsible for managing the assessment process lag far behind the technical directions available to those who are responsible for undertaking the assessment'.*

One UK aid official put this more bluntly:

> *'Most guidelines, including ours, are technically satisfactory though continuous improvements are necessary. This is not the main problem... many people don't read them [guidelines] and rely on copying or asking colleagues. The problem is essentially one of management'.*

Four key lessons emerged from the review of users perceptions of 'effectiveness':

The influence of the 'enabling environment'

Improvements to the effectiveness of impact assessment are likely to arise from better institutional organization and management, and not through improvements to the range and quality of guidelines *per se***.**

Lack of attention to stakeholder involvement

There is a perception amongst users that guideline effectiveness is often constrained by a reluctance to advocate meaningful levels of stakeholder involvement in impact assessment (see chapter 3).

Advocacy of 'best practice'

There are serious questions over the extent to which guidelines advocate 'best practice'. Many appear to have been drafted by authors with little or no obvious practical experience of impact assessment practice, and/or who do not appear to be aware of leading edge techniques and approaches. Others appeared to have been plagiarized from existing guideline literature. Furthermore, guidance on some of the most crucial issues facing impact assessment professionals, such as dealing with confidentiality clauses and their implications for practice, is often inadequate or lacking (Box 4).

Box 4: Advocacy of best practice

Of the guidelines reviewed:

- 30% failed to highlight the importance of initiating impact assessment early in the planning process;
- only 46% advocated the assessment of alternatives, and 18% made no mention of assessing alternative project options;
- 43% made no reference to addressing health impacts, and only 41% addressed health impacts adequately;
- 70% made no reference to the need to make residual impacts (i.e. those that will remain after mitigation measures have been applied) explicit;
- 43% failed to provide guidance on the formulation of terms of reference, and;
- 40% made no reference to the need for environmental management and monitoring plans.

Support for international agreements and conventions

International agreements and conventions, such as those agreed at the United Nations Conference on Environment and Development (UNCED) in 1992, and the Convention on Environmental Impact Assessment in a Transboundary Context (1991) (the Espoo Convention), provide a substantive consensus for approaches to impact assessment and stakeholder involvement in development practice. Yet fewer than 20% of the reviewed guidelines prepared since 1993 reflected such international agreements (see figures 1 and 2).

Fig.1 Reference to international agreements

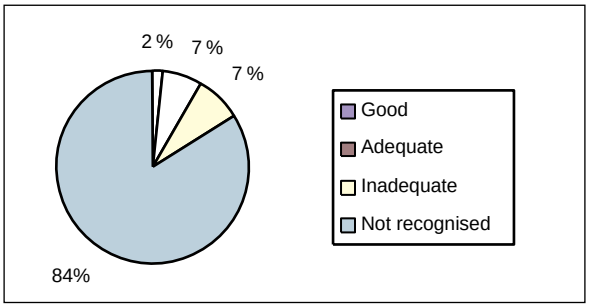
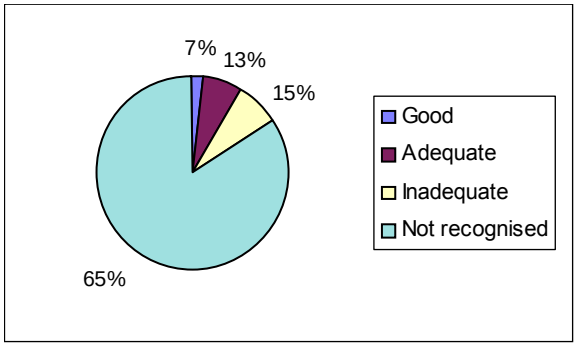


Fig. 2 Reference to Espoo Convention on Transboundary EIA



Guideline Quality

The review highlights a number of key deficiencies in the quality of guidelines. As already noted and with some notable exceptions, guidelines do not seem to be keeping pace with changing ideas on best practice. There is also a tendency for many guidelines to be seen as static documents. Most tend not to be subject to critical review and revision through regular updating. Exceptions include the World Bank's sourcebook update series (World Bank 1991, 1993-98) and the Manual of Environmental Appraisal prepared by the UK Department for International Development (ODA, 1996). Furthermore, there are some notable gaps in the guideline literature (Box 5).

Box 5: Examples of gaps in the guideline literature

There are few guidelines oriented to:

... different EIA stakeholders

- for policy-makers and process managers
- for local staff, untrained in impact assessment
- for the general public - such as citizens user guides

... specific contexts

- conflict and post-conflict contexts - e.g. for reconstruction financing, refugee camps and resettlement
- transboundary impacts
- small-scale/community projects
- 'environmental' projects, often, incorrectly, assumed not to require environmental assessment e.g. establishment of protected areas, sewage and sanitation projects

... specific aspects of environmental assessment

- strategic environmental assessment
- codes and ethics of impact assessment practice
- links with international agreements and conventions

Circumnavigation of guidelines

The review explored the extent to which development proponents and other stakeholders attempt to circumnavigate, or otherwise avoid implementing, the guidance set-out in guideline documents. This important issue has yet to be addressed adequately in the impact assessment literature, nor by debates within the impact assessment 'industry', and this represents a significant challenge to the industry which professes notions of transparency and assuming responsibility.

For various reasons, many bureaucrats and impact assessment professionals felt reluctant to share their views on this sensitive issue, or to do so anonymously. Certainly, ineffective implementation of guidelines is common in impact assessment practice, at all stages of the process, and amongst a range of 'key players'. In some cases, circumnavigation appears to occur by default, perhaps because agencies fail to 'track' projects once funding or approval has been given, or simply through lack of interest or commitment. On donor performance in Tanzania, Mwalyosi and Hughes (1998) noted:

> *'[Based on a review of 35 EIA processes] ... no evidence [was found] that donor-supported EIA processes led to more effective EIA, even though they often harnessed the skills of expensive international consultants, and used donor guidelines. This appeared to be because donor interest in the process generally dissipated once the EIS had been prepared and internal agency needs had been fulfilled. The study found no examples where donor agency interest extended to ensuring that EIA recommendations were adhered to during implementation, post completion or audit phases of the projects concerned. Hence, not only have expensive EIA processes failed to make much of a difference, but donor agencies have failed to learn from their own experience. This 'institutionalized amnesia' has meant that desk officers and other in-country agency staff could generally say little if anything about the performance of the EIA processes they had commissioned.'*

In other cases, circumnavigation is undertaken with deliberate intent. Box 6 lists the categories of techniques cited by respondents in the interview survey.

One experienced practitioner commented:

> *'...They [the proponents and particularly their consultants] see it [EIA] as an unwelcome imposition which puts a critical and adverse light on project designs for which they are responsible. By a variety of methods, they use their position to ensure that discussions and*

Box 6: Circumnavigation techniques cited by respondents

- Editing (or 'censoring') of impact statements by proponents, or their lead consultants;
- Manipulating the executive summaries of impact statements in such a way that they obscure discussions of negative impacts and highlight positive effects;
- Formulating terms of reference and managing contracts such that they exclude analysis of sensitive issues, such as transboundary impacts and cumulative effects, and thus limit the degree to which practitioners can employ best practice;
- Restricting the release of design information and data, or aggregating data to levels which prevent meaningful analysis;
- Using contractual arrangements to enhance confidentiality, and prevent critical information reaching planners, decision-makers and the public domain;
- Undermining the credibility of practitioners or the techniques they use;

  and in extreme cases:
- The use of intimidation.

evaluations of certain or uncertain sensitive impacts are toned down, obscured or just simply censored in the discussions and documentation which go on to form the basis of planning and policy decisions. They may try to discredit impact assessment per se, slate peoples' professional credibility and even try to bar people outright from going to the field...'

Responses during the interview survey showed that guidelines are avoided most at the earliest stages of the project cycle. Sometimes this is simply through lack of awareness of existing guidelines or legal requirements. Deliberate avoidance appears to be very common at the latter stages of the impact assessment process, particularly concerning the implementation of mitigation measures, and subsequent monitoring. This is a conclusion echoed by other effectiveness studies (e.g. Sadler, 1996).

Most respondents believed that project proponents were the principal offenders in circumnavigating guidelines. By comparison, planning departments and development assistance agencies were cited by 35% and 11% of respondents, respectively.

The following extract from a recent study in Tanzania provides an analysis of one EIS which appears to have used a number of such techniques::

'....The EIS appeared to justify, rather than assess, the issues associated with the development proposal. The document's sub-title referred to 'An Ecologically-Responsible **....** *Project', giving a message of positive findings from the outset. The executive summary concluded by recommending that the project be '...developed as planned', thus suggesting that there was no need to implement mitigation or monitoring activities. More subtle techniques were also used throughout the document. For example, impact issues were referred to as 'allegations', 'assertions' or 'exaggerated claims'. In most cases, these were presented as arguments forwarded by 'environmentalists', rather than by the local people and national experts who had actually presented these views. This created the impression that environmental and social concerns were driven by hidden agendas and were, for (unspecified) reasons, 'anti-development'. The selection of photographs in the report included an unusual proportion of 'degraded' or 'denuded' mangrove. No photographs were included of the healthy stands of mangrove which cover much of the delta, or of people using these resources.'*

(Extract from Mwalyosi and Hughes, 1998)

Conclusions

Guidelines are prepared by a wide range of agencies and institutions. They differ markedly in their aims and purposes and in their content. For example, some set out institutional procedures and regulations, some seek to guide impact assessment practice, others are aimed at different target groups such as decision-makers, planners, EIS reviewers, EIA practitioners, developers and the public. It is very difficult to make comparisons between guidelines addressing such multiple purposes and audiences. Some guidelines are excellent and serve their purposes well. A number have been prepared following thorough processes involving research and broad consultation.

However, many guidelines appear to have been prepared for the sake of having them - almost as an obligatory accessory which have some apparent value by virtue of their existence. In other cases, they seem to have been prepared as a knee-jerk response to address real or perceived deficiencies in impact assessment processes. It is clear that far greater thought needs to be given before consultants, bureaucrats or desk officers are given the task of producing guidelines. They are not necessarily the most appropriate way to address such deficiencies, and other approaches may be required (such as staff training, performance review, institutional re-organization, or improved communication). If the guideline approach is adopted, then:

- **what should their role be?**
- **what should the process of formulating guidelines entail? (e.g. should all key stakeholders be involved in their preparation?);**
- **how can guidelines be tailored to meet the needs of intended users;**
- **how can guidelines be tailored to the highly specific contexts in which they will be used?**

The first step ought to be to survey the extensive literature already available - for duplication and re-invention is certainly a distinctive characteristic of the existing literature.

This chapter does not aim to serve a 'guidelines for preparing guidelines' role. Instead, it highlights some key issues which will need to be addressed if guidelines are to make a real difference, and fulfill their potential role. Some of these issues can be addressed in a straightforward way (e.g. filling gaps and improving guideline quality). In other cases, such as finding ways of minimizing the circumnavigation of guidelines, a more considered approach is likely to be required.

For those given the task of developing guidelines (whether government officials, agency employees or consultants), this directory provides a source of already available materials. However, care will be necessary in using existing approaches or guidance from elsewhere which is inappropriate to the situation or context concerned. The onus is on those preparing guidelines clearly to think through the need, content and role of the document(s) at the outset and , where necessary, to ensure and insist that the issues raised in this chapter are addressed.

In the long-term, however, many guidelines might be considered as a 'temporary tools' for learning which will become redundant as 'environment' and 'impact assessment' is introduced into practice through mainstream education and professional training.

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Chapter 3

Environmental Impact Assessment and Stakeholder Involvement

by Ross Hughes

There is a growing consensus that timely and broad-based stakeholder involvement is a vital ingredient for effective environmental assessment, as it is for project planning, appraisal and development in general. The World Bank has found that public participation in EIA tends to improve project design, environmental soundness and social acceptability (Mutemba, 1996). Mwalyosi and Hughes (1998) identified a similar experience in Tanzania. They found that EIAs that successfully involved a broad range of stakeholders tended to lead to more influential environmental assessment processes and, consequently, to development that delivered more environmental and social benefits. Conversely, EIAs that failed to be inclusive tended to have less influence over planning and implementation, and consequently resulted in higher social and environmental costs.

Placing sufficient emphasis on stakeholder involvement in the EIA process can also improve the predictive quality of environmental assessments. This is because the prediction of impacts using EIA often requires multi-year information and good quality baseline data. Yet one of the commonest problems with 'conventional' environmental assessment is that time and financial limitations, and project cycle schedules, constrain the collection of such data. Hence predictions are often based on a 'snapshot' picture which can be misleading or inaccurate. In contrast, assessments that involve different stakeholder groups, including those in local communities, have greater potential to access a wider information resource-base, and in some cases, generations of cumulative knowledge of their local environment.

In its guidelines for EIA, the UK Department for International Development (formally the Overseas Development Administration) identifies some benefits of stakeholder involvement (see Box 1).

But costs can also accrue as a result of not involving stakeholders adequately (see Box 2). In northern Tanzania for example, a commercial mining operation that failed to involve local, artisanal miners in design and benefit-sharing, was faced with years of (often violent) conflict with neighbouring miners, and high recurrent costs for security (Mwalyosi and Hughes, 1998).

Box 1: Benefits of Stakeholder Involvement in EIA

- helps the EIA address relevant issues, including those perceived as being important by other sectoral agencies, public bodies, local communities, affected groups, and others;
- helps to harness traditional knowledge which conventional approaches often overlook;
- helps to improve information flows between proponents and different stakeholder groups, improving the understanding and 'ownership' of a project;
- enables project proponents to better respond to different stakeholders' needs; helps identify important environmental characteristics or mitigation opportunities that might be overlooked;
- helps ensure that the magnitude and significance of impacts has been properly assessed; and
- improves the acceptability and quality of mitigation and monitoring processes.

Source: ODA (1996).

Box 2: Some Potential Costs of Insufficient Public Involvement in the EIA Process

- Conflicts can emerge between levels of government, or between governmental agencies;
- Failure to garner local support;
- Risk of marginalising potentially valuable contributors to the decision-making process;
- Failure to tailor projects to local needs and priorities;
- Lack of accountability which can lead to ineffective or inefficient working practices and corruption;
- Failure to draw on local expertise and energy which represents a potential lost opportunity for making a good project even better;
- Weak or failed communication which can create divisions within local communities, and can breed resentment between local communities and project proponents;
- The overlooking or ignoring of important, and often locally-specific, social, environmental and health impacts in project design;
- Reliance on interventions by outside experts, limiting the learning of new possibilities by local stakeholders;
- Inability to prevent project benefits accruing to only a small number of influential beneficiaries.

Source: ODA (1996)

Who are the EIA 'stakeholders'?

Howlett and Nagu (1997) define stakeholders as '*all those people and institutions who have an interest in the successful design, implementation and sustainability of the project. This includes those positively and negatively affected by the project. Stakeholder participation involves processes whereby all those with a stake in the outcome of a project can actively participate in decisions on planning and management. They share information and knowledge, and may contribute to the project, so as to enhance the success of the project and hence ultimately their own interests'***.**

The Republic of Ireland's guidelines provide a list of over one hundred stakeholder groups that should be considered as contributors to the environmental assessment process. These include government agencies, citizen's groups, NGOs, recreational interest groups, expert groups, business affiliations and academic organizations (Irish EPA, 1995). Different types of stakeholders can contribute to the EIA process in different ways and, in most cases, inputs from a broad variety of stakeholders will complement the EIA process.

Stakeholder interests exist at different levels. For example, at the local project level, they might include land or water access rights, pollution or market opportunities. At regional or country levels, stakeholder involvement might focus more on issues concerning renewable versus non-renewable resource use (e.g. hydropower versus coal-fired power generation) or demand-side management (by setting energy prices to levels that discourage inefficient energy use; or by adopting more resource-efficient technology). At the international level, stakeholder interests may be more concerned with global climate change, deforestation, biodiversity loss, *etc***. Box 3 provides some examples of different stakeholder groups.**

Consultation, participation and stakeholder involvement

There is great confusion in the use of the terms '*stakeholder involvement'***, '***consultation'* **and '***participation'* **in the EIA guideline literature. Despite important differences in the meaning of these terms, they are used interchangeably, or perceived and applied in ways that vary between user groups.**

Here, we take *stakeholder involvement* **to encompass the full spectrum of interaction between stakeholders (governmental, non-governmental, business/private sector, service providers, the public** *etc***.) and the decision-making process. The term encompasses both** *consultation* **and** *participation***. '***Participation'* **is used in this chapter to define 'a process by which stakeholders influence decisions which affect them'[1] and is distinguished from '***consultation'* **by the degree to which stakeholders are allowed to influence, share or control the decision-making process.** *Consultation* **implies a process with little share or control over the process for consultees. Adnan** *et al***. (1992) formulated an extremely useful typology of participation that has since been widely cited and adapted by others (see Box 4).**

Confusion in the use of terminology often (and sometimes deliberately) obscures key issues and misrepresents environmental assessment activities to key decision-makers. In recent EIA literature, the term '*participation***' has more commonly been used to describe information collection or PR exercises, than to describe interactive, empowering processes. Often too, '***participation'* **is used to put a respectable veneer on activities that could also be described as 'coercion'. For example, a draft EIA for an aluminium smelter in Mozambique (O'Beirne, 1997) described the following activities as 'participation':**

Box 3: Examples of Key Stakeholder Groups in a Typical EIA

Organisations
- *Co-ordination:* Planning commissions and departments; government agencies at national, regional, district and village level;
- *Advisory:* Research institutes, universities, colleges;
- *Regulatory:* Government authorities at national, regional, district and village level;
- *Implementation:* Relevant ministries/departments at national, regional and district levels, training organisations, private companies, NGOs;
- *Funding:* Development assistance agencies, banks, entrepreneurs, taxpayers; and
- *Conservation:* Environment departments, museums, zoos, botanical gardens.

Public and community stakeholder groups
- *Political:* Members of Parliament (MPs), local councillors, party functionaries, lobbying groups;
- *Cultural:* Community and religious leaders, community service groups, community organisations/NGOs, traditional leaders;
- *Business:* Business leaders, Chambers of Commerce, trade unions, resource owners and those with tenure rights, common property resource users; and
- *Environment:* Community interest groups, international and local environmental NGOs, local experts.

Source: ODA (1996)

[1] **This is broadly analagous to the definition adopted by the World Bank's Learning Process on Particaption (see World Bank, 1991).**

Box 4: A Typology of Participation in EIA (adapted from Adnan *et al*., 1992)

Type	Example of each type
1. Passive participation	Consultant or extension worker appears in village and tells villagers that an irrigation scheme will be constructed to 'improve' crop yields.
2. Participation in information giving	Consultant or extension worker appears in village and asks for information about their crops, and about seasonal water flows. Records their answers and leaves.
3. Participation by consultation	Consultant or extension worker explains that crop yields need to be improved, and that the government intends to build an irrigation scheme. They seek the views and responses of villagers (for example, how they feel it might increase soil erosion), and then leave.
4. Functional participation	Consultants or extension workers inform villagers that they intend to construct an irrigation project. The consultants then facilitate the development of a vil lage committee to discuss particular aspects of the project (such as minimising soil erosion, downstream impacts on fisheries; or to agree on arrangement for water management).
5. Interactive participation	Local villagers identify their own needs, and external facilitators work with them to assist in finding solutions to potential negative impacts - and improving posi tive effects. In some cases, new institutions will develop at the local level, which might then play a role in the management of their own project and its impacts. Villagers then have a real stake in maintaining structures or practices.
6. Self-Mobilization	Villagers plan and identify their own irrigation structures, perhaps learning from experience in a nearby village. They may develop contacts with external institu tions for resources and technical advice they need, but retain control over how resources are used.

- **[to] 'identify and inform a broad range of I & APs [individuals and affected persons] about the proposed development ... '**
- **[to] 'obtain the buy-in of the I & APs for the EIA process per se,** *so that they will accept the findings of the EIA* **[emphasis added].**

Adnan (1992) captured this confusion with some eloquence:

> *"... the meaning of the phrase [public participation] has become even more elusive after its professed adoption by the most unexpected quarters. It is often difficult to understand whether those talking about people's participation mean the same thing or simply use the phrase as a kind of magical incantation."*

Constraints to Stakeholder Involvement in EIA

Stakeholder involvement in EIA can be constrained by many factors which may vary according to circumstance and context. So powerful are the imperatives to implement develop projects quickly, and at least cost, that they present a formidable challenge to EIA practice. In general, decision-makers and practitioners have failed to rise to this challenge (see Box 5)

Box 5: Stakeholder involvement in practice: reviews of experience so far

Mwalyosi and Hughes (1998) reviewed over 30 EIA processes in Tanzania. They found that only two incorporated a structured approach to public involvement as part of the EIA study and, in both cases, the level of involvement was 'consultative' rather than 'participatory'. A further eight EIAs included some component of interaction between the practitioners and local people, but most of these interactions consisted of *ad hoc* discussions between practitioners and those local inhabitants that happened to be present when the EIA practitioners visited the project area. The remainder included only a cursory or highly unsatisfactory level of public involvement, or none at all.

An Africa-wide review by the World Bank of 26 EIAs conducted between 1992 and 1994 found that in 12 of 14 examples reviewed, the EIA team merely informed affected groups of what they were going to do (Mutemba, 1995). An earlier study of 35 World Bank-supported projects in Africa, found that only ten had included some measure of public involvement, and only four of these met with the World Bank's operational requirements (Cook and Donnelly-Roark, 1992).

Constraints include:

Time and money

Many stakeholders, whether local people, expert institutions or other government agencies, lack the time or financial resources to engage with EIA processes. Their involvement will generally incur an immediate cost in terms of time and sometimes money. Yet the benefits that their involvement might bring will rarely accrue for several months or years (if at all). These are particularly important considerations where local stakeholders are poor. In many cases, incentives or compensation will be required to secure their inputs.

Literacy, language and public presentation

Non-literate groups are marginalised from EIA by the use of written media to communicate information. Unfortunately, EIA practitioners rarely use non-written means of communication, even in areas of low literacy. The lack of key materials in local language versions is a further barrier to the involvement of local stakeholders - the vast majority of impact statements are written in the language familiar to the practitioners, who are foreigners to the project area. Mass media, including local radio, television and newspapers, can help bridge such communication gaps, and have been used successfully in some circumstances. These channels will almost always need to be supplemented by techniques that do not assume that people have access to such media (e.g. because of poverty, illiteracy or choice). Public meetings are one of the most widely used ways of encouraging public involvement. Whilst they have some advantages as public fora, they often lead to selective and biased outcomes and tend to be dominated by influential and powerful groups. They are much favoured by practitioners working under time and financial constraints, as they can be used to satisfy demands for 'consultation' and 'public participation' at minimal cost and effort.

Education

Low levels of education, and the 'technical' nature of many development-related issues, can be a major barrier to effective participation in EIA. For example, a villager in Bangladesh, when asked whether he had 'participated' in the EIA process for a major flood control and irrigation project that would radically alter his livelihood prospects, responded thus:

'If I were to be consulted what would I say? You see I'm just an ordinary man. I don't know anything. All I know is that one has to have meals every day'.
(cited in Adnan et al, 1992).

Cultural differences

These can be particularly acute where indigenous groups are stakeholders in the EIA process. Communication difficulties may arise not simply because of language and education, but also because indigenous groups often hold entirely different belief systems and ways of perceiving issues (Box 6).

Box 6: Communication barriers between indigenous and non-indigenous approaches

Indigenous and non-indigenous people may have trouble communicating because they have a vastly different fundamental understanding of the universe, and also different assumptions of what is and what is not fact. For example, some indigenous people pay strict attention to their elders, who have intimate knowledge of the truth. The elders usually speak in the form of metaphors and parables. Story-telling is often the single most important aspect of transmitting information and understanding as well as the reiteration of cultural values. Most anecdotes told by elders have many levels of meaning. The native listener understands this and uses the experience to become wiser. Often, instead of becoming more knowledgeable, the listener has been purposefully confused by specific information and is driven to go and discover answers for himself. The purpose of some of the anecdotes is to encourage self-enlightenment, not simply to pass on information.

Non-indigenous listeners may become frustrated and even angry when they try to get straightforward information from an indigenous person. Non-indigenous people have a long-established practice of answering questions directly, and are not accustomed to working their way through parables.... anger may arise because the listener feels he or she is being deceived or that some high degree of obfuscation is going on when it is not appropriate. Having no grounding in the symbolism of indigenous people's speech and thinking patterns, it is often enough to frustrate a non-indigenous listener.
Source: Centre for Traditional Knowledge (1997)

Gender

Insensitivity to gender issues, and particularly to the lower status accorded to women in decision-making in many parts of the world, is a common constraint to effective stakeholder involvement. It is here that major changes in attitude and conventional approaches are required if impact assessment is to make a real difference to people's lives.

Physical remoteness

It is costly and time consuming for practitioners to reach small, diverse and scattered groups in remote areas, and conversely, it is difficult for the inhabitants of such areas to gain access to information relevant to development plans and to EIA.

Political and institutional culture of decision-making

In many countries and regions there is little or no culture of 'public' involvement in decision-making. In

some cases, public involvement is perceived as a threat to authority and is viewed defensively by many government agencies and project proponents (in the North and South alike). In other countries, such as those emerging from prolonged periods of conflict or political uncertainty, the institutional mechanisms to involve governmental and non governmental stakeholder groups, especially at the local level, are yet to develop.

Pressures imposed by the project cycle

Additional time and money are required during planning to achieve higher levels of stakeholder involvement. Both commodities are generally in short supply for environmental assessment. A recent survey of EIA professionals worldwide found that 81% of respondents believed time deadlines to be limiting, and 61% believed that budget constraints were generally very limiting (Sadler, 1996). Competitive tendering processes and commercial confidentiality considerations encourage proponents to adopt quick, cheap and minimal approaches to keep bids as low as possible. All too often, there are delays in the release of information perceived as being commercially confidential.

Where public involvement, or participatory planning exercises are used, decision-makers have sometimes found that the results of participation can be difficult to integrate into formal, mechanistic project cycles. It can create 'information overload' whereby it may become difficult to determine the amount and diversity of public perceptions that should be presented for decision-making[2] .

Inertia

Institutional inertia usually works against change. The World Bank has acknowledged this as a key constraint to encouraging a higher level of stakeholder involvement in Bank-supported projects in Africa. Economic and technical disciplines dominate staffing at the World Bank, and this is now seen from within as a key constraint to the rapid adoption of more interactive and learning-centred approaches to project implementation (Mutemba, 1995). Inertia is by no means limited to Bank practice. Experience in other development agencies shows that institutional organisation and behaviour constrain the adoption of participatory approaches advocated in guideline documents (see ERM, 1996 for an evaluation of the performance of EIA in EC development programmes; and Mwalyosi and Hughes, 1998 for an assessment of EIA performance in Tanzania).

Mistrust and elitism

Mistrust often pervades the relationship between project proponents and different stakeholder groups. In some cases, this derives from past experience or conditioning. In other circumstances, proponents view EIA as a necessary evil and this attitude generally manifests itself in limited or minimal efforts to involve other stakeholders in the project design and implementation processes. Elitism or patriarchal approaches can also pose a constraint - many agencies and proponents adopt '*we know better' approaches',* and do not accept that stakeholder involvement can improve the quality of development initiatives. These attitudes are often held by both proponents and development planners in respect of local people, or exist between different levels of government.

Conflicting resource management rights

Disputes over land and water rights and, more specifically, disputes over who has the right to sanction developments, are common in some regions of the world. Deep-rooted conflicts between customary and national land tenure rights in northern Tanzania, for example, have undermined several attempts to involve local people in local planning and development (Lane, 1996). EIA guidelines rarely provide pragmatic advice on how to address these issues in EIA practice.

Timing

Involving different stakeholder interests in the project conception and development phase prior to the commencement of the EIA study (e.g. during screening and scoping) is important if their subsequent involvement within the EIA process is to be effective. If the EIA study is the first opportunity for stakeholder involvement, then most key decisions will already have been made. In these circumstances, there is a danger that stakeholder involvement aspects of EIA a perceived as fulfilling a reactive role - providing information on decisions that have already been taken, rather than providing opportunities for constructive dialogue or opportunities to influence design and decision-making. Within this context, environmental assessment may also have to assume the mantle of resolving conflicts that have already escalated to high levels.

Ambiguity in legislation and guidelines

Unclear wording in legislation and guidelines is an important constraint to managing and encouraging more participatory environmental assessment processes. This is a problem in both the North and South (Box 7) (e.g. see Ebisemiju, 1993; WALHI, 1994).

[2] **Some useful and innovative ways of addressing this problem are presented in FEARO, 1988.**

Box 7: Minimal Approaches: The Experience of the US
The flexibility given to agencies under the requirements of the 1969 National Environmental Protection Act (NEPA) means that extreme cases of nearly no public involvement can and do occur. For example, an agency may simply request written comments on its Notice of Intent (NOI) to prepare an EIA. It would not be required to hear from the public again until the comment period when the draft EIS is issued. The agency's statutes might require it to hold a public hearing on the draft EIS, but these are sometimes considered to be a weak form of public involvement in the USA. Hearings are quite formal, and they do not make it easy for ordinary citizens to express their views comfortably and effectively. Much of the communication flows in one direction, from government officials to citizens. In contrast, many agencies have gone beyond the minimum, formal requirements for public participation and have introduced a variety of non-required approaches, particularly in the context of scoping.
(Source: CEPA, 1994).

Poor presentation of EIA findings

A large, complex and highly technical EIS can make the results of an EIA inaccessible to stakeholder groups (including decision-makers!). Often EIA processes do not go to the trouble of presenting their draft findings in languages or forms relevant to the stakeholders concerned. As one villager in central Bangladesh observed:

> *'Oh yes, the bideshis [foreigners] were here one day, last month. But they only went to the school and spoke in English. We are not shikkhito [educated]. We could not understand'* **(cited by Adnan et al, 1992).**

'Mystification techniques' - the use of sophisticated technical jargon to obscure potential or actual impacts of development projects - are frequently used by project proponents to impose authority by project proponents. Lane (1996) cites an example from a consultation process associated with a wildlife conservation area in northern Tanzania:

> *"We couldn't interpret what was in the plan and ended up just mouthing the words in Swahili. The language was hardly translatable..."* **(Metui Ailion, Albalbal Ward Councillor, northern Tanzania, commenting on the 'participation process' of the Ngorongoro Conservation Area General Management Plan).**

Community burn-out

There is a tendency for development practitioners to assume that people are only too willing to participate in research and analysis as an activity in itself. Reflecting again on experience in Tanzania, one EIA practitioner remarked:

> *"People have been subjected to so much social evaluation; people get fed-up. So people are not interested; they think that we are wasting their time and they have work to do..."* **(Mwalyosi, cited by Guilanpour, 1994).**

In some areas, local communities have been overburdened with officials, planners, social scientists and researchers requiring their inputs. Often, perhaps usually, such communities have seen rather little in return for their inputs, and well justified skepticism and reluctance to engage further has been the end result. In such cases, the potential for future stakeholder involvement is significantly constrained and will require a prolonged phase of trust-building and commitment if these attitudes are to be replaced by one of open commitment.

Project size

Achieving effective stakeholder involvement can be much more difficult for large projects. Adnan *et al.* (1993) describe a wide array of issues raised by massive proposals for flood control, drainage and irrigation projects in Bangladesh, many of which relate to the scale of the development plans involved, and consequently, the number of potentially affected people. However, experience shows that scale should not always prevent fair, open and accessible approaches to public involvement. The Mackenzie Valley Inquiry in Canada provides a good example (see Box 8).

Box 8: The Mackenzie Valley Inquiry
The inquiry was directed to examine the regional social, environmental and economic impacts of a project to transport natural gas south from Prudhoe Bay, Alaska by pipeline down the Mackenzie Valley from the Mackenzie Delta in the Northwest Territories, Canada. A consortium of 27 Canadian and American companies stood ready to build a gas pipeline some 3,860 kilometres in length. The inquiry was conducted by Mr. Justice Thomas Berger in the early 1970s, who described the process as follows:

At the formal hearings of the Inquiry in Yellowknife (the capital of the Northwest Territories), I heard the evidence of some 300 experts on northern conditions, northern environment and northern peoples. But, sitting in a hearing room in Yellowknife, it is easy to forget the real extent of the North. The Mackenzie Valley and the Western Arctic is a vast land where people of four races live, speaking seven different languages. To hear what they had to say, I took the Inquiry to 35 communities - from Sachs harbour to Fort Smith, from Old Crow to Fort Franklin - to every city and town, village and settlement in the Mackenzie Valley and the Western Arctic.

The experience of the Inquiry proves that even a massive, seemingly uncontrollable environmental assessment process can be managed in a way that works in the interests of local communities.
Source: Pallen (1996)

Stakeholder Involvement and EIA Guidelines

Guidelines vary enormously in their treatment of stakeholder involvement and, on the whole, they do not advocate the types and level of stakeholder involvement that are likely to yield meaningful results. In preparing this directory, we reviewed a broad sample of guidelines. Of these:

- **36% failed to mention participation altogether;**
- **12% advocated that practitioners should only 'inform' stakeholders;**
- **38% advocated some form of 'consultation'; and**
- **only 13% advocated more interactive forms of stakeholder involvement.**

A number of common features appear to undermine their value as guidance tools for process managers and practitioners:

- **lack of clarity;**
- **confusing (and sometimes contradictory) use of terminology;**
- **a paucity of practical guidance; and**
- **lack of proactive support for stakeholder involvement in EIA.**

Guideline clarity

Guidelines should clearly explain why different stakeholders should become involved, at what stage in the EIA process, and how their involvement can be made effective. Most national and state-level government agencies have compiled guidance information on the environmental assessment process, but these documents are often poorly presented, use technical and inaccessible terminology and are not distributed widely. Guides for those required to plan, manage, conduct, review and participate in environmental assessment processes can help such users to interpret legislation, clarify roles and identify opportunities for the involvement of different stakeholders.

Ambiguity in the wording of guidelines often provides scope for agencies and practitioners to avoid or minimize the extent of stakeholder involvement (Box 9). Clearly, national, sectoral and agency guidelines should provide clear and explicit guidance on minimum standards and procedures for stakeholder involvement.

Confusing use of terminology

Donor guidelines and international agencies use the term 'participation' extensively, but almost always in an inappropriate way. In reality, most agencies, including the World Bank, advocate *consultative* **or** *extractive* **forms of involvement, i.e. they advocate that external practitioners should** *'interview', 'consult with',* **and** *'take into account the views of...'* **the public and affected groups (see Box 10). An exception is the guidelines of FINNIDA which hint at the concept of devolving responsibility and influence over 'decision-making'** *(" ...public participation should aim to effectively influence decision making"* **) (FINNIDA 1989).**

Box 9: Guidelines and EIA Under-Performance in Indonesia

In reviewing the EIA process in Indonesia, WALHI (1994) found that ambiguity and lack of clarity in official guidance and legislation provided opportunities for abuse of the system by government officials responsible for making EIA decisions, and cited this problem as a key reason for the poor performance of EIA in Indonesia. It is clear in the national EIA legislation that Indonesia's law-makers intended EIA to be applied as a 'public process'. Unfortunately, the wording of this legislation has left ample scope for proponents to minimize such involvement. The existing guidelines do not specify, for example, that public involvement should be sought at the earliest possible stage of the environmental assessment process, only that some form of public inputs should be sought before the finalization of the EIS. Invariably, this means that public involvement does not take place until it is too late to be effective.
Source: WALHI (1994)

Box 10: Excerpts from the guidelines literature

- "The Bank requires the borrower to take the views of affected groups and local non-governmental organizations into account in the preparation of environmental assessment reports" (AsDB 1993).
- " The key factor that distinguishes consultation from participation is the degree to which those involved are allowed to influence, share or control decision-making. The World Bank requires *consultation* with affected groups as part of the EA preparation process... " (World Bank 1993).
- "Consultations do not reduce the decision-making authority of the borrower, but are a valuable way to improve decision-making, to obtain feedback on the EA process and draft report, and to increase community co-operation in implementing the recommendations of the EA" (World Bank 1991).
- "... involve public consultation with interested parties and the affected population" The Commission of the European Communities (CEC, 1993).
- " In order to obtain valuable information about the project region, consultation with local target groups and NGOs is essential to EIA" (DGIS, 1993).

Paucity of practical guidance

A common complaint is that EIA guidelines fail to provide adequate pragmatic guidance on stakeholder involvement in EIA practice. EIA process managers need specific guidance on stakeholder involvement when commissioning an environmental assessment. Staff responsible for ensuring that EIAs are undertaken to a sufficient standard require guidance on how to ascertain that stakeholder involvement has been addressed adequately during the EIA process.

With some exceptions, existing guidance on stakeholder involvement is not of an adequate standard to be useful to EIA practice.

Recent literature indicates that some of these shortcomings are now recognized and are being addressed. For example, recent guidelines on the incorporation in EA of traditional environmental knowledge (TEC) of indigenous peoples (Centre for Traditional Knowledge, 1997) provide practical and innovative guidance for the way in which indigenous peoples, corporate organizations and government can interact and negotiate to address critical cultural, environmental, social and economic issues (see Box 11). Different types of guidance will be required to assist practitioners to engage with other stakeholder groups, such as the private sector and business interests, local government bodies, and other line ministries. The acid test will, of course, be the extent to which these are adopted and implemented within relevant national guidelines, and those of development assistance agencies.

Box 11: Guidelines on Environmental Assessment and Traditional Knowledge of Indigenous Peoples

These innovative and useful guidelines focus on the incorporation of indigenous peoples' traditional knowledge into environmental assessment practice. They provide clear and practical guidance, not only for government (as regulators and planners) and corporations (as private sector proponents), but also to assist indigenous peoples to engage constructively and effectively in EA processes for proposals that could impact on the environment and resources on which they depend. In reality, the 29 guidance points presented in the document apply equally well to broader-based stakeholder involvement, such as the involvement of local communities and other stakeholders that would not necessarily be regarded as strictly indigenous.

The guidelines were developed by a team involving the Canadian Centre for Traditional Knowledge, the World Council of Indigenous People, Environment Canada, and the Canadian International Development Agency. They draw attention to the frequent inadequacy of conventional, scientific approaches to EA such as the limitations of using short-term scientific procedures to collect reliable and adequate information on which to base predictions and analysis. They also explore the difficulties inherent in balancing the very different perceptions of environment and development that are held by non-indigenous and indigenous stakeholders.

Source: Centre for Traditional Knowledge (1997)

Lack of proactive support for stakeholder involvement in EIA

Constructive stakeholder involvement in EIA will rarely occur spontaneously. A proactive approach ideally should include incentives for involvement and will often be required, especially where significant costs will be incurred for stakeholders to take part in dialogue processes. Incentives are now an integral component of EIA frameworks in a number of national guidelines, e.g. the federal guidelines for Canada (see Box 12) and Australia.

Box 12: The Environmental Assessment and Review Process inCanada

Public participation in the federal assessment process is promoted through:

- providing opportunities for public involvement in project screenings, comprehensive studies, mediation and panel reviews;
- the establishment of a public registry for each project undergoing any type of environmental assessment. Members of the public wishing to take part in the process can obtain copies and review most documents relating to assessment; and
- a Participant Funding Program designed to provide limited funding to interested individuals and groups both for and against a project to participate effectively at key stages of mediations and panel reviews.

Conclusions

This chapter has argued that greater attention to stakeholder involvement during the EIA process leads to better environmental assessment, and thus to the formulation of projects that deliver more social benefits, fewer environmental costs and greater economic and financial benefits. Yet the language of stakeholder involvement is peculiar in the degree to which it is abused - too often are 'stakeholders' perceived synonomously with 'local people', and too often are highly extractive forms of interrogation camouflaged under the cloak of 'participation'. It is one thing to be engaged in a two-way and transparent dialogue, but quite another to be accosted on a street by a clipboard-wielding foreign consultant. Sadly, the latter remains the norm, and not the exception. Proponents and their consultants continue to avoid engaging meaningfully with different stakeholders, including government agencies and the business community, other than at the most superficial level. Furthermore, they continue to engage with a very narrow range of possible stakeholder groups.

Do guidelines contribute to better practice, and do guidelines help foster approaches that pay more attention to process and consensus-building between stakeholders? There is little evidence to suggest they do, and much to suggest they don't. This analysis suggests that existing guideline literature mirrors the weaknesses that we observe in EIA practice, most notably the emphasis on consultancy-driven 'outputs' and confusion in the use and understanding of key terminology and concepts. Why is this the case? In most cases, guidelines appear to have been formulated to support 'one-shot' consultancy exercises and, like many EIA studies, they simply fail

to promote engagement with the different stakeholders that should be involved. A round-table approach in 1998 to guideline formulation in the UK, facilitated by the Institute of Environmental Assessment, provides an interesting exception to this pattern.

Effective EIA guidance on stakeholder involvement will only emerge from institutional learning processes and critical reflections on past performance. These processes will themselves need to involve the stakeholders that EIA is supposed to serve. Without this change in direction, we can expect to see a continuation in the expansion of EIA guidance literature, but little change in institutional behaviour and attitude. More process, and less product is what is needed now.

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Chapter 4

Strategic Environmental Assessment: A Rapidly Evolving Approach

by Barry Dalal-Clayton and Barry Sadler

Introduction

Strategic environmental assessment (SEA) has emerged in the last few years as a term for tools which aim to integrate environmental considerations into proposed laws, policies, plans and programmes. However, in one form or another, SEA has been in place for some time. The preparation of legislative and programmatic Environmental Impact Statements has been an integral element of US practice under the National Environmental Protection Act (NEPA) 1969. Other SEA-type approaches reflect an extension of EIA trends, including area-wide and regional assessments, and policy-level reviews as part of public inquiries and environmental reviews. Early references to these applications can be found in various sources (e.g. Sadler, 1986; Wathern, 1988; Jacobs and Sadler, 1989; Bregha *et al*. 1990). The last two examples involved work undertaken in support of Canada's process of Policy and Programme Assessment which was established by Cabinet Directive (1990) as a parallel system to the project based Environmental Assessment and Review Process (1973)[1].

There is no internationally agreed definition of SEA, but the interpretation offered by Sadler and Verheem (1996) is among those which are widely quoted:

> *"SEA is a systematic process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision-making on par with economic and social considerations".*

Interest and debate about SEA is growing rapidly. A number of recent workshops on SEA have surfaced differing opinions about its nature and scope (e.g. workshops organised by the International Association for Impact Assessment in New Orleans, USA, in 1997, and in Christchurch, New Zealand, in April 1998, and by the UK Department of Environment in Lincoln, UK, in May 1998). One school of opinion holds that that SEA should focus mainly on environmental issues, another takes the view that it should provide a sustainability focus and cover social and economic aspects as well environmental ones. It is also argued that SEA at the policy level requires a different methodological approach to SEA at the programme and plan level. However, there is broad consensus that there can be no one 'blueprint' approach to SEA and approaches will need to be developed and tailored to suit conditions, institutional realities and political circumstances in individual countries.

There is debate on the suitability of SEA in developing country contexts where there is growing evidence that EIA is not working well (Mwalyosi & Hughes, 1998). Often the reasons are not so much technical ones, as issues of lack of political and institutional will, limited skills and capacity, bureaucratic resistance, antagonism from vested interests, corruption, compartmentalised (e.g. sectoral) organisational structures and lack of clear environmental goals and objectives. Undoubtedly, these structural problems will loom large as constraints to the introduction of SEA. In addition, there are many issues regarding the use of SEA in industrial countries that are unresolved and, more seriously, glossed over in promotional literature.

Guidelines and Literature

The general view amongst practitioners and many officials emerging from the above debate is that there is a need to experiment with SEA - to "get on and just do it" - in order to gain experience and learn lessons. Because SEA is still in its infancy, there are only a few published guidelines. These are not generic but promote individual national and organisational approaches to SEA, e.g. the method of strategic environmental assessment (SEAn) developed for the Netherlands Development Organisation (AIDEnvironment 1997, Kessler 1997a, 1977b), the South African approach (CSIR 1996), UNDP's Environmental Overview approach (UNDP 1992), appraisal of policies and development plans in the United Kingdom (UK Department of the Environment 1991, 1993), sectoral and regional environmental assessment at the World Bank (World Bank 1993).

[1] **This process was replaced by the Canadian Environmental Assessment Act (1996) which applies exclusively to projects.**

Whilst there is a dearth of practical guidance available to those who would like to start applying SEA, the literature base is growing rapidly and a number of useful reviews of SEA experience provide perspectives and background on this evolving field (see Box 1). These are both incomplete and continually being updated by papers on SEA in conference proceedings and journals. However, there is also a considerable restatement and recycling of basic premises and themes.

Box 1: Some Key Literature on SEA

- UNECE (1992) - report on principles and procedures that were agreed amongst a range of participating countries.
- Wood and Djeddour (1992), Therivel *et al.*(1992) - compare similarities and differences between SEA and EIA, elaborate the potential scope of procedure and practice, and discuss possible methodologies for undertaking SEA.
- *Project Appraisal* (Vol 7 (3), Sept 1992) - special issue which examines the (then) status of SEA in the USA, Australia and New Zealand, and the Netherlands; and, in the UK, in relation to land-use planning, the water environment and transport sector.
- Sadler and Verheem (1996) - critically evaluate the status and effectiveness of SEA processes in leading countries and international agencies (analysis based on a portfolio of 52 case studies and eight institutional profiles (see also de Boer and Sadler, 1996).
- Therivel and Partidario (1996) - review international SEA guidance and regulations, discuss models and methodologies, and provide 10 case studies - grouped under three categories (sectoral SEAs, SEAs of land-use plans, and SEAs of policies).
- World Bank (1996) - case studies of World Bank approaches. CSIR (1996, 1997) - primer on South Africa's approach to SEA and a draft Protocol on SEA. CIDA/DGIS (1997) - report of SEA provision and practice amongst OECD development cooperation agencies.
- Dalal-Clayton and Sadler (1998, in press) - provide an overview of the international status of SEA; examine perspectives on its role and focus; discuss the rationale and benefits of the approach; describe experience (with case examples) of applying SEA processes in developing countries, in central and eastern Europe and other countries in transition; review the approach of development assistance agencies; and also consider parallel processes that are closely aligned to and/or have relevance to emerging SEA techniques, e.g. environmental scenario planning, sustainable development strategy processes, etc.

Scope of SEA

Most practitioners view SEA as a decision-aiding rather than a decision-making process (like EIA) - a tool for forward planning to be flexibly applied at various stages of the policy-making cycle. Under this broad perspective, SEA encompasses assessments of both broad policy initiatives and more concrete programmes and plans that have physical and spatial references (e.g. town and regional plans, regional development programmes). With this scope of coverage one problem becomes readily apparent. The methodologies to be applied at the opposite ends of the decision-making spectrum differ markedly. However, the principles of EIA apply at all levels. Table 1 compares EIA and the evolving process(es) of SEA.

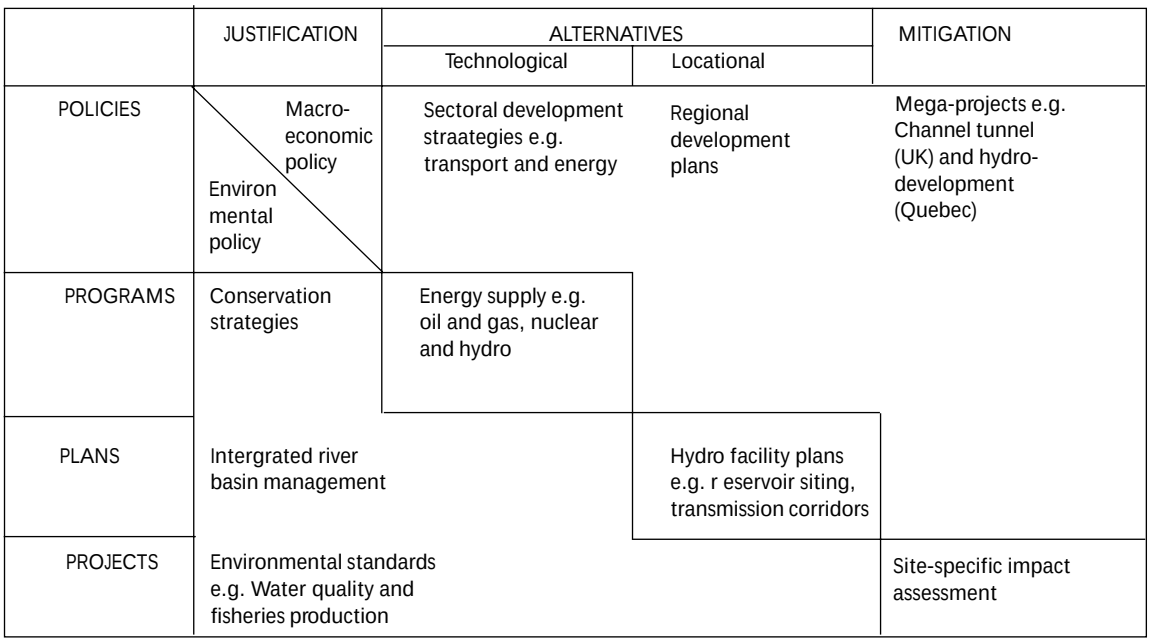
Table1: EIA and SEA Compared
Adapted from CSIR (1996)

EIA	*SEA*
Is usually reactive to a development proposal	Is pro-active and informs development proposals.
Assesses the effect of a proposed development on the environment	Assesses the effect of a policy, plan or programme on the environment, or the effect of the environment on development needs and opportunities
Addresses a specific project	Addresses areas, regions or sectors of development
Has a well-defined beginning and end	Is a continuing process aimed at providing information at the right time
Assesses direct impacts and benefits	Assesses cumulative impacts and identifies implications and issues for sustainable development
Focuses on the mitigation of impacts	Focuses on maintaining a chosen level of environmental quality
Has a narrow perspective and a high level of detail	Has a wide perspective and a low level of detail to provide a vision and overall framework
Focuses on project-specific impacts	Creates a framework against which impacts and benefits can be measured

The inter-relationship between policies, plans and programmes is frequently idealised as a hierarchical or tiered process of decision making, as illustrated by Figure 1 using energy development as an example. In reality, however, policy-making does not necessarily follow a logical sequence of discrete, technical steps. Rather it is a more complex, iterative process in which the range of choice is gradually narrowed and most options are foreclosed by the project phase. This fact has a critical bearing on practical applications of SEA (Sadler 1998).

In addition, terms such as *policies, plans and programmes* **(PPP or the 3 P's) mean different things in different countries and their use is dependent on the political and institutional context. But in general, policies are taken to be broad statements of intent that reflect and focus the political agenda of a**

Figure 1: Emerging Process of Tiered and Integrated Environmental Assessment
(Source: Sadler and Verheem, 1996)



Note: the basic elements for this process are in place; however, as yet, it is seldom integrated in the way shown. In practice, for any system, an understanding of the way decision making processes *actually work* is necessary for the effective application of SEA. Often, for example, the relationship between the tiers will not be straightforward and the policy decisions that set the boundary conditions will not be coherent or consistent (see Valve and Hilden, 1994).

government and initiate a decision cycle. They are given substance and effect in plans and programmes - which involve identifying options to achieve policy objectives and setting out how, when and where specific actions will be carried out (Sadler and Verheem, 1996).

However defined, policies and programmes encompass a range of strategic decisions, many of which are likely to have environmental, social or economic consequences. Box 2 outlines a simple "pre-screening" check for SEA to establish the proposals that are of concern. It can be adapted to different decision-making contexts and is undertaken by reference to:

- *the policy area or sector covered*. **In general, all policy areas which concern or lead to changes in the use of land and natural resources, the production of raw materials, chemicals and other hazardous products and/or the generation of pollutants, wastes and residuals, are potential candidates for SEA.**

- *the type of environmental effects that can be anticipated*. **When moving from the policy to the project stage of the decision cycle, environmental considerations correspondingly shift from indirect to direct effects.**

Logically, the scope and form of SEA should correspond broadly with the level of generality of decision-making and the type of environmental effects that are identified (see Box 2). Direct effects, typically, can be correlated with projects and with

Box 2: A Pre-Screening Procedure for Determining SEA Requirements

The following questions can be used to make a quick judgement about SEA requirements:

- What is the actual content of the proposal?
  - is it concerned only or primarily with broad general direction(s) ?; or
  - does it address or specifically include operational measures (projects, activities, etc.)?
- What policy area or sector is targeted in the proposal?
  - is it one known to have or likely to cause environmental effects (e.g. energy, transportation, housing, agriculture)?; and/or
  - are there components which are likely to have cumulative or long-term consequences for the environment (e.g. trade, industrial diversification, technology development)?
- What environmental considerations are raised by the proposal? Does it appear likely to:
  - initiate actions that will have direct or evident environmental impacts?;
  - raise broad environmental implications and/or issues that should be addressed ?; or
  - have marginal or no environmental consequences?

Source: Sadler & Verheem (1996).

plans and programmes that initiate and locate specific activities; indirect effects are associated more with policies and with certain types of plans and programmes, such as legislative and fiscal initiatives. Many of these are not easily separable into discrete actions but that may have an environmental dimension; for example, by influencing attitudes and consumer behaviour toward transport or waste recycling (Sadler and Verheem, 1996). These categories apply equally to developing as well as industrial countries, although obviously the circumstances and considerations will differ.

Rationale for SEA

The benefits of introducing SEA and some constraints are identified in Box 3. In broad terms, the rationale for SEA of policies, plans and programmes falls into three main categories: strengthening project EIA; advancing the sustainability agenda; and addressing cumulative and large-scale effects; (Jacobs & Sadler, 1989; Lee & Walsh, 1992; Sadler, 1994; Sadler & Verheem, 1996).

Strengthening project EIA and advancing sustainability

EIA practice is constrained by certain limitations and weaknesses. These include structural weaknesses centred on the relatively late stage at which EIA is usually applied in decision-making. By this point, high-order questions of whether, where and what type of development should take place have been decided, often with little or no environmental analysis. Project-by-project EIA is also an ineffective means of examining these issues. SEA or an equivalent approach can be used as a complement to project-level EIA to incorporate environmental considerations and alternatives directly into policy, plan and programme design. Thus, when applied systematically in the "upstream" part of the decision cycle and to the economic, fiscal and trade policies that guide the overall course of development, SEA can be a vector for a sustainability approach to planning and decision-making - as called for by the Brundtland Commission (WCED 1987) and by Agenda 21 (UNCED 1992). This "upstream" approach can also help to focus and streamline project EIAs, making them more consequential and

Box 3: SEA: Some Benefits and Constraints

Benefits: SEA can and should:
- promote integrated environment and development decision-making;
- facilitate the design of environmentally-sustainable policies and plans;
- provide for consideration of a larger range of alternatives than is normally possible in project EA;
- take account, where possible, of cumulative effects (particularly by focusing on the consequences of sectoral or regional-level developments) and global change;
- enhance institutional efficiency [particularly where EIA related skills, operational funds and institutional capacities are limited] by obviating the need for un-necessary project-level EIAs;
- strengthen and streamline project EA by:
  - the incorporation of environmental goals and principles into policies, plans and programmes that shape individual projects;
  - prior identification of impacts and information requirements;
  - clearance of strategic issues and information requirements; and
  - reducing time and effort taken to conduct reviews; and
- provide a mechanism for public engagement in discussions relevant to sustainability at a strategic level.

Constraints: For SEA to function effectively:
- a level of institutional maturity is necessary which allows for effective inter-sectoral dialogue, for environmental considerations to be taken into account in formulating, revising and implementing policies, plans and programmes effectively, and to influence decision-making;
- appropriate skills are needed, within government departments and agencies, in the private sector (e.g. industry, environmental consulting companies) and amongst academics and NGOs; and
- there is a need for adequate capacity in these sectors (both human and financial resources).

Other factors: In practice, the extent to which the benefits of SEA are achieved will also depend on a number of other important factors:
- the provisions made for SEA, e.g. legal versus administrative;
- the prior record of implementation and acceptance by decision-makers;
- the degree to which overall strategies of sustainable development are in place;
- the scope and level(s) of process application; with the broadest range of benefits being gained from SEA systems that include review of policies as well as plans and programmes.

Sources: Adapted from Dalal-Clayton & Sadler (1995) and Sadler and Baxter (1997)

reducing the time and effort involved in their preparation. SEA may yield significant other benefits; for example, by ruling out certain kinds of development at the policy level, reducing the need for many project-level EIAs and thus relieving pressure where institutional and/or skills capacity is limited.

Addressing Cumulative and Large Scale Effects

Arguably, SEA offers a better opportunity than project-level impact assessment to address cumulative effects. Recently, considerable efforts have been made to extend EIA-based frameworks to encompass certain types of cumulative effects. These deal reasonably well with the ancillary impacts of large-scale projects (e.g. dams, transport infrastructure) and the incremental effects of numerous, small-scale actions of a similar type (e.g. road realignment and improvement). However, more pervasive cumulative effects and large-scale environmental change (which are the end result of multiple actions and stresses that cut across policy and ecological boundaries) are difficult to address. In principle, these can be addressed best by SEA of policies, plans and programmes; in practice, this has not proven to be the case.

Trends and Experiences

To date, formal provision for undertaking SEA has been confined largely to industrial countries (e.g. Australia, Canada, the Netherlands, New Zealand, UK, USA) (see Table 2). Except for the requirements of lending and donor agencies, particularly the World Bank, experience with SEA in developing countries is limited, but there is evidence of much wider use of SEA-type processes (proximate approaches) (see Box 4). In the countries of Central and Eastern Europe, there is increasing experimentation with formal procedures for SEA (see Box 5).

Box 4: Some Examples of SEA and Proximate Approaches from Developing Countries

- CSIR (1997a): Preliminary SEA for the KwaZulu-Natal Trade and Industry Policy, South Africa.
- CSIR (1997b): SEA for the Proposed East London Industrial Development Zone, South Africa.
- IUCN Nepal (1995): Bara Forest Management Plan, Nepal.
- TANAPA (1993): General Management Plan for Kilimanjaro National Park, Tanzania.
- Thompson (1997): Ngorongoro Conservation Area General Management Plan. Tanzania.
- Spenceley (1997): SEA of Tourism at Hwange National Park, Zimbabwe.
- IUCN-ROSA(1996): SEA of Development Around Victoria Falls.
- World Bank (1996): Best Practice Regional EA: Argentina Flood Protection Project (Proposed).
- Huntley *et al*. (1989) and Sunter (1992): Scenario-Planning in South Africa.
- Dalal-Clayton (1997): Extreme Scenarios for Southern Africa.
- Kessler (1998, pers comm): Strategic Environmental Analysis (SEAn) methodology applied by the Netherlands Development Organisation (SNV): in Benin to develop a strategic plan, and Nicaragua for integrating environmental care in council planning.
- Naim (1997a, 1997b): SEA of Thermal Power Generation Policy, Pakistan.

Box 5: Some Examples of SEAs from Central and Eastern Europe

- Koblar (1998): SEA of Major Transport Routes in Slovenia: Methodology and Approach.
- Rotbergh (1998): SEA of the Jurmala Territorial Development Plan, Latvia.
- Kozova (1998): SEA of the Updated Version of the Energy Policy of the Slovak Republic. World Bank (1996): Sectoral EA: Estonia District Heating Rehabilitation Project.

Therivel (1997) lists a range of SEAs undertaken, including, for example:

- Czech Republic: landscape protected area Zelezne hory (Iron Mountains), 1996.
- Hungary: express motorway network, 1993.
- Poland: national transport policy (1996).
- Slovak Republic: territorial development policy (1994).

Table 2: Institutional Arrangements for SEA in a Number of Northern Countries

Country/ Institution	Provision	Procedure	Responsibility
Western Australia	Environmental Protection Act 1986/93 allows for the EA of programmes, plans and policies. EIA has been applied to programmes and plans; more limited experience with respect to policies. No structural SEA procedure to new legislation, decisions of executive government or State budgets.	No formal requirements for SEA procedure; ad hoc determined by EPA.	The Environmental Protection Agency (EPA) determines form, content, timing and procedure of the assessment.
Canada	Cabinet Directive 1990 requires all federal departments and agencies to apply EA to policy and program proposals submitted for Cabinet consideration.	No formal requirements for SEA procedure; guidelines only.	Individual Ministers are responsible for assessment of the proposals generated in the departments and agencies.
Denmark	Administrative Order 1993 requires Bills and other proposals to Parliament to include an assessment of the environmental impacts in the documentation attached if they are expected to have significant impacts on the environment.	No formal requirements for SEA procedure; guidelines only.	Responsibility for SEA lies with the lead ministries; guidance is provided by the Ministry of the Environment.
European Commission	Internal communication of June 1993 requires screening and assessment of all future Commission actions (almost always strategic in character) and new legislative proposals if likely to have a significant effect on the environment.	No procedural or content requirements are set to allow for maximum flexibility	Responsibility for the statement lies with the responsible Directorate General.
	Draft SEA Directive 1997 issued.	Applies to plans & programmes only	Binding on member states if accepted.
Hong Kong	October 1992 government initiative requires all policy papers submitted to the Executive Council to contain an environmental implications section. This is also required for Information Notes issued by the govovernment, briefs recommending new legislation and all papers seeking funding for government works projects.	Limited guidance on the content of SEA reports.	The proponent agency is responsible for drafting an EIS and should consult the Environmental Protection Dept. at an early stage of the policy formulation.
The Netherlands	1987 EIA Act requires an SEA of a number of plans, programmes and sectoral policies. Dutch Ministry of Foreign Affairs has decided to use SEA - where appropriate - in its planning of development assistance.	For SEA the same (comprehensive) procedure applies as required for projects.	Responsibility for SEA lies with the lead agency.
	Since 1995, an environmental test is mandatory for draft legisaltion that might have significant environmental effects (not requiring a mandatory SEA under the EIA Act).	The environmental test has minimal procedural and content requirements to provide for flexibility.	The environmental test should be carried out by the lead authority, with the mandatory involvement of the Minister of the Environment.

New Zealand	1991 Resource Management Act (RMA) requires the integration of environmental considerations in all policy statements and plans at national, regional and district levels prepared under the provisions of the Act.	Rather than establishing a distinct SEA process, the RMA aims at the integration of environmental issues in all stages of decision-making.	The consideration of environmental issues is the responsibility of the agencies responsible for the policy, plan or programme (national, regional and district authorities).
UK	No formal SEA provisions at the national level; local planning authorities are required to 'have regard to environmental considerations' in preparing their land use plans: a number of these have prepared SEAs for County Structure Plans.	No formal requirements for SEA procedure; 'good practice' guidance only.	Policy appraisal is responsibility of lead central government agency
USA	The US National Environmental Policy Act, 1969, requires EA for major federal actions significantly affecting the quality of the human environment, including programs, policies, procedures and legislative proposals.	SEA procedures are the same as for project EIA	EAs should be prepared by the agency at a point in the planning process when it can highlight potential environment problems and allow a wide range of alternatives to be evaluated.
World Bank	The system is policy-based, recommends use of sectoral and regional EA, e.g. where sector investment projects and loans through financial intermediaries involve numerous sub-projects. In some instances, sectoral EA is also used as a planning tool in the early stages of project preparation without a formal link to sub-project EA work.	The Bank's regional environment division for Asia (ASTEN) has developed standard procedures for sectoral EAs.	World Bank Divisions.

Sadler & Verheem (1996).

Current SEA processes vary considerably. They may be formal or informal, comprehensive or more limited in scope, and closely linked with or unrelated to either policy or planning instruments. In general, three broad approaches to SEA have been adopted to date:

- **it has been introduced as a relatively separate, distinct process - typically as an extension of EIA (e.g. in Canada);**
- **it has been established as a two tier system (e.g. in the Netherlands) with formal SEAs required for specific sectoral plans and programmes and an environmental "test" applied to strategic policies; or**
- **it has been incorporated into policy appraisal (e.g. in the UK) and regional and land use planning (e.g. in Sweden). Recently, there has been growing recognition of the importance of integrating EA with other policy and planning instruments.**

Few developing countries have these enabling conditions in place. However, there are a number of supportive trends and developments. Notably various international organisations have taken steps to promote the transition:

- **In 1978, the US Council for Environmental Quality (CEQ) issued regulations for the National Environmental Policy Act (NEPA), which apply to USAID and specify requirements for "programmatic assessments".**
- **In 1989, the World Bank adopted an internal directive on EIA which allows for the preparation of sectoral or regional assessments.**
- **A section of the 1991 UNECE Convention on EIA in a Transboundary Context promotes the application of EA for policies, plans and programmes.**

- **In 1991, the OECD Development Assistance Committee adopted a principle calling for specific arrangements for analysing and monitoring environmental impacts of programme assistance, i.e. assistance not linked to project activities.**

- **In 1995, UNDP introduced the strategic overview as a planning tool.**

In most cases where SEA has been undertaken in developing countries, the basic aim and approach has mirrored that in the north – namely to identify the environmental consequences (and associated social and economic effects) of existing, new or revised policies, plans and programmes. A notable and innovative exception is in South Africa where the emphasis is on "assessing the effect of the environment on development needs and opportunities" with a strong focus on assessing cumulative impacts.

The countries of Central and Eastern Europe (CEE) are experiencing a period of great change with the establishment of new administrative arrangements, major infrastructural developments, and the privatisation of sectors and industries formerly under national control. Although EIA was only introduced in the CEE countries in the mid-1980s, SEA is already an emerging area of interest (see Therivel, 1997). A number of countries in the region have made some provision for this approach, e.g. as part of recent EIA legislative reforms. But the use of SEA is still relatively limited in scope and varies among CEE countries (Sadler *et al*., 1998).

In the Newly Independent States (NIS), some countries make no distinction between EIA and SEA and their legislation requires that laws, programmes, plans and projects are all subject to environmental assessment. In some of these countries, the former Soviet system of State Environmental Expertise (SEE) is still applied, sometimes under new legislation (e.g. Belarus, Georgia, Kazakhstan, Ukraine). In practise, however, other than in the Russian Federation, there appears to be little or no development of SEA in NIS countries.

Where SEA is undertaken, it is applied primarily to regional and local plans and to a lesser extent to sector programmes. This approach builds on the land use planning systems which are well established in the ex-socialist countries. Except for in Slovakia and the Czech Republic, there appear to be no examples yet of policy-level SEA. However, SEA is a priority of the EIA programme for CEE and NIS countries launched under the Sofia Initiative.

EIA requirements are now an established component of development assistance. Recently, SEA approaches have also been introduced by multilateral and bilateral donor agencies and by other international development organisations. As with EIA, these "conditionalities" are becoming an important part of SEA practice in developing countries and a vector for their wider introduction and adaption for domestic applications. The World Bank is in a leading position in this regard. Increasingly, it is using sectoral EAs to address sector-wide issues and programmatic loans covering numerous similar sub-projects, e.g. roads, irrigation, etc; and is also undertaking regional EAs to take a spatial, area-wide approach to development planning.

Other multilateral and bilateral donor agencies also have important SEA initiatives underway. UNDP, for example, has promoted the application of the Environmental Overview (EO) in the formulation stages of aid programmes (Brown 1997a, 1997b). It asks a set of questions, similar to those asked by conventional EIA, but with different emphasis. First it asks questions concerning the baseline conditions for the project/programme, followed by questions concerning the impacts and opportunities and how the draft project/programme can be redrafted in an operational strategy to take these, and the baseline conditions into account. Additional questions focus on modifications that should be made to the original design. Answering these questions results in a brief document, but it is the interactive process of assembling the EO that is the heart of the process.

A related approach, also termed Strategic Environmental Analysis (but denoted by the acronym SEAn), has been developed and tested by the Dutch group AIDEnvironment, in co-operation with SNV (Netherlands Development Organisation) (AIDEnvironment 1997; Kessler 1997a, 1997b). This experimental methodology is designed for use at the earliest possible stage of policy-making to allow the relevant environmental issues and options to be fully integrated into policy, plan and programme design and priority setting. The methodology is based on experiences with EIA, environmental profiles, and environmental planning, monitoring and evaluation within the project cycle, and comprises 10 steps (Box 6) "which are executed in a participatory manner, with systematic attention for the views and opinions of 'insiders' (local actors)" (Kessler 1997b).

SEA practitioners are increasingly drawing from experiences with other assessment and planning approaches. For example, the construction of environmental scenarios (future forecasting) is a potentially important approach for development planning and in policy-making, and is receiving increasing attention as an important element of the SEA 'tool box'. It is also recognised that policy-level SEA has much to learn from the experiences and

Box 6: Strategic Environmental Analysis (SEAn): The AIDEnvironment Approach. The Main Steps

The strategic environmental analysis approach aims to be systematic, analytical and practical. 10 methodological steps create a logical structure and provide guidance to participants in clarifying the complex issues involved.

Steps 1-4: Society-environment context analysis and impact assessment:
- identification of the main environmental functions (production and regulation);
- defining stakeholders dependent upon these functions;
- assessment of current trends within the functions revealed by environmental indicators;
- assessment of consequences (impacts) of trends on stakeholders; future generations and natural values, using environmental impact chains and a trend-impact matrix;
- defining the norms, standards and thresholds involved.

Steps 5-6: Environmental problem analysis:
- definition of the main environmental problems, based on the impacts of trends and a risk analysis;
- identification of the key factors and related actors causing the problem using the action-in-context approach (underlying factors will be mainly socio-cultural, economic and/or instyitutional).

Steps 7-8: Environmental opportunity analysis:
- definition of the main environmental opportunities;
- identification of the main underlying factors and the actors to realise and benefit from these opportunities.

Steps 9-10: Formulation of a sustainable development policy plan with action fields and follow-up strategy:
- synthesis of the key factors and actors realted to the environmental problems and opportunities;
- definition of environmental action fields;
- definition of sustainable development action fields by integrating priority issues from social and economic dimensions;
- formulation of a policy and coherent action plan for sustainable development based on the strengths and weaknesses of the relevant institutions and existing development policies;
- formulation of a follow-up strategy, including definition of coordination responsibilities, establishment of a monitoring system with relevant indicators, procedures for regular adjustments to policy using relevant strategic environmental analysis steps, institutional strengthening and capacity-building.

Source: AIDEnvironment (1997); Kessler (1997a)

processes of developing and implementing National Sustainable Development Strategies (NSDSs) and equivalent approaches such as national environmental action plans, conservation strateghies, green plans, etc.

The Dichotomy in SEA

Internationally, most SEA experience tends to have been at the level of programmes and plans, where EIA *procedures* and approaches can be applied fairly readily. SEA here can be seen as an extension of EIA to facilitate strategic decisions. However, there have been fewer applications at the 'higher' level of policies - particularly national-level policies. This is perhaps not surprising because policy is the prerogative of politicians and senior bureaucrats who resist the intrusions of SEA at this level. For policies, where the main body of EA practitioners has little experience, a different approach is necessary.

At this level, the critical constraints on SEA are not likely to be technical or methodological. In practice, the issues facing environmental assessment (in its widest sense - i.e. incorporating social and economic dimensions) at the policy level are:

- **securing the political and institutional will so that SEA has a 'seat at the policy table', i.e., where decision-makers and policy-makers accept its legitimacy and acknowledge that SEA has a key and constructive role to play; and**

- **finding the key leverage points in the policy-making cycles to ensure that SEA is able to play its part in all important stages and throughout the process.**

These constraints represent a formidable challenge. It is not surprising, therefore, that the proposed European Community Directive for SEA (Council of the European Communities, 1997) requires SEA of plans and programmes only and is framed restrictively. Ten years earlier the EC was committed to including policy level SEA; it appears to have been omitted as a result of political concerns and reluctance of members states to adopt the approach (Sadler and Baxter, 1997).

With increasing recognition of this dilemma, there is also a growing view that SEA will need to be rethought so as to clearly distinguish between the methodologically different SEAs as applied to the

Box 7: Some Principles for SEA

(A) General: An SEA process should:
- fit the purpose and be customised for application at the policy level or at the level of plans and programmes;
- have integrity, so that it is applied in accordance with the objectives and provisions established for it; and be effective in meeting those objectives;
- be focused on delivering information necessary to the decisions to be made, and address the significant and key issues;
- be driven by sustainable development principles (taking into account environmental, social and economic considerations); and therefore
- be integrated with parallel analyses of economic and social dimensions and issues, and with other planning and assessment instruments and processes;
- relate to project EIA where appropriate - perhaps through tiering mechanisms;
- be transparent and open;
- be practical, easy to implement, oriented to problem-solving, and cost-effective;
- introduce new perspectives and creativity (it should "provide bonuses, not be a burden"); and
- be a learning process (thus it is essential to start 'doing SEA' to gain experience).

(B) SEA Steps: An SEA process should ensure that:
- *screening*: responsible agencies carry out an appropriate assessment of all strategic decisions with significant environmental consequences;
- *timing*: results of the assessment are available sufficiently early for use in the preparation of the strategic decision;
- *environmental scoping*: all relevant information is provided to judge whether: (i) an initiative should proceed; and (ii) objectives could be achieved in a more environmentally friendly way (i.e. through alternative initiatives or approaches);
- *other factors*: sufficient information is available on other factors, including socio-economic considerations, either parallel to or integrated in the assessment;
- *review*: the quality of the process and information is safeguarded by an effective review mechanism;
- *participation*: sufficient information on the views of all legitimate stakeholders (including the public affected) is available early enough to be used effectively in the preparation of the strategic decision;
- *documentation*: results are identifiable, understandable and available to all parties affected by the decision;
- *decision-making and accountability*: it is clear to all stakeholders and all parties affected how the results were taken into account in decision-making;
- *post-decision*: sufficient information on the actual impacts of implementing the decision is gained to judge whether the decision should be amended.

Adapted from Sadler (1998b) and Tonk & Verheem (1998).

plan and programme level and policy-level SEAs respectively. Indeed, there is a further view that, at the latter level, what is really required is a more holistic approach which has been called sustainability analysis (Dalal-Clayton 1993). This is an area which is beginning to receive attention.

Principles

Clearly the application of SEA approaches is increasing and with it comes the first crop of generalisations about best practice. Based on experience to date with SEA, and with proximate approaches, a number of broad principles are suggested that can guide policy-makers, planners and SEA practitioners (see Box 4). These provide a first approximation rather than a last word, and undoubtedly will undergo review and revision. Above all, the need is to test and develop these against practice - learning by doing. We accept that conceptual development can be valuable. But for more than most subjects, SEA theory could do with a prolonged spell of general re-thinking.

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Part 2

THE GUIDELINES

The Guidelines

Matrix

Regional and National Agency

Sectoral - Miscellaneous

Matrix of Sectoral Guidelines by Country and Agency (page numbers given in boxes)

COUNTRIES & AGENCIES	Agriculture/ Irrigation	Biological diversity/ Habitats	Coastal/ Marine	Community/ Participation	Extractive industries	Fisheries/ Aquaculture	Forestry	Hazards/ Risks	Health	Human settlements	Industry	Multisectoral	Ports & harbours	Power	Refugees/ Resettlement	Social	Strategies/ Planning	Tourism/ Recreation	Transport	Waste/ Pollution	Wetlands/ Water resources
COUNTRIES																					
AFRICA																					
Regional	165		166	54	165	165	165				53/165	53/4		165	165						165
Egypt	56		56		56					56	56	56	56	56				56	56	56	
Gambia	57				57	57					57	57						57	57	57	
Ghana					57/8																
Kenya				58																	
Malawi				59								59									
Mozambique												61									
Niger										61											
Nigeria					62																
Seychelles	61		61		61	61					61	61		61				61	61	61	
South Africa			63	64	63			64				64				64	65			64	
Tanzania		66																			
Zimbabwe	68				68		68			68		68						68	68	68	68
ASIA / PACIFIC / MIDDLE EAST																					
Regional	69		70		71						61		70					70	69	71	70
Bangladesh											71									71	72
China											73										

Hong Kong		74				74		74				74								74	74	
India		77	75							76	76/7		75/7	76						76/7	75/7	75
Indonesia		79	80								80					79/80						80
Kuwait											82										82	
Malaysia	84	84	84		84	84		84		84	84	84		84				84		84	84	
Nepal		85			86					86	86										86	85
Oman	87										87											
Pakistan		88		88	89					89	88			88/9						88	89	
Philippines									90													
Singapore																					91	
Sri Lanka							92													92		
Thailand					94					94	94	94		94						94		94
Vanuatu			95		95													95				
Vietnam		96																			96	
Yemen				97																		
AUSTRALASIA																						
Australia					98																	
New Zealand								101	100							101						
CARIBBEAN / WEST INDIES																						
Regional	102		102															102		102		

EUROPE	Agriculture/ Irrigation	Biological diversity/ Habitats	Coastal/ Marine	Community/ Participation	Extractive industries	Fisheries/ Aquaculture	Forestry	Hazards/ Risks	Health	Human settlements	Industry	Multisectoral	Ports & harbours	Power	Refugees/ Resettlement	Social	Strategies/ Planning	Tourism/ Recreation	Transport	Waste/ Pollution	Wetlands/ Water resources
Regional	199			104	199	199	199	200		199	199	199	199	199	199			199			
Austria																	105				
Belgium	106	106							106	107		106		106			106			106	106
Bulgaria																					
Czech Republic											108										
Denmark																	109				
Finland			110								110			110		110			110		
France			111		111					111			111	112						111/2	111
Germany		113-5															113				113/4
Greece																		115			
Ireland												116							116		
Italy	117	117					117														117
Malta																	118				
Netherlands																	120		119	119/20	
Portugal					121							121	121	121				121	121	121	
Russian Federation								122	121												
Slovak Republic	123			123							123	123					123		123	122/3	123
Spain		124					124							124				124	124		124
Sweden		125														125			125/6		
Switzerland	127	127				126								127						126	127
United Kingdom		131-3	130		130		132							130			128-33		131/2	131	132

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Regional					134			134/5	135										135			
Argentina		135			135								135	135/6					135	135		
Belize		137			137	137					137	137					137	137		137	138	
Bolivia					138			138	138		138	138		138					138			
Brazil	139															139						
Chile	140						140	140		140	140	140		140-2					140	140		
Colombia					141-3														141/2			
Costa Rica	143/4	144								144	144		143					143	143		144	
Ecuador				144																		
Mexico					145			145														
Paraguay		146			147							146									146	
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United States of America	159	155/7			157/8					156	158			159		160	155			155/7		
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Arctic				162	161																	

AGENCIES	Agriculture/ Irrigation	Biological diversity/ Habitats	Coastal/ Marine	Community/ Participation	Extractive industries	Fisheries/ Aquaculture	Forestry	Hazards/ Risks	Health	Human settlements	Industry	Multisectoral	Ports & harbours	Power	Refugees/ Resettlement	Social	Strategies/ Planning	Tourism/ Recreation	Transport	Waste/ Pollution	Wetlands/ Water resources
BANKS																					
AFDB	165		166		165	165	165				165			165	165						165
ASDB	166/7		168/9					168	169		167			167/8		168/9	166				
EBRD				170				170	170		170									170	170
I-ADB												171									
WB		175	173/4	171/3	175			175	175	175		171/3		171		176	174/5			174/6	171
BILATERAL DONOR AGENCIES																					
AusAid												177									
[Austria]		177														177					
BMZ / GTZ / KfW	181				181						181	180		181			181				
CIDA				178/9				177									178				
DANIDA												180		180							
FINNIDA	180				180	180	180			180		180	183	182/3					180		
JICA	183				183	183	183					182						183	183	183	182/3
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NORAD	185	185			185	185	185			185	185	185		185					185		185
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UNITED NATIONS AGENCIES																						
UNDP					188																	
UNDTCD					188																	
UNESCAP	189		190								189		189						190	189		189
UNECE				191										190			190/1			190		190
UNEP			193		193						193											
UNFAO	194		193			193/4	194				194				193							
UNHCR					195						195				194							
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WHO	197								196/7													
IGO'S																						
CDC																199						
CS	199				199	199	199			199	199	199	199	199				199	199			199
EC	199				199	199	199	200		199	199	199	199	199	199			199		199		199
GESAMP			201																			
IAEA								202						202								
ITTO							202															
OECD															203		203		203			
OAS								203									203		203			
OECS																						
OECF			204		204									204					204/5	204		
SPREP			204		204																	
IUCN		206			206		206							206								

KEY TO ACRONYMS USED IN THE MATRIX

Banks	**Multilateral Development Banks**
AFDB	African Development Bank
ASDB	Asian Development Bank
EBRD	European Bank for Reconstruction and Development
I-ADB	Inter-American Development Bank
WB	World Bank

Donors	**Bilateral Donor Agencies**
AusAid	Australian Agency for International Development
[Austria]	Austrian Ministry for Foreign Affairs
CIDA	Canadian International Development Agency
DANIDA	Danish International Development Agency
FINNIDA	Finnish International Development Agency
BMZ/GTZ/ KfW	German Federal Ministry for Economic Development/German Foundation for International Development/German Credit Institute for Reconstruction
JICA	Japanese International Cooperation Agency
NEDA /SNV	Netherlands Development Assistance/Netherlands Development Organisation
NORAD	Norwegian Agency for International Development
SDC	Swiss Development Corporation
UK DFID	UK Department for International Development
USAID	United States Agency for International Development

UN	**United Nations Agencies**
UNDTCD	United Nations Department of Technical Cooperation for Devlopment
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic & Social Commission for Asia and the Pacific
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific & Cultural Organisation
UNEP	United Nations Environment Programme
UNFAO	United Nations Food and Agriculture Organisation
UNIDO	United Nations Industrial Development Organisation
UNHCR	United Nations High Commission for Refugees
UNIFAD	United Nations International Fund for Agricultural Development
WHO	World Health Organisation

IGOs	**Inter-Governmental Organisations**
CDC	Commonwealth Development Corporation
CS	Commonwealth Secretariat
EC	European Community
GESAMP	(Joint) Group of Experts on The Scientific Aspects of Marine Environmental Protection
IAEA	International Atomic Energy Agency
ITTO	International Tropical Timber Organisation
OECD	Organisation for Economic Cooperation and Development
OAS	Organisation of American States
OECS	Organisation of Eastern Caribbean States
OECF	Overseas Economic Cooperation Fund
SPREP	South Pacific Regional Environment Programme
IUCN	World Conservation Union

Regional and National Guidelines

AFRICA

Africa

Africa Regional

African Development Bank (AFDB) (1995). **Environmental Sectoral Policy Guidelines for the Industrial Sector.** African Development Bank, Abidjan. (30 p., 6 appendices)

This report contains environmental sectoral policy (ESP) guidelines for the industrial sector which are intended as a working tool for Bank staff, officials in Regional Member Countries (RMCs) and managers of industry projects financed by the Bank Group. The guidelines are based on the Bank's Environmental Policy paper of 1990 and its Environmental Assessment Guidelines (ADB 1992). These ESP guidelines present general principles for integrating environmental concerns into industry projects and introduce tools for obtaining environmental information from this sector. They are complemented by separate sectoral guidelines covering coastal and marine resources, crop production, energy, fisheries, forestry and watershed management, irrigation, mining, education and involuntary displacement and resettlement.

The environmental situation in RMCs is reviewed and the main environmental issues encountered in industry projects are presented. Principles of responsible environmental management are restated with special emphasis on environmental management systems (EMS). A number of methods and measures for improving environmental performance of industry projects and mitigative measures are discussed: cleaner production, principles for pollution control, monitoring and data collection, and clean-up of contaminated sites. The EA procedure of the Bank is reviewed and two new tools are introduced for improving environmental information needed for categorization and ensuring an environmentally acceptable project design: Initial Environmental Examination Checklist (IEEC), and environmental audit methodology. There are six appendices for industry projects covering: environmental guideline values; IEEC; environmental audit protocol; model for an EMS; suggested terms of reference and a suggested report format for an environmental audit.

(see Agencies, African Development Bank, for all references to sectoral guidelines).

Contact: African Development Bank, BP 1387, Abidjan 01, Cote d'Ivoire.

Baskind, P., Holland, J., McKenzie, C. & Weilbach, D.J. (1994). **Environmental Analysis: Requirements and Monitoring Procedures: Internal Operating Guideline Paper No.1.** Environmental Policy Programme, Development Bank of Southern Africa, South Africa. (15 p.)

This document sets out the environmental analysis requirements of the Development Bank of Southern Africa (DBSA). It is intended to serve as a guide to the Bank's project staff and to provide information to Bank borrowers. It illustrates the extent and depth of analysis required at each stage of the project cycle and other necessary compliance mechanisms. DBSA's procedures are compatible with the South African Department of Environmental Affairs' Integrated Environment Management Guidelines, and also aim to be compatible with internationally accepted procedures – in particular those of the World Bank and Asian Development Bank.

The guidelines are in two sections covering: principles of environmental analysis; and environmental analysis and the project cycle, supported by flow diagrams. Appendices provide a categorisation of projects based on potential environmental impact, a list of designated and demarcated areas as a guide to projects requiring sensitive analysis, suggested contents for an initial environmental examination report and for an environmental assessment report, and a list of projects for which initial environmental matrices have been prepared.

Contact: Corporate Affairs Division, Development Bank of Southern Africa, PO Box 1234, Halfway House 1685, South Africa.

Knausenberger, W.I. & Booth, G.A. & Bingham, C.S. & Gaudet, J.J. (Eds) (1996). **Environmental Guidelines for Small-Scale Activities in Africa: Environmentally Sound Design for Planning and Implementing Humanitarian and Development Activities. Technical Paper No.18, SD Publication Series.** Productive Sector Growth and Environment Division, Office of Sustainable Development, Bureau for Africa, United States Agency for International Development (USAID), Washington D.C. (xiii, 126 p., appendices)

The purpose of these guidelines is to promote environmentally sound development activities that build on the principles of sustainable natural resource management. They represent a key element in the environmental management capacity-building strategy of USAID's Bureau for Africa, and are intended for use by private voluntary organisations (PVOs), non-governmental organisations (NGOs) and other recipients of USAID grants as a tool for activity design, implementation and monitoring. The document is a follow-up to a limited set of provisional guidelines released in 1992. It synthesises materials produced by numerous organisations and individuals, especially over the last 10 years. They have been tested in draft form and used by NGOs in the field and in training courses and workshops.

Guidelines are presented for 18 diverse but interrelated sectors. Individual sectors covered include: agriculture (soil and water resources, including irrigation); timber harvesting and production; livestock and range management; fisheries management; ecotourism; small-scale rural enterprises; small industry; rural roads and energy. Multisectoral guidelines are provided for: agroforestry; integrated conservation and development projects; agricultural pest management; water supply and sanitation; construction; waste management; environmental mitigation during refugee relief; resettlement activities and the environment; and food aid, humanitarian relief, and the environment. For each sector, key questions and suggested actions are included.

The document also outlines the principles of EIA and USAID's environmental review procedures, and describes the USAID African Bureau's Activity Categorization process for NGO/PVO grants and subgrants.

Two appendices provide guidelines for safe pesticide use and integrated pest management. Another appendix describes the classification of project activities during activity planning and initial environmental assessment. An Environmental Screening and Reporting Form (ESF) is included which is intended to allow the streamlined review of proposed activities in a way that is consistent with USAID policies and procedures. Other appendices set out pertinent USAID environmental procedures and strategies and regulatory documents, and a useful list of key contacts and reviewers is included. Finally, a list of useful general references and others specific to the sectors covered is also provided.

Contact: United States Agency for International Development (USAID), 320 21st Street NW, Washington DC 20523, USA.

World Bank (1991). **Local Participation in Environmental Assessments of Projects.** Environmental Assessment Working Paper; 2. Environment Division, Africa Region, World Bank, Washington, D.C. (11 p.)

The World Bank's Environmental Assessment Operational Directive (OD 4.00) calls for the involvement of affected groups and NGOs in project design and implementation, and particularly in the preparation of EA reports. It is recognised, however, that conditions for effective local participation vary significantly between regions of the developing world, between countries within a region, and even between different parts of the same country. These guidelines are thus intended to promote the most effective local participation possible in the context of the Africa region.

The guidelines were prepared to assist regional staff, consultants, and borrower staff in planning for local participation in project environmental assessments. They are intended to complement the instructions given in Operational Directive 4.00, Annex A, and the more extensive guidance provided in Chapter 7 of the Bank's Environmental Assessment Sourcebook (World Bank 1991). A short checklist for Task Managers follows the guidelines, a more detailed version of which may be found in Chapter 7 of the Sourcebook.

Contact: World Bank, 1818 H Street NW, Washington DC 20433, USA.

Angola

Article 34 of the Fundamental Law of the Environment of the Republic of Angola provides the basis for mandatory EIA and outlines the information that should be included in an EIA. The State of the Environment Secretariat is responsible at the government level for EIA. The actual process is carried out by a branch of central or local government or a public or private body, as defined in the Law. Planned changes to improve the application of the legislation include the training of national officials and the setting up of regional EIA centres.

Benin

The Benin Environment Agency (*Agence Beninoise pour l'Environnement* **– ABE) became operational in 1995 under the** *Ministere de l' Environnement de l'Habitat et de l'Urbanisme* **– MEHU). Development project proponents must apply for a licence from the relevant sectoral ministry which contacts the ABE to initiate the screening process and establish the need for further assessment. The proponent carries out the EIA and review is the responsibility of the ABE and the**

licensing authority. The ABE is also the leading agency for the development of legislation and guidelines.

Contact: Department Systemes d'Information et de Suivi Environnement, Agence Beninoise pour l'Environment, 03 BP 4387 Cotonou, Benin

Botswana

At present, EIA is a voluntary process and there are no standard procedures within Botswana. It is limited mainly to private developments carried out on a sectoral basis by donor organisations. The Botswana National Conservation Strategy, 1990, contains a mandate to develop an EIA system under the framework of the envisaged National Conservation Act. A review undertaken in 1995 for the NCS Agency by IUCN identified 23 laws which contained some provisions resembling EIA, each the responsibility of relevant ministries. The NCS Co-ordination Agency is developing draft EIA legislation to be included in the planned National Conservation Act. This will probably designate responsibility for the EIA process to the NCS Agency and will clarify the roles played by the various parties at each stage of the process.

Contact: National Conservation Strategy Coordinating Agency, Private Bag 0068, Gaborone, Botswana

Burkina Faso

The *Code de l'Environment* **of March 1997 is the most recent and strongest environmental legislation (the first EIA system being introduced by the 1994 Code). Proponents must file a** *Notice d'Impact sur l'Environnement* **(NIE) or initiate a full EIA. The Code provided for the establishment of the Bureau of Environmental Impact Studies which is responsible for an assembly of experts to assess certain actions. The National Environment Action Plan 1994 (Plan d'Action National sur Environnement) prescribes that the Ministry for Environment and Water (***Ministere de l'Environnement de l'Eau-MEE***) is notified of proposed activities by the responsible authority. The MEE reviews EIA studies and makes recommendations to the administrative authority during decision-making. As yet, the MEE has not formulated any specific EIA regulations. Both public and private projects are subject to EIA (using screening lists) with government proposals being handled by the Bureau of Environment Impact Studies within the MEE. Public participation is provided by Article 13 of the Code and has taken place at all stages in the process in practice. Due to the number of projects which are donor-led, the procedures are flexible to meet both national and international needs.**

Contact: Direction Generale de la Preservation de l'Environnement, Ministere de l'Environnement et de l'Eau, 01 BP 70944 Ouagadougou 01, Burkina Faso

Burundi

Currently, EIAs are carried out only for donor-financed projects. A draft Law on the Protection of the Environment has been prepared which includes provisions for EIA. The proponent will be required to submit an outline of the project and its possible impacts to the National Institute for the Environment and Nature Conservation (INECN), which will make a decision on whether an EIA is required. If a decision is not made within one month, it is presumed that EIA is not required. On completion of the EIA, INECN will give a considered opinion to the government ministry responsible for authorising the project.

Cameroon

Article 16 of Law No. 94/001, 1996, requires EIA for all projects that can "bring disturbances to forestry, wildlife and the aquatic environment". In addition, Article 17 of Master Law No. 96-12, 1996, prescribes EIA for all projects that may cause environmental degradation. However, there is no effective application of the legislation as yet. The Secretary of the Environment (Ministry of the Environment and Forestry) has the mandate to elaborate the procedures, guidelines and standards to implement the laws related to EIA.

Contact: Cameroon Association for Environmental Impact Assessment, BP 2431 Messa-Yaounde, Cameroon

Cape Verde

The National Environment Policy (Order No. 86/IV/93) is the legislative framework for EIA. The provisions are implemented at the State, regional and local, although the State holds the ultimate responsibility for the policy development and application.

Comoros

Currently, EIAs are carried out only for donor-financed projects, within the framework of the country's Environmental Action Plan. The authorising body responsible for the project forwards a recommendation to the Directorate General for the Environment (DGE) based upon the impact assessment. The DGE publishes a notice informing the public that the assessment report is available for viewing and comment.

Egypt

Formal EIA regulations have existed since February 1995 when the Law on the Environment (No 4/ 1994) and its Executive Statutes came into force. These Statutes include a list-based screening procedure with black (full EIA required), grey (a "scoped" EIA focusing on specific aspects of the project and environment) and white (excluded from EIA if they are unlikely to have a significant impact) lists. An "Initial Environmental Notification" must be submitted before screening. Terms of reference for black and grey projects are issued by sectoral ministries and the Egyptian Environmental Affairs Agency (EEAA). The EEAA also reviews and evaluates the documents and then forwards its recommendation to the competent administrative authority. It is not envisaged that the system will be applied to policies, plans and programmes. The Statutes also give provision for monitoring. Sectoral guidelines have been developed for ten sectors and have been used since October 1996 to elaborate the EIA system. National guidelines for EIA supply details about the framework. The Environmental Management Sector within the EEAA deals with EIA in more detail at the review stage and through the production of guidelines. Each sectoral ministry has a co-ordinating body with executive power. The proponent has the responsibility to write the EIS with licensed experts.

Egyptian Environmental Affairs Agency (EEAA) **Guidelines for Egyptian Environmental Impact Assessment.** Egyptian Environmental Affairs Agency, Cairo. (111 p.)

This document provides information on the legislative framework in Egypt governing EIA, the circumstances in which an EIA is required, and the formal procedures. The review system is described with projects screened into three lists: white (minor impact), grey (possible substantial impact), and black (complete EIA automatically required). Potential project types or development initiatives (termed establishments) are listed for each of these lists, categorised under competent administrative authorities, and screening criteria are indicated, e.g. activity, quantity of production, project size. Official procedures and required documents are listed. Details of the appeal system are outlined. Annex 1 gives sectoral guidelines for 'establishments' that require a full EIA, each describing the issues to be addressed. The following sectors are covered: electricity and energy; intercity roads and highways; port and harbour facilities; roads and highways in cities; agricultural land reclamation; irrigation and drainage; industrial establishments; offshore oil and gas; wastewater collection, treatment, reuse and disposal systems; and tourism and urban development. Annex 2 provides abstracts of legislation and executive regulations relating to EIA.

Contact: Environmental Management Sector, Egyptian Environmental Affairs Agency, Cairo, Arab Republic of Egypt.

Egyptian General Petroleum Company (EPGC) (1997). **General Guidelines for Full Environmental Impact Assessment.** Egyptian General Petroleum Company, Cairo. (11 p.)

The EGPC is the licensing authority for the oil and gas sector. However, the Guidelines for Egyptian Environmental Impact Assessment (1997) also apply to this sector, and in accordance with these guidelines the assessment is also subject to review and approval by the Egyptian Environmental Affairs Agency. Both sets of guidelines are very similar.

These guidelines are concerned with the full EIA process for activities related to the exploration and production of onshore and offshore oil and gas resources, and are applied by the oil and gas industry in Egypt. They list the information required to be provided for project approval, including: descriptions of the proposed establishment, the environment, and legislative and regulatory considerations; identification of potential impacts; description of alternatives to the proposed project; and mitigation management and monitoring plans. An outline of the contents of an EIA report is provided. A list of the EGPC's EIA consultants is included.

Contact: Egyptian General Petroleum Company, PO Box 1457, Palestine Street, 4th Sector New Maadi, Cairo, Egypt.

Eritrea

We understand that the Department of Environment, Ministry of Land, Water and Environment, Government of Eritrea is currently in the process of formulating procedures and guidelines for EIA. These are being drawn-up to complement forthcoming environmental legislation.

Contact: Department of Environment, Ministry of Land, Water and Environment, P.O. Box 976, Asmara, Eritrea.

Ethiopia

Phase II of the National Conservation Strategy (1990) proposed a policy and an institutional framework for the implementation of proposals for the conservation of natural resources and the environment. The Ministry of Natural Resources Development and Environmental Protection co-ordinates implementation of this strategy. The Environmental Protection Policy, adopted in 1997, led to the establishment of the National Environmental Protection Authority (NEPA)

in 1992. However there is still no formal EIA procedure and *ad-hoc* assessments are usually at the request of the funding agency. NEPA currently is preparing EIA guidelines which are expected to be available in mid 1998.

The Gambia

EIA became a statutory requirement for certain public and private projects with the enactment of the National Environmental Management Act 1988. Preparation of Regulations to support the EIA provisions of the Act (Part V) commenced in 1995 when the first draft guidelines were developed. Since then, draft procedures have been produced and the applicability of the fourth (current) draft was tested in 1997 on a proposal to re-channel a stream. In addition, EIA guidelines for seven sectors have been drafted. Following further testing in September 1998, it is intended to develop the draft procedures and guidelines into EIA Regulations. The Act and procedures provide for public consultations and participation during the scoping, study and review stages. An EIA Working Group advises the National Environmental Agency on EIA.

Government of The Gambia (1966). **Environmental Impact Assessment: Procedures. Fourth Draft.** National Environment Agency, Banjul. (vi, 24pp, 5 annexes, 3 appendices)

This draft document provides a detailed outline of the procedures for conducting EIA in The Gambia, and is based on relevant EIA sections in the National Environmental Management Act (NEMA) 1994. It represents the EIA policy in the country but is not legally binding per se. There are four chapters: introduction; brief overview of the process and institutional framework; step-by-step procedures (screening, formal EIA, conducting an environmental impact study, review of draft EIS, environmental clearance, and auditing compliance); and disputes, appeals and penalties. There are five annexes including schedules of the NEMA on projects to be considered for EIA and issues to be taken into account. Appendices provide a sample screening form, classification criteria and a sample National Environment Agency checklist, and EIA guidelines.

Government of The Gambia (1996). **Environmental Impact Assessment: Priority Sectoral Guidelines. Fourth Draft.** National Environment Agency, Banjul. (iii, 50 p.)

This document provides draft sectoral guidelines which serve as a framework for consideration during the scoping phase of the EIA process. They cover seven sectors: manufacturing and processing industries, mining and on-site mineral processing, road infrastructure, solid waste disposal, large agricultural projects, fisheries and aquaculture, and tourism development projects. For each sector, the guidelines have an identical content covering: description of the project, description of the site and its environment, identification and description of impacts, significance of impacts, mitigation measures, and monitoring and evaluation.

Contact: National Environment Agency, 5 Fitzgerald Street, PMB 48, Banjul, The Gambia.

Ghana

The 1985 Ghanaian Investment Code was the first policy instrument to refer to EIA. The Environmental Protection Council introduced the EIA process for industrial developments. A Government Administrative Directive made EIA a legal requirement in 1989, and the National Environmental Action Plan was approved in 1991. Under the Environmental Protection Act, 1994, the Environmental Protection Council was restructured to form the Environmental Protection Agency (EPA). However, there is no separate law for EIA. The EPA exists as district, municipal and metropolitan assemblies and is responsible for implementing the EIA process. The latter requires a "Preliminary Environmental Review" (PER) for all projects with potential environmental impacts. This may be followed by a full EIS if required. The proponent must register the project and carry out the EIA study. Provision is made for public participation at scoping, during the preparation of the Environmental Impact Statement and during the review stages. Review is carried out by the EPA and an expert committee. An "Environmental Permit" may be granted by the EPA if the EIS is approved. Currently, there are EIA guidelines for the mining industry with other sectoral guidance in preparation.

Ghana Minerals Commission & Environmental Protection Council (1995). **Ghana's Mining and Environmental Guidelines.** Prepared by the Minerals Commission, Environmental Protection Council, Accra. (36 p.)

These guidelines were prepared following consultations between government agencies, mining companies, NGOs, universities, research institutions and the public. The document is presented in three parts: general guidelines for exploration, mining, mineral processing and de-commissioning; detailed guidelines for the preparation of an EIA for a new mining project; and detailed guidelines for the preparation of an Environmental Action Plan for existing mines. The guidelines address mineral exploration by requiring

liaison, controlling access and activities and specifying abandonment procedures.

Environmental Protection Council (1995). **Environmental Impact Assessment: Procedures.** Environmental Protection Council, Accra. (v, 13 p., 13 appendices)

Following an introduction on the need for environmental management, the EIA process in Ghana is described. Section 3 sets out the EIA procedures (registration, screening, scoping, scoping report/terms of reference, environmental impact statement preparation, EIS review, public hearing, environmental permitting decisions, environmental impact statement, preliminary environmental report, validity of provisional environmental permit, and environmental permit). Other sections deal with fees, environmental management plans and annual environmental reports, penalties, determination of an application, appeal, Technical Review Committee and public notices. There are 13 appendices.

Environmental Protection Agency (1996). **Environmental Assessment in Ghana: A Guide.** Environmental Protection Agency, Accra. (vii, 51 p., 8 appendices)

This guide was prepared to assist the headquarters and regional offices of the Environmental Protection Agency in administering EIA procedures. It provides the context of EIA within the broader fields of environmental planning and environmental management. There are 11 chapters: introduction, EIA procedures and project registration, screening, scoping and consultation, the management of EIA, EIS review, monitoring, environmental audit, environmental management plans, environmental reports, and environmental management systems. In addition, there are 8 appendices on: EIA procedures for project registration and EIA; new undertakings requiring registration; environmentally critical projects (EIA mandatory); ecosystems of particular importance or sensitivity; degradation processes and other environmental issues; participatory learning and action techniques; definitions; and an EPA publications list. The document is well supported by tables, boxes and figures.

Contact: Environmental Protection Agency, PO Box M326, Ministries Post Office, Accra, Ghana.

Kenya

The Kenyan Government made a commitment to introducing EIA procedures in the 1988-93 Development Plan and the National Environment Action Plan, 1993, also contained an objective to develop an EIA system. The National Environmental Impact Assessment Programme was set up in 1994 and draft guidelines and procedures were produced ,although no legal basis for EIA yet exists. EIA guidelines are currently under preparation. The EIA Sub-committee of the Inter-ministerial Committee on Environment, constituted under the Ministry of Environment and Natural Resources, has overall responsibility for the EIA system in Kenya. The programme recommends public participation, especially at the review and approval stages. Draft legislation (the Environmental Management and Co-ordination Bill) proposes to set up an Environmental Protection Agency to develop and monitor procedures at national and district level. District Development Committees will assume responsibility for managing EIA studies for district-level proposals and the Investment Promotion Centre will manage studies for national projects. The Provincial level uses district procedures to direct the EIA studies at this level.

Ministry of Environment and Natural Resources (1994). **Kenya National Environmental Action Plan: Chapter 11 Legal Instruments, Land Use, EIA and Institutional Framework.** NEAP Secretariat, Ministry of Environment and Natural Resources, Nairobi. (203 p.)

This report addresses the considerable impact that rapid changes have had on Kenya's environment and natural resource base, and details the country's commitment to integrate environmental considerations into development programmes. The first part of the plan deals with environmental policy objectives and major strategies for their realisation, whilst the second part focuses on sectoral issues. Chapter 11 includes information on the current status of and institutional framework for EIA. Annex 2 sets out proposed EIA procedures for projects respectively at district, provincial and national levels, covering such issues as proposal concept, classification, screening, proposal development, EIA terms of reference, impact assessment, EIA, review, record of decision, conditions of approval, implementation, monitoring, and auditing.

Contact: NEAP Secretariat, Ministry of Environment and Natural Resources, Uniafric House, PO Box 30126, Nairobi, Kenya.

Muhia, C.D.K (1997). **Guidelines on Environmental Impact Assessments of Integrated Community Project Activities.** Kenya Energy and Environment Organisations (KENGO), The British Council, Nairobi. (xiv, 51p.) ISBN 9966-841-24-6

These guidelines have been developed "from intensive participatory social laboratory case studies and experiences, continuous action learning processes and environmental impact literature review". In the

introduction, the concept of an integrated community development project (ICDP) in Kenya is equated with agroforestry projects and their characteristics are described. The aims and objectives of EIA are discussed together with factors to be considered during an EIA of such projects. The eco-cultural approach (UHAI model) is put forward as an approach for EIA, and its principles are listed. The characteristics of ICDPs and also outlined. An impact identification checklist is provided for agroforestry projects and related issue are listed. An example of EIA analysis is given for a socio-economic impact study of a wood-burning institutional stove at a girls school. Other sections discuss sampling procedures, the importance of EIA, and EIA success indicators.

Contact: Kenya Energy and Environment Organisations (KENGO), Nairobi, Kenya.

Lesotho

The Lesotho National Environmental Action Plan, 1989, was one of the first such NEAPs to be completed in Africa with World Bank support. It recommended that EIA should be applied but provided no mechanism to do so. Most recent EIAs in Lesotho have been undertaken in connection with the Lesotho Highlands Water Project, but have influenced decision-making only to a limited extent. A draft Environmental Policy and Protection Order, 1992, led to the introduction of a pollution control framework. The National Environment Secretariat, established in 1994, will play the main role in implementing a future EIA system with statutory status. EIA legislation is being proposed which aims to provide for public participation, monitoring and auditing, and regional co-operation frameworks within the EIA process.

Government of Lesotho **Environmental Impact Assessments: Guidelines for Developers. Draft.** Department of Lands, Surveys and Physical Planning, Maseru. (7 p.)

This draft introduces EIA, describes when it may be required, discusses the respective roles of the Department of Lands, Surveys and Physical Planning and the National Environmental Secretariat (NES), sets out what is required of developers, and considers the use of consultants, publicity and costs. The NES is still developing the guidelines, which should be finalised by the end of 1998.

Contact: Department of Lands, Surveys and Physical Planning, PO Box 876, Maseru 100, Lesotho.

Liberia

Liberia is presently experiencing massive environmental degradation pollution problems, contamination of land by toxic waste and deforestation. There is no EIA system.

Madagascar

Government of Madagascar **Mise en Compatibilite, des Investissements avec l'Environnement (To Make Investments and Environment Compatible).** Centre d'Information et de Documentation Scientifique et Technique, Antananarivor. (9 p.)

Government of Madagascar (1995). **Decrêt No. 95-377, 23/05/1995. Rélatif à la Mise en Compatibilité, des Investissements avec l'Environnement. (Decree No. 95-277. To Make Investments and Environment Compatible).** Office National de l'Environnement, Antananarivo. (28 p.)

Contact: Centre d'Information et de Documentation Scientifique et Technique. Rue Fernand Kasanga, B.P. 6224, Andoharano, Tsimbazaza, 101 Antananarivo, Madagascar.

Malawi

The Malawi National Environmental Action Plan, 1994, addresses EIA and its principles as well as suggesting strategies for carrying out EIA. This was complemented by the 1996 National Environmental Policy. The Environmental Management Act, 1996, Section 24 (1), makes EIA mandatory. The Director of Environment Affairs (DEA) in the Ministry of Research and Environmental Affairs is the responsible authority for the EIA process. Proponents must carry out EIA studies. The 1996 Act requires that a project brief be submitted to the DEA for screening. The DEA may require further study and the proponent is then required to submit a full EIA report. Review of the full EIA report is carried out by the Technical Committee for the Environment and the DEA. There are no other guidelines to integrate EIA with planning and other approvals. Public projects are administered by Ministry of Economic Planning and Development.

Government of Malawi (1997). **Administrative Guidelines for Environmental Impact Assessment.** Environmental Affairs Department, Ministry of Research and Environmental Affairs, Lilongwe. (vii, 33 p., appendices, annex)

The stated purpose of these guidelines is "to facilitate compliance with Malawi's EIA requirements by government, project developers and the general public". An introduction (Chapter 1) defines and describes the objectives of EIA and the prerequisites and statutory basis of EIA in Malawi, and indicates how EIA is integrated into general project planning processes. In Chapter 2, the EIA process, roles and responsibilities in Malawi are discussed, with sections on the EIA report, coordination among institutions, managing compliance with EIA results, follow-up to the EIA process, and public consultation and access to information. An outline of the relationship of EIA to other project planning and approval processes in the country, for both public- and private-sector projects, is provided in Chapter 3. Appendices give supportive information on a number of topics: EIA provisions of the Environmental Management Act; list of prescribed projects (note that a separate and expanded list is available, dated May 1997); preparing EIA submissions; project screening criteria; scoping and preparing EIA terms of reference; model EIA terms of reference; consulting the public; and evaluating the adequacy of an EIA report. A list of sectoral legislation with environmental and natural resources provisions is included as an annex. The document is supported by figures and contains a useful list of acronyms, and a glossary of terms.

Contact: Environmental Affairs Department, Ministry of Research and Environmental Affairs, PO Box 30745, Lilongwe 3, Malawi.

Mali

There is no legal framework for EIA in Mali. But there are regulations and guidelines for risk assessment in respect of chemical and industrial activities. The Ministry of Mining and Geology and Ministry of Rural Development has some practical experience of EIA. The "Draft National Environmental Action Plan" and the "National Programme to Combat Desertification" include paragraphs recommending EIA procedures and regulations. The Ministry of the Environment has only recently been instituted

Contact: Secretaire Permanent, PNAE/CID, Rue 146, Quartier de Fleuve, BP 2357 Bamako, Mali

Mauritius

Part 4 of the Environmental Protection Act, 1991, requires project proponents to submit an EIA which is open to public review. Screening is carried out using lists. Activities with less significant impacts may require a mini-EIA. The proponent must apply for an "EIA licence" by submitting the EIA document for review by the Department of the Environment. There is also provision for inter-ministerial and public review. The Department of the Environment may attach mitigation and monitoring conditions to the EIA licence.

Contact: Ministry of Environment and Quality of Life, Ken Lee Tower, Barracks Street, Port Louis, Mauritius

Morocco

Formal EIA procedures were introduced under the Environmental Protection Act, 1996. The National Committee on EIA (*Comite National des Etudes d'Impact sur l'Environnement- CNEIE***) was formed to support the development of EIA legislation and regulations. The Committee is composed of representatives from several sectoral ministries. It provides advise to the Environment Authority on the approval/refusal of proposals. The Environment Authority reviews EISs and recommends decisions to the sectoral body responsible for licensing particular projects. An EIA Unit ("***Service des Etudes Generales et d'Impact***") was created in 1995 under the Ministry of the Environment. The 1996 Act uses inclusion/ exemption lists for screening. Projects not listed must present a preliminary assessment. Draft sectoral guidelines have been produced. The EIA process is initiated by the funding agency or local/regional authorities. Sectoral ministries also review EIA reports. We understand that Directives for EIA are currently being prepared, but at the time of writing it is unclear when these will be finalised and implemented.**

Contact: Royaume du Maroc, Secretariat d'Etat Charge de l'Environnement, Direction de l'Observation, des Etude et de la Coordination, 75 Rue de Sebou, Rabat, Agdal, Morocco

Mozambique

The Mozambique Investment Law 1993 (No. 3/93 article 26) requires EIA for major projects. The Centre for Promotion of Investments is a key institution in developing EIA and the Environmental Management Programme, 1988, is the guiding policy for its application. EIA is mandatory for all activities causing significant impacts. This applies to projects and plans, programmes and policies. The competent authority for EIA is the Environmental Impact Assessment Department in the Ministry of Co-ordination of Environmental Affairs (MICOA). This department has authority to request that an EIA be carried out, guides the process, and organises public participation and reviews of EIA reports. General guidelines are to be published by MICOA and a sector-based technical manual will be prepared by the sectoral authorities. A draft Environmental Framework Law (which will will create a Department of Environmental Inspection to monitor EIA) and a draft EIA regulation (proposed in 1996) have yet to be approved.

Comissao Nacional do Meio Ambiente & United Nations Development Programme (UNDP) (Capacity Building of the National Environment Commission) (1994). **Plano Director do Enquadramento Institucional e Legal da Gestao dos Impactes Ambientais doe Projectos de Investimento. Volumes 1-3 (Institutional and Legal Requirements for the Management of the Environmental Impacts of Investment Projects)** Comissao Nacional do Meio Ambiente, Maputo. (3 v.)

Contact: Comissao Nacional do Meio Ambiente, Av. Acordos de Lusaka, 2115-C.P.2020, Maputo, Mozambique.

Namibia

"Environmental Assessment" policy in Namibia originates from the "Green Plan", 1992, which stipulates that all policies, programmes and projects (public and private) be subjected to the Environmental Assessment (EA) process. This EA policy received Cabinet approval in 1994 and was published in 1995. It proposes screening lists, scoping, review, monitoring and audits. At present, there is no legal framework for EIA, but an Environmental Assessment Act has been proposed. Pending this, some ministries are currently requesting EA on a case-by-case basis. The proposed Act will establish an Environmental Commissioner – to be appointed by the Ministry of Environment – who will report to an Environment Board composed of ministerial representatives and other EIA experts. The Board will be responsible for registration, consultation, screening, scoping, evaluation and review. Conducting EA studies and post-project monitoring are the responsibility of proponents.

Directorate of Environmental Affairs, Ministry of Environment and Tourism (1995). **Namibia's Environmental Assessment Policy. Draft.** Directorate of Environmental Affairs, Ministry of Environment and Tourism, Windhoek. (17 p.)

This draft policy sets out the policy for environmental assessment in Namibia, covering its role as a key tool in promoting sustainable development. Appendix A provides an outline of the official procedures and requirements for EA whilst Appendix B lists policies, programmes and projects requiring an EA.

Contact: Directorate of Environmental Affairs, Ministry of Environment and Tourism, Private Bag 13306, Windhoek, Namibia.

Niger

Ordonnance 97-001 provides a legislative frame for EIA in Niger and a regulatory framework is currently being drafted. There are no domestic general or sectoral EIA guidelines. The World Bank is funding an infrastructure rebuilding programme and Niger has adapted World Bank guidelines for EIAs conducted on such projects.

Agence Nigerieéne d'Exécution des Travaux d'Intérêt Public (Niger Agency for Public Works) (1997). **Guide pour la Réalisation des Études d'Impact Environnemental des Travaux NIGETIP: Recommendations Techniques. Document Provisoire (Draft Guidelines for EIA studies for the Public Works Agency of Niger: Technical Recommendations)** Cabinet de Premier Ministre, Niamey. (40 p.)

These guidelines are used for infrastructure development projects. They are based on World Bank guidelines, adapted to the needs of Niger.

Contact: Projet de Réhabilitation des Infrastructures (PRI), Bureau National de Coordination (BNC), Cabinet de Premier Ministre, B.P. 12.989m Naimey, Niger.

Nigeria

The Federal Environmental Protection Agency (FEPA) was created under Decree No. 58. in 1988. FEPA established the National Policy on the Environment in the following year which initiated the creation of a voluntary EIA system. EIA Decree No. 86, 1992, then established a statutory basis for EIA. Under the Decree, FEPA carry out an Initial Environmental Examination (IEE) and screen the proposals. FEPA also review documents submitted to them during the process. Proponents must submit terms of reference to FEPA and are responsible for writing the study reports. Three types of projects are identified in the Decree: "mandatory study activities" which require a "Mandatory Study Report"; exclusions from EIA; and projects which require only a screening report. The National Technical Committee has prepared draft procedural and sectoral guidelines with aim of turning them into regulations, covering: agriculture and rural development, mining, manufacturing, and infrastructure. They were due for publication my mid 1998.

Department of Petroleum Resources, Ministry of Petroleum and Mineral Resources (1991). **Environmental Guidelines and Standards for the Petroleum Industry in Nigeria: Part VIII. Standardization of Environmental Abatement Procedures.** Department of Petroleum Resources, Ministry of Petroleum and Mineral Resources, Lagos. (pp. 91-98)

This part of the guidelines discusses two mandatory enforcement tools used under the Petroleum Act 1969

and subsequent regulations covering oil and gas operations: the preparation of Environmental Evaluation (post-impact) Report (EER); and an Environmental Impact Assessment Report (EIA). Background is provided on the applicable legislation and regulations and on the types of projects or activities requiring EIA reports. The formal EER and EIA processes are described, significant effects/impacts are listed, the required contents of an EIA report is set out, and criteria for environmental screening are given.

Contact: Department of Petroleum Resources, Ministry of Petroleum and Mineral Resources, Lagos, Nigeria.

Government of Nigeria (1994). **Guidelines for Environmental Impact Assessment (Decree 86, 1992): Draft Sectoral Guidelines for Oil and Gas Industry Projects (Oil and Gas Exploration and Production – Offshore)** Federal Environmental Protection Agency, Lagos. (24 p.)

Federal Environmental Protection Agency (1994). **Environmental Impact Assessment Procedure for Nigeria.** Federal Environmental Protection Agency, Lagos. (16 p.)

This brief guideline sets out the steps to be followed under the National EIA Procedure developed under Nigerian EIA Decree No.86 (1992), from project conception to commissioning, and the actors in each stage. Routine steps to be carried out by the Federal Environmental Protection Agency (FEPA) and project proponents are briefly described: notification to FEPA of a project proposal, screening (into categories I, II or III), scoping, submitting a draft EIA report (FEPA sectoral guidelines to assist the 'preparer' are listed), the review process (in-house, panel and public reviews, and mediation), and submission of a final EIA report. Other very short sections cover: decision-making within FEPA, project implementation, mitigation compliance monitoring, and environmental auditing. A flow chart of these procedures and a general format for EIA are provided Also included are a checklist for project categorization and a list of Category 1 projects (subject to full-scale EIA).

Contact: Federal Environmental Protection Agency, PMB 1260, Ikoye, Lagos, Nigeria.

Senegal

At present there is no legal basis for EIA in Senegal. The 1983 *Code de l'Environnement* **followed by the National Environmental Action Plan (NEAP) (***Plan National d'Action pour l'Environnement***) will form the foundation for a future EIA system. The adoption of the NEAP is currently on hold and legislation to it is being prepared. The National Environment Law is yet to be adopted. The** *Secretariat Permanent Conseil Superieur pour l'Environnement et les resources Naturelles* **(CONSERE) co-ordinates the institutes involved in the development of the EIA system. The** *Centre de Suivui Ecologique* **and the** *Direction de l'Environnement* **are more directly involved in the EIA process itself. The latter organisation will be the lead agency for EIA studies.**

Contact: Direction de l'Environnement, 23 rue Calmette, BP 6557 Dakar- Etoile, Senegal

Seychelles

The Environmental Management Plan, 1990, provided a foundation for EIA, and was followed by a series of sectoral guidelines. The Seychelles EIA system is based on World Bank guidelines. The Environmental Protection Act, 1994, covers the statutory EIA procedures and regulations will be issued to implement the Act. The Department of Environment in the Ministry for Foreign Affairs, Planning and the Environment is responsible for the overall management of the EIA Process. The EIA process is to be integrated with the planning system

Government of Seychelles (undated). **Environmental Impact Assessments. Introduction to Guidelines.** Department of the Environment, Ministry for Foreign Affairs, Planning and Environment, Mahé. (12 leaflets)

These guidelines were produced in the frame of the 1990 Environmental Management Plan for the Seychelles (EMPS-90) and prepared by a consultancy team in consultation with the Department of the Environment and interested parties. They draw from existing internationally recognised guidelines, notably World Bank sectoral guidelines, adapted to the local situation. Each follows an identical structure: a discussion of key issues and likely impacts – with background on relevant Seychelles information; followed by a section of recommendations covering project alternatives, management and training, monitoring, mitigation measures, practical hints and tips, examples of good practices, and sources of additional information.

A general presentation leaflet introduces the series of guidelines. Separate guidelines leaflets are available for Agriculture and Animal Husbandry, Coastal Zone Management, Construction, Fisheries and Aquaculture, Forestry and Public Gardens, Industry and Power Generation, Information/Education, Oil Resource Management, Quarries, Solid and Liquid Waste Management, Tourism Development, and Transport.

Contact: Department of the Environment, Ministry for Foreign Affairs, Planning and Environment, Mahé, Seychelles.

Sierra Leone

The National Environmental Policy, 1994, identified the need to develop an EIA system. However, no EIA procedures have yet been developed. The National Environmental Action Plan, 1995, recommended the establishment of a National Environmental Protection Agency to make policies, direct the EIA process, and undertake EIA, review, screening, decision-making and monitoring. Policy development has now become the responsibility of the Department of Lands, Housing and Environment.

Somalia

No EIA legislation, procedures or guidelines have been issued.

South Africa

The Environment Conservation Act, 1982, established the Council for the Environment which later investigated the feasibility of developing an EIA system for South Africa. Section 21 of the Environment Conservation Act, 1989, authorises the Minister of Environmental Affairs to identify activities which may have an impact and to request an EIA to be undertaken. In September 1997, EIA Regulations were gazetted under this Act by the Department of Environmental Affairs and Tourism, making EIA mandatory. With a few exceptions which are dealt with by the Ministry, authority to implement the regulations has been assigned to provincial governments. Under the Minerals Act 1991, all mining operators must submit an environmental management programme (EMP) (including an EIA) for approval, prior to commencement of activities, to the regional offices of the Department of Minerals and Energy. The Department has produced an aide-memoire (currently under revision) and a range of guidelines for environmental management, each of which includes a section covering EIA. It is also developing regulations and guidelines relating to EMP monitoring and performance assessment. The Department of Water Affairs has prepared EIA guidelines covering the discharge of effluent. A new initiative to develop Strategic Environmental Assessment in South Africa began in 1996 with the publication of a primer by the Council for Scientific and Industrial Research, and several SEAs have now been undertaken.

Government of South Africa ***(undated).*** **Guideline for the Preparation of an Environmental Management Programme Report for the Prospecting for and Mining of Offshore Precious Stones.** Department of Mineral and Energy Affairs, Pretoria.

Government of South Africa ***(undated).*** **Guideline for the Preparation of an Environmental Management Programme Report for the Prospecting for and Exploitation of Oil and Gas in the Marine Environment.** Department of Mineral and Energy Affairs, Pretoria.

Government of South Africa (1992). **Aide Memoire for the Preparation of Environmental Management Programme Reports for Prospecting and Mining.** Department of Mineral and Energy Affairs, Pretoria. (34 p.)

Contact: Department of Mineral and Energy Affairs, Pretoria 0001, South Africa.

Department of Environment Affairs, Pretoria & Environmental Evaluation Unit, University of Cape Town (1992). **The Integrated Environmental Management Procedure.** Integrated Environmental Management Guideline Series; 1. Department of Environment Affairs, Pretoria, South Africa. (19 p.)

This document is the first in a series which aims to assist the formalisation of the procedure of Integrated Environmental Management (IEM) in South Africa. IEM is intended to complement rather than duplicate existing planning and other procedures. It is designed to ensure that the environmental consequences of development proposals are understood and adequately considered in the planning process. The term 'environmental' is used in the broadest sense encompassing biophysical and socio-economic components. The purpose of IEM is to resolve or mitigate any negative impacts and to enhance positive aspects of development proposals.

The introduction to this document sets out the principles of IEM. The next section describes each of the elements of the three stage procedure involved. Stage 1 involves planning and assessing the proposal (sub-sections discuss developing the proposal, classification, impact assessment, initial assessment, and no formal assessment). Stage 2 concerns the decision (sub-sections deal with review, record of decision and appeal). The final stage is implementation (sub-sections describe implementation of a proposal, monitoring and audits). A clear flow chart illustrates the process, key activities are separately listed in boxes, and a summary list of environmental characteristics is included. Definitions of activities and environments are given in appendices.

Department of Environment Affairs Pretoria & Environmental Evaluation Unit, University of Cape Town (1992). **Guidelines for Scoping.** Integrated Environmental Management Guideline Series; 2. Department of Environment Affairs, Pretoria, South Africa. (21 p.)

One of a series of guidelines which aim to assist the formalisation of the procedure of Integrated Environmental Management (IEM) in South Africa This document gives specific guidelines for scoping during the planning and assessment stage of the IEM procedure. It defines, sets out the aims, and discusses responsibility for scoping. Consideration is given to how authorities and interested and affected parties should be involved in the scoping procedure, and gives guidance on techniques for public involvement and participation. Other sections deal with determining the scope of impact assessment, preparation of an initial scoping report, and providing opportunities for objecting to the scoping procedure. A general checklist of categories of interested and affected parties is provided.

Department of Environment Affairs, Pretoria & Environmental Evaluation Unit, University of Cape Town (1992). **Guidelines for Report Requirements.** Integrated Environmental Management Guideline Series; 3. Department of Environment Affairs, Pretoria. (21 p.)

One of a series of guidelines which aim to assist the formalisation of the procedure of Integrated Environmental Management (IEM) in South Africa. This document provides guidelines on the format as well as the aspects which should be covered in Initial Assessment, Impact Assessment and Record of Decision reports which are necessary in the planning and assessment stage of the IEM procedure. It also deals with the content of management plans, monitoring and environmental contracts. The guidelines consists of an extended and annotated list of requirements intended to assist those developers and their consultants who have had little experience in the production of environmental reports.

Department of Environment Affairs, Pretoria & Environmental Evaluation Unit, University of Cape Town (1992). **Guidelines for Review.** Integrated Environmental Management Guideline Series; 4. Department of Environment Affairs, Pretoria, South Africa. (15 p.)

Environmental Management (IEM) in South Africa. This document gives specific guidelines for review during all stages of the IEM procedure and aims to establish consistency in the review process and to clarify the role of reviewers. They provide a framework within which to interpret the information provided by the proponent and indicate a number of checks incorporated into the IEM procedure which aim to ensure adequacy. Guidance is given on how authority, public and specialist reviews are undertaken in IEM. Section 3 presents a number of tools which are available to aid reviewers in this task. Section 4 gives a general framework for assessing the adequacy of documents. Section 5 highlights areas which are often problematic for Review. A list of additional reading and basic references and journals is included.

Department of Environmental Affairs (1992). **Checklist of Environmental Characteristics.** Integrated Environmental Management Guidelines Series; 5. Department of Environmental Affairs, Pretoria. (13 p.)

One of a series of guidelines which aim to assist the formalisation of the procedure of Integrated Environmental Management (IEM) in South Africa. This document provides a checklist of environmental characteristics which may be sensitive to development actions, or which could place significant constraints on a proposed development. The checklist is intended for use as a guide and is not meant to be an exhaustive listing. Separate sections cover: physical and ecological characteristics of the site and its surroundings, current and potential land use and landscape character, cultural resources, socio-economic characteristics of the affected public, infrastructure services, social and community services and facilities, the nature and level of present and future environmental pollution, risk and hazard, health and safety, cumulative and synergistic effects, and enhancement of positive characteristics.

Department of Environment Affairs, Pretoria & Environmental Evaluation Unit, University of Cape Town (1992). **Glossary of Terms Used in Integrated Environmental Management.** Integrated Environmental Management Guideline Series; 6. Department of Environment Affairs, Pretoria, South Africa. (5 p.)

This is the sixth in a series of six outlining a procedure for Integrated Environmental Management (IEM). The series is part of a process to formalise IEM as government policy in South Africa. IEM is designed to ensure that the environmental implications of development proposals are adequately considered in the planning process of South Africa. This document provides a glossary of terms used in IEM. There is also an introductory document, and four further documents provide guidance on specific aspects of the procedure: Scoping, Report Requirements, Review, Checklist of Environmental Characteristics.

Contact: Department of Environment Affairs, Private Bag X447, Pretoria 0001, South Africa.

Council for Scientific and Industrial Research (1996). **Strategic Environmental Assessment (SEA): A Primer.** Council for Scientific and Industrial Research, Division of Water, Environment and Forest Technology, Stellenbosch. (18 p.)

This primer aims to provide information of the nature and role of strategic environmental assessment (SEA), and to initiate and contribute to a wider process in which SEA methods appropriate to South Africa are developed and applied. The document reviews trends in EA and planning and summarises the current status of SEA practice in South Africa. International and South African perceptions on the need for SEA are considered, the relationship between SEA and EIA described, and opportunities and constraints to its application are explored. A useful list of references to work on SEA is included.

Contact: CSIR Environmentek, PO Box 320, Stellenbosch 7599, South Africa.

Sudan

There is no legal basis for EIA in Sudan but *ad-hoc* EIAs have been undertaken when required by international funding agencies and donor countries, and some sectoral EIAs are carried out on a voluntary basis. The Ministry of Environment and Tourism, established in 1995, has proposed EIA legislation. Within this Ministry, the Higher Council of Environment and Natural Resources is responsible for development of EIA procedures and legislation.. The Ministry of Irrigation requires that EIA be undertaken as part of the consent requirements for all major irrigation proposals.

Contact: Higher Council for Environment and Natural Resources, PO Box 10448, Khartoum, Sudan

Swaziland

The Environment Authority was established in 1992 and formulated regulations for "Environmental Audit Assessment and Review" of projects in 1993. These were issued in 1996 under Section 18 of the Principal Act (Swaziland Environment Authority Act 1992) which provides the statutory basis for EIA. These provisions indicate that approval is given once an EIA report and a mitigation plan are reviewed by the Environment Authority. Screening is undertaken by the authorising agency (for example, the City Council) and EIA is usually requested if a consent or permit is required. There is provision for public participation at the review stage and for public hearings. National guidelines were produced to assist in the implementation of the regulations, and replaced by draft guidelines in 1998. The 1996 Regulations divide projects into three categories relating to their potential environmental impact. The proponent is required to draft terms of reference for an EIA and then to prepare and submit an EIA report and "Comprehensive Mitigation Plan". An "Environmental Compliance Certificate" may be granted with provision for compliance monitoring. In 1997, the Swaziland Environment Action Plan was approved. "Integrated Environment Management" (as applied in South Africa) is a concept now under consideration in Swaziland. The 1996 Regulations are currently being revised, and should be issued in April 1998.

Government of Swaziland (1996). **Environmental Audit, Assessment and Review Regulations. Legal Notice No.58, 1996.** Ministry of Natural Resources and Energy, Mbabane.

Issued under the Swaziland Environmental Authority Act 1992, these regulations define a range of terms, set out the responsibilities of the Swaziland Environmental Authority for the environmental audit and review of both existing and proposed projects, and provide procedural guidance for operators. Issues covered include: the preparation of environmental audit reports for existing projects; project categories and reports for proposed projects; obtaining an environmental compliance certificate; project authorization and implementation; public reviews, consultations and hearings; decisions and appeals; permits or authorisations; and offences. An attached schedule provides an illustrative list of project types for assignment to categories for specific environmental and review procedures (category 1: no significant impacts likely; 2: impacts likely – but well known – of which some may be significant unless mitigation actions are taken; category 3: significant impacts likely – but scale and extent can't be determined – and an in-depth study is required). A second schedule details the structure and content of reports required under this regulation. A final schedule provides examples of environmentally sensitive areas to be taken into account in categorising projects.

Contact: Ministry for Natural Resources and Energy, PO Box 57, Mbabane, Swaziland.

Swaziland Environment Authority (1998). **Environmental Audit, Assessment and Review Guidelines. Draft (January 1998)** Swaziland Environment Authority, Mbabane. (17 p., annexes)

These draft guidelines are presented in three chapters. The first is introductory and describes the environmental audit assessment and review regulations, sets out the purpose of the guidelines and gives flow charts for procedures. Chapter 2 deals with the environmental audit of existing development (covering: associated regulations, definitions, activities

subject to the regulations, requirements of the regulations, and procedures for listed developments or activities). Chapter 3 is concerned with the environmental assessment of proposed projects (covering: associated regulations, definitions, requirements of the regulations, assigning project categories, procedures for each category, and other authorisation procedures). There are eight annexes: assigning project categories, preparing a scoping report, initial environmental evaluations, the EIA report, the comprehensive mitigation plan, the environmental audit report, consultation and public participation, and further reference material.

Contact: Swaziland Environment Authority, Mbabane, Swaziland.

Tanzania

Most EIAs in Tanzania have been undertaken for international development agency projects. There is no national requirement for EIA but it is recognised as an important policy instrument to implement the National Environmental Action Plan of 1994. Framework legislation is currently being considered. A National Environment Policy was adopted in 1994 and an Environmental Protection Bill has been drafted. EIA is also undertaken by the Tanzania National Parks Authority (TANAPA) for proposed developments in protected areas as a response to increasing pressure from tourism. Zanzibar adopted a National Environmental Policy in 1991 and is developing legislation for EIA. Guidelines on the proposed national EIA system are being formulated and are likely to follow standard procedures such as those used by South Africa, Ghana and TANAPA. The proposed system will establish an Environmental Regulatory Body which will delegate responsibilities to the district and sectoral levels through Environmental Units. These Units will be responsible for screening proposals. Also they will be consulted by the proponent during scoping and will review EIA reports. The terms of reference for EIA studies will be approved at the central level.

Preston, G. (1993). **Environmental Impact Assessment Procedure and Screening Guidelines.** Tanzania National Parks Authority, Arusha. (22 p.)

Contact: Tanzania National Parks Authority, PO Box 3134, Arusha, Tanzania.

National Environmental Management Council (1997). **Environmental Impact Assessment Procedures. Draft.** National Environmental Management Council, Dar es Salaam. (37 p.)

These draft guidelines are presented in three sections. The first is an introduction which highlights the need for and objectives of EIA. The second sets out a recommended (conventional) EIA procedure covering such issues as: registration, screening, scoping, preliminary assessment, review, public hearing, environmental permitting, monitoring, audits and decommissioning. The final section covers other important considerations including: EIA fees, penalties, time frame, public notices, appeals, technical review, reports and environmental units. The are 11 appendices: registration forms (for preliminary EA and full EA), screening decisions, scoping notice, EIA notice, principles for parties in EIA process, contents of EIS, list of projects requiring mandatory EIA, list of small-scale activities and enterprises that may have environmental effects, environmentally sensitive areas and ecosystems, and a glossary (definitions).

National Environmental Management Council (1997). **Scoping Guidelines. Draft. Presented to National Workshop on Development of Procedures and Guidelines for Instituting EIA in Tanzania, 23-25 June 1997, Iringa, Tanzania.** National Environmental Management Council, Dar es Salaam. (5 p.)

These draft guidelines on EIA scoping set out responsibilities and tasks, discuss the roles of different bodies and methodologies for public participation, suggest the content of the scoping report, and cover the preparation of terms of reference for an EIA.

National Environmental Management Council (1997). **Review Guidelines. Draft. Presented to National Workshop on Development of Procedures and Guidelines for Instituting EIA in Tanzania, 23-25 June 1997, Iringa, Tanzania.** National Environmental Management Council, Dar es Salaam. (16 p.)

This document presents draft guidelines on the review of environmental impact reports submitted. It contains recommendations for the review process (cross-sectoral technical review committee, public review, and public hearing); provides review criteria for environmental impact statements, preliminary environmental reports and screening reports (with review forms in an appendix); and considers possible outcomes for the review process.

Contact: National Environmental Management Council, Tancot House, Sokoine Drive, PO Box 63154 Dar es Salaam, Tanzania.

Tunisia

The National Environmental Protection Agency (NEPA) was established under Article 5 of Tunisian Law 1988/91. The Agency issues licences for projects requiring EIA, reviews EIA reports, and is responsible for the approval

of projects and monitoring of post-project impacts. Government Decree 91-362, 1991, is the principle EIA regulation and provides two screening lists: for projects which require obligatory EIA; and for those projects for which an Initial Environmental Evaluation must be submitted for review by the Agency. There is no provision for public participation, post-auditing, or appeal against the decision of the Agency. The proponent must prepare the EIA documents with NEPA-registered consultants. Compliance is mandatory.

Tunisian Agency for Environmental Protection (1995). **Les Etudes d'Impact sur l'Environnement en Tunisie (Environmental Impact Studies in Tunisia)** Agence National de Protection de 'l'Environnement, Tunis. (16 p.)

Contents include a general introduction, strategies, legal framework, evaluation procedure, steps to be followed, terms of reference for EIA Committee, EIA evaluation guide, archiving and follow-up of EIA.

Tunisian Agency for Environmental Protection (1995). **Les Études d'Impact sur l'Environnement: Termes de Référence pour les EIE & Guide d'Évaluation (Environmental Impact Studies: Terms of Reference and Evaluation Guide)** Agence National de Protection de 'l'Environnement, Ministère de l'Environnement et de l'Aménagement du Territoire, Tunis. (21 p.)

Contact: Agence National de Protection de 'l'Environnement, Ministère de l'Environnement et de l'Aménagement du Territoire, Tunis, Tunisie.

Uganda

The 1995 National Environment Statute provided a legal basis for EIA in Uganda, introduced a formal system, and established the National Environment Management Authority (NEMA) as the co-ordinating body for EIA. Schedule 3 of the Statute lists projects requiring EIA. A "Project Brief" must be submitted to the "lead agency" (government department or authority with legal responsibility for environment management). The agency and NEMA determines the level of assessment required and the proponent is responsible for undertaking the assessment using approved experts. Both NEMA and the lead agencies are decentralised so that EIA can operate at provincial, district and local levels. The regulations and guidelines to implement the 1995 laws are still being finalised.

National Environmental Management Authority (1977). **Guidelines for Environmental Impact Assessment: Draft.** National Environmental Management Authority, Kampala. (vii, 35 p., 9 annexes)

This is a revised version of the first edition of EIA guidelines developed by NEMA under the Ugandan National Environment Statute, 1995, issued for technical and public review. They will be revised following subsequent experience. The guidelines are intended for use by the general public, developers, EIA practitioners, lead agency staff involved in reviewing EISs, and by NEMA, and emphasise public participation through the entire EIA process. The document is in eight parts each of which caters for the needs of different user groups. Part 1 presents the general EIA policies for Uganda and the essential elements and goals of the EIA process, including the levels of EIA required for various projects. Part 2 is aimed at the public and describes the basic components of Uganda's three-part EIA process (screening, environmental impact study, and decision-making), providing basic guidance. Part 3 covers the obligations of project proponents, from development and design stages to submission of a licence application or a project brief to NEMA and an appropriate lead agency. The guidelines in Part 4 are for EIA practitioners undertaking more detailed project EIAs. They set out the basic contents required for both a draft and final EIS and provide a step-by-step description of the procedure for conducting an EIA study. Part 5 emphasises procedures for public participation and involvement in the overall EIA process. Part 6 gives guidelines for use by Lead Agencies and NEMA focusing mainly on the screening and review functions of these agencies, as well as their role in approving the environmental aspects of projects. Part 7 deals with monitoring compliance. Finally, Part 8 describes the procedure for implementation and modification of the guidelines. There are ten annexes covering: definitions; projects requiring/exempt from an EIA; review and evaluation checklists; Certificate on the Screening Decision, suggested formats for Findings of Fact, Certificate of Approval of the final EIA, and Record of Decision.

Contact: National Environmental Management Authority, Kampala, Uganda.

Zambia

The EIA system in Zambia was given statutory basis by the Environmental Protection and Pollution Control Act No. 12, 1990. This Act was implemented by Environmental Protection and Pollution Control Regulations, 1997. Regulation 3(2) in the First Schedule requires a "project brief" (the first stage of the EIA process) to be submitted for specified projects. Regulation 7 (2) in the Second Schedule lists the activities for which EIA is mandatory. In Regulation 9 (3) in the Fifth Schedule, the "Guidelines for Developers in Conducting EIA" are provided. The Environment Council of Zambia is the competent

authority for issuing regulations and procedures. The proponent must appoint a co-ordinator to assemble a team of experts to carry out scoping (in consultation with the Environment Council) and to complete the EIA report. The consideration of alternatives is an important feature of this system. Once the report has been submitted to the Council, the Council makes a recommendation to the licensing authority.

Contact: Ministry of Environment & Natural Resources, PO Box 34011, Mulungushi House, Independence Avenue, Lusaka, Zambia

Zimbabwe

Prior to 1996, EIA had been undertaken on an *ad-hoc* basis for nearly 20 years. An "Interim Environmental Impact Assessment Policy" was produced in 1994 and subsequently applied on a voluntary basis. EIA principles are also embodied in 18 legislative instruments including the Natural Resources Act, 1981. Under the Interim Policy, the licensing authorities direct proposals to the Ministry of Environment and Tourism for screening. The Ministry decides upon the type of assessment required (preliminary or detailed EIA) based upon the "prospectus" that has been submitted. The terms of reference are agreed upon by the Ministry of Environment and Tourism and the proponent. The Ministry also reviews the EIA report. Technical support is provided from the Department of Natural Resources. Public participation and consultation is provided under the Policy. The future of Zimbabwe's EIA policy lies in efforts to strengthen existing legislation on the environment prior to introducing new legislation specifically on EIA. Strategic Environmental Assessment is also being investigated. The Ministry of Environment and Tourism is planning to sponsor the development of Environmental Operating Guidelines for sectoral developments.

Ministry of Mines, Environment and Tourism (1997). **Environmental Impact Assessment Guidelines. Version A.** Ministry of Mines, Environment and Tourism, Harare. (10 vols, 280 p.)

This 10 volume set of guidelines is aimed at project developers and environmental professionals to assist them in working with Zimbabwe's Environmental Impact Assessment Policy. It is presented as a loose leaf binder (A4 size) to enable periodic updates to be issued, and is well laid out and easy to navigate. Volume 1 (64 pp.) deals with EIA policy and general guidelines (administering the EIA policy, preparing terms of reference, EIA reports, consulting the public, environmental management, and evaluating the adequacy of EIA reports). There are six appendices including a an extensive list of references

Volumes 2 – 10 are sectoral guidelines and cover: mining and quarrying, forestry, agriculture, transport, energy, water, urban infrastructure, tourism, and waste management. Each of these has the same structure with an introduction on its purpose, a background to the sector, checklists of major activities, major issues, typical impacts analysis actions and tools, management and mitigation steps, sample terms of reference, sources of information, additional references, and appendices.

Contact: Environmental Assessment Unit, Department of Natural Resources, Block 1, Makombe Complex, Harare Street/Herbert Chitepo Ave, PO Box CY 385, Causeway, Harare, Zimbabwe.

Asia/Pacific/Middle East

Regional

Asian Development Bank (AsDB). The AsDB has produced a variety of guidelines (see Agencies, Asian Development Bank, for full references). These include selected infrastructure projects, selected agricultural and natural resources selected development projects, and selected industrial and power development projects. In addition they have separate documents on the environmental evaluation of coastal zone projects, environmental risk assessment, and environmental considerations in energy development, as well as guides to the Bank's EIA procedures.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1985). **Environmental Impact Assessment: Guidelines for Planners and Decision-Makers.** United Nations, New York. (viii, 196 p.)

Part One is concerned with concept, procedures and methodologies, and includes five sections: organisation of EIA, methodologies, environmental impacts of sectoral development, the situation in the Asian and Pacific region, and summary and conclusions. There are six appendices: guidelines for IEE, terms of reference for preparing an EIS, recommended format for preparing EIS proposals, actions and environmental items in Leopold interaction matrix, reference checklist for the EIA process, and a glossary. Part Two presents nine EIA case studies.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Agricultural Development.** ESCAP Environment and Development Series. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok. (viii, 51p.)

These guidelines were written to assist government agencies concerned with environmental protection in developing countries (specifically the Asia-Pacific region) in the planning and execution of EIAs for agricultural development projects, in particular land clearance projects. A brief overview is given of the EIA process, as well as its application to agricultural development projects. Summaries of current EIA methodologies are recommended. Annexes provide project case studies and sample terms of reference. This document is one of a series of four. Other volumes cover industrial development, water resources and transport.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Industrial Development.** ESCAP Environment and Development Series. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok. (viii, 61 p.)

These guidelines aim to assist government agencies concerned with environmental protection in developing countries in the planning and execution of EIAs for industrial development projects. They summarise general assessment methodologies, identify data collection and evaluation methodologies for assessing the quality and quantity of key parameters, and present the typical impacts and pathways relevant to industrial development projects based on literature references and case studies. Annexes provide sample terms of reference for industrial development EIA studies, and case studies of industrial development projects.

This document is one in a series of four - the other volumes cover agriculture, transport and water resources.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Transport Development.** ESCAP Environment and Development Series. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok. (viii, 99 p.)

These guidelines aim to assist government agencies concerned with environmental protection in developing countries in the planning and execution of EIAs for transport development projects. Like other ESCAP guidelines, these guidelines summarise existing methodologies. The impacts and management requirements of the transport sector are discussed with reference to port and harbour projects, highways and

roads, and airports. Annexes give sample terms of reference for these types of projects. This document is one of a series of four. The other three volumes cover water resources, agriculture and industrial development.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Water Resource Development.** ESCAP Environment and Development Series. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok. (viii, 119 p.)

These guidelines aim to assist government agencies concerned with environmental protection in developing countries in the planning and execution of EIAs for water resource development projects. They summarise general EIA methodologies, and discuss typical impacts related to water resources including rivers, lakes and estuarine areas. Marine waters per se are not considered. The document is one in a series of four. The other volumes cover agriculture, transport, and industrial development.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1992). **Assessment of the Environmental Impact of Port Development: A Guidebook for EIA of Port Development.** United Nations Economic and Social Commission for Asia and the Pacific, New York. (iv, 73 p., appendices)

This guidebook provides port planners with basic information on EIA of port development. It comprises five sections: requirements for EIA, environmental impacts of port development, environmental indicators and criteria, methods for survey and impact prediction (water pollution, coastal hydrology, marine and coastal ecology, air quality, noise, odour and visual pollution), and methods for pollution-less dredging and reclamation. There are 13 appendices including checklists of potential adverse effects of port development and operation.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1995). **Planning Guidelines on Coastal Environmental Management.** United Nations, New York. (vi, 116 p.)

Chapter 7 of these planning guidelines discusses the environmental impact of development activities in coastal areas. The rationale for assessing such impacts is considered and significant impacts of various types of activities on the coastal environment are briefly set out. Checklists of such impacts are provided for fisheries development, tourism, coastal environments, and ports and harbours. A methodology for assessing the impacts of future development activities on the coastal environment is suggested. Annexes to this chapter provide EIA guidelines (from the Sri Lanka Coast Conservation Department), a listing of cross-sectoral interactions and impacts associated with coastal zone projects, and planning and management guidelines for managing coastal habitats without degradation.

Economic and Social Commission for Asia and the Pacific, United Nations (ESCAP) (1995). **Guidelines on Environmentally Sound Development of Coastal Tourism.** United Nations, New York. (vii, 124 p.)

These guidelines attempt to identify the cause-effect relationship between tourism and the environment in coastal locations, and to illustrate remedial and preventive measures that can be adopted to promote the environmentally sound and sustainable development of coastal tourism. They focus mainly on tools and methodologies, but also bring together the experience of selected countries in promoting sustainable tourism development in coastal areas of the Asia and Pacific region. Two chapters are of particular interest in the context of EIA. Chapter II discusses the environmental impacts of coastal tourism development, covering impact types and their extent, and the impacts of components of coastal development. Chapter IV deals with management through EIA with an introduction on measures to promote EIA in the region, and sections on: costs and benefits; the project cycle; the EIA process covering screening, initial environmental examination, and full-scale EIA; methodologies; presentation of the EIA; management and evaluation; constraints in EIA implementation and recommendations to overcome these. Annexes include EIA guidelines for existing beach resort hotels, coastal water quality and effluent standards in Thailand, and noise emission and air quality standards in Thailand and Malaysia.

Contact: United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), UN Building, Rajdamnern Avenue, Bangkok 10200, Thailand.

Gulf Cooperation Council (GCC) (1995). **GCC Environmental Impact Assessment Regulations.** Gulf Cooperation Council (30 p.)

These regulations identify the principles and procedures for environmental impact assessment in the Gulf Cooperation Council member states. They consider projects that require EIA, aspects to be covered in the EIA report, and the roles and responsibilties of competent authorities and developers.

Morgan, R.K. (1993). **A Guide to Environmental Impact Assessment in the South Pacific.** South

Pacific Regional Environment Programme (SPREP), Apia, Western Samoa. (51 p.)

South Pacific Regional Environment Programme (SPREP) (undated). **Environmental Impact Assessment Guidelines for Mine Development and Tailings Disposal at Tropical Coastal Mines.** South Pacific Regional Environment Programme,Honolulu.

South Pacific Regional Environment Programme (SPREP) (undated). **Environmental guidelines for fish processing plant discharges into the sea.** South Pacific Regional Environment Programme, Honolulu.

Contact: South Pacific Regional Environment Programme, Environment and Policy Institute, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96848.

Bahrain

Bahrain has developed an EIA system relatively recently. Articles 20-22 of the Environment Act, 1996, provide for a procedure of project approval from an environmental body through the issue of a permit. The approval is to be based upon information relating to the project and its potential adverse impacts. Compliance with the Act is mandatory. Article 24 instructs the owners of existing establishments to submit an impact assessment report stating the mitigation measures that are proposed to be used. Screening by the Environmental Protection Committee (EPC) may result in either a "No Objection Certificate" (i.e. the project is exempt from EIA), a requirement for an initial environmental evaluation or a requirement for a full EIA. Screening and decision-making is the responsibility of the EPC. The proponent is responsible for submitting information to the EPC for an Initial Environmental Evaluation; and must also carry out a full EIA, when required, according to guidelines from EPC. Monitoring programs are implemented by the EPC. EIA regulations and guidelines currently are being finalised.

Contact: Ministry of Housing, Municipalities and Environment, PO Box 26909, Manama, State of Bahrain

Bangladesh

The Environment Law 1992 made EIA mandatory of all new industries. It required EIA to be applied to the planning and operational stages of projects. Under the Environmental Protection Act, 1995, projects specified in a "green list" are not subject to an EIA. As yet, there is no separate EIA legislation although draft proposals have been tabled by the Bangladesh Environment Agency. There are some sectoral EIA regulations such as those for the Water Management Programme of the Ministry of Water Resources, but, to date, sectoral EIA guidelines have only been prepared for industries. The present system does not require post-project monitoring or public participation. The National Environmental Management Action Plan (NEMAP) - soon to become operational - will provide a means of EIA co-ordination. The Department of Environment will have overall responsibility for the EIA system. EIAs are to be carried out by the relevant government ministry with approval the responsibility of the Ministry of Environment and Forestry. Proposals were made in 1997 for additional legislation to extend the coverage of EIA.

Department of Environment (1997). **EIA Guidelines for Industries.** Department of the Environment, Ministry of Environment and Forest, Dhaka. (88 p)

These guidelines are the product of a project "to develop and apply sectorwise industrial guidelines and standards and to monitor compliance" launched in 1995. They also meet the requirements of the Environment Conservation Rules 1997, under the Environment Conservation Act 1995. The document is presented in five sections. The first is an introduction to EIA covering procedures, screening industrial projects, environmental clearance, review of EIA reports and methodology for the EIA process. Section 2 deals with criteria for locating industrial plants. Section 3 is concerned with Initial Environmental Examination: conducting IEE (baseline information, significant issues, impact assessment methods, checklist and matrix methods), mitigative measures, resolution of issues, environmental management plan, structure of IEE report, and review of report. Section 4 focuses on EIA (baselines studies, impact identification and prediction, evaluation, mitigation, environmental management plan, special studies, documentation and communication, public participation and structure of EIA report). The final section describes the EIA report review process (purpose, key aspects, specific issues to be looked into).

There are annexes providing: lists of industries by category – depending on their pollution loads and likely adverse impact (Green, Amber-A, Amber-B and Red); checklists of environmentally and otherwise sensitive areas, of activities for some projects, of environmental components, and of environmental parameters for a fertilizer project; and information on impacts and mitigative measures for projects concerned with cement manufacturing, fertilizer, and pulp, paper and timber processing.

Department of Environment (1997). **Guidelines for Obtaining Environmental Clearance.** Department of Environment, Ministry of Environment and Forest, Dhaka. (4 p.)

This leaflet briefly describes categories of industrial projects – depending on their pollution loads and likely adverse impacts – for according environmental clearance. The leaflet sets out conditions which entrepreneurs must fulfil for each category: Green, Amber-A, Amber-B, and Red.

Contact: Department of Environment, Ministry of Environment and Forest, E-16, Agargaon, Sher-e-Banglanagar, Dhaka -1207, Bangladesh.

Irrigation Support Project for Asia and the Near East (ISPAN) & United States Agency for International Development (USAID) (1992). **Bangladesh Action Plan for Flood Control: Guidelines for Environmental Impact Assessment.** Irrigation Support Project for Asia and the Near East, Ministry of Irrigation, Water Development and Flood Control, Dhaka. (75 p.)

These guidelines were compiled for use in ongoing and future flood control, drainage and irrigation projects in Bangladesh. The guidelines include a very general discussion of the impacts of the Bangladesh Flood Action Plan (FAP). Subsequent sections address the role of EIA in planning and project appraisal; procedural steps in EIA; a general discussion of people's participation; and EIA review procedures. The document also provides a sectoral checklist of potential environmental impacts of the Flood Action Plan, and outlines a suggested table of contents for a typical EIA report. The guidelines are designed to accompany the Manual for Environmental Impact Assessment (ISPAN).

Irrigation Support Project for Asia and the Near East (ISPAN) (1995). **Bangladesh Flood Action Plan: Manual for Environmental Assessment.** Ministry of Water Resources, Flood Plan Coordination Organization (FPCO), Dhaka. (xx, 98 p.)

These guidelines replace a version released in March 1992. They provides specific guidance for flood control, drainage and irrigation planning in Bangladesh. It provides a step-by-step practical guide to EIA with 14 chapters covering: EIA initiation, steps in EIA, impact assessment methodologies, environmental management plans, EIA report and review process, people's participation, water resources (climate, surface- and ground-water, water quality, water transportation), land resources, biological resources, human resources, maps and mapping, and policy and legislation. There is an extensive bibliography, a useful glossary of terms and local words, and a list of acronyms.

Contact: ISPAN Technical Support Center, Suite 300, 1611 North Kent Street, Arlington, Virginia 22209-2111, USA.

Bhutan

The National Environmental Protection Act established the National Environment Commission to implement EIA in Bhutan under EIA guidelines produced in 1993. The guidelines instruct that projects are entered into the Five Year plan and that authorisation will take place once funding is secured. The proposal must undergo screening, scoping, report formulation, review by the National Environment Commission and post-project monitoring (although there is no system yet to implement monitoring programmes). Sector-based EIA is yet to be developed and strengthening of the system may take place to increase environmental awareness and develop codes of practice. Legislation was proposed in 1996 with provisions for EIA. The proponent carries out the EIA in consultation with the National Environment Commission. The 1993 guidelines are being revised and will be replaced by two documents which are currently in draft form.

Royal Government of Bhutan (1993). **Environmental Impact Assessment Guidelines for Bhutan.** National Environment Commission, Thimpu. (40 p.)

This report is a comprehensive review of EIA in the Kingdom of Bhutan. The first part provides background information on environmental problems in Bhutan and the existing environmental policies. The Paro Resolution, which resulted from a workshop on Environment and Development in 1990, stressed the importance of EIA. These guidelines are the first step in integrating EIA in a systematic manner into the planning and implementation of development programmmes in Bhutan. The National Environment Commission (NEC) is the body charged with responsibility for EIA, and the guidelines are intended for use by NEC staff, government departments, the Planning Commission Secretariat, consultants, planners and project proponents.

The manual first provides an introduction to EIA, its purpose, and its application in Bhutan. Subsequent chapters describe the various steps in the EIA process, form screening through to monitoring and review. An annex sets out the required format for the EIA report.

Contact: National Environment Commission (NEC), PO Box 466, Thimphu, Bhutan.

Cambodia

Currently there is no legal basis for EIA in Cambodia and no guidelines. A sub-decree is being drafted which will call for the basic recognition of EIA principles to be observed in planning. It is likely to be adopted in mid-1998. Recently, the Asian Development Bank has supported EIA training for government staff.

Contact: Ministry of the Environment, 48 Samdech Preah Sihanouk Street, Tonle Bassac, Chamkarm

China

EIA was introduced under Article 6 of the Environmental Protection Law, 1979. Administrative orders and regulations were issued in the 1980s to implement the law . In 1989 a revised law was enacted, and in 1994 additional environmental protection legislation was introduced for water, noise, air and solid waste. It is understood that new Directives for EIA were to be issued in 1997, but this has not been confirmed (July 1998). The National Environmental Protection Agency (NEPA) is responsible for the EIA system. Under this legislation, screening takes place after the submission of a preliminary study. Guidelines have been issued on the content of the EIS. There is no provision for public participation, but an 'Ombudsman' receives and deal with complaints. The regulations demarcate the responsibilities of institutions. Nationally significant projects (in terms of investment or strategic importance) are dealt with by the NEPA. Provincial Environmental Protection Bureaux (EPBs) administer EIA at the regional level. Projects with less importance, but still requiring an EIA, are administered by the city or county EPBs. The EIS is prepared by state-approved experts. Recent developments have been made in the areas of Regional Development Environmental Assessment (where the Regional Development Environmental Agency attempts to assess the potential impacts from alternative development plans within a region), social environmental assessment (new methods adapted from World bank methodology), strategic environmental assessment (assessment of several energy policies using a variety of techniques) and biodiversity impact assessment .

Government of China (1986). **Management Guidelines on Environmental Protection of Construction Projects.** Environmental Protection Commission Under the State Council, Beijing. (32 p.)

Government of China (1990). **Management Procedures for Environmental Protection of Construction Projects.** National Environmental Protection Agency, Beijing. (5 p.)

Contact: National Environment Protection Agency, 115 Xizhimennei Nanxiaojie, Beijing 100035, China.

Fiji

At present EIA is undertaken in Fiji on an ad hoc basis. The National Environment Strategy, 1993, recommended the development of EIA legislation. Subsequently, the Ministry of the Environment has implemented the "Environmental Awareness, Legislation and Database Project", funded by the Asian Development Bank, which aims to manage this task. So far, a draft Sustainable Development Bill has been prepared. This contains a section on EIA which lists activities that will/will not require an EIA and describes the proposed process (screening, registration and publication of notice, comprehensive study process, mediation, review of reports, decisions, public registry, environmental management and monitoring, exemptions, penalties, regulations). It is expected that the legislation will be enacted during 1998.

Department of Environment (undated). **Sustainable Development Bill (Draft). Part III – Environmental Assessment.** Government of Fiji, Suva. (pp 49-62)

This document sets out the provisions for environmental impact assessment in Fiji. It states which activities are subject to an EIA, and the EIA process that should be followed.

Contact: Department of Environment, PO Box 2131, Government Buildings, Suva, Fiji.

Haiti

A Ministry of the Environment was established in 1995 with which UNDP then worked to promote the development of EIA legislation and guidelines. However, since 1997 there has been little effective government in the country and no further progress has been made.

Contact: Ministry of Environment, Damien, Port au Prince, Haiti

Hong Kong

EIAs have been carried out since the 1970s but did not receive any specific guidance until 1992 when circulars and guidance notes were produced (No 2/92 and 14/92). Since then, the development of EIA has been rapid. Its application has been extended from projects to plans, policies and strategies, and environmental monitoring and auditing systems have

been established. The Environmental Impact Assessment Ordinance No. 9, 1997, provides the legal basis of EIA in Hong Kong. The Secretary of Planning, Environment and Lands has overall responsibility for the EIA system. The Environmental Protection Department, formed from other government departments in 1986, is responsible for managing the EIA system and for producing procedures, regulations and guidance. Project proponents must prepare an EIA report if the proposal is a designated project (i.e. requires EIA). The content of the report must comply with the guidelines issued in the Technical Memorandum provided for under section 16 of the Ordinance, approved in June 1997. Provisions for SEA date back to 1988 but, in practice, SEA has been undertaken in connection with the Territorial Development Strategy in 1996. Although Hong Kong recently became the Special Administrative Region of the People's Republic of China, the pre-1997 EIA system is still in place. However, since the approval of the 1997 Ordinance, many of the earlier guidance documents are being updated or are replaced by the Ordinance and the Technical Memorandum.

Government of Hong Kong (1991). **Environmental Guidelines for Planning in Hong Kong.** Environmental Protection Department, Planning Department, Hong Kong. (66 p.)

Environmental Protection Department (1993). **Standardized Environmental Impact Assessment (EIA) Study Brief.** Environmental Assessment and Planning Group Operation Manual. Environmental Protection Department, Planning Department, Hong Kong. (66 p.)

This is currently under revision and a new version is expected in 1998.

Hong Kong Government (1996). **Generic Environmental Monitoring and Audit Manual.** Environmental Protection Department, Hong Kong. (ii, 34 p.)

This manual is intended for use by consultants who are required to prepare an environmental monitoring and audit (EM&A) manual as part of a project EIA study report, and to guide the establishment of an EM&A programme. The document covers the following environmental aspects, typically important in project construction: air quality, noise, water quality and waste management. Other sections deal with site environmental audit, reporting and operation phase EM&A. The manual contains duties of the Environmental Team, information on project organisation and programming of construction activities, requirements for construction schedules, definition of Action and Limit levels, establishment of event and action plans, requirements of reviewing pollution sources and working procedures required in the event of non-compliance of environmental criteria, and requirements for presenting EM&A data and appropriate reporting procedures.

Hong Kong Government (1997). **Technical Memorandum on Environmental Impact Assessment Process.** Hong Kong Government, Hong Kong. (83 p.)

This technical memorandum was issued under section 16 of the Environmental Impact Assessment Ordinance. It sets out the principles, procedures, guidelines, requirements and criteria for the EIA process in Hong Kong. There are 12 sections dealing with such matters as the project profile, the EIA study brief and report, environmental permits, monitoring and audit requirements, advice from relevant authorities, resolving conflicts, use of previously approved EIA reports, and hazard assessment. Twenty-two annexes cover project profiles, contents of EIA reports and environmental monitoring and audit reports, evaluation criteria and guidelines for assessing various factors (air quality, noise, water pollution, waste management, ecological aspects, fisheries, landscape and visual impact) and for reviewing an EIA report, and relevant authorities for hazard assessment.

Contact: Environmental Protection Department, Hong Kong Government, 27/F, Southorn Centre, 130 Hennessy Road, Wanchai, Hong Kong.

Sanvicens, G.D.E. (1996). **Environmental Monitoring and Audit of the Airport Core Programme Projects in Hong Kong. Report No. EPD/TR1/96.** Assessment and Audit Group, Environmental Assessment Division, Environmental Protection Department, Hong Kong Government, Hong Kong. (17 p., plus figures & appendices)

This report presents the environmental monitoring and audit system, as used in Hong Kong for the airport core programme and other major development projects. It also documents the approach, methodology, findings, and case illustrations of an environmental audit conducted on ten major airport core programme projects constructed since 1992.

India

EIAs have been carried out since the late 1970s as a requirement of foreign donor agencies. The legal basis for EIA lies under the Notification under the Environment (Protection) Act, 1986, which requires certain projects to have environmental clearance from the Ministry of Environment and Forests. This Ministry is responsible for planning, promotion and

co-ordination of environment and forestry programmes. Each State Pollution Board implements the legislation, issues rules and regulations and sets emission standards. Both the Ministry and the Boards are responsible authorities for EIA in India. Direct responsibility for EIA lies with the "Impact Assessment Division" of the Ministry and its "Impact Assessment Wings" which are the Division's decentralised authorities. The 1994 Notification on Environmental Impact Assessment gives mandatory status for the EIA of certain identified activities. Several States and Union territories have also enacted their own EIA legislation in addition to the national provisions. The proponent is responsible for carrying out the EIA study. Screening of proposals is carried out by the relevant "Impact Assessment Wing" and may result in rapid EIA or full EIA. Scoping of the EIA study is carried out by the Environmental Appraisal Committee (sector-based) who also liaises with proponent and the Impact Assessment Wing.

Central Pollution Control Board (1993). **Guidelines for Environmental Audit.** Central Pollution Control Board, Delhi. (vi, 80 p.)

Environmental Audit is an exercise of self-assessment to minimise the generation of wastes and pollution potential. This document is specifically for the pesticides industry. A procedure is set out for conducting an environmental audit, with case studies from the organochlorine and organophosphorus industry. Technologies are described for detoxification of waste, treatment options for wastewater from the pesticides industry, limits for water use and wastewater generation, and emission standards for specific pollutants. A questionnaire for environmental audit and terms of reference for an environmental statement are included as annexes.

Contact: Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110032, India.

Government of India (1981). **Guidelines and Questionnaire for Environmental Impact Assessment of Shipping and Harbour Projects.**, New Delhi. (41 p.)

The guidelines discuss objectives and parameters for policy formulation for the protection of the environment in relation to shipping and harbour activities. They consider the need to prepare projections, design safety features and set out emergency procedures in respect of various types of accidents. Offences and penalties, legal requirements, and the need for independent technical and administrative arrangements for EIAs are reviewed. Annexes include a comprehensive questionnaire on shipping and harbour development projects, and information on various relevant legal instruments and conventions.

Government of India (1982). **Environmental Management of Mining Operations.** Ministry of Environment and Forests, New Delhi. (23 p.)

These guidelines apply to mining operations on land only. Oceanic mining, and oil exploration and drilling, are not covered. The guidelines identify critical issues relevant to environmental protection in the context of mineral exploitation: water pollution, solid waste management, land degradation, air pollution, noise and vibration, subsidence and landslides, human settlements, and impacts of water regimes. Some of the steps that need to be incorporated during the planning and implementation of mining operations are briefly indicated. Emphasis is placed on the need for appropriate agencies to evolve tolerance standards/ limits. Parameters to be covered by environmental quality standards for liquid effluents are listed, and a questionnaire is included (to be completed by mining companies) for environmental appraisal of mining operations. The guidelines are intended to be of practical use to both the government and the mining industry in India.

Government of India (1983). **Environmental Guidelines for Development of Beaches.** Department of Environment, New Delhi. (36 p.)

These guidelines are concerned with EIAs for activities related to coastal area developments. The preamble describes the problems of coastal areas in terms of development, population and pollution. Chapter III discusses parameters for coastal area management. Nine major areas of concern in beach development and management are identified: the sea, tourism and recreational value, human settlements and habitat, natural resources and ecosystems, economic development and the social environment, industry and technology, natural/aesthetic potential, and energy. Chapter IV sets out guidelines for EIA covering developments in six areas which require integrated management: tourism, industry, urban areas, fishing villages and rural areas, special areas (mangroves, scenic areas, reefs, etc.), and communication and transport. Activities causing development pressures in the six areas are listed. A broad classification of coastal areas for ecological values is also given. Chapter V outlines a series of management guidelines for a range of potential problems: protection and wise utilisation of valuable ecosystems, prevention of adverse alteration of air and water quality, and physical planning and development. The format for an EIS is given as an annex.

Government of India (1985). **Guidelines for Environmental Impact Assessment of River Valley Projects.** Ministry of Environment and Forests, New Delhi. (41 p.)

This document is concerned with river valley projects, e.g. irrigation, hydropower, multipurpose. It comprises four sections. The document first reviews the relevance of environmental considerations to river valley projects. It discusses development priorities, the economics of incorporating environmental considerations, and ecological issues in planning development projects. The second section details the data that should be collected for impact assessment of river valley projects, indicating data sources and those departments/agencies whose opinions should be sought and incorporated within the project report. A questionnaire on ecological aspects of hydro-electric projects is provided as an annex. The third section is a schematic diagram illustrating the impact assessment procedure. The final section presents a case study of the Heran Reservoir (Lalpur Dam) project.

Government of India (1985). **Environmental Guidelines for the Siting of Industry: Report of the Working Group.** Ministry of Environment and Forests, New Delhi. (16 p.)

This brief document includes guidelines relating to areas to be avoided for the siting of industries, precautionary measures to be taken during site selection, and a discussion of environmental protection issues requiring incorporation during implementation of industrial development projects. The guidelines are intended for use by industrial entrepreneurs, regulatory agencies and all those organisations connected with environmental issues. Polluting industries, and those required to obtain environmental clearance for siting, are listed in appendices.

Government of India (1987). **Environmental Guidelines for Thermal Power Plants.** Ministry of Environment and Forests, New Delhi. (10 p.)

This document presents a brief set of guidelines setting out siting criteria, and detailing the format and content required for an environmental impact statement for thermal power plant projects. Important issues in the management of such plants are discussed: solid wastes, human settlements, air and water pollution, occupational safety and health, house-keeping, emergency planning, environmental management, and environmental appraisal procedures.

Government of India (1989). **Environmental Guidelines for Communication Projects.** Environmental Impact Appraisal Series: Vol. EIAS-3-89; n. IA-III. Ministry of Environment and Forests, New Delhi. (30 p.)

These guidelines aim to assist project authorities in planning and carrying out EIA for communication and electrical transmission projects, including TV/radio/ microwave stations or towers, telephone exchanges and lines, and radar installations. They apply to new projects and those involving substantial changes to existing facilities (e.g. capacity expansion). Background is provided on the objectives and processes of EIA, with information on the required structure and content of the environmental impact statements and environmental management plans. The guidelines include general considerations, and aspects that need to be considered during site selection, construction, alignment of overhead lines together with safety matters. Specific guidelines for electrical transmission lines and telephone cables are summarised in a separate section. Interaction with local authorities and the dissemination of information to the public are discussed. Finally, a questionnaire for environmental appraisal is provided.

Government of India (1989). **Environmental Guidelines for Rail/Road/Highway Projects.** Environmental Impact Appraisal Series: Vol. EIAS-1-89; n. IA-III. Ministry of Environment and Forests, New Delhi. (35 p.)

Government of India (1989). **Environmental Impact Assessment of Development Projects: Background Note.** Ministry of Environment and Forests, New Delhi. (66 p.)

This paper provides an outline of the procedural requirements of the Government of India for the environmental (including forestry) assessment and clearance of projects by the Ministry of Environment and Forests. The various sectors for which EIAs have been undertaken are described, and the organisational arrangements and procedures for appraisal and monitoring are outlined.

Government of India (1989). **Guidelines for Environmental Impact Assessment of New Towns.** Ministry of Environment and Forests, New Delhi. (83 p.)

The first part of this document presents a status report on environmental situations that have arisen in selected new towns during the 1970s and 1980s. Based on this review, a typology of new town types is used in Chapter IV (environmental appraisal) to guide the EIA methodology to be used and the environmental issues to be considered: project (construction) colonies; market or service, mining, and port towns; State Capital or District Administrative Centres; satellites to metropolitan cities; those established in connection to cantonments; and new towns established for miscellaneous purposes (e.g. university, technical institutions). Chapter V sets out broad procedures for EIA of new towns. They include the directions that need to be issued by the central and state

governments. A proforma for environmental appraisal is given in an annex.

Government of India (1989). **Environmental Guidelines for Ports and Harbour Projects.** Environmental Impact Appraisal Series; EIAS-4-89 IA-III. Ministry of Environment and Forests, New Delhi. (42 p.)

These guidelines outline the format and content required for an environmental impact statement and environmental management plan, and identify the main impacts of port and harbour projects on physical and ecological resources, human use values and quality of life values. Mitigation measures are discussed for a range of adverse impacts: aquatic, atmospheric, noise, land and other resources, visual, solid waste management, accidental, socio-economic and public health impacts. Some general recommendations for mitigation measures are included. A detailed questionnaire for project environmental appraisal is provided.

Government of India (1989). **Environmental Guidelines for Airport Projects.** Environmental Impact Appraisal Series: EIAS-2-89 IA-III. Ministry of Environment and Forests, New Delhi. (30 p.)

These guidelines apply to new projects and those involving substantial changes to existing facilities. Background is provided on the objectives and processes of EIA, with information on the required structure and content of the environmental impact statements and environmental management plans. Guidance is provided on the identification of environmental effects commonly associated with airport projects: impacts on physical resources (soil and geology, water demand and waste water discharge, air quality, and noise); ecological impacts associated with site development, and facility operation; and socio-economic impacts. Measures for mitigation are also discussed. A brief summary is given of a possible environmental management and monitoring programme is given, and a questionnaire for environmental appraisal is included.

Government of India (1990). **Parameters for Determining Ecological Fragility.** Ministry of Environment and Forests, New Delhi. (29 p.)

The parameters set out in this report are to assist in the identification of specific areas in different regions of India which could be categorised as ecologically fragile or sensitive. They aim to help in ensuring that they are not subjected to environmentally unacceptable activities. Some fragile or sensitive ecosystems are listed. They include ecosystems: with unique properties; with intrinsically low resilience; with high species richness and biological diversity; susceptible to species loss; linking two or more protected ecosystems; with aquifers and water recharge areas of mountain springs; and those with active geological faults and seismic hazards. The parameters are outlined in sections on various ecosystems: deserts, Himalayas, glaciated areas, seismic zones, landslide zones, and watersheds. A list of some of the ecologically fragile and sensitive areas in India is given in an annex.

Contact: Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex Phase II, Lodi Road, New Delhi 110 003, India.

Indian Roads Congress (1989). **Guidelines for Environmental Impact Assessment of Highway Projects.** Indian Roads Congress, New Delhi. (28 p.)

These guidelines supplement the Indian Roads Council's "Manual for Survey, Investigation and Preparation of Roads Projects" (document SP:19). They set out procedures for EIAs of road projects (new roads and major improvements to existing roads) to assist engineers. Section 5 provides formats for recording baseline data, evaluation of alternatives, and assessment of the environmental impact of the chosen alternatives. Section 6 outlines an approach to data collection and evaluation for preparing the EIA. Key elements include a reconnaissance survey/study of different road alignments (desk studies and field work) followed by more detailed investigations of the most appropriate route. The issues that need to be covered in investigations are discussed in respect of existing roads, roads in hilly areas, pollution control (in general), air pollution, and pollution during construction operations. Measures for mitigating adverse impacts are considered, particularly soil erosion and land degradation in hilly areas, for which a checklist of points is included.

Contact: Indian Roads Congress (IRC), Jamnagar House, Shahjahan Road, New Delhi 110 011, India.

Inland Waterways Authority of India (1994). **Guidelines on Environmental Issues Related to Inland Water Transport.** Netherlands Ministry of Foreign Affairs, The Hague & Inland Waterways Authority of India, New Delhi. (44 p., annexes)

Contact: Ministry of Foreign Affairs, PO Box 20061, 2500 EB The Hague, The Netherlands.

Singh, H. & Duraisamy, A. & Subramaniam, U. & De, D. (1994). **Handbook of Environmental Procedures and Guidelines.** Ministry of Environment and Forests, New Delhi. (98 p.)

The introduction outlines the federal legislative measures for EIA in India and the responsibilities of government bodies at national, State and Union Territory levels. Part I is concerned with

environmental clearance, by the Ministry of Environment and Forests, of 29 different identified polluting or degrading development activities, through the EIA Notification procedure introduced in 1994. Sections describe those projects which require clearance, required documentation, the environmental appraisal procedure, the issue of a clearance/rejection letter, and post-project monitoring. Part II focuses on the prevention and control of pollution and provides explanatory notes for pollution control legislation. Sections deal with hazardous wastes and micro-organisms, public liability and fiscal incentives to control/prevent pollution. Part III discusses the conservation of natural resources, particularly forest lands and coastal zones. Flow charts illustrate various procedures described in the guidelines. A series of annexes cover: EIA notification; industries requiring licensing; siting guidelines for industries; questionnaire for industrial projects; list of State Pollution control Boards/Committees; publications; polluting industries; city populations exceeding 1 million; and coastal regulation zone notification.

Contact: Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex Phase II, Lodi Road, New Delhi 110 003, India.

Indonesia

Indonesia has developed a comprehensive EIA process referred to as "AMDAL" (*Analisis Mnegenai Dampak Lingkungan***) which is applied to both public and private projects. AMDAL began in 1986 under the Regulation PP29/1986 and by Ministerial Directives from the State Minister for Population and Environment in 1987. Several shortcomings of AMDAL forced revisions in 1993 and PP51/1993 moved responsibility of AMDAL to sectoral agencies and streamlined the process. Each central-level sectoral authority has to have an AMDAL commission. The Ministry of the Environment and the Environmental Impact Management Agency (***Badan Pengendalian Dampak Lingkungan***- BAPEDAL) have overall responsibility for AMDAL. Proponents must submit their terms of reference for the EIA study (***Kernangka Acuan***), the EIS itself (***Analisis Menganai Dampak Lingkungan***), an Environmental Management Plan (***Rencana Pengelolaan Lingkungan***) and Environmental Monitoring plan (***Rencana Pemantauan Lingkungan***). Subsequent formal guidelines were issued by the Ministry of the Environment in 1994 as Kep-10/MENLH/311994 to Kep-15/MENLH/311994 and Keputsan Kepala Kep-056/1994. New regulations in 1996 (KEP-39/MENLH/8/1996) stipulate the types of businesses or activities that require EIA as part of the screening stage. The regulations also provide for monitoring and public participation at the EIA Study preparation and review stages.**

Berwick, S., Soewardi, B., Pertanian, D., USAID & Winrock International (1987). **Guidelines for Applying the Environmental Impact Assessment Process to Resource Development in Indonesia.** Department of Agriculture, Jakarta, Indonesia. (192 p., annexes)

This document is intended for use by all Offices within the Department of Agriculture (DOA) and other agencies, contractors and consultants participating in the EIA process of the DOA as well as project proponents outside the DOA including the private sector and donor agencies. It describes the regulatory structure within which the guidelines are set and provides methods for planning, management and analysis related to the EIA process. Although the guidelines have been prepared for projects encountered by the DOA, the approach depends upon an interdisciplinary project evaluation early in the EIA process. Such an approach may well transcend sectoral ministries.

Contact: Bureau of Planning, Department of Agriculture, Jl Harsona RM No 3 Ragunan, Jakarta Selatan, Indonesia.

Environmental Assessment Management Agency (BAPEDAL) (undated). **Panduan Evaluasi Dokumen Andal (Guidelines for evaluating EIS documents)** Environmental Assessment Management Agency, Jakarta. (14 p.)

Environmental Assessment Management Agency (BAPEDAL) (1991). **Panduan Pelingkupan Untuk Penyusunan Kerangka Acuan Andal (Scoping Guidelines).** Environmental Assessment Management Agency, Jakarta. (19 p.)

Environmental Assessment Management Agency (BAPEDAL) (1992). **A Guide to Environmental Assessment in Indonesia (Penuntun Analisis Mengenai Lingkungan de Indonesia).** Environmental Assessment Management Agency, Environmental Management Development in Indonesia (EMDI), Jakarta. (22 p.) Also available in Indonesian.

This guide is intended to assist project proponents, consultants and the public in their understanding of the AMDAL process (AMDAL - Analysis Mengenai Dampak Lingkungan, or Analysis of Environmental Impacts) - an integrated review process established in 1986 to coordinate the planning and review of proposed development activities, particularly their ecological, socio-economic and cultural components. The AMDAL process has been coordinated since 1990 by the Environmental Impact Management Agency (BAPEDAL). Projects underway before 1987, but not

by then subject to an EIA, were dealt with under a parallel process, SEMDAL, which ended in 1992.

The guide sets out the responsibilities of BAPEDAL for AMDAL, the goal of the process, and the EA documents/reports required. It describes AMDAL procedures with the aid of a flow chart. Established environmental standards and those under development are indicated and information on the provision of permits and licences is given. AMDAL training courses are also listed. Appendices provide definitions of AMDAL documents, describe government agency responsibilities, and list available AMDAL guidelines.

Government of Indonesia (1994). **The Guidance on the Extent of Significant Impact. Decision of the Chairman of the Environmental Impact Management Board No: KEP-056 of 1994, March 1994. CAFI No. 65/4-6-1994 and CAFI 71 18-6-1994.** Government of Indonesia, Jakarta. (8 p.)

These two consecutive official announcements define what is meant as 'significant impact' and the factors determining it, explain the use of this guidance in decision-making about planned businesses and activities, and describe background assumptions. Issues such as numbers of people affected, spread, duration and intensity of impact, secondary impacts, cumulative effects, and reversibility/non-reversibility of impacts are discussed.

Government of Indonesia (1994). **General Guidance for Drawing up the Analysis of Impact on the Environment. Decree of the State Minister for Environment No.: KEP-14/ MENLH/1994, March 19. CAFI 86/23-7-1994 (14 p.), CAFI 88/28-7-1994 (16 p.), CAFI 90/2-8-1994 (16p.),** Government of Indonesia, Jakarta, Indonesia. (14 p., 16 p., 16 p.)

These three consecutive official announcements provide a framework for EIA in Indonesia. Four attachments provide general guidance for: drawing up a (technical) frame of reference for EIA (Ka-Andal); EIA report structure and content; environmental management plans (RKL), and environmental monitoring plans (RPL).

Government of Indonesia (1994). **General Guidance for Environmental Management and Monitoring Efforts. Decree of the State Minister of Environment No.: KEP-12/MENLH/ 3/1994, March 19, 1994. CAFI 63/31-5-1994.** Environmental Assessment Management Agency (BAPEDAL), Jakarta. (7 p.)

This official announcement sets out guidance for the Environmental Management Effort (UKL) and an Environmental Monitoring Effort (UPL) required for any plan for a business or activity which has no significant impact and/or whose significant impact can be technologically managed. The UKL and UPL are not part of an EIA (AMDAL) in Indonesia and, therefore, not assessed by the AMDAL Commission. The guidance discusses the function and objective of both UKL and UPL, their scope and what they cover.

Government of Indonesia (1994). **General Guidelines for the Preparation of Environmental Impact Assessment. Decree No. KEP-42/MENLH/31/94.** Minister of State for Environment, Jakarta.

Government of Indonesia (1994). **The Establishment of the Commission for Integrated Environmental Impact Assessment. Decree of the State Minister of Environment No. KEP-15/MENLH/3/1994. March 19. CAFI 70/ 16-6-1994.** Environmental Assessment Management Agency (BAPEDAL), Jakarta. (5 p.)

This official Decree establishes the composition (officers, permanent and non-permanent members) of the Commission for Integrated Environmental Assessment, and describes the responsibilities of the Commission in drawing up technical guidance, appraising EIAs and environmental management plans, and helping decision-making regarding these.

Government of Indonesia (1996). **The Types of Businesses or Activities Which Shall, By Way of Obligation, Be Completed with an Analysis on Environmental Impacts. Decree of the State Minister of Environmental Affairs No. KEP-39/ MENLH/8/1996, August 26. BN.5959/5960/15-1-1997.** Government of Indonesia, Jakarta. (9 p.)

This official Decree defines which businesses and activities require an EIA, including those directly bordering on or which might affect protected areas.

Government of Indonesia (1996). **Technical Guidance for Definition of the Social Aspects for Drawing up the Analysis of Impact on the Environment (AMDAL). Decision No.KEP-299 of 1996.** Environmental Assessment Management Agency (BAPEDAL), Jakarta.

Contact: Environmental Assessment Management Agency (BAPEDAL), Gedung Arthaloka Lantai 11, Jl. Jendral Sudirman 2, Jakarta, Indonesia.

Environmental Management Development in Indonesia Project (EMDI) & Dalhousie University (1991). **Coral Reef Systems: Guidelines for Environmental Impact Assessment. 2nd draft. Environmental Management Development in Indonesia Project (EMDI)** Environmental Management Development in Indonesia Project (EMDI), Jakarta & Dalhousie University, Halifax, Canada. (iii, 65 p.)

These are draft general EIA guidelines for development projects in marine and coastal areas. The document identifies two basic options for establishing EIA guidelines for marine and coastal zone developments – the ecosystem health approach and the sectoral approach – and then addresses itself to the ecosystem health approach. It opens by describing the nature and functions of coral reefs. Chapter 2 then provides environmental guidelines pertaining to key environmental factors that are essential in the distribution and physiological performance of many coral reef organisms including salinity, temperature, dissolved oxygen, water clarity, nutrients and tidal patterns. Chapter 3 describes development projects or activities that have the potential to significantly alter the characteristics of coastal areas, and therefore have an impact upon coral reef ecosystems. These include tourism, sewage, forestry, agriculture, aquaculture, ports and harbours, mining and dredging, power plants, and industry. The final chapter considers water quality and monitoring.

Contact: EMDI Project, School for Resource & Environmental Studies, Dalhousie University, 1312 Robie Street, Halifax, N.S. Canada, B3H 3E2, & EMDI Project, Kantor Menteri Negara Kependudukan dan Lingkungan Hidup, J1 Medan Merdan Merdeka Barat 15, Jakarta 10110, Indonesia.

Howe, C.P. & Claridge, G.F. & Hughes, R. & Zuwendra (1992). **Manual of Guidelines for Scoping EIA in Indonesian Wetlands. PHPA/ AWB Sumatra Wetland Project Report.** (2nd edition) Asian Wetland Bureau, Bogor. (315 p.)

This manual is intended to accompany the Manual of Guidelines for Scoping EIA in Tropical Wetlands (Howe et al l991), and is prepared specifically for the Indonesian situation. It is designed to assist in the identification of wetland benefits at a site before project plans are finalised and to assess the potential impacts on these benefits. The Manual includes descriptions and diagrams of all recognised benefits provided by Indonesian wetlands. Copies are available in English and Bahasa Indonesian.

Contact: Asian Wetlands Bureau (AWB), University of Malaya, Lembah Pantai, 59100 Kuala Lumpur, Malaysia.

Kent, M. & Kartakusuma, D. (1991). **Implementation Manual for AMDAL [EIA] in the Ministry of Public Works. Report No.10, Environmental Management Development in Indonesia Project (EMDI)** Dalhousie University & EMDI Jakarta. (xvi, 45 p.)

This manual aims to assist staff of the Ministry of Public Works to deal with the environmental concerns for projects it carries out. It comprises seven sections. The first is an introduction to the AMDAL (Analisis Mnegenai Dampak Lingkungan) (EIA) process. The second sets out working procedures including how to initiate the assessment process for either a PIL (Preliminary Environmental Information Report) or a full AMDAL. The next section provides project screening criteria, whilst section 4 includes technical guidelines describing the types, component areas and study methodologies for Ministry staff to assist their evaluation of consultant' reports. Section 5 discusses how scoping and screening can be applied to existing projects to resolve particular engineering/ environmental concerns. The last two sections are concerned with the evaluation of AMDAL studies and the assessment of provincial projects.

Krawetz, N.M. (1991). **Social Impact Assessment: An Introductory Handbook. Report No.9, Environmental Management Development in Indonesia Project (EMDI)** Dalhousie University & EMDI Jakarta. (xx, 220p.)

This documents is intended as a generic, non-country specific handbook, providing an introduction to social impact assessment. It is set out on the basis of step-by-step methods and procedures. There are five sections covering: an overview of the assessment process; preparing for an assignment; initial environmental evaluation; social impact assessment; and methods. There are two appendices providing IEE and SIA case studies.

Susilo, K. & Keir, A. (1992). **Environmental Assessment in the Department of Industry: Working Guidelines. Report No.18, Environmental Management Development in Indonesia Project (EMDI)** Dalhousie University & EMDI Jakarta. (xxiii, 60 p.)

This is a working guideline to help the Department of Industry to develop a comprehensive environmental assessment capability in accordance with the requirements of Government Regulation 29, 1986. It discusses the rationale for incorporating EA processes into the Department, and the issues and opportunities to be addressed during development of an environmental management system. It outlines the required organisation, and processes and procedures for EA, and provides a five-year strategy for developing and implementing the environmental management plan. Although focused on the Department of Industry, the document contains valuable information on the AMDAL (EIA) process in

Indonesia and may be useful to other organisations seeking to establish EA systems.

Contact: EMDI Project, School for Resource & Environmental Studies, Dalhousie University, 1312 Robie Street, Halifax, N.S. Canada, B3H 3E2, & EMDI Project, Kantor Menteri Negara Kependudukan dan Lingkungan Hidup, J1 Medan Merdan Merdeka Barat 15, Jakarta 10110, Indonesia.

Israel

Environmental Impact Statements have been used in Israel since the mid 1970s to take environmental effects into account in decision-making. The Environmental Protection Service was created in 1973 and one of its responsibilities was to develop an EIA system. EIA was legislated under the Planning and Building Regulations (Environmental Impact Statements), 1982 and EIA Regulations 1993. The Ministry of the Environment is responsible for the EIA system and the system is delivered by planning authorities at the national, district, and local levels. Under these regulations, screening lists are used but the planning authorities are flexible and allow for the discretionary request for EIA to be carried out by the proponent. The "Licensing of Business" law allows environmental data to be included in business licenses. The preparation of EIA documents must be in accordance with guidelines from the Environmental Advisor (the Director of the Ministry of the Environment), issued by the local planning authority. Review of the EIS is carried out by the local planning authority with the Ministry.

Contact: Ministry of the Environment, Planning Division, PO Box 34022, Jerusalem 95464, State of Israel

Japan

Administrative guidance (with voluntary status) were issued in 1984 and stipulated that EIA procedures should be undertaken for large-scale national developments. Impact assessments were subsequently carried out under the Public Water Reclamation Law and following sectoral guidelines from the Ministry of Trade and Industry. EIA was also carried out under both local and sector-level systems. The proponent is usually responsible for EIS preparation and usually submit sit to the Prefectural Governor. The system was managed by the Environment Agency, established in 1971. The Basic Environmental Law of 1993 supported the use of EIA and envisaged future legislation to elaborate the system. In March 1997, a Bill was submitted to the "National Diet" on the Environmental Impact Assessment Law. The Bill proposed EIA procedures including screening (using thresholds) and public participation during scoping and report preparation. The Bill was passed in June 1997 and will become law in 1999 to finally give mandatory status to EIA in Japan.

Contact: Environment Agency EIA Division, Environment Agency, 1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100, Japan

Jordan

Article 15 of the Environmental Protection Act, 1995, provides for the preparation of national EIA procedures and guidelines, but this has yet to be done. There is no specific EIA law, and no generally applicable guidelines. A draft Operation Directive for EIA in the Aqaba region was prepared in 1995 by the Aqaba Region Authority.

Contact: EIA Unit and Implementation of Ramsar Convention, General Cooperation for Environmental Protection, PO Box 1408, Amman 11941, Jordan

Kazakhstan

Prior to 1991, the laws providing for State Ecological Expertise (SEE- based upon Russian Law, *ekologicheskaya ekspertiza,* **and also known as State Environmental Review) was under Soviet control (under the Law of Environmental Protection). In 1991, Kazak law further defined it for use in the new republic. SER is mandatory for all projects and some development plans. Projects on the screening list (very similar to the one of the Espoo convention) must be subjected to an OVOS (Assessment of Environmental Impacts) procedure regulated by the Soviet OVOS Guidelines of 1990 (amended in 1992). SEE is a procedure which combines (a) decision-making (issuing a mandatory SEE Resolution, and an integrated environmental permit), (b) environmental assessment (i.e. assessing environmental acceptability of the proposed development, particularly its compliance with environmental norms and standards), and (c) quality control of environmental assessment conducted by the developer (i.e. OVOS) . A draft Law on Environmental Protection, 1997, includes chapters on EIA and SEE. The Law of the Republic of Kazakstan on Environmental Review, 1997, makes SEE mandatory for all proposals including new legislation and regulations and for all national, territorial and sectoral projects. The EIA system starts with baseline studies and submission of a draft OVOS. The Ministry of Ecology and Bioresources has overall responsibility for SEE and ensuring that OVOS is carried out. The actual execution of OVOS is the responsibility of the proponent. To apply for SEE, an EIA (OVOS) must be carried out and culminate in production of a "Statement on Environmental Consequences". Provision is made under the 1997 Law for Public participation at the SEE stage.**

Republic of Kazakhstan (1993). **Temporary Instruction on Procedure for EIA of Planned**

Economic Activities in Kazakhstan. Ministry of Ecology and Biological Resources, Almaty. (58 p.)

These guidelines set out the general procedures for environmental assessment during the preparatory and decision-making stages of economic activities, including development of programmes, regional and planning projects and infrastructure facilities. The document covers: terms and definitions, principles, status and order of EA procedures, stages (levels), and duties and responsibilities for undertaking EA. The main steps of the procedure involves: review of environmental conditions; preliminary EA; and full EIA.

Contact: Information and Analytical Centre for Ecology and Geology, Ministry of Ecology and Nature Resources, 85 Dostyk av., Almaty 480100, Republic of Kazakhstan

Korea, Republic

EIA was introduced in South Korea in 1981 under the Environment Preservation Act, 1977. It was first applied to major projects and then to a wider range of public and private projects. The Environmental Assessment Act, 1993 (amended in 1997), provides the present statutory basis for EIA. It increased the provision for public participation and addressed the issue of EIS quality. "Environmental Assessment" (in addition to "environmental *impact* assessment") of plans, programs and policies takes place under Enforcement Article 3(2) of the Environmental Policy Act and Presidential Decree No. 299, both passed in 1993. The systems of "environmental impact assessment" and "environmental assessment" are distinguished by procedural differences regarding monitoring and review. Local governments are given legal authority to issue regulations to extend the coverage of EIA to other projects. The management body for the impact assessment systems in Korea is the Environmental Assessment Division of the Ministry of the Environment. The 1997 amendments to the EA Act included strengthening the review and monitoring systems and ensuring that the EIS is written by impartial consultants on behalf of the proponent.

Contact: Ministry of Environment, Nature Environment Ecosystem Division, Government Complex II, 1 Joongang Ang-Dong, Kwachon, Kyunggi-Do 427 760, Republic of Korea

Kuwait

The legislative and institutional background for a general environmental protection system exists, but there is no specific EIA legislation. Law 62/1980 allows the Environmental Protection Council to require an environmental study at the project level.

Environment Protection Council (1990). **Proposed Environmental Protection Standards and Guidelines for the State of Kuwait: 1. Ambient Air Quality Standards; 2. Ambient Sea Water Quality Standards.** Environment Protection Council, Safat.

Environment Protection Council (1990). **Organization of Environmental Impact Assessment for Engineering and Industrial Projects.** Environment Protection Council, Kuwait, Safat. (6 p.)

This Ministerial Order (9/90) sets out procedures for EIA prior to licensing new engineering and industrial projects and major expansions or modifications of existing projects. Factors to be investigated are listed.

Contact: Environment Protection Council, PO Box 24395, Safat, Kuwait 13104.

Kyrgystan

The National Environmental Action Plan (NEAP), 1994, transformed the State Committee for Environmental Protection (*Goskompriroda*) into the Ministry of the Environment which has overall responsibility for the EIA systems. Efforts are underway to assemble current legal requirements into a coherent and useful environmental protection instrument. The NEAP requires full EIA under the former Soviet system of OVOS (Assessment of Environmental Impacts). The SEE (State Ecological Expertise) stage is not carried out until completion of the OVOS documents. The process includes the submission of a "Note of Intention", followed by the OVOS, the determination of effects (including a public hearing), ZEP ("statement on environmental consequences") and post-project analysis and control. The SEE system is also responsible for taking the EIA into account at the State decision-making stage. The Regulation on the State Ecological Expertise of Kyrgyzstan Republic, 1994, is the most recent legal instrument controlling SEE.

Lao PDR

There are no formal EIA procedures, but increasingly it is recognised that the capacity to effectively assess the environmental implications of development is an important part of environmental management. To date, decisions on whether or not to require EIA of new projects have been taken on a case-by-case basis by each ministry. EIAs have been conducted for

selected major development. The Science, Technology and Environment Organisation (STENO) has prepared a new Environmental Law which was to be submitted to the National Assembly in February 1998. Once the new law is enacted, it is planned to develop new guidelines and methodologies. The Department of Geology and Mining in the Ministry of Industry and Handicrafts has developed draft guidelines for EIA of mining proposals. This process will involve the initial screening of all proposals and mandatory EIA for major projects. But these guidelines will be submitted for approval only after a new Decree on Mining has been adopted by the National Assembly.

Contact: Science, Technology and Environment Office (STENO), PO Box 2279, Vientiane, Lao Peoples Democratic Republic

Vroegop, J. (1994). **Guidelines for Reducing the Environmental Effects of Road Projects in Lao People's Democratic Republic. Report Ref: 93807G2.** Government of Lao Peoples Democratic Republic, World Bank (13 p., appendices)

These guidelines were prepared as part of World Bank environmental input into the Louang Namtha Provincial Development Project in the north of Lao. They comprise three sections: introduction; environmental procedures (screening, institutional aspects, staffing and technical assistance); and environmental effects and mitigation measures. Additional information on the latter is provided in appendices together with sample environmental clauses for contract documents.

Contact: The World Bank, (ENVLW), 1818 H Street NW, Washington D.C. 20433, USA.

Malaysia

EIA was undertaken on a voluntary basis under administrative procedures from 1979-1985 until amendments to the 1974 Environment Quality Act awarded the procedures mandatory status in 1988 (Environmental Quality (prescribed Activities) (Environmental Impact Assessment) Order 1987). The main features of the Malaysian system include the preliminary assessment of impacts followed by detailed assessment of significant residual impacts. Review is the responsibility of the Department of the Environment for preliminary assessments and *ad-hoc* review of detailed assessment reports by a Review Panel. Recommendations are passed to the competent authority (either a Federal- or State-government body, depending on the type of project) for the approval of the project. In 1993, implementation of EIA was decentralised to five State offices of the Department of Environment in order to better integrate EIA into the decision-making process. Following capacity-building in all States, decentralisation was completed in 1995. In 1996, the Environmental Quality (Amendment) Act increased the penalty for non-compliance and issued provisions for request for environmental audit reports. Sixteen sets of sectoral guidelines have been produced.

Government of Malaysia (1987). **A Handbook of Environmental Impact Assessment Guidelines.** (3rd ed.) Department of the Environment, Kuala Lumpur. (116 p.)

Malaysia's EIA policy is derived from a government initiative which was outlined in Chapter XI of the Third Malaysia Plan 1976-1980. These guidelines are drawn from the Fifth Malaysia Plan 1980-1986. The handbook first outlines the relevant legislation (the Environmental Control Act of 1985) and gives a general introduction to EIA. Chapter Two is a guide to procedural steps for preliminary assessment in Malaysia. The text uses set matrices which the developer must follow during the initial stages of the assessment. Public participation is discussed, and an outline of a preliminary report is included. Chapter Three discusses the procedural steps for a detailed assessment. Terms of reference, methodologies, data collection, public participation, and mandatory environmental standards are all covered. The review process is presented in Chapter Four, while Chapters Five and Six provide guidelines to preparing preliminary and final assessment reports.

Government of Malaysia (1992). **Environmental Impact Assessment (EIA) Procedure and Requirements in Malaysia.** Department of Environment, Kuala Lumpur. (28 p.)

This document describes the EIA procedure in Malaysia. It discusses preliminary and detailed assessment and review of EIA reports, indicates the approving authorities for particular types of project, describes the organisational structure for the EIA process in Malaysia, and provides a classification of projects and relates this to the timing of submission of EIA reports. Activities subject to EIA are set out in checklists. Appendices provide extracts concerning EIA from the Environmental Quality Act 1974, and addresses for offices of the Department of Environment. This document was revised in 1994.

Government of Malaysia (1992). **Notification Specifying Procedures, Rules, Methods and Guidelines for the Preparation of Environmental Impact Assessment Reports.** Ministry of Science, Technology and Environment, Kuala Lumpur. (4 p.)

A formal ministerial notification under the Enhancement and Conservation of National Environmental Quality Act setting out additional steps

to be taken in order to file EIA reports for a range of project types and activities.

Government of Malaysia (1994;1995). **EIA Guidelines Series.** Department of the Environment, Ministry of Science Technology and Environment, Kuala Lumpur, Kuala Lumpur.

This is a series of guidelines covering the following sectors:
Coastal Resort Development Projects EG5/94,
Petrochemical Industries EG6/94,
Industrial Estate Development EG7/94,
Golf Course Development EG8/94,
Groundwater and/or Surface Water Supply Projects EG1/95,
Thermal Power Generation and/or Transmission Projects EG2/95,
Drainage and/or Irrigation Projects EG3/95,
Fishing Harbours and/or Land Based Aquaculture Projects EG4/95,
Dam and/or Reservoir Projects EG5/95,
Mines and Quarries EG7/95,
Development of Resort and Hotel Facilities in Hill Stations EG8/95,
Development of Resort and Recreational Facilities in National Parks EG9/95,
Development of Tourist and Recreational Facilities on Islands in Marine Parks EG10/95,
Industrial Projects EG11/95,
Municipal Solid Waste and Sewage Treatment and Disposal Projects EG12/95,
Toxic and Hazardous Waste Treatment and Disposal Projects EG13/95.

Government of Malaysia (1994). **Environmental Requirements: A Guide for Investors.** (5th edition) Department of the Environment, Ministry of Science Technology and the Environment, Kuala Lumpur.

Contact: Department of the Environment, Ministry of Science Technology and the Environment, 12th and 14th Floor, Wisma Sime Darby, Jalan Raja Laut, 50662 Kuala Lumpur, Malaysia.

Mongolia

Government Resolution No. 121, 1994, gave legal status to the EIA procedures (Mongolian Environmental Impact Assessment Procedures) and gave responsibility for managing the EIA system to the Ministry of Nature and Environment. A statutory basis for the system was provided by the Mongolian Law on Environmental Protection, 1995. The regulations cover both existing and proposed projects. There are two levels of EIA: general EIA by the Ministry of Nature and Environment; and local government EIA based on initial project and environment information. Detailed EIA may be requested after such initial EIA documents have been evaluated. Monitoring is a local government agency responsibility. Review must be carried out internally by the proponent and also by the Ministry. The proponent must only use licensed (to the Ministry) organisations to assist in the EIA process.

Government of Mongolia (1994). **Environmental Impact Assessment Guidance for Mongolia.** Ministry of Environment, Ulaanbaatar.

Contact: Ministry for Nature and Environment, Government Building No.3, Baga Toiruu-44, Ulaanbaatar, Mongolia.

Myanmar

There is no national EIA system. The Inter-Agency Ministerial Screening Committee of the Ministry of Planning and Finance, with collaboration from line ministries, is responsible for the performance of EIA. EIAs have been undertaken for Asian Development Bank projects. EIA policy takes its lead from the National Environment Policy developed by the National Committee for Environmental Affairs.

Contact: National Commission for Environmental Affairs, 37 Thantaman Road, Yangon, Myanmar

Nepal

The value of EIA was recognised in the National Conservation Strategy prepared during the seventh Five-year plan (1985-1990). The eighth five-year plan (1992-1997) and the Nepal Environment Policy an Action Plan (1993) reiterated the need for EIA. An Environmental Core Group was established in 1990 and the National Planning Commission (NPC), in collaboration with IUCN, produced National EIA guidelines (endorsed by the government in 1992 and implemented in 1993), and sector guidelines for forestry and Industry (endorsed in 1995). The NPC in association with IUCN and other government agencies has also prepared sector guidelines covering water resources, water supply, roads, mining, sanitary landfill sites, human settlement and urban development (these are awaiting government approval). The Ministry of Population and Environment, established in 1995, co-ordinates the elaboration of EIA procedures and guidelines. With active involvement of different stakeholders, the ministry developed the Framework Law on Environmental Protection (Environmental Protection Act 2053, 1997) which gives the legal basis for EIA in Nepal. It has been implemented through the Environment Protection Regulations, 1997, which prescribe, inter alia, when proponents must carry out an Initial Environmental Examination or an EIA of

proposed projects, and provide for the monitoring of impacts. Environment Protection Rules (EPR) issued under the Environment Conservation Act, 1997 also set out schedules of project types for which a project proposer must undertake either a preliminary environmental test or an evaluation of the environmental impact of the proposal. These Rules oblige proponents to: make public the contents of a proposal twice to enable comments and suggestions by different stakeholders; include all relevant environmental issues in the scoping report before submission for approval; and make the draft EIA report public before its finalisation. They also give formal procedures for submitting EIA reports; and describe the approval process. EIA has been integrated into other legislation: the Water Resource Act 1992 (Section 8), the Electricity Act 1992 (Section 4), the Forestry Act (1994) and the Agriculture Act (1996).

National Planning Commission (1993). **National Impact Assessment Guidelines.** National Planning Commission, & The World Conservation Union (IUCN), Kathmandu. (vi, 31p.)

These guidelines replace the 1992 guidelines of the same name. They are intended for use by project proponents, government officials, consultants, project implementors and the general public. They outline the steps of the EIA process from screening to monitoring and evaluation, and also include a section on environmental impact auditing which addresses community participation. A number of schedules detail the projects requiring EIA, set out terms of reference, and describe the EIA report format.

Government of Nepal (1994). **Environmental Impact Assessment Guidelines for the Water Resources Sector (Power and Irrigation) Prepared under the National Conservation Strategy Implementation Project.** National Planning Commission, Ministry of Water Resources, & The World Conservation Union (IUCN), Kathmandu. ((vii, 82 p., 21 annexes)

The first part comprises 11 chapters describing the EIA process in Nepal, covering: water resources sector and the environment, environmental impact and management requirements, screening criteria and initial environmental examination, scoping, terms of reference and EIA report format, identification of environmental impacts, mitigation methods, review of EIA reports (draft), impact monitoring and evaluation, environmental impact auditing, and references. The second part contains 21 annexes covering, for example: project cycle, EA process, terms of reference, methodological examples for particular (actual and hypothetical) projects, checklist of impacts, standards, etc.

Government of Nepal (1994). **Environmental Impact Assessment Guidelines for the Road Sector. Prepared under the National Conservation Strategy Implementation Project.** National Planning Commission, Ministry of Works and Transport, & The World Conservation Union (IUCN), Kathmandu. (v, 34 p.,- 5 annexes)

These guidelines, derived from two road sector workshops, contain 13 chapters covering: introduction; screening of project proposals; initial environmental examination; scoping for EIA; terms of reference for EIA studies; EIA report; identification of significant environmental impacts (including methods), mitigation measures; review of draft EIA report; impact monitoring; EIA evaluation; impact auditing; and public involvement. Annexes provide additional information on: project cycle; screening process; sensitive areas; and IEE report format. A glossary of terms is included.

Government of Nepal (1995). **Environmental Impact Assessment Guidelines for the Forestry Sector. Prepared under the National Conservation Strategy Implementation Project.** National Planning Commission. Ministry of Forestry, National Planning Commission, & The World Conservation Union (IUCN), Kathmandu. (x, 23 p.)

These guidelines aim to facilitate the sustainable use of forest resources for socioeconomic development and for meeting basic needs of communities for forest products; to make proposals socially and culturally acceptable, economically feasible and environmentally benign; and to facilitate the identification of positive and negative impacts of programmes implemented in forest areas. The guidelines run though the various stages of the EIA process from screening to monitoring and evaluation. They also consider development proposals that do not originate from the forestry sector but which affect forest areas.

Government of Nepal (1995). **Environmental Impact Assessment Guidelines for the Water Supply Sector. Prepared under the National Conservation Strategy Implementation Project.** National Planning Commission, Department of Water Supply and Sewerage, & The World Conservation Union (IUCN), Kathmandu. (vii, 37 p.)

The introduction to these guidelines provides background information on water supply projects and the environment, environmental policies in Nepal and EIA in Nepal. There are 13 chapters covering: EIA guidelines for the water supply sector; proposal screening; IEE; scoping; terms of reference; EIA report; impact identification, prediction and comparison;

impact mitigation measures; review of EIA report; environmental monitoring; EIA evaluation; environmental impact auditing; and community participation. Schedules are included which provide formats for terms of reference and for an EIA report and annexes.

Government of Nepal (1995). **Environmental Impact Assessment Guidelines for the Industry Sector. Prepared under the National Conservation Strategy Implementation Project.** National Planning Commission, Ministry of Industry, & The World Conservation Union (IUCN), Kathmandu. (vii, 34 p., 6 annexes)

This document has an introduction on the economy and the environment and existing industries, and 13 short chapters covering: definitions; objectives; screening; scoping; terms of reference; EIA report; identification of impacts - types of impact, methods (checklist, matrix, network), impact prediction and ranking; mitigation; review of draft EIA report; impact monitoring; evaluation of impact studies; auditing; and community participation. There are 6 annexes: industries requiring permission; projects requiring EIA; environmentally sensitive areas; format of IEE report; format of terms of reference and of EIA report.

Government of Nepal (1995). **Environmental Impact Assessment Guidelines for the Mining Sector.** Department of Mines and Geology, Ministry of Industry, National Planning Commission, & The World Conservation Union (IUCN), Kathmandu. (v, 37p., 7 annexes)

This document is the outcome of intensive and extensive inter-sectoral and multi-disciplinary workshop discussions. It comprises 11 chapters covering: introduction; screening; IEE; scoping; terms of reference for EIA; EIA report; impact identification and prediction; impact mitigation measures; EIA report review; monitoring and evaluation; and community participation. Seven annexes provide additional information on: classification for industry locations; screening categories for mines (based on commodities and daily output); mineral classifications – based on type, and value; environmental parameters checklist for mining and mineral processing projects; and a glossary.

Government of Nepal (1996). **Environmental Impact Assessment Guidelines for Sanitary Landfill Sites.** National Planning Commission, Ministry of Local Government, & The World Conservation Union (IUCN), Kathmandu. (vi, 44p.)

This document provides EIA guidelines for municipal sanitary landfill sites and comprises 12 chapters covering: site selection; proposal screening and IEE; scoping for EIA; terms of reference; EIA report; identification, prediction and comparison of environmental impacts; impact mitigation measures; review of EIA report; environmental monitoring; EIA evaluation; environmental impact auditing; and community participation. Schedules are included which provide a checklist for environmental examination of potential landfill sites; formats for IEE report, terms of reference, EIA report and annexes; routes to exposure to hazards caused by uncontrolled dumping; overall EIA process and screening procedure for sanitary landfills.

Government of Nepal (1996). **Environmental Impact Assessment Guidelines for Human Settlement and Urban Development Sector. First Draft.** Department of Housing and Urban Development, National Planning Commission, & The World Conservation Union (IUCN), Kathmandu. (33p., annex)

This document comprises 13 chapters covering: introduction; overview of human settlement and urban development sector in Nepal; environmental problems due to human settlement development process; screening process and criteria; IEE; scoping for EIA; terms of reference for EIA; EIA report; identification of impacts; mitigation measures; review of draft EIA report; environmental impact evaluation and monitoring; and community participation. Annexes list human settlement and urban development activities requiring an IEE or a full EIA, and provide a checklist of environmental problems due to such activities.

Contact: Environment Section, Ministry of Industry, Singha Durbar, Kathmandu, Nepal

Khadka, R.B.(ed.) (1996). **EIA Training Manual for Professionals and Managers.** Asian Regional Environmental Assessment Programme, The World Conservation Union (IUCN), Kathmandu. (xii, 187 p.) ISBN 92-9144-016-7

This training manual builds on experience in EA in Nepal and particularly on a range of sectoral EA guidelines, and draws from many published and unpublished works. In effect, it represents generic EA guidelines for professionals and administrators in that country. However, the manual will also be useful to a much wider audience. The document is well presented in simple language and presents organisational structures and technical aspects; key skills and knowledge; cultural factors; and social, political and industrial parameters, reflecting the realities in the country and region. There are 15 chapters which loosely follow the project cycle. The first five are of a background nature and cover: introduction; EIA principles and process; the project cycle and project management; screening and initial environmental examination; and scoping and preparation of terms of reference. The next four chapters deal with

establishing the environmental baseline; impact prediction, evaluation and comparison of alternatives; EIA methods; and mitigation measures. The final group of chapters are concerned with drafting EIA reports; review criteria for reports; monitoring; compliance and enforcement; public involvement; and strategic environmental assessment. An annex discusses integrative impact assessment. A glossary of terms and bibliography are included. The document is well illustrated with tables, boxes, diagrams and cartoons.

Contact: Asian Regional EIA Programme, Nepal Country Office, IUCN, PO Box 3923, Kathmandu, Nepal.

Oman

EIA was first made a requirement in Oman by Environmental Act No.10, 1982. This was amended by Royal Decrees 63/85, 71/89 and 31/93. As part of the process of applying for development consent, Article 13 of the 1982 Act requires development proponents to submit an EIS form to the competent sectoral ministry. This calls for information on impacts on amenities and services, pollution control, monitoring procedures and mitigation measures. The form is forwarded to the Ministry of Regional Municipalities and Environment, requesting a "Non-Environmental Objection" licence. The Administration of Environmental Planning and Permissions reviews the request, in association with other relevant administrations. A license may be issued on the basis of the information submitted, or the Administration may itself visit the site and carry out an assessment. Usually, a temporary NEO license is given, enabling construction and initial operation. A permanent NEO is granted if initial operations confirm the accuracy of the information submitted on the EIS form. No publication participation is provided for.

Government of Oman (1993). **Data and Information Required for the EIA Report.** Ministry of Municipalities and Environment, Sultanate of Oman. (2 p.)

Government of Oman (undated). **Environmental Impact Statement: Guidance Notes.** Ministry of Environment, Sultanate of Oman.

The Law on the Conservation of Environment and Prevention of Pollution (Royal Decree 10/82) requires an Environmental Impact Statement to be submitted with applications for a licence for development. The guidance notes set out the information required for particular categories of projects in a series of forms: building projects (form I); industrial (J) infrastructure (L); and agriculture (M).

Contact: Ministry of Municipalities and Environment, PO Box 3461, Muscat, Sultanate of Oman.

Pakistan

The Environmental Protection Ordinance of Pakistan, 1983, established the National Environmental Council (NEC) and the Environmental Protection Agency (EPA) . The NEC is the lead agency for developing policies and guidelines while the EPA is responsible for enforcing the provisions of the Ordinance. The Ordinance stipulates that every development proponent must submit an EIS to the EPA if the proposed project might adversely affect the environment. Ordinance No. 27, 1997, provides for an "Initial Environmental Evaluation" or a full EIA to be requested, according to the potential impact of the project. There are no provisions for mandatory public participation. Guidelines and procedures apply to both federal and provincial projects.

Environmental Protection Agency (1997). **Package of Comprehensive Procedures and Guidelines for Environmental Assessment in Pakistan.** Environmental Protection Agency, Islamabad.

This suite of documents, released in October 1997, sets out procedures and guidelines for environmental assessment, as required under the Pakistan Environmental Protection Ordinance, 1997. The documents are intended to be read as a package. They have been prepared by the federal EPA in collaboration with other key stakeholders, including Provincial EPAs and Planning and Development Divisions from both the federal government and the provinces, other agencies, NGOs, representatives of Chambers of Commerce and Industry, and academics and consultants. The suite of sectoral guidelines is not yet complete - those currently available (February 1998) are abstracted separately below. It is understood that guidelines for the following sectors will be produced in the near future: Water supply projects, Irrigation and drainage, Dams, Forestry, Municipal waste disposal, and Oil and gas exploration.

Environmental Protection Agency (1997). **Policy and Procedures for the Filing, Review and Approval of Environmental Assessments.** Environmental Protection Agency, Islamabad. (17 p., annexes)

This document comprises six sections which set out the key policy and procedural requirements of the 1997 Pakistan Environmental Protection Ordinance. It contains a brief policy statement on the purpose of EA and the goal of sustainable development, requires that EA be integrated with feasibility studies, defines the jurisdiction of the federal and provincial Environmental Protection Agencies and Planning and Development Divisions, lists the responsibilities of proponents, and lists the duties of Responsible Authorities. In annexes, it provides schedules of

proposals that require either an initial environmental examination (IEE) or an EIA, and various forms.

Environmental Protection Agency (1997). **Guidelines for the Preparation and Review of Environmental Reports.** Environmental Protection Agency, Islamabad. (46 p., appendices)

This document comprises nine sections covering: introduction; initial environmental examination (IEE) (scoping, alternatives, site selection, format of IEE); assessing impacts (identification, analysis and prediction, baseline data, significance); mitigation and impact management (and preparing an environmental management plan); reporting (drafting style, main features, shortcomings, other forms of presentation); monitoring and audit (systematic follow-up, purpose, effective data management); and project management (inter-disciplinary teams, programming and budgeting). Two appendices list global, cross-sectoral and cultural issues in EA and provide an example of a network showing impact linkages.

Environmental Protection Agency (1997). **Guidelines for Public Consultation.** Environmental Protection Agency, Islamabad. (23 p.)

These guidelines comprise five main sections covering: introduction (consultation, involvement and participation, stakeholders); techniques for public consultation (principles, levels of involvement, tools, building trust); effective public consultation (planning, stages of EIA where consultation is appropriate); consensus building and dispute resolution; and facilitating the involvement of stakeholders (including the poor, women, building community and NGO capacity).

Environmental Protection Agency (1997). **Guidelines for Sensitive and Critical Areas.** Environmental Protection Agency, Islamabad. (13 p., 3 appendices)

These guidelines stress the importance of protected areas and are intended to help proponents identify "sensitive and critical areas" in Pakistan, particularly: (a) ecosystems (wildlife reserves, national parks, game reserves) and (b) archaeological sites, monuments, buildings and cultural heritage. These two groups are dealt with separately. For ecosystems, the guidelines describe policies and legislation, notified protected ecosystems in Pakistan, and classification of such ecosystems. For archaeological sites and monuments, the guidelines cover geological sites in Pakistan and notified sites. For both groups, checklist of procedures for EA are provided. Appendices list notified protected ecosystems, archaeological sites and monuments, and contact authorities for both.

Environmental Protection Agency (1997). **Pakistan Environmental Legislation and the National Environmental Quality Standards.** Environmental Protection Agency, Islamabad. (7 p.)

This brief reference document lists key environmental laws and regulations in Pakistan, and the National Environmental Quality Standards.

Environmental Protection Agency (1997). **Sectoral Guidelines: Major Thermal Power Stations.** Environmental Protection Agency, Islamabad. (23 p., appendix)

These guidelines provide an overview of the thermal power station sector, and provide guidance on: potential impacts on the environment, mitigation measures, emission requirements, monitoring and reporting, management and training, and key production and control practices. Illustrative examples of potential negative impacts versus specific mitigation measures are given in an appendix.

Environmental Protection Agency (1997). **Sectoral Guidelines: Major Chemical and Manufacturing Plants.** Environmental Protection Agency, Islamabad. (18 p., appendices)

These guidelines provide an overview of the chemical and manufacturing plant sector, and provide guidance on: potential impacts on the environment, mitigation measures, emission requirements, monitoring and reporting, and management and training. Appendices provide a checklist of environmental parameters for major chemical/manufacturing plants, and illustrative examples of potential negative impacts versus specific mitigation measures.

Environmental Protection Agency (1997). **Sectoral Guidelines: Industrial Estates.** Environmental Protection Agency, Islamabad. (16 p., appendices)

These guidelines provide an overview of the industrial estate sector, and provide guidance on: environmental impact issues, negative impacts and mitigation measures, emission requirements, and monitoring management and training. There are two appendices: a checklist of environmental parameters for industrial estates; and an extract from the National Reference Manual on Planning Infrastructure Standards.

Environmental Protection Agency (1997). **Sectoral Guidelines: Major Roads.** Environmental Protection Agency, Islamabad. (18 p., appendix)

These guidelines provide an overview of the major roads sector, and provide guidance on: negative

impacts and mitigation measures, and management and monitoring. A checklist of environmental parameters for major roads is provided in an appendix.

Environmental Protection Agency (1997). **Sectoral Guidelines: Major Sewerage Schemes.** Environmental Protection Agency, Islamabad. (18 p., appendix)

These guidelines provide an overview of the major sewerage scheme sector, and provide guidance on: potential impacts on the environment, impacts and mitigation measures, emission requirements, and management and training. A checklist of environmental parameters for major sewerage schemes is provided in an appendix.

Environmental Protection Agency (1997). **Sectoral Guidelines: Oil and Gas Exploration.** Environmental Protection Agency, Islamabad. (12 p., appendices)

These guidelines provide an overview of the oil and gas exploration sector, and provide guidance on: impacts and mitigation measures, and monitoring and reporting. Appendices provide a checklist of environmental parameters for oil and gas exploration, and a form for a statement by the proponent to be made in relation to exploration proposals.

Environmental Protection Agency (1997). **Sectoral Guidelines: Housing Estates and New Town Development.** Environmental Protection Agency, Islamabad. (19 p., appendix)

These guidelines provide an overview of the housing estates and new town development sector, and provide guidance on: types of environmental impact, negative impacts and mitigation measures, and monitoring management and training. A checklist of environmental parameters for housing estates is provided in an appendix.

Contact: Pakistan Environmental Protection Agency, 44-E Office Tower, Blue Area, Islamabad, Pakistan.

IUCN, NORAD, SIDA & AIDAB (1991). **EIA Guidelines for the Pakistan Energy Sector.** IUCN-The World Conservation Union (on behalf of the Environmental and Urban Affairs Division, Government of Pakistan), Gland, Switzerland. (42 p.)

These guidelines provide comprehensive information on EIA for the energy sector in Pakistan. They are intended for use in connection with the World Bank loan to Pakistan for energy sector projects, but also have general application.

The document is in two parts. Part 1 provides background information including an introduction to EIA, the legal requirement for EIA in Pakistan, a perspective on the Pakistan energy sector and the sensitivity of Pakistan's environment to disturbance by development projects.

Part 2 includes a generalised procedure for the EIA of all energy sector projects except nuclear power proposals, gives guidance on the environmental issues associated with each specific type of energy sector development, and provides checklists of factors which need to be taken into account in their assessment.

Contact: IUCN-The World Conservation Union, Forest Conservation Programmme, Rue Mauverney 28, CH 1196 Gland, Switzerland.

Papua New Guinea

EIA was introduced by the Environment and Planning Act, 1978, and there is separate legislation for some mining operations. There is no EIA review process, but there is provision for public participation. Compliance is mandatory but the extent of the implementation of the Act is not known. Guidelines on the preparation of environmental plans have been produced by the Department of Environment & Conservation within the Ministry of the Environment and Conservation, which is the responsible agency for EIA

Contact: Department of Science and Conservation, PO Box 6601, Waigani, Port Moresby NCD, Papua New Guinea

Philippines

The legal framework for the "Environmental Impact Statement System" (EISS) is Presidential Decree No. 1586, approved in 1978. This Decree was initiated following the 1977 Environmental Policy Decree, but it was revised to introduce new features in 1992 (Order (DAO) 21). The Procedural Manual for DAO 96-37 was drafted and published in 1997. The EISS is linked to the requirement for "Environmental Compliance Certificates" (ECCs) which are issued by the Department of Environment and Natural Resources after review and approval of the Environmental Impact Study (EIS). Screening is facilitated by using lists of (a) "Environmental Critical Projects" (ECP) which require an EIS and (b) projects in "Environmental Critical Areas" (ECA) which require an "Initial Environmental Examination". Undertakings in "ecologically sensitive areas" within these categories are listed under Presidential Proclamation 2146 series 1981, and Presidential Proclamation 803 series 1996. The Department of Environment and Natural Resources is responsible for implementing the EISS system and for accreditation of EISS experts. Within this

organisation, the Environmental Management Bureau reviews EISs and issues the ECCs.

Department of Environment and Natural Resources (1997). **Procedural Manual (Environmental Impact Statement System). Draft.** Department of Environment and Natural Resources, Manila. (v, 128 p., 19 annexes)

Whilst still a draft (February 1997), this manual is now officially in use. It aims to provide a reference for EIA practitioners and others in the implementation of the revised EIS system, and details the required steps and procedures. The emphasis is more on processes than on technical aspects of EIA. The document is presented in 12 chapters. Chapter 1 introduces the Philippine EIS system, whilst its scope is dealt with in Chapter 2 - covering environmentally critical projects (ECPs) and others located in environmentally critical areas (ECAs), environmental compliance certificates (ECCs), project screening, etc. Chapter 3 is concerned with eligible preparers of an EIS and IEE, particularly qualification and accreditation procedures. Preparing an EIS for ECPs, and initial environmental examination (IEE) of projects in ECAs, are discussed in Chapters 4 and 5, respectively. Chapter 6 sets out the requirements for public participation and consultation, conflict resolution, and determining social acceptability of projects, even at the IEE stage. Environmental compliance monitoring is the subject of Chapter 7, whilst environmental monitoring funds (to cover the activities of multi-partite monitoring teams) and environmental guarantee funds (for rehabilitation, compensation, funding community projects, and clean up) are covered in Chapter 8.

The remaining chapters are concerned with administrative appeals; roles and responsibilities; fees and additional costs for IEE/EIS processing and review; and fines, penalties and sanctions. There are 19 annexes comprising official forms, a scoping matrix, screening and review criteria, an official circular on ECPs and ECAs, and categories of protected areas. The document is supported by various tables and figures.

Contact: Environmental Management Bureau, Department of Environment and Natural Resources, 3rd Floor Topaz Building, 99-101 Kamias Road, Quezon City, Philippines 1102.

Environmental Health Service (1997). **Philippine National Framework and Guidelines for Environmental Health Impact Assessment.** Environmental Health Service, Department of Health, Manila. (xi, 56 p.) ISBN 971 91620 0 7

This document discusses the inadequacies in the environmental health impact assessment (EHIA) component of the current environmental impact assessment process in the Philippines, and how to institutionalise EHIA into the existing EIA process. It starts by reviewing the EIA system in the Philippines, and then sets a general framework and guidelines for EHIA. Within this framework, it sets out guidelines for EHIA of proposed development projects, and also provides guidance for the assessment of existing environmental situations with a potential health impact, and the assessment of the development of environmental policies and programmes. These areas are not currently covered by the EIA system.

Contact: Environmental Health Service, Department of Health, San Lazaro Compound, Rizal Avenue, Sta. Cruz, Manila, Philippines.

Qatar

The Draft Law for the Protection of the Environment contains several provisions to deliver an EIA system. Article 5(2) will require that any proposal with potential negative impacts be subjected to an EIA. Articles 21-23 will require an EIA study be taken into account during decision-making for granting licences. The Draft Policy for Environmental Impact Assessment 1997 states that the proponent must contact the Environment Department initially and screening consultations will follow. Review and evaluation of the EIA report (written by the proponent) will be undertaken by a multi-disciplinary expert committee from the Environment Department.

Qatar Environment Department (1997). **Environmental Impact Assessment: Policy and Procedure.** Environment Department, Doha. (16 p.)

This document sets out the draft policy for EIA in Qatar (1997), provides some definitions of terms, and describes the formal EIA procedures. Schedule I gives the composition of the expert committee which examines EIA reports whilst Schedule II lists specific projects requiring an EIA report in order to obtain clearance. An application form for initial environmental authorisation is also included.

Contact: Environment Department, Doha, Qatar.

Saudi Arabia

The Meteorology and Environmental Protection Administration has drafted a guideline/directive for environmental assessments and this is awaiting ministerial approval (July 1998).

Singapore

Requirements for EIA were introduced in the 1970s under pollution control legislation (Clean Air Act

1971, Water Pollution Control and Drainage Act 1975), and has been undertaken formally since 1989. Industrial developers must carry out pollution impact and quantitative risk assessments to support their applications. A Code of Practice on pollution control provides advice on submission requirements. Whilst there is no specific legislation concerning EIA, individual government departments have *ad-hoc* in-house arrangements for assessment. The "Green Plan", 1992, and the Singapore report to the UNCED, 1992, both recommend the use of EIA. The current EIA planning system allows for EIA to be required for major developments when considered necessary. There are no provisions for public participation.

Government of Singapore (1993). **Environmental Audit Handbook.** Ministry of the Environment, National Council on the Environment, Singapore. (66 p.)

Government of Singapore (undated). **Code of Practice on Pollution Control.** Ministry of the Environment, Singapore. (62pp)

This Code of Practice is used instead of EIA guidelines. It provides guidelines to architects, professional engineers, developers and the public on pollution control requirements for the submission of development proposals and building plans. The document contains guidance on environmental planning and building plan requirements; and application for permissions, licences and permits. There are numerous useful appendices, e.g. toxic industrial wastes, allowable limits for trade effluent discharge, storage of hazardous substances, emission standards for air pollutants.

Contact: Ministry of Environment, 40 Scotts Road, Singapore 0922.

Solomon Islands

Legislation has been proposed to introduce an EIA system in the Solomon Islands. This system will include screening and scoping by consultation, requirements for a draft Public Environmental Report (EIS), review by the consenting authority and the Environment Conservation Division (in the Ministry of Natural Resources). Procedures will also be established for the monitoring of impacts after project completion. The "consent authorities" can be any national/ provincial government agency with consent responsibility.

Environment and Conservation Division (1996). **Solomon Islands Environmental Impact Assessment Guidelines for Planners and Developers.** Environment and Conservation Division, Ministry of Forestry, Environment and Conservation, Honaria. (15 p.)

These guidelines provide a background to EIA in the Solomon Islands context, and consider the responsibilities of the various interested parties. The steps in the EIA process are then described.

Contact: Environment and Conservation Division, Ministry of Forestry, Environment and Conservation, PO Box G24, Honiara, Solomon Islands.

Sri Lanka

The National Environment Act No 47, 1980, provides the legal and institutional basis for the environmental protection system in Sri Lanka. This Act established the Central Environment Agency which has legal responsibility to enforce screening procedures and to manage and monitor the EIA system. Amendments were introduced by Act No. 56, 1988, which required (under section 23Z) EIA to be applied to "prescribed projects" determined by the "Minister in charge of the subject of Environment" (Gazette Extra-ordinary No 772/22 1993) and the EIA process to be implemented by "project approving Agencies (PAAs)". Regulations have been passed and procedures are co-ordinated through the EIA-PAA Inter-Agency Committee. The PAAs decide on the terms of reference for the EIA study and must obtain information from the proponent before deciding if an initial environmental evaluation or a full EIA is required. Detailed guidelines have been prepared by the Central Environmental Authority to assist the PAAs which, in turn, must develop their own guidance and criteria based upon the national and donor agency guidelines. Guidelines were published in 1995 to assist scoping. The Coastal Conservation Act No. 57, 1981, and the Fauna and Flora (amendment) Act No. 49, 1993, also contain provisions for EIA. The Coastal Management Plan (revised in 1996) supplements the EIA procedures contained in the Coastal Conservation Act.

Central Environmental Authority (1995). **A Guide for Implementing the EIA Process. No.1: A General Guide for Project Approving Agencies.** (second) Central Environmental Authority, Colombo. (57 p.)

At the time these guidelines were revised, 18 state agencies had been specified as Project Approving Agencies (PAA) by the Ministry of Environment under the National Environment Act of 1980. These guidelines define the responsibilities of the PAAs under the broad framework of the Act. Procedures are described for compliance with EIA regulations. Further sections cover the commenting process, implementing the decision, and terminology.

Appendices include guidance on preparing terms of reference for initial environmental examination, a content and format for EIA reports, a range of official forms concerned with the EIA process, a schedule of projects and undertakings requiring Environment Ministry approval, regulations governing project approval, and project approving agencies.

Central Environmental Authority (1995). **Guidance for Implementing the Environmental Impact Assessment (EIA) Process. No.2: A General Guide for Conducting Environmental Scoping.** Central Environmental Authority, Ministry of Transport, Environment and Women's Affairs, Colombo. (33 pp)

The EIA system in Sri Lanka is introduced and the procedure for conducting an initial environmental examination and EIA is described. The role of scoping is defined and procedures for its conduct laid out in detail. Sections cover the role and format of both formal and informal scoping meetings. For formal meetings, there are sub-sections on identifying affected or concerned institutions and individuals, working with the press and public information groups, provision of materials, defining the affected environment, recommendation of issues to be investigated in an EIA, identification of possible project alternatives, and EIA content. For informal meetings, the issues covered include: preparing for interviews and field investigations, collation and analysis of information, pitfalls, and follow-up. Annex I provides a schedule of projects and undertakings for which Environment Ministry approval is required. Annex II lists project approving agencies whilst Annex III defines terminology.

Central Environmental Authority (1997). **Environmental Guidelines for Road and Rail Development in Sri Lanka.** Central Environmental Authority, Colombo. (ix, 56 p., appendices)

This document is the first in a new series to be published by the Central Environmental Authority for various sectors. Others in preparation cover: mining and minerals, energy, irrigation and fisheries/ aquaculture.

These guidelines are for the use of project proponents and approving agencies and other parties participating in the development of road and rail projects. Guidance is provided on documenting and assessing environmental impacts, and on avoiding and mitigating significant adverse impacts. Section 1 provides an overview of the policies and regulations governing road and railway development. Section 2 groups projects into three categories: those prescribed in the National Environmental Act (NEA); those not so prescribed but likely to have significant impacts; and categorical exclusions (CE) - those expected to have no significant adverse environmental impacts. Section 3 contains a broad overview of the probable impacts of the activities discussed in Section 2, and the mitigation measures available. Section 4 gives an overview of the purpose, and guidance on the preparation and submission of, documents to the project approving agency (preliminary information, initial environmental examination, and EIA report). A general framework for the evaluation of environmental impacts is presented in Section 5, to assist decision-makers and project proponents compare alternative projects proposals. Section 6 is concerned with monitoring the mitigation of environmental impacts. There are three appendices providing: references, format and contents of EIA report cover sheet, and gazetted project approving agencies.

This document is the first in a series of environmental guidelines to be published by the Central Environment Authority for various sectors. Other manuals due to be published shortly include the Mining and Mineral Industrial Sector Manuals, Energy Manual, Irrigation Manual and Fisheries/Aquaculture Manual. It is thought that manuals will follow for Agriculture, Tourism and Industry, plus administrative manuals/ guidelines for EIA Methodologies, Social Impact Assessment and Public Participation.

Contact: Natural Resources Management, Central Environmental Authority, Parisara Mawatha, Maligawatte New Town, Colombo 10, Sri Lanka.

World Conservation Union (IUCN) (1993). **Manual on Environmental Assessment for Sustainable Forest Development. Environmental Management in Forestry Development: A Project of the Forest Department in the Ministry of Lands, Irrigation and Mahaweli Development, Sri Lanka.** IUCN-The World Conservation Union, Gland. (65 p.)

This manual was prepared for the United Nations Food and Agriculture Programme as part of the Environmental Management in Forestry Development Project - a project of the Forestry Department, Ministry of Lands, Irrigation and Mahaweli Development, Sri Lanka. It sets out guidelines for environmental impact assessment applicable to natural forests and forest plantations in Sri Lanka. Part I describes the legal and administrative framework for EIA in Sri Lanka and introduces the process of environmental assessment. Part II examines the ways in which this might affect work within the forest sector. It introduces procedures to be adopted in the Forest Department to deal with the formal requirements of EIA, and to ensure that environmental considerations

are taken into account at all levels - in the formulation of policy, in planning and in field operations.

Contact: IUCN-The World Conservation Union, Forest Conservation Programmme, Rue Mauverney 28, CH 1196 Gland, Switzerland.

Surinam

There is no EIA legislation or procedures. Donor agencies may request EIA as a precondition for funding.

Syrian Arab Republic

A draft Environmental Protection Act and draft EIA Decree both awaiting consideration by the People's Assembly. The draft legislation includes: provisions to use screening lists similar to EC Directive 85/337/EEC; scoping by the proponent; review of EIA documents by the Commission; and public participation and consultation at the screening, scoping and review stages. The draft Act also provides for the SEA of plans and programmes. Responsibility for carrying out an EIA study will lie with the proponent. The EIA Unit in the General Commission for Environmental Affairs within the Ministry of State for the Environment has responsibility for implementing the EIA system (including evaluation of the EIA reports) and for producing guidelines. The EIA system is integrated with other licensing procedures and the approval/ refusal of the proposal is carried out by the licensing authority, taking into account the recommendations from the EIA Unit. The EIA Unit is currently decentralising to the seven water basins and will exist as "Decentralised Environmental Directorates". Eight sector-based Operational Manuals are in preparation.

DHV Consultants BV & Alfa Group (1995).
Establishment of an Environmental Impact Assessment Unit (Syria): General Environmental Impact Assessment Guideline, including Draft EIA Decree. Report to Ministry of State for the Environment and General Commission for Environmental Affairs, Syria. Syrian Arab Republic, Damascus. (28 p., 6 appendices)

The introduction defines EIA, its purpose and nature. Administrative procedures are described in chapter 2 covering: permits, screening, scoping, EIA report, review, decision statement, appeal, monitoring, enforcement, modification of permit conditions and environmental auditing, transboundary issues and test period. Chapter 3 deals with organisational issues and the role of the central EIA Unit, other involved agencies and stakeholders, and the system of communication, coordination, monitoring and follow-up. The bulk of this document comprises the six appendices. These include: a permit application form, draft EIA Decree, addresses of useful institutes, the legal and policy framework (existing and under preparation), prediction rate of the fate of pollution after discharge, and possible evaluation criteria for acceptable levels of impact.

DHV Consultants BV & Alfa Group (1995).
Establishment of an Environmental Impact Assessment Unit (Syria): Procedures and Organisation. Report to Ministry of State for the Environment and General Commission for Environmental Affairs, Syria. Syrian Arab Republic, Damascus. (23 p., appendix)

Section 1 sets out administrative procedures for the Syrian central EIA Unit, whilst section 2 details organisation arrangements. The information is much the same (but with some minor modifications) as that given in the "General Environmental Impact Assessment Guideline" (DHV, March 1995). In addition, internal office guidelines of the EIA Unit are set out concerning such matters as the management of EIAs, environmental auditing and permit revision, monitoring and enforcement, decentralised EIA Units, pilot EIAs, and information flow. An appendix summarises achievements of the Unit in 1994 and the action plan for 1995, and includes environmental policies for the Syrian General Commission for Environmental Affairs.

Contact: Ministry of State for the Environment, Damascus, Syrian Arab Republic.

Taiwan

The Environmental Impact Assessment Act, 1994, introduced EIA to Taiwan. Article 4 (2) summarises the process which includes prediction, analyses and evaluation procedures. The process involves phase I (preliminary report) and phase II (detailed EIA report), review of documents and post-project monitoring. Implementation Rules for the 1994 Act have been published to allow the system to take place effectively. EIA reports are reviewed by the EIA Review Committees. Public participation is recommended to take place at several stages starting early in the whole process. The Environmental Protection Administration of Taiwan (TEPA), under the Executive Yuan at central government level, has overall responsible for the process. The Environmental Protection Department of the provincial governments or the appropriate county/ city government handle EIA at these levels. Each level establishes an EIA Review Committee for the purpose of reviewing EIA reports.

Government of Taiwan (1994). **Environmental Impact Assessment Act.** Environmental Protection Administration, Tapei. (13 p.)

This English translation sets out the main articles of the Environmental Impact Assessment Act 1994, describes the responsibility of the Environmental Protection Administration for EIA at central government level and other agencies at lower levels, lists development activities for which EIAs shall be conducted, sets out the required content of an EIS and the official procedure for its review and subsequent action, requirements for conducting a full EIA and dealing with the EIA report.

Government of Taiwan (1995). **Implementation Rules for the Environmental Impact Assessment Act.** Environmental Protection Administration, Tapei. (18 p.)

This English translation describes the jurisdictional responsibilities of 'responsible agencies' under the Environmental Impact Assessment Act 1994, and provides definitions of terms and clarifications of roles and responsibilities for actions as prescribed in the Act.

Contact: Bureau of Comprehensive Planning, Environmental Protection Administration, 41 Sec. 1, Chung Hwa Road, Taiei, Taiwan 10014, Peoples Republic of China.

Thailand

The National Environmental Act, 1978, provided a statutory basis for EIA in Thailand. This was amended by the Improvement and Conservation of National Environmental Quality Act, 1992, which defined the EIA process more explicitly. Screening is carried out using lists of activities which require EIA. The Review Committee is an important feature and consists of the Office of Environmental Policy and Planning, the licensing agency, government experts and other professionals. This is set up after the EIA report is submitted. Consultants carrying out the EIA, at the expense of the proponent, must be registered by the National Environment Board. The Board is housed within the Ministry of Science, Technology and the Environment. The Office of Environmental Policy and Planning evaluates the EIA report. Government agencies undertake EIAs of government projects whereas private projects are dealt with by the proponent.

Government of Thailand (1990;1991;1995). **EIA Guidelines Series.** Office of Environmental Policy and Planning, Bangkok.

The Office of Environmental Policy and Planning has developed a series of short guidelines for preparing EIA reports. The series includes the following available in the Thai language only:

Industries (1990, 16 p.),
Airports (1991, 52 p.),
Expressway (1991, 25 p.),
Mining projects (1995, 9p.),
Industrial estates (1995, 9 p.),
Industrial projects (1995, 7 p),
Land reclamation (1995, 10 p.),
Hospitals or infirmaries (1995, 11 p.),
Residential buildings (1995, 10 p.),
Land allocation for residential or commercial purposes (1995, 13 p.),
Real estate and residential projects (1995, 8 p.),
Dams and reservoirs (1995, 23 p.).
Two are available in English, and are referenced separately.

Government of Thailand (1993). **Guideline for Environmental Impact Assessment Preparation of Industrial Projects.** Office of Environmental Policy and Planning, Bangkok. (10 p.)

This is one of several guidelines for preparing EIA reports for different sectors. It covers details of the project, existing environment, environmental impact assessment, mitigation measures and monitoring.

Government of Thailand (undated). **Supplemental Guideline: Offshore Oil and Gas Project. Drilling Exploration and Production Phase.** Office of Environmental Policy and Planning, Bangkok. (7 p.)

This is one of several guidelines for preparing EIA reports for different sectors. It covers: project description (location, equipment, activity), environmental resources (physical, biological, human use values, quality of life/socio-economic values), environmental impact evaluation and protection measures, mitigation measures, risk assessment, environmental monitoring, and restoration and improvement.

Government of Thailand (1997). **General Guideline in Preparing EIA Report.** Office of Environmental Policy and Planning, Bangkok. (6 p.)

This short guideline is intended as a general instruction in preparing an EIA report under the EIA regulations issued by the Ministry of Science, Technology and Environment (MOSTE). The documents sets out basic concepts of EIA report preparation, outlines the required contents, and discusses other issues to be covered: impacts, preventative and corrective measures, consideration of alternatives, coordination with other government agencies, monitoring programme, etc.

Contact: Office of Environmental Policy and Planning, 60/1 Soi Pibulwatana 7, Bangkok 10400, Thailand.

Tonga

There is no specific EIA legislation and assessments are carried out in accordance with informal procedures (Cabinet Decision No. 217 in 1985). Guidelines are being prepared with help from the European Union. The lead agency is the Division of Lands and Environmental Planning of the Ministry of Lands, Survey and Natural Resources which also carries out the EIA. EIA may undertaken for physical planning projects

Contact: Ministry of Lands, Survey and Natural Resources, PO Box 5, Nuku'alofa, Tonga

Turkmenistan

EIA is undertaken for Oil and Gas installations under Chapter 8 of the Petroleum Law, 1996. A system of SEE/SER (State Environmental Expertise/State Environmental Review) – based on the Russian model for EIA – was introduced by the 1995 State Environmental Review Law.

Uzbekistan

Uzbekistan has retained the former Soviet OVOS (assessment of environmental effects) system and the State Ecological Expertise (SEE) system at the government level. OVOS involves the submission of a "Note of Intention", then a draft EIS ("ZVOS"), a final ZVOS, a summary (ZEP) and the OVOS (the final document having the same name as the overall process). There is emphasis upon continuous dialogue within the SEE system. There are sectoral EIA guidelines as well as State environmental protection guidelines. SEE is also used under RD 18.0027714.22-93 which has been superseded by the "Procedures for Organisation and Performing of SEE". The State is responsible for the SEE system.

Vanuatu

An informal EIA procedure is applied on an *ad-hoc* basis. The Vanuatu Environment Unit, under the jurisdiction of the Department of Physical Planning and the Environment and the Ministry of Home Affairs, is responsible for the management and development of the system.

Government of Vanuatu (1987). **General Guidelines for the Production of Environmental Impact Statements. Technical Paper No.1.** Environment Unit, Ministry of Lands, Energy and Rural Water Supply, Port Vila. (6 p.)

These guidelines briefly explain the objectives of an environmental impact statement (EIS), outline the environmental characteristics to be considered, explain the standard required, and set out the required content of an EIS.

Government of Vanuatu (1987). **Specific Guidelines for Mining, Environmental Impact Statements. Technical Paper No.2.** Environment Unit, Ministry of Lands, Energy and Rural Water Supply, Port Vila. (6 p.)

These guidelines should be read in conjunction with the "General Guidelines" (Government of Vanuatu, 1987). They briefly cover geological and soil, hydrological, meteorological and biological investigations, land use studies, mining operations, sociological studies, monitoring, reclamation and review.

Government of Vanuatu (1987). **Specific Guidelines for Coastal Tourism Environmental Impact Statements. Technical Paper No.2.** Environment, Port Vila. (5 p.)

These guidelines should be read in conjunction with the "General Guidelines" (Government of Vanuatu, 1987). They briefly cover general considerations, site identification, clearance and access, building and constructions, recreation and utilities (water supply, sewage and solid waste disposal).

Contact: Environment Unit, Ministry of Agriculture, Livestock, Forestry, Fisheries and Environment (MALFFE), Port Vila, Vanuatu.

Vietnam

The institutional and regulative framework for EIA are provided by the Law on the Organisation of the Government, 1992, and the Law on Environmental Protection, 1993 (Article 17 and 18), implemented through Vietnam Government Decrees 175/CP, 177/CP and 191/CP. Other EIA regulations are supported by the Government Decree on Detailed Regulations for the Implementation of the Foreign Investment Law, 1997. The Foreign Investment Law and the investment licensing system are key instruments for the implementation of EIA, and the EIA process is linked to both domestic and foreign investment processes. Proponents of projects which require EIA may have to submit a Preliminary Report for an investment license before a full EIA report is required. The National Environmental Agency (NEA) was established within the Ministry of Science, Technology and Environment (MOSTE). At the district level, MOSTE is represented by the District Office of Science, Technology and the Environment (DOSTE). The MOSTE/DOSTE exercise administrative and enforcement functions in the EIA

system. The Environmental Technology and EIA Appraisal Division of NEA deals with the development of guidelines and procedures. The NEA appraises the EIS and also is involved in producing guidelines for foreign investment projects. Large development projects must submit an EIS to the NEA. It is planned that full review procedures and monitoring arrangements will be strengthened in the future. Sectoral guidelines (cement manufacturing and mining operations, thermal power and power transmission lines, highway and road projects, and industrial park development projects) were prepared with assistance from the Asian Development Bank in 1996, and await government approval to be used as national guidelines. Guidelines for seven other sectors currently are being prepared with support from the Canadian government (those for hydroelectric are almost complete, work has begun on those for textiles).

Vietnamese National Environment Agency (1995). **Documents of Setting up a Report on Environmental Impact Assessment: Guidelines for the Direct Foreign Investment Project.** Vietnamese National Environment Agency, Hanoi. (66 p.)

This booklet is an English translation of several government documents. Firstly, Government Decree (No. 175/CP) on Providing Guidance for the Implementation of the Law on Environmental Protection. Chapters cover: general provisions; responsibility of organizations and individuals for environmental protection; assessment of environmental impact; preventing, resisting and overcoming environmental deterioration, pollution and incidents; financial sources for environmental protection; inspection of environmental protection; and provisions for implementation. Appendices set out the required contents of preliminary and detailed EIA reports, and of EIA reports to operating units (i.e. offices and/or organisations responsible for a particular development). Other appendices list the type of operating enterprises dealt with by the Ministry of Science, Technology and Environment (MOSTE), and those by its branch offices; list 'precious' (important) forest plants and animals; and give emission, vibration and noise standards for vehicles.

Secondly, MOSTE guidance No. 715/QD-MTg concerns "Setting Up and Appraising the Report of Environmental Impact Assessment to the Direct Foreign Investment Project". The main elements covered are the implementation stages (application for an investment licence, design and construction; and construction completion) and the appraisal process. Appendices list projects not listed for an EIA report when applying for an investment licence, and set out the required contents of a report on influential environmental factors and the EIA report,

Thirdly, MOSTE guidance No. 1420/QD-MTg provides Instruction for Guiding Environmental Impact Assessment to the Operating Units. It discusses the classification of operating units (i.e. types of development), and describes requirements for the quality and appraisal of EIA reports. Appendices set out a required inventory of (polluting) activities that impact the environment (in terms of proportion), and give the required content for an EIA report.

Fourthly, MOSTE guidance 1807/QD-MTg sets out Regulations and Organization of the Appraisal Council on EIA: Report and Issuing of Environmental Licence.

Contact: National Environment Agency, Hanoi, Socialist Republic of Vietnam.

Yemen

The Environmental Protection Law 26/1995 (Articles 35-42) is the statutory basis for EIA in Yemen. Between 1990 and 1995, 24 other laws and decrees were approved or amended to contain provisions relating to EIA. An EIA Policy document was drafted in 1996. The Environmental Protection Council (EPC) is responsible for implementing screening procedures, assisting in scoping, evaluation and approval of the EIS. The "competent agencies" that give permits are co-operating agencies in EIA and, in this way, EIA is integrated into other existing consent procedures. The "Licensing Agency" gives the final permission for the proposal. Regulations to implement the laws are still in draft. The Yemen EIA process features the requirement for a preliminary report, report review, use of guidelines from the EPC or others to determine the terms of reference, EIS preparation and review, and post-project monitoring. The proponent has responsibility to undertake the EIA, but the report may be prepared by the proponent or the competent authority or both. The development of sectoral guidelines is planned for the near future.

Euroconsult in association with BMB and IHE, Arnhem (1996). **Environmental Impact Assessment Policy for the Republic of Yemen. Doc. No. EPC/96/089. Report to the Environment Protection Council, Republic of Yemen.** Republic of Yemen, Sana'a & DGIS, Ministry of Foreign Affairs, The Hague. (50 p., 3 annexes)

This report presents the EIA policy of the Yemen, formulated by the Environmental Protection Council

(EPC). Following a general introduction, different types of EIA are described with examples from the Yemen. The actual EIA procedure is set out in Chapter 3 with detailed information on procedural aspects in Chapters 4 - 6 covering: screening, scoping, the EIA report, public participation, decision-making, licensing, monitoring, auditing, and legislation. Subsequent chapters deal with the role of EPC, information on institutional and organisational requirements, training and capacity-building issues, and financing of EIA processes. A useful list of references is included. Annexes include existing and draft legislation concerning EIA, draft EIA screening lists, and EIS review criteria.

Contact: Environmental Protection Council, Sana'a, Republic of Yemen.

Australasia

Australia

The legislation governing Commonwealth (federal-level) EIA is the Environmental Protection (Impact of Proposals) Act 1974. This Act is administered by Environment Australia (established in 1996) on behalf of the Department of the Environment. The agency or Minister responsible for a proposal initiates the EIA process, after which Environment Australia advises the proponent on the need for a "Public Environmental Report" or an "Environmental Impact Statement". However the majority of EIAs fall under the legislation of the eight individual States and Territories. To avoid duplication of assessment procedures between the Commonwealth and State/Territory, arrangements have been made in accordance with the EIA principles agreed under the 1992 Intergovernmental Agreement on the Environment and the 1996 ANZECC (Australia and New Zealand Environment and Conservation Council) Basis for a National Agreement on Environmental Impact Assessment. The federal system provides for preliminary assessments which do not involve public review. The content of the EIS is specified by the 1974 Act. This includes the consideration of alternatives, predicting indirect and cumulative impacts and also intentions for monitoring and post-decision analyses – although this stage itself is not mandatory.

In line with the rest of this Directory, the documents in the Australia section are for federal level only. However, it should be noted that the individual States and Territories have each produced much useful guidance material. For those with Internet access, details of this including contact details for the agencies concerned can be found on http://www.erin.gov.au/eianet.html

Australian and New Zealand Environment and Conservation Council (ANZECC) (1991). **A National Approach to Environmental Impact Assessment in Australia.** Australian and New Zealand Environment and Conservation Council, Canberra. (32 p.)

Australian and New Zealand Environment and Conservation Council (ANZECC) (1996). **Guidelines and Criteria for Determining the Need for and Level of Environmental Impact Assessment in Australasia.** (Second) Australian and New Zealand Environment and Conservation Council, Canberra. (15 p.)

These guidelines are based on the premise that, on a national basis, it is not possible to provide a standard formula for EIA due to the immense range of natural and human environmental conditions present in Australia and the variations in statutory provisions. These guidelines and criteria outline the process and the factors which provide the basis for decisions on applying EIA to development proposals. The document accepts that not all the criteria will be applicable to every proposal in every environment in every jurisdiction, but it provides a common starting point, and common principles for the practice of EIA around the country.

Environmental Protection Agency & Australian Federal Environment Agency (now Environment Australia) (1995-98). **Best Practice Environmental Management in Mining.** Environmental Protection Agency, Australian Federal Environment Agency (now Environment Australia), Canberra.

This series of modules was prepared by Australia's Environmental Protection Agency (EPA) and subsequently by Environment Australia (the environment programme of the Federal Department of the Environment, Sport and Territories) working together with representatives of the country's mining industry. The series collects and presents information on a variety of topics that illustrate and explain best practice environmental management in Australia's mining sector. The modules address both international and domestic needs, are written for both specialists and non-specialists, and are targeted at managers with environmental responsibilities to provide the practical techniques and guidance they need to manage the environmental impacts of their own operations. They aim to "assist all sectors of the mining industry – minerals, coal, oil and gas – to protect the environment and to reduce the impacts of mining by following the principles of ecologically sustainable development" – as

set out in the 1992 Australian Strategy for Ecologically Sustainable Development.

The modules set out practical, cost-effective approaches to environmental protection that exceed the requirements set by national regulations, and include examples of current best practice in environmental management in mining. They also integrate environmental issues and community concerns through all phases of mining from exploration through construction, operation and eventual closure. Case studies are included which demonstrate how best practice can be applied. The modules are illustrated with maps, diagrams, cartoons and colour photographs. Each includes an executive summary and an evaluation questionnaire. EPA has also produced a short (10 minutes) promotional video explaining its collaboration with the mining industry, the nature of best practice environmental management in mining and the scope of the modules.

The modules so far available include Tailings Containment (1995, 36p.), Mine Planning for Environment Protection (1995, 28 p.), Community Consultation and Involvement (1995, 28 p.), Planning a Workforce Environmental Training Program (1995, 36 p.), Environmental Monitoring and Performance (1995, 56 p.), Rehabilitation and Revegetation (1995, 36 p.), Environmental Auditing (1996, 64 p.), Onshore Minerals and Petroleum Exploration (1996, 60 p.), Managing Sulphidic Mine Wastes and Acid Drainage (1997, 84 p.), Hazardous Materials Management (1997, 72 p.), Noise, Vibration and Airblast Control (1998), and Landform Design for Rehabilitation (1998). Three other modules which pay particular attention to EIA – Overview of Best Practice Environmental Management in Mining, Environmental Impact Assessment, and Environmental Management Systems – are referenced separately below.

Environmental Protection Agency, Australian Federal Environment Agency (1995). **Best Practice Environmental Management in Mining: Overview of Best Practice Environmental Management in Mining.** Environmental Protection Agency, Australian Federal Environment Agency, Canberra. (18 p.)

This module sets out the importance of the mining sector in the Australian economy, and explains the goals and objectives of ecologically sustainable development and the challenge this presents for the mining industry, particularly application of the precautionary principle. Relationships between mining and the environment are discussed with examples of successful environmental planning and management in the mining sector. Other modules available in the series are briefly described (further modules have been released). Finally the issue of costs in following best practice environmental management is considered.

Environmental Protection Agency, Australian Federal Environment Department (1995). **Best Practice Environmental Management in Mining: Environmental Impact Assessment.** Environmental Protection Agency, Australian Federal Environment Department, Canberra. (28 p.)

The Executive Summary describes best practice EIA as including "early and comprehensive community and government consultation, cooperation with assessing authorities on EIS guidelines and levels of assessment, and the preparation of an EIS". The module comprises six sections. The first one discusses best practice EIA , who requires EIA in Australia, the levels of assessment that are required - some involving public review, and the common features that characterise EIA documents. Section 2 deals with a common EIA methodology for mining companies, paying particular attention to early information collection, and scoping and consultation. Legislative requirements are described in Section 3 which also includes a useful flow chart of Commonwealth environmental protection procedures. Section 4 details the basic elements of EIA documents. Sections 5 and 6 briefly outline, respectively, the need to identify immediate and long-term impacts for mining projects, and the principles for making the EIA process and an environmental management system effective. A number of useful boxes are included illustrating how different mining companies have approached different elements of the EIA process.

Environmental Protection Agency, Australian Federal Environment Department (1995). **Best Practice Environmental Management in Mining: Environmental Management Systems.** Environmental Protection Agency, Australian Federal Environment Department, Canberra. (40 p.)

The introduction to this module briefly explains the environmental management system (EMS) approach as a quality assurance system to encourage setting targets and objectives and for periodic performance reviews of progress. The module has three short sections covering: an overview of the EMS components for the mining industry; integration of the EMS into daily operations and into strategic planning; and maintenance of the EMS through periodic internal and external reviews. These sections are supported by case study boxes. Appendix 1 provides a more detailed discussion of the components of an EMS covering: organisational commitment, environmental policy, EIA, community consultation, objectives and targets, environmental management plan, documentation and

environmental manual, operational and emergency procedures, responsibilities and reporting structure, training, environmental impact and compliance audits, and emission performance monitoring. Appendix 2 discusses published environmental management systems and certification. Appendix 3 includes a summary guide and work sheets.

Contact: Office of the Supervising Scientist, Environment Protection Group, Environment Australia, PO Box E 305, Kingston ACT 2604, Australia.

Environment Australia (1997). **Commonwealth EIA: An Outline of the Commonwealth EIA Process.** Environment Australia, Canberra. (10 p.)

This leaflet outlines the Commonwealth environmental assessment process in the context of the Environmental Protection (impact of proposals) Act 1974 and includes a flow chart of the process.

Contact: Environment Assessment Branch, Environment Protection Group, Environment Australia, 40 Blackall Street, Barton ACT 2600, Australia

New Zealand

EIA was introduced under the Environmental Protection and Enhancement Procedures, 1974. But considerable overlap of these procedures with other environmental regulations initiated reform in the late 1980s leading to one of the most innovative EIA systems in the world. The reforms resulted in the Resource Management Act, 1991, which integrates the EIA process with the statutory planning system. The 1991 Act replaced more than 20 statutes including those covering town planning, water and soil legislation and statutes with coverage of mineral and geothermal resources. The term used is the "Assessment of Environmental Effects" (AEE) and must be carried out by the proponent whenever an application for a "resource consent" is made. There is also provision for AEE to be applied to plans and policies which are produced at the regional level. Since the resource consent applications must be evaluated in the context of the regional plans, the two AEE processes are integrated. The Act is administered by local government but the proponent is responsible for preparing the report while the local authority is involved in the review (non-mandatory) and in the final stages. For government projects which are outside of the Act, the Environmental Protection and Enhancement Procedures 1972 are still used. The Ministry for the Environment is preparing guidelines on auditing and preparing AEA under the Resource Management Act, for release in late 1998.

Government of New Zealand (1992). **Scoping of Environmental Effects. Resource Management.** Ministry for the Environment, Wellington. (31 p.)

This guide is intended to assist those parties who will need to carry out environmental evaluations of their proposals as part of the consent process under the Resource Management Act 1991. It discusses environmental impact assessment methods for use by those involved in environmental decision making. It discusses scoping, which focuses on the identification of issues and strategies for dealing with issues. It contains information about methods of public consultation used in scoping, and about ways of dealing with difficult scientific issues in both the scoping and later stages of assessment.

The guide also discusses the steps of conflict resolution and impact assessment that usually follow scoping in the form of negotiation practices and public review processes. Finally, brief reference is made to the documentation required to support the different stages of assessment.

Government of New Zealand (1996). **Assessment of Environmental Effects: The Legal Context of the Assessment of Environmental Effects, Working Paper No.4.** Ministry for the Environment, Wellington. (16 p.)

This internal working paper explains the provisions for an Assessment of Environmental Effects (AEE) under the Resource Management Act 1991. It looks at the requirement for an AEE for a resource consent application, and notes the case law on the adequacy of AEE and consultation. Consideration is given to the role local Councils in providing advice to intending applicants and summarises the key findings.

Contact: Ministry for the Environment, Grand Annex, 84 Boulcott Street, PO Box 10362 Wellington, New Zealand.

Government of New Zealand (1995). **A Guide to Health Impact Assessment.** Public Health Commission, Ministry of Health, Wellington. (44 p.)

This guide aims to facilitate the integration of health impact assessment into the assessment of environmental effects (AEE) as required under the Resource Management Act 1991. It describes the application of health impact assessment to relevant individual resource consents, as well as to general resource management policies, regulations, plans and objectives of central and local government. It sets out a number of guiding principles and a systematic process for health impact assessment and risk analysis. A useful glossary of terms is included. Appendices provide information on: legislative framework – the Resource Management Act; other relevant legislation

and reforms; standards, guidelines and codes of practice; and examples of environmental and health effects.

Contact: Public Health Commission, PO Box 5013, 133 Molesworth Street, Wellington, New Zealand.

Government of New Zealand (1995). **Risk Assessment: A "User Friendly" Guide.** Public Health Commission, Ministry of Health, Wellington. (22 p.)

This guide is the second in a series relating to health impact assessment (HIA) and is complementary to the Guide to Health Impact Assessment (PHC 1995). It explains the basic principles of risk assessment as applied to public health issues, as a central component of HIA. It is intended to assist public health services, local government agencies, private consultants, and resource consent applicants who are involved with HIA as part of the assessment of effects on the environment outlined in the Resource Management Act 1991.

Contact: Public Health Commission, PO Box 5013, 133 Molesworth Street, Wellington, New Zealand.

Government of New Zealand (undated). **Social Impact Assessment in New Zealand: A Practical Approach.** Ministry of Works and Development, Wellington. (16 p.)

This publication suggests a number of steps that can be taken to protect communities from undesirable and possibly irreversible social effects arising from major projects, without affecting the positive impacts. It sets out the principles of social impact assessment (SIA) and its application in New Zealand, and discusses the assessment of the social impacts of major developments. Appendices provide information on types of information about social impacts required for decision-making, and on the legislative base for SIA procedures.

Contact: Town and Country Planning Directorate, Ministry of Works and Development, Wellington, New Zealand.

Morgan, R.K. & Memon, A. (1993). **Assessing the Environmental Effects of Major Projects: A Practical Guide.** Environmental Policy and Management Research Centre Publication No. 4. University of Otago, Dunedin. (120 p.)

This publication is intended to provide a general understanding of the EIA process, and more specifically, to provide practical guidance in assessing the effects of large resource development or utilisation projects, within the context of the Resources Management Act.

The guide is targeted mainly at professional staff in district and regional councils and central government agencies, as well as private and public sector developers and interested members of the public. The guide is intended to be a source of ideas to be considered in relation to particular situations, rather than as a set of rigidly-defined procedures. The main emphasis of the guide is on adaptive approaches to EIA. Part I provides background information on the theory and concepts of EIA, while Part II goes on to consider the practical aspects of EIA including a case study, bibliography and annexes detailing information sources, EIA techniques and, finally, a classification of New Zealand EIAs.

Contact: Environmental Policy and Management Research Centre, University of Otago, PO Box 56, Dunedin, New Zealand.

Caribbean/West Indies

Regional

Caribbean Conservation Association (CCA) (1991). **Environmental Guidelines for Caribbean Planners.** (124 p., appendices). Caribbean Conservation Association, on behalf of Organisation of Eastern Caribbean States, the United Nations Development Programme, and the United Nations Centre for Human Settlements.

This publication is the product of a major UNDP/ UNCHS(Habitat) project designed to distill information about the environmental assessment processes as they relate to the natural and man-made environment in the Eastern Caribbean. These guidelines aim to provide practical and relatively simple analytical tools that will enable environmental considerations to be incorporated in the project planning process at an early stage, and to permit the merging of environmental and socioeconomic considerations into the traditional physical planning process.

An introductory chapter outlines the basic steps in the EIA process. Guidance is then provided for each of the key sectors relevant to the Caribbean economy: agriculture and rural development, tourism, waste management, and coastal zone. Consideration is also given to the social and cultural dimension of EIA in the planning process, the existing regulatory framework and cost-benefit analysis. The document concludes with a number of case studies from different sectors - tourism, industry, mining and coastal zone management.

Contact: Caribbean Conservation Association (CCA), Savannah Lodge, The Garrison, St Michael, Barbados.

Caribbean Development Bank (CDB) (undated). **Procedures for Environmental Impact Assessment (EIA)** Caribbean Development Bank, St Michael. (5 p.)

This short document lists the categories assigned to projects/components at the screening stage, and identifies the responsibilities of the project officer. Annex I illustrates the types of projects/components that might be included within the categories.

Contact: Caribbean Development Bank (CDB), PO Box 408, Wildey, St Michael, Barbados.

Organisation of Eastern Caribbean States (OECS) (1993). **Environmental Impact Assessment Handbook for Physical Planners.** Organisation of Eastern Caribbean States, St Lucia.

Contact: Organization of Eastern Caribbean States (OECS), PO Box 179, The Morne, Castries, St Lucia, West Indies.

Bahamas

Up to 1995, EIA was undertaken on an informal ad hoc basis. The Bahamas Environment, Science and Technology Commission (BEST) was then established within the Office of the Prime Minister and assumed responsibility for the EIA system. Its members include representatives of agencies with responsibility for various aspects of the environment, both public and NGO. From January 1996, every development project submitted was reviewed to determine the necessity for an EIA. In July 1997 EIA became mandatory for all such projects. The Bahamas Investment Authority submits proposals to BEST which, in turn, circulates them to Commission members for review. If an EIA has not been submitted, one is requested. These are then assessed by each member from his/her area of responsibility. BEST summarises the findings. The Investment Board of the Office of the Prime Minister requests any further information needed from the developer and informs the latter of any required amendments specified by BEST. Legislation currently under development will require a develop to post a bond to cover the cost of an EIA which will be commissioned and supervised directly by BEST.

Under the National Sustainable Development Strategy, the use of EIA became policy and legislation is being drafted for presentation to parliament in mid 1998. This will probably be in the form of an amendment to the 1997 Conservation and Preservation of the Physical Landscape Act. Separate and more extensive EIA legislation is expected to be developed later under an Inter-American Development Bank project.

Contact: The Bahamas Environment, Science and Technology Commission, Office of the Prime Minister, PO Box CB 10980, Nassau, The Bahamas

Barbados

At present, there is no statutory basis for EIA in Barbados. However, The Chief Town Planner in the Town and Country Planning Office has power to initiate an EIA in order to secure "such further information as he thinks fit", particularly where an adverse impact from a development project may result. Such EIAs are often initiated at the request of another department. An Environmental Management and Land Use Planning for Sustainable Development Project currently is being undertaken. One aim of this is to regularise and establish legal and administrative procedures for EIA, and institutional structures through strengthening the Town and Country Planning Office. Draft procedures, including EIA guidelines and methodologies currently are being considered by the Environment Division (March 1998).

Contact: Environment Division, Ministry of Health and the Environment, Sir Frank Walcott Building, Culloden Road, St Michael, Barbados

Jamaica

The Natural Resources Conservation Authority Act, 1991, granted the Natural Resources Conservation Authority the power to regulate and stipulate environmental protection measures. The Authority may also require EIA for new projects or projects under major expansion. EIA guidelines currently are being prepared with support from the Inter-American Development Bank.

Natural Resources Conservation Authority (1993). **Guidelines for the Preparation of an Environmental Impact Assessment: Draft.** Natural Resources Conservation Authority, Government of Jamaica, Kingston. (17 p., annexes)

Section 1 of these guidelines discusses the philosophy and rationale for EIA in Jamaica, and defines EIA within the Jamaican context. It then proceeds with a step by step description of the EIA Report and the Technical Process. The latter includes: policy, legal and administrative framework; description of the proposed project; description of the environment; significant environmental impacts; analysis of alternatives; mitigation plan; monitoring plan; NGO participation and inter-agency cooperation; project team; and the EIA Report. Section 2 concentrates on the Screening Process, including the environmental impact statement and guidelines. Two appendices cover the basic Checklist used to compile the description of the environmental setting, and examples of the Environmental Screening Form and Checklists for Preliminary Project Assessment.

Contact: Natural Resources Conservation Authority (NRCA), 53 1/2 Molynes road, Kingston 10, Jamaica.

St Kitts and Nevis

There are no specific policies, legislation or guidelines for EIA for either St Kitts or Nevis. EIA in St Kitts is undertaken on a case-by-case basis, using the Environmental Impact Handbook for Physical Planners prepared by the Organisation of Eastern Caribbean States (OECS 1993). In Nevis, EIAs are requested for larger proposals or controversial schemes at the discretion of responsible government officers, and the EIS may be reviewed internally or by an outside expert. Currently, the Physical Planning Unit is in the process of establishing a formal planning system and a new planning act is being drafted which will contain provisions making EIA mandatory for specified forms of development. This legislation is expected to be enacted by mid 1998 after which guidelines will be prepared.

Contact: Premier's Ministry, Division of Tourism, Trade, Industry, Planning and Development, the Cotton House, Market Street, Charlestown, Nevis

St Vincent and the Grenadines

St Vincent and the Grenadines use the Environmental Impact Handbook for Physical Planners prepared by the Organisation of Eastern Caribbean States (OECS 1993).

Trinidad and Tobago

The Environmental Management Act, 1995, established the Environmental Management Authority with authority to impose environmental clearance for certain projects. Guidelines define projects requiring EIA and specify the content of reports. Other state agencies have their own procedures. The EIA system is integrated into the land-use planning system and the Town and Country Planning Division is responsible for projects under the Town and Country Planning Act. Otherwise the proponent is responsible for the EIA.

EUROPE

Europe

Regional

Council of the European Communities (CEC) (1985). **Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment. Official Journal No. L 175, 05/07/1985 P.0040 - 0049.** Council of the European Communities, Brussels, Belgium. (11 p.)

Council of the European Communities (CEC) (1997). **Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment. Official Journal No. L 073, 14/03/1997 P. 0005.** Council of the European Communities, Brussels, Belgium. (15 p.)

Contact: Office for Official Publications of the European Communities, L-2985 Luxembourg.

European Bank for Reconstruction and Development & EC's PHARE Programme (1994). **Investors' Environmental Guidelines.** Graham and Trotman, London. (540 p.)

These guidelines are designed to clarify the environmental requirements in nine European countries: Bulgaria, the Czech and Slovak Republics, Estonia, Hungary, Latvia, Lithuania, Poland and Romania. For each country, an overview is provided of the administrative structure, environmental legislation and other regulatory requirements. The EIA process is described and the environmental requirements applicable to industrial and commercial facilities are presented for air emissions, water use, noise, waste management, and use of chemicals. Annexes for each country detail the key legislation, regulatory bodies, environmental standards and investment projects subject to EIA.

European Bank for Reconstruction and Development (EBRD) (1996). **Environmental Procedures.** European Bank for Reconstruction and Development, London. (31p.)

This document is a revision of procedures for Bank staff first published in 1992 and addresses the environmental appraisal process. Roles and responsibilities in this process are described together with types of environmental appraisal work: EIA, environmental analysis, environmental audit, initial environmental examination, and environmental action plans. The environmental appraisal process within the Bank is set out in detail with sections covering: operational identification, initial review, environmental investigations, consultation with the public, negotiations/environmental covenants, final review, Board approval, monitoring, completion and evaluation, reappraisal of operations, and workout and foreclosure. There are five annexes covering: public consultation, sample formats for EBRD EIA and audit reports, screening categories, and environmental standards.

Contact: European Bank for Reconstruction and Development, One Exchange Square, London EC2A, United Kingdom.

European Commission (CEC) (1993). **Report from the Commission of the Implementation of Directive 85/337/EEC on the Assessment of the Effects of Certain Public and Private Projects on the Environment and Annexes for All Member States. Com (93) 28 final.** Commission of the European Communities, Brussels. (279 p.)

European Commission (1996). **Environmental Impact Assessment: Guidance on Scoping.** Directorate General for Environment, Nuclear Safety and Civil Protection, Luxembourg.

European Commission (1996). **Environmental Impact Assessment: Guidance on Screening.** Directorate General for Environment, Nuclear Safety and Civil Protection, Luxembourg.

European Commission (1997). **Checklist for the review of environmental information submitted under EIA procedures.** Directorate General for Environment, Nuclear Safety and Civil Protection, Luxembourg. (29 p.)

This checklist was developed as a method for reviewing environmental information submitted by developers to the competent authorities as part of an EIA procedure. Its purpose is to assist reviewers in evaluating the completeness and suitability of this information from a technical and decision-making standpoint. The review criteria are organised in eight review areas, within which are questions that identify the items of information which may need to be provided by the developer to the competent authority.

Contact: Office for Official Publications of the European Communities, L-2985 Luxembourg Sustainable Development and Natural Resources Unit, Directorate General for Development, European Commission, Rue de la Loi 200, B-1049, Brussels, Belgium.

Kristoffersen, H. & Tesli, A. (Eds) (1996). **Environmental Impact Assessment in the Baltic Countries and Poland: Screening and Quality Control. Report from a Nordic-Baltic-Polish cooperation project.** Nord Environment, Copenhagen. (17 p.) ISBN 92 9120 862 0 ISSN 0903 7004

Contact: Nordic Council of Ministers, Store Strandstraede 18, DK-1255 Copenhagen K, Denmark.

Armenia

Under the Armenian EIA Act (EIAA), 1995, EIA is applied to a wide range of proposed activities including public and private projects as well as economic and social developments. EIA procedures include screening by use of threshold values, scoping, submission of at least two alternatives within the EIS, expert review of the EIS, mandatory public participation and post-project monitoring. The EIAA also provides for the SEA of specific plans, policies and programs and for the consideration of transboundary effects. Compliance is mandatory. The Act does not specify which state body will supervise and co-ordinate the EIA process, but the EIA Division of the Ministry of Environmental Protection and Mineral Resources has carried out EIAs in the past. Under the EIAA, however, the proponent is responsible for the submission of the EIS.

Austria

Prior to 1994, formal provisions for EIA were contained within Austrian sectoral administrative laws and applied only to projects specified in Annex I of the EC Directive 85/337/EEC. EIA became mandatory through the Federal Act on Environmental Impact Assessment and Public Participation (Environmental Impact Assessment Act, Federal Law Gazette No. 697/ 1993), 1994. The Act also introduced a single licensing procedure - prior to 1994, it was necessary to submit several applications to various authorities. The requirements of the 1994 Act go beyond the minimum requirements of the EC Directive 85/337/EEC. The extra provisions include scoping procedures, expert review, additional public participation stages and post-project monitoring. The "Environmental Impact Expertise" is a summary of the EIS designed to cover the impacts in an overall and comprehensive manner. The Ministry of the Environment is responsible at the national policy level while the Federal Environment Agency holds records of EISs and monitoring data and directs the process. An "Ombudsman for the Environment" has been appointed to settle disputes and handle complaints. There is no explicit requirement for strategic environmental assessment but, in practice, there is increasing consideration of environmental issues in plans and programmes. Compliance with the Act is mandatory. Formal requirements for SEA are being planned. Other planned changes include extending the coverage of EIA to more projects and bilateral agreements to implement the ECE Convention on Transboundary Impacts.

Umweltbundesamt (Federal Environmental Agency) (1994). **Uve-Leitfaden: Eine Information zur Umweltverträglichkeitserklärung für Projektweber, Planer und die interessierte Öffentlichkeit (EIA Manual: Information on Environmental Carrying Capacity for Project Workers, Planners and the Interested Public)** Bundesministerium für Umwelt, Jugend und Familie, Vienna.

This is a general guideline about the EIA procedure in Austria, including the legal basis and legislation, the legal proceedings of the EIA, the legal authorities, scoping and the preparation of the Environmental Impact Statement. It is planned to produce new guidelines when the Austrian law is modified to harmonize with the European Union Directives. A EC-EIA Review Checklist on Austrian Conditions is due for publication mid-1998.

Contact: Federal Environment Agency, Spittelauer Lande 5, A-1090 Vienna, Austria.

Belarus

The Soviet system of SER introduced in 1989 was in place in Belarus until superceded by national legislation: the Law on Environmental Protection (1992) and the Law on State Ecological Expertise (1993). The provisions of the latter were further refined in 1995 by the Ministry of Environment in the Instruction on the Order of Conducting State Ecological Expertise. SER (State Environmental Review

- *dzyarzhaunaya ekalagichnaya ekspertyza)* is mandatory for all projects and some development plans. Under the 1995 instruction, certain types of project, defined by a screening list similar to the one of the Espoo convention, requires an OVOS (Assessment of Environmental Impacts) report to be submitted to the SER. SER is carried out by staff of the Ministry of Environment at either regional (provincial) or national level. It is paid for by the developer, who is also responsible for submitting all project documentation (including the OVOS report when required) to the SER.

Belgium

Institutional reforms in 1980 created three regions - Brussels, Wallonia and Flanders – which later established their own EIA laws to comply with the EC Directive 85/337/EEC. Thus there are four EIA systems in Belgium applying to federal projects and to projects in the three regions. The federal system is base upon the Royal Decree 1993 which provides for the EIA of nuclear installations and storage of radioactive materials. This system also makes provision for the assessment of development aid projects carried out by the Belgian government. The only guidelines identified to date are for the Flanders region. Therefore although this Directory does n ot generally include subnational guidelines, it was decided to include these in the absence of other material for Belgium.

AMINAL - Administratie Milieu-, Natuur-, Land en Waterbeheer, Afdeling Algemeen Milieu- en Natuurbeleid, Cel M.e.r. (1997). **Richtlijnenboek voor het opstellen en beordelen van milieueffectrapporten (Environmental Impact Assessment Guidelines for Flanders)**. AMINAL - Administratie Milieu-, Natuur-, Land en Waterbeheer, Afdeling Algemeen Milieu- en Natuurbeleid, Cel M.e.r., Brussels. (Series of 11 guidelines)

This is a series of eleven guidelines for the Flanders region of Belgium:
1. Procedurele aspecten (Procedural aspects)
2. Algemene methodologische aspecten (General methodological aspects)
3. Methodologie per discipline: mens – gezondheid (Health)
4. Methodologie per discipline: mens – ruimtelijke aspected (spacial aspects)
5. Methodologie per discipline: fauna en flora (fauna and flora)
6. Methodologie per discipline: bodem (soil)
7. Methodologie per discipline: water (water)
8. Methodologie per discipline: lucht (air)
9. Methodologie per discipline: licht, warmte, straling (light, heat and radiation)
10. Methodologie per discipline: geluid en trillingen (noise and vibration)
11. Methodologie per discipline: monumenten en landschappen en materiele goederen in het algemeen (monuments, landscapes and material goods in general).

Contact: Ministerie van de Vlaamse Gemeenschap, Department Leefmilieu en Infrastructuur, AMINAL, Cel Planning, MER en Promotie, Graaf van Ferraris gebouw, E. Jackmainlaan 156, bus 8, 1000 Brussels, Belgium.

Devuyst, D. & van Wijngarrden, T. & Hens, L. (1997). **Strategische milieueffectrapportage in Vlaaneren (Strategic Environmental Assessment in Flanders: Volume 1: Onderzoeksresultaten (Main Report); Volume 2: Bijlagen (Annexes); Volume 3: Korte handleiging (Short guidebook)** Human Ecology Department, Free University Brussels, Brussels. (Volume 1, 281 p.; Volume 2: Annexes A-M; Volume 3: 19 p.)

This document is the product of a project for the Ministry of the Flemish Community to develop a user-friendly methodology for EIA of policies plans and programs. Specific guidelines and recommendations are given for screening, scoping, strategic environmental assessment and statements, public participation, quality control, post project evaluation, and decision-making for EIA at the strategic level for policies, plans and programmes.

Contact: Environmental Impact Assessment Centre, Human Ecology Department, Free University Brussels, Laarbeeklaan 103, B-1090 Brussels, Belgium.

Bulgaria

The EIA System in Bulgaria was established under the Environmental Protection Act (State Gazette No. 86), 1991, amended in 1991(S.G. No. 90), 1992 (S.G. No. 100) and in 1995 (S.G. Nos. 31 and 63). Chapter 4, Article 20, of the Environmental Protection Act makes EIA mandatory for specific projects and national and regional programs for development. In 1995, the Ministries of Environment, Territorial Development and Construction, Health, and Agriculture and Food, issued Regulation No.1 on Environmental Impact Assessment. This provides sectoral and general procedures in addition to a licensing system for EIA experts. The system uses a standard EIS content and terms of reference to those laid out in the EIA Regulation. Depending on the scale of the project (i.e. if it overlaps with other municipalities), EIA may be implemented by the respective Regional Environmental Inspectorate or the Minister of Environment. Independent experts licensed by the Ministry of the

Environment prepare the EIS at the proponent's expense. The approval of the EIS is the responsibility of the Ministry of the Environment or the Regional Environmental Inspectorate.

Ministry of Environment (1995). (1995). **Regulation No.1 on Environmental Impact Assessment, 7th August 1995.** In: Reference Guide to the Legislation Acts on Environmental Protection in Bulgaria. Ministry of Environment, Ministry of Territorial Development and Construction, Ministry of Health, Ministry of Agriculture and Food Industry, Petrov-Consult Publishing House, Sofia. (pp 43-69)

This regulation sets out the terms and procedures on EIA for projects, facilities and activities under Article 20, and No.9 of the Environmental Protection Act 1991. There are chapters covering: general provisions, EIA procedures, EIA documentation, public discussion of EIA results, decision on EIA, control of EIA decision. Additional sections provide definitions of terms, the scope and contents of the EIA report for construction and regulation plans, for projects, and for operating facilities (environmental auditing). It covers all sectors.

Contact: Petrov-Consult Publishing House, Sofia, Bulgaria.

Kancheva, M. et al (1997). **Methodological Guidelines for Environmental Impact Assessment of Territorial and Urban Plans.** Ministry of Environment, Sofia. (55 p.)

These are the only sectoral guidelines available, and apply to territorial and urban plans.

Contact: Ministry of Environment and Water, Sofia, Bulgaria.

Croatia

The Law on Physical Planning, 1980, contained legal obligations to undertake EIA. EIA was formally introduced in Croatia by the 1997 Decree on Environmental Impact Assessment, based on Articles 26 and 29 of the 1994 Law on Environmental Protection. The new system uses lists of projects for which EIA is obligatory and there are criteria to decide if other proposals require EIA. An "EIA Study" is required from the proponent, the content of which is laid out in the 1997 decree. The decree also established the independent Commission for Environmental Impact Assessment which has the responsibility for approval/refusal of the EIA and for directing public participation (public hearings).

Contact: State Directorate for the Protection of Nature and Environment, Ulicia Grada Vukovara 78, 10000 Zagreb, Republic of Croatia

Cyprus

EIA was carried out on *ad-hoc* basis from 1983 for UNDP- and World Bank-sponsored projects. A formal EIA system was introduced in 1991 based, in part, on the provisions of the EC Directive 85/337/EEC. The Cypriot EIA system is mandatory under a series of sectoral Acts. The Town and Country Planning Law, 1990, integrates EIA with the planning permission process. The Fisheries Law and Regulations requires EIA for aquaculture projects. EIA is also applied through forestry, mines and quarries legislation and specific pollution control laws (Control of Water Pollution Law Mo. 69/1991, and Control of Atmospheric Pollution from Industrial Sources Law No. 70/1991). The system includes screening based on a series of thresholds and criteria, and a two-stage system (preliminary EIA and then full EIA). The Environmental Service Committee provides terms of reference for EIA studies. The proponent must prepare the preliminary EIA report. These are reviewed by the Technical Committee for EIA.

Department of Environment (1996). **General Guidelines for the preparation of environmental impact studies of various works** (Greek language version) Ministry of Agriculture, Natural Resources and Environment (15 p.)

Contact: Ministry of Agriculture, Natural Resources and Environment, Nicosia, Cyprus

Czech Republic

The Czech EIA system is modeled on EC Directive 85/337/EEC and (up to 1996) is based on three pieces of legislation: (a) the Federal Environmental Act No. 17/1992, (b) the Czech Republic Act on Environmental Impact Assessment No. 244/1992 ("EIA Act") – which specifies the EIA procedure, and (c) the Decree on Professional Qualification in EIA and on the Means and Form of Public Discussion of Expert Reports No. 499/1992 – which is concerned with the registration of EIA experts and sets conditions for public hearings. The procedures are similar to the EC Directive with two screening lists – one for projects that require EIA and another for those that require EIA subject to their potential impacts (using threshold values). Projects not appearing on either list may require an EIA if the competent authority deems it necessary. The competent authorities are sectorally-based but the Ministry of the Environment is responsible for the development and delivery of the EIA system, represented by the District Environmental Offices. The content of the EIS review is given in Appendix 3 of the EIA Act. The Act also

provides for expert review (by experts registered with the Ministry of the Environment), public participation, consideration of transboundary impacts (the country is a signatory to the ECE Espoo Convention) and SEA of developmental concepts, programmes and territorial plans. EIA is not fully integrated into the planning system and monitoring can only be required through the planning consent system.

Government of the Czech Republic (1992). **Czech National Council Act on Environmental Impact Assessment. Act No. 244/1992 S.B.** Ministry of the Environment, Prague.

Guidance on EIA in the Czech Republic is provided in this Act which regulates EIA of planned constructions and determines state administrative bodies competent in EIA. Part Two is concerned with the assessment of constructions, activities and technologies and describes formal requirements for such issues as the extent of assessment, notification, documentation, publication and discussion of documentation, the participation of 'civil initiatives' (groups each of at least 500 people over 18 years of age and supporting a written opinion) and civil associations, the elaboration of expert opinion, public discussion, the issue of a Statement, costs and records, and transboundary EIA. Other parts deal with the assessment of concepts and products, and define competent authorities. Appendices set out developments within the competence of the Ministry of the Environment and within the jurisdiction of District Offices, and list the required content of EIA documentation and of a Statement of Impact Evaluation.

Contact: Ministry of the Environment, Prague. Czech Republic.

Kocikova, P. (ed.) (1993). **Environmental Handbook for Industry, Volume II.** (Second) Environmental Management Office, s.r.o, Mininberg and Associates, Prague. (128 p.)

This handbook updates the first edition (published in 1992) and provides basic environmental information for Czech and foreign businessmen. Chapter 1 describes the state administration dealing with environmental issues and provides contact details for organisations. Chapter 2 reviews the legal regulations for environmental protection with short sections dealing with the legal requirements for EIA, when and how to perform EIAs, procedures for obtaining a permit for a construction activity project once an EIA is complete, and EIA procedures for the review of 'concepts' for projects and the compliance of products with environmental regulations and standards. Chapter 3 covers economic instruments used in environmental protection. Chapter 4 is concerned with private businesses and the environment (discussing basic legislation on privatization, providing addresses and descriptions of companies manufacturing environmental technology, and outlining the Program of Environmental Care). Chapter 5 lists international agreements to which the country is a signatory. Chapter 6 gives basic information on the structure of the European Community environmental policy and standards, and the final chapter provides information on contributors to the handbook.

Contact: Trizonia Publishing House, Archaeologicka 2256, 155 00, Prague 5 - Luziny, Czech Republic.

Denmark

EIA in Denmark was introduced in 1989 by amendments to the regional planning framework. Compliance with the EC Directive 85/337/EEC was achieved by the Planning Act No. 388 in 1991. Subsequent legal provisions include the Consolidated Planning Act No 746, 1994, and several other Executive Orders (Numbers 379, 520, 847, 848, 849) which implement the Directive fully. Strategic environmental assessment is provided under Administrative Order No 12, 1995. Although not a law, this is deemed to be mandatory. The Ministry of the Environment has overall management responsibilities for the EIA system but projects are assessed by the relevant government agency. Requirements for EIA are derived from four sources: amendments to regional plans, national planning directives, legislation requiring EIA for specific projects in coastal waters, and projects adopted by national legislation. Once EIA is required, the main features of the Danish system are public participation during the early stages, preparation of draft Environmental Impact Statements (by the proponent) which are reviewed by public and ministerial bodies, and final EIS preparation prior to decision-making. Monitoring is not part of the EIA system but is required under other environmental protection legislation.

Ministry of Environment and Energy (1993). **Guidance on Procedures for Environmental Assessments of Bills and Other Government Proposals.** Ministry of Environment and Energy, Copenhagen. (13 p.)

This pamphlet sets out the requirements of an Administrative Order (26 Feb 1993) from the Prime Minister's Office regarding Bills and other government proposals, requiring the preparation of a statement on their environmental consequences if they are likely to have significant environmental effects. The pamphlet contains sections which set out the required contents of such a strategic environmental assessment (SEA), the environmental effects to be described, how to determine the need for an SEA, and includes a check-list to help determine which Bills/proposals may have significant environmental effects and which may therefore require a more detailed assessment.

Ministry of Environment and Energy (1995).
Environmental Impact Assessment in Denmark. Ministry of Environment and Energy, Copenhagen. (16 p.)

This brochure sets out the rules for EIA in Denmark which were established by three separate ministerial orders issued in September 1994. The rules cover only projects likely to affect the environment significantly. EIA procedures follow the provisions of the Planning Act (as amended in 1994) on supplements to regional plans, and the regional authorities. The document briefly describes the benefits of EIA to developers and the public. It then outlines types of projects definitely requiring an EIA, and others (new projects only) which may require an EIA if they fail to fulfil all of a set of five criteria. Annexes provide lists of projects falling into these categories. Other sections discuss the preparation of an EIS and public consultation.

Ministry of Environment and Energy (1995).
Strategic Environmental Assessment of Bills and Other Government Proposals. Examples and Experience. Ministry of Environment and Energy, Copenhagen. (38 p., annexes)

This document aims to facilitate environmental assessment for Danish government ministries following the issue by the Prime Minister's Office (Jan 1993) of an Administrative Order regarding Bills and other government proposals, requiring the preparation of a statement on their environmental consequences if they are likely to have significant environmental effects. The first two sections of the document give guidance on strategic environmental assessment (SEA), introducing the concept and describing the ideal content and features of an SEA process. Section 3 provides examples and experience related to SEA of Danish government Bills/proposals from the 1993/94 session of Parliament. There are three annexes: a checklist for determning the need for SEA of a government Bill/ proposal; an outline of Denmark's most important national action plans that target improving the environment; and a bibliography of useful readings. An index is also provided.

Ministry of Environment and Energy (1996).
Vejledning om Planloven (Guide to the Act of Physical Planning) Ministry of Environment and Energy, Copenhagen. (224 p., appendices)

This guide (available only in Danish) contains all guidelines concerning the Planning Act (1992, amended 1994) which sets out the provisions for EIA in Denmark. Also available on the internet.

Ministry of Environment and Energy (1996).
Vejledning om tilvejebringelse af regionplantillæg med VVM for svine – og fjerkræfarme (Guide on Provision of Regional Plan Addendums with Environmental Assessment for Pig and Poultry Farms. Ministry of Environment and Energy, Copenhagen. (27 p., appendices)

This guide (available only in Danish) provides specific guidelines for EIA for pig and poultry farms.
Contact: Spatial Planning Department, Ministry of Environment and Energy, Højbro Plads 4, DK 1200 Copenhagen K, Denmark.

Estonia

A government regulation on Environmental Impact Assessment, 1992, established the framework and principles for carrying out EIA. This was strengthened by a regulation issued by the Minister of the Environment in 1994 specifying those projects requiring EIA and providing guidance to proponents on the content of environmental statements. Draft legislation on EIA is under preparation. The current Estonian EIA system uses licensed experts (registered with the Ministry of the Environment), three screening lists (two lists of state projects and one of regional projects). Plans, programmes and policies are all subject to EIA at state and regional levels, and compliance is mandatory. For State proposals, the Ministry of the Environment is responsible for ensuring that the EIA is carried out. Regional proposals are the responsibility of the regional environmental authorities. These regional centres initiate the EIA process and carry out the study at the expense of the proponent. The proposed legislation will transfer the responsibility for carrying out EIA to the developer.

Ecological Studies Institute Estonia (1993).
Environmental Assessment Legislation and Policy in Central and Eastern Europe: Republic of Estonia. European Bank for Reconstruction and Development, London.

Contact: European Bank for Reconstruction and Development (EBRD), 1 Exchange Square, London EC2A 2EH, UK.

Ministry of Environment & The World Bank (1995).
Environmental Impact Assessment: Manual for Estonian Banks. Ministry for the Environment, Tallin. (30 p.)

Contact: Estonian Ministry for Environment, Tallinn, Estonia.

Finland

During the 1980s, EIA was undertaken on a sectoral level. When Finland joined the European Community in 1991, it was required to Directive 85/337/EEC relating to EIA. The Finnish Environmental Impact Assessment Act was approved in 1994. EIA is now applied under this separate law and is not integrated with other consent procedures. Screening is carried out on a case-by-case basis and by applying general criteria to the details of the proposal. Section 5 defines 18 types of projects (based on the provisions of Directive 85/337EEC and the ECE Espoo Convention on Transboundary EIA) that require EIA. EIA can also be required on a case-by-case basis for other proposals, or for changes to existing developments. The Ministry of the Environment has overall responsibility for the EIA system and can also require EIA for certain projects. The Act requires scoping and provision is made for internal authority, expert and public review of EIA reports. Monitoring arrangements should be specified in the EIS but there are no post-project checks. Public participation is required during the scoping and review stages. There is also provision for the strategic environmental assessment of policies, plans and programmes and guidelines have recently been released. In all cases, the proponent is required to carry out the EIA process. Future developments include research into the treatment of transboundary impacts in the EIA process and the development of guidance for the environmental assessment of government bills. Finland has also approved the Arctic Environmental Protection Strategy in 1997 and has provided guidance on EIA carried out in the Arctic.

Ministry for Social Affairs and Health (1995). **SVA - opas käytännön näkökulma sosiaalisten vaikutusten arviointiin (SIA guide: a practical guide on Social Impact Assessment)** Ministry for Social Affairs and Health, Helsinki. (31 p.)

Ministry for Social Affairs and Health (1996). **A guide on the application of the Finnish EIA law: the assessment of health and social impacts. Draft.** Ministry for Social Affairs and Health, Helsinki.

Contact: Ministry for Social Affairs and Health, Helsinki, Finland

Navigation Administration (1995). **YVA-laki väylätöissä merenkulkulaitoksen ylcisohje (The EIA Act in maritime channel works - general guide of the Navigation Administration)** Navigation Administration, Helsinki. (11 p.)

Contact: Navigation Administration, Helsinki, Finland.

Hildén, M., Huukskonen, E., Rahikainen, M. & Päivärinne, A-M. (1996). **Ympäristövaikutusten laadunarviointi (Quality evaluation of environmental impact statements)** Finnish Environment Institute, Helsinki.

Contact: Finnish Environment Institute, PO Box 140, FIN-00251 Helsinki, Finland.

Korhonen, S. (1996). **Tiehankkeiden yva-menettely (EIA guidelines for road projects)** National Road Administration, Helsinki.

Contact: National Road Administration, Helsinki, Finland.

Kylä-Harakka-Ruonala, T. (ed) (1992). **Teollisuuden ympärustönsuojelun käsikirja (Environmental handbook for Industry)** Confederation of Finnish Industry and Employers, Helsinki. (166 p.)

Contact: Confederation of Finnish Industry and Employers, Helsinki, Finland.

Salonen, L. (ed) & Puakkunen, M. (ed) (1996). **Ympäristövaikutusten arviointi - parempaan suunnitteluun (Environmental Impact Assessment – for better planning in Finland)** Ministry of the Environment, Finnish Environment Institute, Helsinki. (22 p.)

Also available in English.
Contact: Finnish Environment Institute, PO Box 140, FIN-00251 Helsinki, Finland.

Seppala, R. (1995). **Energiatuotantolaitosten ympäristövaikutusten arvionti (Environmental Impact Assessment of energy production)** Ministry of Trade and Industry, Helsinki.

Contact: Ministry of Trade and Industry, Helsinki, Finland.

France

The first EIA legislation was within the General Implementation Decree No 77-1141, 1977, amended by Decree No 93-245, 1993. These decrees are fully integrated into existing consent procedures. The basis for public consultation and public inquiries was provided in the Rules Concerning Public Enquiries (12 July, 1983) which defined the categories of works and projects which are subject to EIA. In accordance with provisions in the EC Directive 85/337/EEC, the EIA system involves a screening procedure which determines EIA requirements relating to the degree of the impact. Screening may result in a full EIA being required, or a simplified study called a *Notice d'Impact* for projects with a less significant potential impact. The proponent carries the responsibility for the initiation

of the process while the Ministry of the Environment takes overall responsibility for the system delivered by the local authorities. EIA in France is likely to change in accordance with the implementation of the EC Directive 97/11/EC which will introduce scoping, improve public participation and consultation, and there is also likely to be an increased emphasis on EIA training.

Government of France (1980). **Guide pour l'Élaboration des Études d'Impact sur l'Environnment del Lotissements (Guidelines for the Conduct of an Environmental Impact Assessment of Housing Sites)** Ministère de l'Environnement, Neuilly. (56 p.)

Government of France (1980). **Étude d'Impact sur l'Environnement Carrière de Roches Massives a Flanc de Coteau, (Impact Assessment of Hillside Quarries)** Ministère de l'Environnement, Ministère de la Recherche et de l'Industrie, Paris. (29 p.)

Government of France (1980). **Étude d'Impact sur l'Environnement Carrière de Roches Massives en Fosse (Impact Assessment for Deep Quarries)** Ministère de l'Environnement, Ministère de la Recherche et de l'Industrie, Paris. (30 p.)

Government of France (1980). **Études d'Impact des Stations d'Épuration Urbaines: Odeurs et Bruits (Impact Assessment for Urban Sanitation Stations: Smells and Noise)** Ministère de l'Environnement, Paris. (70 p.)

Government of France (1980). **Étude d'Impact des Stations d'Épuration Urbaines: 1: Méthodologie (Impact Assessment for Urban Sanitation Stations: 1: Methodology)**, Paris. (61 p.)

Government of France (1981). **Étude d'Impact sur l'Environnement Carrière de Roches Alluvionnaires dans la Nappe, (Impact Assessment of Gravel Pits on the Water Table)** Ministère de l'Industrie et de la Recherche, Ministère de l'Environnement, Paris. (28 p.)

Government of France (1982). **Étude d'Impact sur l'Environnement Carrière de Roches Alluvionnaires Hors Nappe, (Impact Assessment of Gravel Pits Above the Water Table)** Ministère de l'Environnment, Ministère de la Recherche et de l'Industrie, Paris. (48 p.)

Government of France (1982). **Étude d'Impact des Aménagement de Cours d'Eau (Impact Assessment of Diverting Water Courses).** Ministère de l'Environnement, Ministère de la Recherche et de l'Industrie, Paris. (103 p.)

Government of France (1983). **Étude d'Impact sur l'Environnement Carrière de Roches Massives Hors Nappe (Impact Assessment of Quarries Above the Water Table)** Ministère de l'Environnment, Ministère de la Recherche et de l'Industrie, Paris, France. (36 p.)

Government of France (1983). **Aspects Radiologiques à Prendre en Compte dans les Études d'Impact d'Ouverture de Travaux Miniers pour l'Uranium (Radiation Factors in the Impact Studies of Uranium Mining Works)** Ministère de l'Industrie et de la Recherche, Ministère de l'Environnement, Paris, France. (29 p.)

Government of France (1984). **Étude d'Impact pour l'Ouverture de Travaux d'Éxploitation de Gisements d'Hydrocarbures en Mer (Impact Assessment for Drilling of Hydrocarbon Deposits at Sea)** Ministère de l'Environnement, Ministère du Redéploiement Industriel et du Commerce Exterieur, Paris. (40 p.)

Government of France (1985). **Étude d'Impact pour l'Ouverture de Travaux d'Exploitation de Gisements d'Hydrocarbures à Terre (Impact Assessment for Drilling of Terrestrial Hydrocarbon Deposits)** Ministère de l'Environnement, Ministère du Redéploiement Industriel et du Commerce Exterieur, Paris. (81 p.)

Government of France (1988). **Pour des Études d'Impact en Centre Urbain (Impact Assessment for Urban Centres)** Ministère de l'Équipement, du Logement, de l'Aménagement du Territoire et des Transports, Paris. (71 p.)

Government of France (1988). **Étude d'Impact des Ports de Plaisance (Impact Assessment for Marinas)** Ministère de l'Environnement, Paris. (112 p.)

Government of France (1989). **Étude d'Impact sur l'Environnement des Installations Hydrauliques de Production d'Électricité (Environmental Impact Assessment for Hydroelectric Plants)** Ministère de l'Environnement, Paris. (83 p.)

Government of France (1990). **Guide pour l'Élaboration de l'Étude d'Impact sur l'Environnement d'une Décharge Contrôlee (Guidance for Environmental Impact Assessment of a Controlled Discharge)** Ministère de l'Environnement, Paris. (50 p.)

Contact: Ministry of Environment, 20 Avenue de Segue, 75302 Paris 7 SP, France.

Georgia

After independence in 1992, the Republic of Georgia passed the Temporary Order for "State Ecological Expertise" (SEE), but did not grant it legal status. The aim of SEE is to account for the likely environmental effects at the decision-making stage in order to secure ecological equilibrium, rational use of resources and to ensure sustainable development. The requirement for SEE of a proposal is noted in the 1992 Order (SEE takes place after the project design is decided upon). The State Ecological Expertise Boards at local, regional and national level are responsible for overall management and for carrying out the SEE process although it is financed by the developer. The SEE system requires that initial design features (including environmental information) be submitted to the Board of Ecological Expertise at the Ministry of Environmental Protection. SEE then involves the identification of impacts and project review followed by a pre-decision made by the Ministry of the Environment. The final approval is manifested as an "ecological passport". There is no requirement for monitoring. A draft Environmental Protection Law proposes an EIA system similar to the western style (approved in 1996).

Government of Georgia (1996). **Law of Georgia on State Environmental Assessment.** Ministry of Environment, Tbilisi.

A law on EIA and draft guidelines are being prepared. In the meantime, the Law on State Environmental Assessment regulates EA to be carried out in the course of decision-making on the issue of environmental licences for the bodies performing business, industrial and other types of activities, drafting and development of plans, projects for exploitation and use of waters, forests, mineral wealth, land and other natural resources in Georgia, an also activities required for major reconstruction and technological renovation of existing enterprises.

Government of Georgia (1996). **Law of Georgia on Environmental Permit.** Ministry of Environment, Tbilisi.

A law on EIA and draft guidelines are being prepared. In the meantime, the Law on Environmental Permit provides the legal foundation for the participation of the public and for public information in the course of the issuance of an environmental permit for the performance of an activity in Georgia, in the process of state ecological examination and EIA in the issuance of a permit and in decision-making on the issuance of a permit.

Contact: Department of Environmental Permit and State Ecological Expertise, Ministry of Environment, Paliashvili Stereet 87, 380062, Tbilisi, Georgia.

Germany

EIA was made mandatory in 1990 by the Environmental Impact Assessment Act ,1990, which implemented EC Directive 85/337/EEC. Some individual States (Landers) have implemented the 1990 law; others have used statutory ordinances to deal with project EIA. The 1990 Act was followed by other legislation and amendments relating to land-use planning, mining and emissions in order to integrate EIA into other consent procedures. Responsibility for the EIA process for a project is under the jurisdiction of the relevant authority with responsibility for the approval of that specific project. The proponent must submit information to this authority. The process involves the use of screening lists to determine if EIA is necessary by means of threshold values, followed by non-mandatory scoping prior to report preparation. The contents of the report are laid down in Section 6 of the federal EIA Act and in individual State legislation. Reports are reviewed through an internal process carried out by the authority responsible for the proposal, while there is provision for public participation at the scoping and review stages. A new planning act entered into force in January 1998 (Bau- und Raumordnungsgesetz). The changes to the EIA system will take account of the EC Directive 97/11/EC. The use of SEA is still being debated.

Federal guidelines cover the screening and scoping stages and there are technical guidelines relating to the various development sectors. In addition the German EIA Association (UVP-Gesellschaft e.V.) has produced a number of guidelines (two have been published, the rest are in draft form). Several States have also published guidelines (e.g. Northrhine-Westfalia,

Brandenburg, Badem-Württemberg and Bremen). References for these are given in Brösel; 1997.

Brösel, I. (1997). **Verwaltungsvorschriften, Richtlinien und Arbeitshilfen für die Umweltverträglichkeitsprüfung (Administrative regulations, guidelines and working aids for Environmental Impact Assessment)** In: Storm, P.-Ch. (ed) & Bunge, Th. (ed) Handbuch der Umweltverträglichkeitsprüfung (EIA Handbook). Berlin, Germany.

The EIA Handbook is a loose-leaf collection, and there is a section containing references to the large number of EIA Guidelines issued by German Länder authorities.

Contact: Erich Schmidt Verlag, D-10 785 Berlin, Germany.

Bundesanstalt für Gewässerkunde (German Water Institute) (1996).
Umweltverträglichkeitsuntersuchungen an Bundeswasserstrassen. Materialien zur Bewertung von Umweltauswirkungen (Environmental impact studies relating to federal waterways. Materials for the evaluation of environmental impacts). BfG-Mitteilung No. 9. Bundesanstalt für Gewässerkunde, Koblenz.

Contact: Bundesanstalt für Gewässerkunde, Kaiserin-Augusta-Anlagen 15-17, Postfach 309, D-56003 Koblenz, Germany.

Bundesministerium für Verkehr (Germany Ministry for Transport) (1987). **Hinweise zur Berücksichtigung des Naturschutzes und der Landschaftspflege beim Bundesfernstrassenbau (Instructions for Taking Nature Conservation and Landscape Development Into Account in Federal Highways Construction). Allgemeines Rundschreiben Strassenbau Nr. 5/1987 vom 23.** Bundesministerium für Verkehr (Germany Ministry for Transport). Verkehrsblatt. Dortmund, Germany. (217 et seq).

These instructions describe in detail the required content of environmental impact statements in highway planning and construction, focusing on nature conservation and landscape protection. Provisions are also included for impacts on other environmental factors (e.g. water, soil, flora and fauna).

Bundesministerium für Verkehr (German Ministry for Transport) (1994). **Richtlinien für die Planfeststellung nach dem Bundesfernstrassengesetz (Instructions for plan approval procedure under the Federal Highways Act). Allgemeines Rundschreiben Strassenbau Nr. 29/1994 vom 28. Oktober 1994.** Bundesministerium für Verkehr (German Ministry for Transport). Verkehrsblatt. Bonn, Germany. (749 et seq).

These instructions contain detailed provisions on the plan approval procedure (the last of three tiers in federal highway planning). Procedural aspects of EIA are also included.

Bundesministerium für Verkehr (German Ministry for Transport) (1995). **Musterkarten für mweltverträglichkeitsstudien im Strassenbau (Model maps for environmental impact studies for road projects).** Bundesministerium für Verkehr (Ministry for Transport), Bonn.

Contact: Verlags-Kartographie GmbH, Virchowstrasse 7, D-36304 Alsfeld, Germany.

Bundesministerium für Verkehr (Germany Ministry for Transport) (1996). **Hinweise zu § 16 FStrG (Instructions relating to sec. 16 of the Federal Highways Act. Allgemeines Rundschreiben Strassenbau Nr. 13/1996 vom 15. April 1996.** Bundesministerium für Verkehr (Germany Ministry for Transport). Verkehrsblatt. Dortmund, Germany. (222 et seq).

These instructions deal with the route determination process, the second of three tiers in federal highway planning. They contain rules on the content of environmental impact statements in this process.

Contact: Verkehrsblatt-Verlag, Hohe Strasse 39, D-44139 Dortmund.

Bundesregierung (Federal German Government) (1995). **Allgemeine Verwaltungsvorschrift zur Ausführung des Gesetzes über die Umweltverträglichkeitsprüfung (UVPVwV) vom 18. September 1995 (General Administrative Regulation on Implementing the Act on Environmental Impact Assessment of 18 September 1995).** Bundesregierung (Federal German Government). Gemeinsames Ministerialblatt. Köln, Germany. (671 et seq). ISSN 0939-4729

Contact: Carl Heymanns Verlag, Luxemburger Str. 449, D-50939 Köln.

Forschungsgesellschaft für Strassen- und Verkehrswesen (FGSV) (Research Society for Road and Transport Matters (1990). **Merkblatt zur Umweltverträglichkeitsstudie in der Fernstrassenplanung (Instruction leaflet for the environmental impact statement in highway planning).** Forschungsgesellschaft für Strassen- und Verkehrswesen (FGSV) (Research Society for Road and Transport Matters), Koln.

This document deals with methods to prepare an environmental impact statement.

Forschungsgesellschaft für Strassen- und Verkehrswesen (FGSV) (Research Society for Road and Transport Matters) (1996). **Richtlinien für die Anlage von Strassen, Teil Landschaftspflege, Abschnitt I: Landschaftspflegerische Begleitplanung, Ausgabe 1996 - RAS-LP 1 (Guidelines for road planning and construction, part landscape conservation, section I: landscape conservation planning).** Forschungsgesellschaft für Strassen- und Verkehrswesen (FGSV) (Research Society for Road and Transport Matters), Köln.

These guidelines prescribe, inter alia, the content of environmental impact statements.

Forschungsgesellschaft für Strassen- und Verkehrswesen (FGSV) (Research Society for Road and Transport Matters) (1997). **Arbeitshilfe zur praxisorientierten Einbeziehung von Wechselwirkungen in Umweltverträglichkeitsstudien für Strassenbauvorhaben, Ausgabe 1997 (Working aid to include, in a practice-oriented way, interactions between environmental factors in environmental impact studies for road projects). Document No. B 6524.** Forschungsgesellschaft für Strassen- und Verkehrswesen (FGSV) (Research Society for Road and Transport Matters), Köln.

Contact: Verkehrsblatt-Verlag, Hohe Strasse 39, D-44139 Dortmund.

Hübler, K.H. & Riehl, C. & Winkler-Kühlken, B. (1995). **Umweltverträglichkeitsprüfung in der Bauleitplanung – Praxisprobleme und Lösungsvorschläge. Vol. 1: Leitfaden zur UVP in der Bauleitplanung mit dem Schwerpunkt auf der Ebene der Flächennutzungsplanung (EIA in local development planning – practice problems and suggestions to solve them. Vol. 1: Guideline on EIA in local development planning, focusing on the level of the zoning plan). Berichte des Umweltbundesamtes No. 6/95.** Umweltbundesamt (Federal Environmental Agency), Berlin. (104 p.)

Contact: Erich Schmidt Verlag, D-10 785 Berlin, Germany.

Länderarbeitsgemeinschaft Wasser (LAWA) (1997). **UVP-Leitlinien. Arbeitsmaterialien für die Umweltverträglichkeitsprüfung in der Wasserwirtschaft (EIA Guidelines. Working materials for environmental impact assessment in water management).** Länderarbeitsgemeinschaft Wasser (LAWA) (German Interstate Working Group on Water). LAWA-Schriftenreihe. Berlin, Germany.

Contact: Kulturverlag GmbH, Sprosserweg 3, D-12351 Berlin, Germany.

Rheinischer Verein für Denkmalpflege und Landschaftsschutz (RDVL) (Rhine Association for Monument and Landscape Protection) (1994). **Kulturgüterschutz in der Umweltverträglichkeitsprüfung (Protection of cultural assets in environmental impact assessment).** Rheinischer Verein für Denkmalpflege und Landschaftsschutz (RDVL) (Rhine Association for Monument and Landscape Protection). Kulturlandschaft 4, Sonderheft 2. Bonn, Germany.

Contact: Rheinischer Verein für Denkmalpflege und Landschaftsschutz (RVDL), Ottoplatz 2, D-50679 Köln, Germany.

Ring, M. et al (1996). **Grenzüberschreitende Umweltverträglichkeitsprüfungen (Deutschland – Polen). Ein Vorschlag für die Durchführung des Verfahrens sowie Arbeitshilfen für Behörden, Gutachter, Verbände und Öffentlichkeit (Transboundary Environmental Impact Assessment (EIA) between Germany and Poland – Proposal for a Bilateral Procedure and Helpful Information for Carrying out Transboundary EIA for the Use of Public Authorities, Environmental Associations, Consultants and the Public).** Umweltbundesamt (Federal Environmental Agency), Berlin. (152 p.)

Full document also available in Polish.

Contact: Umweltbundesamt, Zentraler Auskunftsdienst, Bismarckplatz 1, D -14169 Berlin, Germany http://www.umweltbundesamt.de.

UVP-Förderverein (1990). **Ein Leitfaden für Unternehmen (Guidelines for Business).** UVP-Gesellschaft e.V (German EIA Association), Hamm.

UVP-Förderverein (1993). **Anforderungsprofil No.1: Qualit„tskriterien für die Durchfuhrung der UVP (Guideline No.1: Quality Criteria for EIA).** UVP-Gesellschaft e.V (German EIA Association), Hamm.

UVP-Förderverein (1995). **Merkblatt: Schutzgut liere (Guideline: consideration of fauna within EIA). Draft.** UVP-Förderverein, Hamm.

UVP-Förderverein (1995). **Merkblatt Schutzgut Pflanzen/Zur Erhebung vegetationskundlicher und floristischer Daten im Rahmen der UVP (Guideline: consideration of flora/ Guidelines for the study of data for flora and fauna within EIA). Draft.** UVP-Förderverein, Hamm.

UVP-Förderverein (1995). **Merkblatt: Öffentlichkeitsbeteilgung bei der UVP (Public Participation within EIA). Draft.** UVP-Förderverein, Hamm.

Contact: UVP-Gesellschaft e.V., Ûstingstrasse 13, D-59063 Hamm, Germany.

Greece

EIA was first undertaken in 1977 for hydro-electric power funded by the Greek Public Power Corporation, although the emphasis was on socio-economic impacts. It was subsequently applied to projects within forested areas (under Public Law 998/1979) as a conservation instrument. The Greek EIA system was created in 1986, when Law 1650/86 for the Protection of the Natural Environment established a permit system requiring EIA of new or modified projects and activities with potentially significant environmental effects. This law was implemented in 1990 after other ministerial decisions were made to allow its enforcement (Joint Ministerial Decision 69269/5387/ 25-10-90 for private and public and private projects excluding national defence). This also implemented the EC Directive 85/337/EEC. Ministerial decision 75308/ 5512/26-10-90 deals with EIS publication. The Ministry of Environment, Planning and Public Works is responsible for development of the EIA system and is the competent authority in Greece. This Ministry has also published statutory guidance on EIA procedures and the content of EISs. The EIA system is integrated with other consent systems since the approval of the site of the project and approval of "environmental terms for construction" are integrated with the screening and primary scoping stages of EIA. Directive 97/11/EC is currently receiving consideration in Greece and changes are expected in the future with regard to its provisions and the potential implementation of strategic environmental assessment.

Government of Greece (1986). **Law No.1650/86 for the protection of the environment, OEK 160 A/86 (EIA legal framework).** Ministry of Environment, Planning and Public Works, Athens.

Government of Greece (1990). **Ministerial Decision 75308/5512/26-10-90, OEK 691 B/90 (Environmental Impact Statements).** Ministry of Environment, Planning and Public Works, Athens.

Government of Greece (1994). **Ministerial Decision 1661/28-10-94, OEK 786 11/94 (for tourism development).** Ministry of Environment, Planning and Public Works, Athens.

Contact: Ministry of Environment, Planning and Public Works, General Direction of Environment Direction, Athens, Greece.

Hungary

The first explicit requirement for EIA in Hungary was provided by the Government Decree on the Provisional Regulation of the Environmental Impact Assessment of Certain Private and Public Projects No. 86/1993. This Decree was replaced by the Environmental Protection Act, 1995, which gave a higher legal status to the EIA system in an effort to streamline the process. EIA is required for proposals for development as well as for the decommissioning and cessation of activities. A "Preliminary study" and "Environmental Impact Study" may be required. The Environmental Inspectorate is responsible for the EIA process.

ÖKO RT (1993). **Útmutatók A Környezeti Hajásvizsgálotok Végzéséhez: Kürnyezeti Elemek és Rendszerek Kezelése a Khu-Ban (Guidelines for the Preparation of an EIA: Assessment of Environmental Elements and Systems in EIA).** Ministry for Environment and Regional Policy, ÖKO RT, Budapest, Budapest. (100 p.)

Contact: National Environmental Library, SAS UTCA6, Budapest 1051, Hungary.

Iceland

A formal EIA system was introduced in Iceland by the Act on Environmental Impact Assessment, 1994. This Act was reviewed in 1997 in order to draft a new EIA Bill. The existing system uses screening lists similar to the EC Directive 85/337/EEC. There is also provision for ministerial discretion over other projects. Public participation is advised after the documentation is submitted. The Planning and Building Act, 1998, has provisions for assessing land-use plans and individual policies and projects within the plans. The National Planning Agency (*Skipulag Rikisins*), under the Ministry of the Environment, enforces the Act. The process is mandatory and the proponent is responsible for the preparation of the EIA study.

Government of Iceland (1993). **Law and Regulations on Environmental Impact Assessment in Iceland: Law No.63/1993 on Environmental Impact Assessment, Law No. 100/1993 amending Law No.63/1993, Regulations on Environmental Impact Assessment.** Government of Iceland, Reykjavik. (18 p.)

Hreggviösdóttir, H., Þoroddsson, Þ.F., Theodörsdóttir, A.H. & Jónsdóttir, S. (1995). **Leiöbeiningar viö mat á umhverfisáhrifum (Guidelines for EIA)** Skipulag rískisns (National Physical Planning Agency), Reykjavík.

Contact: Skipulagsstofnun (Planning Agency), Laugavegur 166, 150 Reykjavík, Iceland.

Ireland

EIA became law in Ireland after the enactment of the European Communities (EIA) Regulations 1989 (S.I.349, 1989) and the Local Government (Planning and Development) Regulations 1990 (S.I.No.25 1990). These regulations served to implement the EC Directive 85/337/EEC and cover all projects except motorways which are subject to the Roads Act, 1993. Several amendments to these Acts have taken place to incorporate EIA procedures with integrated pollution control (S.I. 84, 1994), the land use planning system (SI 86, 1994) and afforestation projects (SI 101, 1996). The Ministry of Environment and the Environmental Protection Agency have overall responsibility for formulating and implementing EIA regulations and procedures. The Environmental Protection Agency Act, 1992, provides the Agency with the authority to produce guidelines on the content of EISs. EIA is also integrated with other regulations (integrated pollution control) but retains separate consent procedures to avoid duplication. The Irish EIA system will respond to changes in European legislation (Directive 91/11/EC and the draft SEA Directive) and there are initiatives to develop an SEA system. Guidance notes have been published by the Department of Environment and the Environmental Protection Agency for use by local authorities. No codes of practice, manuals or sourcebooks are recognised, but some are used.

Department of the Environment (undated). **Planning Leaflet No.9 – Environmental Impact Assessment.** Department of the Environment, Dublin, Dublin.

Contact: Department of the Environment, Dublin, Ireland.

Department of the Environment (1988). **Notes for Road Authorities on the European Communities (Environmental Impact Assessment) (Motorways)** Department of the Environment, Dublin. (4 p.)

Contact: Road Policy Section, Department of the Environment, O'Connell Bridge House, Dublin 2, Ireland.

Department of the Environment (1990). **Implementation of EC Directive 85/337/EEC on Environmental Impact Assessment – Planning Applications and Appeals.** Stationery Office, Dublin. (50 p.)

Contact: Stationery Office, Dublin, Ireland.

Environmental Protection Agency (1995). **Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)** Environmental Publications, Dublin. (136 p.) ISBN 1 899965 09 2

The document provides detailed information to practitioners and proponents on current practice for the structure and content of Environmental Impact Statements (EISs) in Ireland. The document is divided into 5 sections. Section 1 outlines the information to be included in the EIS relating to the description of the project; Section 2 outlines information required on the existing environment, impacts of mitigation measures and the description and analysis of specific environmental topics. Section 3 outlines sectoral impacts associated with 31 generic types of project. Section 4 provides guidance on consultation, and includes a reference list of relevant governmental and non-governmental stakeholder groups; and Section 5 outlines the most common problems found in current practice in EIA preparation in Ireland.

Environmental Protection Agency (1995). **Draft Guidelines on the Information to be Contained in Environmental Impact Statements.** Environmental Protection Agency, Wexford. (36 p.)

Contact: Environmental Protection Agency, Ardcavan, Wexford, Ireland.

Italy

Formal provisions for EIA was introduced by Law No. 349, 1986, and through two Decrees of the President of the Council of Ministers (in 1988) which gave power to Ministry of the Environment to regulate EIA. Laws within individual regions also enabled EIAs to be undertaken. The EC Directive 85/337/EEC was implemented in 1996 through a further Decree. This

established a national EIA framework which could be adopted and implemented at the regional level - a system similar to that in the EC Directive. The Decree has been supplemented by regional EIA laws in eight regions. Compliance is mandatory. Future changes to the Italian EIA system are likely to include: a focus on training demands; regional law changes to account for the EC Directive 97/11/EC and the draft SEA directive. The Ministry of the Environment has overall responsible for the process, but the evaluation of the EIS is carried out by the EIA Commission. The proponent supplies the EIS.

Colombo, G.C. (ed) & Malcevschi, S. (ed) (1996/97). **Guidelines of Environmental Indicators for EIA. 1. Indicators for Water; 2. Indicators for Vegetation and Flora; 3. Indicators for Ecosystems; 4. Indicators for Agricultural and Forest Systems.** Association of Environmental Analysts (AAA), Federation of Scientific and Technical Associations (FAST), Italian EIA Centre, Milan. (4 volumes)

Contact: Italian EIA Centre, c/o Fast, P.le Morandi, 2 - 20121 Milan, Italy.

Latvia

In Latvia, EIA is called "Ecological Expertise". It was formally introduced following independence under the Law on State Environmental Impact Assessments (LSEIA), 1990, which develops further the former Soviet "State Ecological Expertise" system. The process is integrated with the environmental and construction consent scheme. EIA involves a preliminary stage similar to scoping, a principal stage (preparation of the EIA report or "Technical/Economic Calculations" by the proponent) and decision-making by the relevant authority. There are two tiers of control. The EIA of projects of regional importance is managed by the Regional Environmental Protection Committee. EIA of national level developments are managed by the Ministry of Environmental Protection and the Regional Development's State EIA board. There is provision for public participation after the EIA documentation is prepared. The Latvian National Environmental Policy Plan was approved in 1995. A draft law on EIA based upon the EC Directive 85/337/EEC should come into force in mid-1998. The system is being set up by Ministry of Environmental Protection with the Ministry of Environment, in collaboration with the with the Finnish Environmental Institute. The new EIA law will also establish an EIA institution for licensed experts to carry out EIAs. At present, the proponent initiates the EIA process and experts at the EIA board perform the State assessment.

Seglins, V. (undated). **Investors Guidelines for Performing Environmental Due Diligence in Latvia.** Ministry of Finance, World Bank, Riga. (28 p.)

The goal of environmental due diligence is to identify and assess the environmental consequences of economic activity, to determine the environmental situation in a particular area, and to develop proposals to improve environmental quality. In Latvia, this is a necessary requirement prior to the financing or realisation of any economic activity. These guidelines explain the mandatory minimum requirements an investor must fulfill, and the EIA process conducted by regional and/or national environmental authorities.

Contact: Technical Unit, Ministry of Finance, Smilsu Str.1/4, Riga, Latvia LV 1050.

Lithuania

The Lithuanian Ministry of Environmental Protection assumed legal responsibility for EIA under the 1996 EIA law. Before that, the Soviet system of SEE (State Ecological Expertise) was in use.

Contact: Environmental Protection Ministry, A.Juozapaviciaus 9, 2600 Vilnius, Republic of Lithuania

Luxembourg

The EIA system in Luxembourg was established in 1990 under a law concerning the control of dangerous, dirty and noxious installations, known as the "*commodo*" procedure. The EC Directive 85/337/EEC was implemented by the Grand-Ducal Regulation of 4 March 1994. Other regulations integrate EIA practice into consents for projects in "green zones" and road projects. The Ministry of the Environment has overall responsibility for the EIA system but the proponent is responsible for carrying out the process itself, assisted by a licensed expert. The Grand-Ducal Regulation of 31 October 1995 determines the content of the EIS and makes EIA mandatory for road projects (a preliminary EIA or a *"notice d'impact"* is required). Screening is carried out using lists, criteria and case-by-case consideration of the proposal. Review of the EIA report takes place internally. There is provision for the monitoring of impacts. Future changes are likely to take place through EIA training, development of monitoring programmes and the treatment of cumulative effects in EIA.

Contact: Ministry of Environment, L-2918 Luxembourg, Grand Duchy of Luxembourg

Macedonia

The National Environmental Action Plan, 1997, identified priorities for environmental protection and recommended the introduction of EIA procedures (this has yet to happen). The Ministry of Urban Planning, Construction and Environment is responsible for environmental protection policies in Macedonia.

Malta

The Environmental Protection Act, 1991, established a formal EIA system and procedures. But no regulations have been issued to implement the system. The Environmental Protection Department is responsible for the implementation of the EIA system, although the proponents have responsibility for carrying out EIA studies and for post-project monitoring. Consultants chosen by the proponent to prepare an EIS must be registered with the Environmental Protection Department. Under the 1991 Act, three types of project are subject to EIA: those with more than local importance; small projects in vulnerable areas; and complex projects with long-lasting effects. Screening is carried out after the submission of a Project Description Statement. Then an EIS or an Environment Planning Statement (for less significant impacts) may be required. The Planning Authority is involved at the scoping stage (in co-operation with the Environmental Protection Department) and during evaluation of the EIS.

Government of Malta (1993). **Environmental Impact Assessment Procedures in Malta.** Ministry for the Environment, Floriana. (74 p.)

This document recommends procedures for assessing the environmental impacts of major development proposals. The process is central to the development permits system currently operated by the Planning Authority and Planning Directorate. An executive summary is followed by six sections. The first describes the planning and environmental management system in Malta. The next section discusses environmental assessment, considering types of EA, environmental impact statement (EIS) and environmental planning statements (EPS), EA of development proposals, public accountability, and quality of information. It sets out categories of project requiring an EIS and EPS. The following four sections provide an explanation of the steps in the design and authorization of development projects in which EIA is involved. Section 3 is concerned with determining the need for an environmental assessment. Sections 4 and 5 provide guidance respectively on preparing an EIS and an EPS, whilst the last section describes procedures for submitting a development application. There are six appendices: glossary of terms; schedule of projects requiring EA; diagram of procedures; checklist of EIA topics; EIAs recommended in the Structure Plan; and EC Directive on the assessment of the effects of certain public and private projects on the environment.

Government of Malta (1994). **Environmental Impact Assessment in Malta: Policy and Design Guidance.** Planning Authority, Floriana, Floriana. (29 p.)

This brief guide is intended primarily for developers, their architects and the public. It explains the purpose of an EIA, provides definitions of terms, explains when EIA is needed and the steps involved, describes the responsibilities the developer, the Planning Authority, Environment Protection Department and the public, and sets out the content of an EIS. An appendix lists projects requiring an EIS and those needing only an environmental planning statement.

Contact: Planning Authority, Awtorità ta' l-Ippjanar - Floriana PO Box 200, Valetta CMR 01 Malta

Moldova

The Law on Environmental Protection, 1993, gave overall responsibility to conduct "State Environmental Reviews" (SER) to the Department of Environmental Protection. SER was inherited from the former Soviet Republic as the government-level decision-making process which accounted for environmental impacts. Article 11 of the Water Code 1993, and Article 36/2 of the Soil Code 1993, require SER for activities threatening the respective environmental media. The "Law on Environmental Review and Environmental Impact Assessment", 1996, established EIA procedures. State Environmental Expertise (SEE) is required for plan and project EIA reports (OVOS – Assessment of Environmental Impacts) including proposed legislation and environment-related international conventions and treaties. Public environmental Review is provided by Chapter 3 of the Law and integrates the results of public review with the SER system.

Netherlands

The Ministry of Housing, Spatial Planning and The Environment (VROM) is responsible for drafting and implementing EIA legislation, regulation and guidance. Individual EIA processes are managed by the government body in charge for the decision (e.g. license, spatial plan) for which the EIA is prepared. The project proponent is responsible for preparing the EIS. An independent expert committee (a private

foundation called the 'Commission for EIA') advises the competent authority on terms of references for the EIS and reviews its quality after the EIS has been prepared. EIA was made mandatory by the Environmental Management Act, 1987. Provisions for the application of EIA are laid down in the Starting Note Regulation (Staatscourant 229 of 29 November 1993) and the EIA Decree (last modification: Staatsblad 540 of 26 July 1994). No major changes are envisaged or planned. Currently research is underway to understand how to further improve the effectiveness of the EIA process in Dutch project and strategic decision-making. Except for the above mentioned provisions, no national or general 'formal' guidelines for the preparation of individual environmental impact statements have been issued. For each individual plan or project, specific guidelines are prepared by the competent authority on the basis of public comments and mandatory advice from an independent expert committee. In addition to these guidelines, many technical guidance manuals exist that may be helpful in the preparation of environmental impact statements.

Commission for EIA (1994). **EIA-Methodology in the Netherlands: Views of the Commission for EIA.** Commissie voor de milieu-effectrapportage, Utrecht. (80 p.)

Commission for EIA (1996). **EIA in The Netherlands: Experiences and views presented by and to the Commission for EIA.** Commission for EIA, Utrecht. ISBN 90 421 0041 9

Contact: Commission for EIA, PO Box 2345, 3500 GH Utrech, The Netherlands.

Government of the Netherlands (1992). **Inventarisatie onderzoek 'wegen van effecten' (Inventarisation research on 'how to weigh impacts') VROM 92394/a/11-92; distribution code 6163/112.** Ministry of Housing, Spatial Planning and Environment, The Hague.

Government of The Netherlands (1994). **The Quality of Environmental Impact Statements: Measuring, Compiling, Monitoring.** Ministry of Housing, Spatial Planning and the Environment, Ministry of Agriculture, Nature Management and Fisheries, The Hague. (88 p.)

Government of The Netherlands (1994). **Use and Effectiveness of Environmental Impact Assessments in Decision Making: Report of a Pilot Study. VROM 94336/h/12-94; distribution code 6186/112.** Ministry of Housing, Spatial Planning and the Environment, Ministry of Agriculture, Nature Management and Fisheries, The Hague. (39 p.)

Contact: Distributiecentrum VROM, P.O. Box 351, 2700 AJ Zoetermeer, Netherlands.

Government of the Netherlands (1994). **Besluiten voor een leefbaar Nederland: Handleiding m.e.r. (General Manual on EIA in The Netherlands)** Koninklijke Vermande b.v. Lelystad, The Hague. ISBN 90-5458-155-7

Government of the Netherlands (1995). **Handleiding Evaluatie M.E.R. afvalstortplaatsen (Manual on the environmental evaluation of land fills) VROM 95182/h/4/-95; distribution code 6191/112.** Ministry of Housing, Spatial Planning and the Environment, Delft.

Government of the Netherlands (1995). **Naar beter leesbare kaarten in MER: Praktische tips en voorbeelden (Manual for the preparation of maps in EIA: suggestions and examples) DWW Publicatiemagazijn W-DWW-95-716.** Ministry of Transport and Water, Delft.

Government of the Netherlands (1996). **Aggregatie van milieueffecten in trajectnota/ milieueffectrapporten: handreiking (Manual on methods to aggregate environmental impacts in EIA) DWW Publicatiemagazijn W-DWW-96-054.** Ministry of Transport and Water, Delft.

Government of the Netherlands (1996). **Handreiking evaluatie m.e.r. weginfrastructuur (Manual for the environmental evaluation and monitoring in road infrastructure EIA) DWW Publicatiemagazijn W-DWW-96-045.** Ministry of Transport and Water, Delft.

Government of the Netherlands (1997). **Wegwerken van effecten van wegwerken; voorlopige groslijst mitigerende maatregelen (Overview of mitigating measures for road infrastructure projects) DWW Publicatiemagazijn, W-DWW-97-016.** Ministry of Transport and Water, Delft.

Contact: DWW Publicatiemagazijn, Postbox 5044, 2600 GA Delft, Netherlands.

Government of the Netherlands (1997). **GIS voor planstudies - Handreiking voor het (laten) toepassen van GIS in trajectstudie en milieueffectrapportage (Manual for the application of geographic information systems in infrastructure EIA) MDGISMER-9707.** Ministry of Transport and Water, Delft.

Contact: Ministerie van Verkeer en Waterstaat, Rijkswaterstaat Meetkundige Dienst, Delft, The Netherlands.

SDU/DOP (1990). **Brochure over het opstellen van het evaluatieonderzoeksprogramma bij milieueffectrapporten voor afvalstoffenplannen (Preparation of evaluation programmes as part of EIA for strategic waste management plans).** SDU/DOP, The Hague. ISBN 9034623203

Contact: SDU/DOP, P.O.Box 20014, 2500 ea Den Haag, Netherlands.

Kessler, J.J. (1997). **An Introduction to Strategic Environmental Analysis. A Framework for Planning and Integration of Environmental Care in Development Policies and Interventions. Application for SNV – Netherlands Development Organisation.** AIDEnvironment, Amsterdam. (35 p.)

The document provides an introduction to the Strategic Environmental Analysis (SEAn) methodology developed by AIDEnvironment in close collaboration with SNV (Netherlands Development Organisation). The approach is for implementation of SNV environmental policy in countries where it operates. SEAn is an environmental assessment tool which aims to analyse and integrate environmental issues in the formulation or revision of policies, strategies or programmes. The document explains the 10 methodological steps to the SEAn process in four clusters: (I) man-environment context analysis and impact assessment, (ii) problem analysis and explanation, (iii) opportunity analysis, and (iv) strategic planning and formulation of a sustainable development policy/action plan with follow-up strategy.. The steps are executed in a participatory manner, with systematic attention for the views and opinions of local stakeholders.

Kessler, J.J. (1997). **Strategic Environmental Analysis: Reader with Theoretical Background and Application Guidelines.** AIDEnvironment, Amsterdam. (146 p.)

This reader provides a detailed theoretical background to Strategic Environmental Analysis (SEAn). There are four chapters: introduction; concepts and approach principles; basic structure and getting started; and executing the 10 methodological steps of SEAn. The document contains numerous case study boxes and figures, There are six appendices: tools for SEAn, environmental monitoring (guidelines, tools, list of indicators), checklist for environmental context analysis, proposed table of contents of a SEA report, criteria for evaluation on environmental issues, and list of references.

Contact: AIDEnvironment, Donker Curtiusstraat 7 - 523, 1051 JL Amsterdam, The Netherlands.

Norway

The Planning and Building Act No. 77, 1985, contains the legal EIA provisions for Norway. It was amended by the Act of 4 August 1995. Royal Decree of 13/12/96 lists the projects for which EIA is mandatory and provides criteria-based screening lists. It also lists the competent authorities responsible for carrying out EIA (the ministry which has the statutory responsibility for approval of a specific project-type) and the contents required of an EIS. The EIS is used as a basis for consent decisions for various other Acts relating to environmental protection. The EIA process requires a notification document (mini-EIS) to be submitted to assist in the scoping stage and also to assist the authority in determining if a full EIA *konsekvensutredning*) is necessary. The provisions of the EC Directive 85/337/EEC were adopted by Norway in 1997 despite the country not becoming a member of the European Union.

Government of Norway (undated). **Circular on the Rules and Regulations on EIA in the Planning and Building Act May 1994. T-1/97.** Ministry of Environment, Oslo.

Ministry of the Environment (1996). **Act 4 August 1995 on Amendments of Act 14 June 1985 Chapter VII-a Environmental Impact Assessment; and Regulations 13 December 1996 Relating to Environmental Impact Assessment.** Ministry of Environment, Oslo. (40 p.)

The first part of this pamphlet sets out the main elements of Act 4 August 1995 on amendments of the Planning and Building Act of 14 June 1985 concerning Environmental Impact Assessment. It describes the formal the duties of developers to carry out EIAs and the procedures that must be followed. The second part sets out the regulations relating to EIA prescribed by the Act, including specifying project types for which an EIA is mandatory or requires evaluation, and prescribing the content of notifications and EISs.

Ministry of the Environment (undated).
Environmental Impact Assessment Pursuant to the Planning and Building Act. Ministry of the Environment, Oslo. (28 p.)

This document describes the purpose of EIA and outlines new legislation concerning EIA. The roles of the public and various authorities are described. Guidance is provided on projects which require an EIA. The EIA process is discussed: notification; the EIA study programme; the preparation of an EIS; public comment and inspection; the final document, further studies and monitoring; and final decision-making. Appendices list projects which require a mandatory EIA and which need evaluation using criteria set out under the Planning and Building Act. The document is illustrated with colour photographs and figures.

Contact: Norwegian Pollution Control Authority (SFT), Strímsveien 96, PO Box 8100 Dep., N-0032 Oslo, Norway.

Poland

The National Environmental Policy, 1991, set objectives which encouraged the establishment of the Commission on Sustainable Development. EIA is linked to the Polish planning system. The legal framework for the present system is provided by several instruments: the Environmental Protection Act 1980 (amended), the Town and Country Planning Act, 1984; and Executive Order of the Minister of Environmental Protection, Natural Resources and Forestry, 1990. This ministry is responsible for the development and implementation of EIA in Poland. New regulations were introduced by the Spacial Planning Act, 1994, which altered the planning system and transferred responsibility from central to local government levels. EIA regulations passed in the 1995 Executive Order of the Ministry of Environmental Protection, Natural Resources and Forestry complemented the 1994 Act and harmonised the Polish system with European and "Espoo" convention requirements. The present system uses thresholds of the type and size of developments to determine EIA requirements. The Executive Act of 1995 provides for the simplified application of EIA to local land use plans with mandatory status (a form of SEA). A new Act to introduce a new EIA system is being drafted. This will include broader regulations on SEA requiring its application to any major plan/ strategy being prepared within government. Poland's status as a signatory to the ECE Espoo Convention on Transboundary EIA (ratified by Poland in 1997) has been elaborated by the construction of the "ENIMPASS" (environmental impact in the transboundary context) page on the Internet.

Portugal

EIA has been has practiced in Portugal since 1981. EC Directive 85/337/EEC was adopted in 1990 (Decree Law No 186/90 and Regulatory Decree No 38/90). This legislation was amended in October 1997 by Decree Law No 278/97 and Regulatory Decree No 42/97 which revised the positive list (projects requiring a mandatory EIA) in Annex II. The Ministry of Environment is responsible for the implementation of the EIA system. In seeking a permit for a project, the proponent is responsible for presenting the EIA study to the competent authority which then submits it to the Directorate-General of the Environment. Draft new project EIA legislation has been prepared and currently is being reviewed within the Ministry of Environment, after which it will be open to public debate with different sectors and NGOs. This will introduce completely new EIA procedures with two different models. Model A has two assessment stages (integrated with the two stages of the licensing process), with mandatory scoping, mandatory public hearings and formal review of the EIA report in stage 1. Model B includes only one assessment stage with voluntary scoping, public involvement, but not necessarily a public hearing (unless considered necessary), and one review stage of the EIA report. This modified legislation does not cover plans, policies and programmes. Public participation in EIA is organised by the Institute for the Promotion of the Environment, a public institute of the Ministry of Environment

Direccao - Geral da Qualidade de Ambiente (1988).
Estudos de Impacte Ambiental: Directrizes (Environmental Impact Assessment Guidelines). Direccao - Geral da Qualidade de Ambiente, Lisbon. (101 p.)

Contact: Ministerio do Planeamento e da Administracao do Territorio, Praca do Comercio, P-1100 Lisbon, Portugal.

Romania

Requirements for EIA were first set out under three Ministerial Orders; 113 and 170 in 1990; and 619 in 1992, although no specific legislation existed at that time. This first system provided for "Preliminary Studies" and "Critical Evaluations". EIA was formally established by Environmental Protection Law No. 137/ 1995. This framework law was implemented by the Permitting Procedure for Economic and Social Activities Having an Environmental Impact (Ministerial Order No. 125/1996). Licensing regulations applying to the registration of EIA and environmental auditors is provided by Ministerial Order 278/1996. The Licensing Commission of the Ministry of Water, Forests and Environmental Protection grants licenses

to EIA experts and auditors. The Romanian EIA system is based upon the structure of EC Directive 85/337/EEC. The Environment Protection Strategy was approved in 1996.

Russian Federation

Prior to 1985, EIA was not formally practiced in the Soviet Union. Two regulatory concepts were subsequently developed: State Environmental Review (SER-*gosudarstvennaya ekologisheskaya ekspertiza*) and Assessment of Environmental Effects or *OVOS*. SER is mandatory for all projects and non-project activities under the Federal Act on the Protection of the Natural Environment, 1991. The Federal Environmental Review Act, 1995, requires SER to be undertaken by federal or provincial SER Departments. The SER process is managed and undertaken by the Ministry of the Environment but the costs are covered by the proponent. OVOS is carried out by the proponent for a limited number of projects, specified in Order No. 222, 1994, which also introduced the OVOS regulations. New OVOS regulations are being drafted by the Ministry and are likely to eliminate screening and introduce a uniform OVOS procedure for all projects.

European Bank for Reconstruction and Development (EBRD) (1997). **Investors' Guidelines for Environment, Health and Safety: Russian Federation. Volumes 1 and 2.** European Bank for Reconstruction and Development, London. (Vol 1: xiv, 149 p.; Vol 2: iii, 40 p., 5 annexes)

This is the first in a series of guidebooks for potential investors focusing on environmental, health and safety regulations that should be taken into account in making investment decisions in Eastern Europe and the countries of the former Soviet Union. This document deals with the Russian Federation and is intended to enable investors to familiarise themselves with the basic environmental regulatory regime related to commercial and industrial greenfield site developments, joint venture operations or company acquisitions in the Russian Federation. The guidebook reviews institutional arrangements for environmental control, legislative requirements and procedures, time implications for permitting, public consultation requirements, liability and sanctions.

The guidebook is organised in two parts. Volume 1 contains 15 chapters dealing with the principles of environmental, natural resource and safety regulations in the Russian Federation. Chapter 4 describes the requirements for and processes of pre-investment environmental investigation and environmental review, lists the scope of activities subject to such review and projects requiring EIA, describes documentation and reports required and the issues to be covered, discusses provisions for public participation, and covers environmental audit requirements.

Volume 2 contains a number of case studies which present a view of environmental regulations as they are practised in various regions of the country. Annexes list permitting and enforcement authorities, legislative and normative Acts, proposed legislation, international conventions to which Russia is a signatory, and selected regulations on technical and economic substantiation (TEO) and EIA.

Contact: European Bank for Reconstruction and Development, One Exchange Square, London EC2A, United Kingdom.

Iskra, A.A. (1994). **Environmental Safety, Principles and Criteria for the Assessment of Dangerous Facilities.** Russian Federation Ministry of Atomic Energy, Moscow. (8 p.)

Contact: Russian Federation Ministry of Atomic Energy (RFMAE), 33, Kashirskoe shosse, Moscow 115230, Russian Federation.

Ministry of Environment and Natural Resources (1994). **Guidelines on Environmental Review of Economic Pre-investment and Project Documentation.** Ministry of Environment and Natural Resources, Moscow. (22 p.)

Contact: State Committee of the Environment, Ul. Bolshaya Gruzinskaya 4/6, Moscow, Russia.

State Committee for the Environment (1992). **Temporary Guidelines on the Environmental Substantiation of Economic Activities in Planning Documentation.** State Committee for the Environment, Moscow.

Contact: Department of State Environmental Review, State Committee for the Environment, Ul. Bolshaya Gruzinskaya 4/6, Moscow, Russia.

Serbia

EIA was officially introduced in Serbia in 1991 by the Environmental Protection Act, (Official Gazette 66/91). Several sections of the Act refer to EIA, although there are no requirements for specific procedures. The EIA Regulations, introduced in 1992 (Official Gazette 61/91) list projects for which EIA is mandatory and non-mandatory, and define the content of an EIS, review procedures, monitoring (without establishing responsibility for such monitoring) and post-auditing. The system provides for preliminary and detailed EISs to be requested. The Ministry for Environmental Protection has overall responsibility for the system and for the evaluation and approval of the EIS documents. Screening is carried out by local or regional

environmental authorities. Proponents initiate the EIA process when applying for an environmental permit from the Environment Authority, and a building permit from the Planning Authority.

Slovak Republic

The former Czechoslovakian Government issued the Act on the Environment No. 17 in 1992 to establish a formal EIA system. Since the division of Czechoslovakia, the Slovak Republic has enacted its own EIA legislation. The Environmental Impact Assessment Act 127/1994 requires EIA for public/ private projects and for government development plans. A preliminary EIS must be submitted and public scoping carried out prior to EIS preparation. There is a strong emphasis on public participation. The Ministry of the Environment has overall responsibility for the EIA system while the onus of responsibility for writing the EIS is on the proponent.

Slovak Ministry of Environment (1994-1998).
Methodological Guidelines series

Since 1994, the Slovak Ministry of Environment, together with the EIA centres in the Slovak Republic (at the Faculty of Natural Sciences, Comenius University; and the Faculty of Architecture, Slovak Technical University) and other institutions and firms, have developed a series of methodological guidelines and handbooks oriented to general explanation of the EIA Act (Slovak Republic Act No. 127/1994), of individual stages of EIA process and preparation of EIA documentation; and guidelines for public participation, EIA of particular activities, special guidelines for EIA process, and for strategic environmental assessment. These have been published by the Ministry of Environment but are available in Slovak only, and are listed below.

Antolova S. et al., 1994, published 1995.
Methodological Guidelines for Environmental Impact Assessment of Solid Waste Landfills

Antolova S. et al.,1995, published 1996.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Environmental Impact Assessment of Incineration

Auxt A. et al., 1995, published 1997.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Environmental Impact Assessment of Sludge Beds

Belcakova I. et al., 1994, published 1995.
Handbook for Public Participation to the National Council of the Slovak Republic Act No. 127/1994 on Environmental Impact Assessment

Groidlova A. et al., 1996, published 1997.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Environmental Impact Assessment of Railways

Kozova M. et al., 1994, published 1995. **General Methodological Handbook to the National Council of the Slovak Republic Act No. 127/ 1994 on Environmental Impact Assessment**

Kozova et al., 1994, published 1995.
Methodological Introductory Guidelines for Environmental Assessment of Policies, Programs and Plans to the National Council of the Slovak Republic

Mocikova et al., 1995, published 1996.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Environmental Impact Assessment of Linear Construction

Piatrik M. et al., 1994, published 1995.
Methodological Guidelines of Environmental Impact Assessment of Chemical Technologies

Stancik S. et al., 1995, published 1997.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Environmental Impact Assessment of Installations for animal Production including disposal of side-products

Stancik S. et al., 1996, published 1997.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Environmental Impact Assessment of Amelioration Works

Banska H et.al. 1997, publication due 1998.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Multicriteria Analysis

Butkovska K. & Urbanova I., 1996, publication due 1998. **Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/1994: Sources of Information**

Groidlova A. et al., 1997, publication due 1998.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Environmental Impact Assessment of Railway Stations (mixed, organisational, tranship of combined transport)

Pavlickova K. et al., 1995, publication due 1998.
Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/

1994: A Proposal of the Criteria for the Reviewing of the Quality of EIA Documentation

Tomasovic J. et al., 1997, publication due 1998. **Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/ 1994: Noise and Vibration**

The following are not generally available to the public but are used internally by the Ministry of Environment. However, interested parties can borrow them from the Ministry or some Centres of EIA (see contact details below):

Banska H. et al., 1994. **Environmental Multicriteria Systems for Support of Environmental Impact Assessment**

Drdos J. et al, 1996. **Methodological Guidelines to the National Council of the Slovak Republic Act No. 127/1994: Carrying Capacity**

Finka, M. et al., 1996. **Elaboration of the Guidelines for Strategic Environmental Assessment of Territorial Planning Documentation on the Regional Level**

Kozova M. et al., 1996. **Strategic Environmental Assessment as a Tool for Implementation of Environmental Policy and Strategy of Sustainable Development in the Slovak Republic**

Kozova M. et al., 1997. **Methodological Handbook for Strategic Environmental Assessment of Policies and Legislation**

Krumpolcova M. et al., 1997. **Methodological Handbook for Environmental Assessment of Territorial Planning Documentation on Regional and Local Levels**

Mocikova I. et al., 1994. **Methodological Guidelines for Water Works on Rivers**

Pavlickova K. et al., 1996. **The Determination of the Criteria for Significant Adverse Transboundary Impacts over the Slovak Boundaries: Analytical Study**

Contact: Mlynska dolina CH-1, Faculty of Natural Sciences (Centre for EIA), Comenius University (Prirodovedecka fakulta Univerzity Komenshkeho), 842 15 Bratislava, Slovak Republic.

The following are available from SVET:

Uradnicek, S, Gasparikova & B., Kozova, M (1994). **Environmental Impact Assessment Part I: National Council of the Slovak Republic Act 127/1994 on EIA with Explanation**

Kozova, M. et al (1995). **Environmental Impact Assessment Part II: Explanation of the Process of EIA in the Slovak Republic with Examples of Recommended Methods and Approaches.**

Contact: SVET, Plynarenska 6, PO Box 179, 830 00 Bratislava III, Slovak Republic

Slovenia

Article 55 of the Slovenian Environmental Protection Act No. 32, 1993 states that "EIA shall be carried out to determine the acceptability of the intended activity with respect to its long and short term, direct and indirect effect on the environment". An instruction on EIA methodology was issued by the Minister of the Environment in 1996. A licence for a development initiative is provided by the relevant authority, based on approval of an environmental impact report. The Act specifies the content of the EIA report and requires the production of screening lists by the licensing authority. Provision is given for the SEA of plans in Article 54 through the "Comprehensive Assessment of Environmental Impact" applied to planning documents, sectoral resource management plans and community documents. An "Environmental Vulnerability Study" must also be provided for the assessment of plans by the Ministry for the Environment. This forms the basis for the comprehensive study.

Spain

Nationally, EIA was introduced by the *Real Decreto Legislativo* **1302/1986, and a procedure for implementing this was provided by the** *Real Decreto* **1131/1988. These laws also implemented the provisions of the EC Directive 85/337/EEC. The Spanish laws stipulate that the proponent is responsible for the execution of the EIA process but that the overall management responsibility is under the jurisdiction of the Department of Environmental Quality and Assessment. Recent legislation has extended the coverage of EIA to highways and natural areas. At the regional level, the EC Directive has been implemented more thoroughly in the 17 autonomous governments with regard to covering Annex II (in the EC Directive) projects. Since the approval of the EC Directive 97/11/EC, the Spanish EIA system is being reviewed. Expected future changes will extend the coverage of EIA, improve scoping, introduce SEA (currently in the regional systems only) and develop methods of treating impacts in accordance with the ECE Espoo Convention on transboundary EIA. A new version of the EIA law was submitted to Parliament in 1996 but was not passed due to a change in government.**

Ministerio de Obras Publicas y Transportes (1991). **Guias Metodologicas para la Elaboracion de Estudios de Impacto Ambiental. 4: Aeropuertos (Methodological Guidelines for the Preparation of Environmental Impact Studies. 4: Airports).** Ministerio de Obras Publicas y Transportes, Madrid. (168 p.)

Ministerio de Obras Publicas y Transportes (1994). **Guias Metodologicas para la Elaboracion de Estudios de Impacto Ambiental. 2: Grandes Presas (Methodological Guidelines for the Preparation of Environmental Impact Studies. 2: Large Dams).** Ministerio de Obras Publicas y Transportes (200 p.)

Ministerio de Obras Pubilcas y Transportes (1995). **Guias Metodologicas para la Elaboracion de Estudios de Impacto Ambiental. 1: Carreteras y Ferrocarriles (Methodological Guidelines for the Preparation of Environmental Impact Studies. 1: Roads and Railways).** Ministerio de Obras Publicas y Transportes, Madrid. (168 p.)

Ministerio de Obras Publicas y Transportes (1995). **Guias Metodologicas para la Elaboracion de Estudios de Impacto Ambiental. 3: Repoblaciones Forestales (Methodological Guidelines for the Preparation of Environmental Impact Studies. 3: Reafforestation).** Ministerio de Obras Publicas y Transportes, Madrid. (184 p.)

Contact: Centro de Publicaciones, Ministerio de Obras Publicas y Transportes, Paseo de la Castellana 67, 28071 Madrid, Spain.

Sweden

EIA was first introduced in the Environmental Protection Law, 1981, followed by the Road Law (v†glagen, VL), 1987 and the Act on the Management of Natural Resources, 1987:12, which was amended by the Nature Resource Law (Naturresurslagen, NRL) 1991:650 (stating the EIA regulations). The EIA Regulations came into force in 1991 and were applied under 22 separate Acts by 1994. EIA applies to projects of all scales with the degree of assessment being adaptable in accordance with the potential impact. Sweden incorporated EIA into the Planning and Building Act as Strategic Environmental Assessment in 1994. For detailed plans (detaljplaner) with notable environmental effects, EIA became obligatory in 1996. However, there is no specific EIA legislation and, as a result, the regulations are broad in their application and guidance. Screening is carried out on a case-by-case basis. The proponent is required to submit an environmental impact "description" (*Milojokonse Lvensbeskrivning*) under the 1987 Act. In 1998, a new Environment Code (MB) will be put before the parliament. This includes stringent rules on EIA. However some laws will not be encompassed by the new code (e.g. the Planning Law and the Road Law). The influence of EIA on decision-making under these laws varies: considerable under the Environmental Protection Law - mainly when applications are submitted for formal permissions, but little under the Planning Law. The bodies responsible for the Swedish EIA system are the Ministry of the Environment (*Miljodeparetementet*), the National Board of Housing, Building and Planning (*Boverket*), the Swedish Environmental Protection Agency *(Naturvardsverket*) and the County Administrative Board (*Lansstyrelse*). But other agencies which are also involved in EIA (and which are also preparing their own guidelines) include: the Swedish Road and Rail Administrations, the Central Board of National Antiquities and the Radiation Protection Institute.

Boverket (National Board of Housing, Building and Planning) (1996). **Boken om MKB. Del 1: Att arbeta med MKB för projekt (The Book on EIA. Part 1: Working with project EIA).** Boverket (National Board of Housing, Building and Planning), Karlskrona. ISBN 91-7147-300-9

Boverket (National Board of Housing, Building and Planning) (1996). **The Book on EIA: Part 2 – Regulations and Background.** Boverket, Karlskrona.

Contact: Boverket, Publication service, Box 534, 371 23 Karlskrona, Sweden.

Riksantikvarieämbetet (National Heritage Board of Sweden) (1997) **Kulturvärden och NKB (Cultural Heritage and EIA).** Riksantikvarieämbetet, Stockholm. (98 p.). ISBN 91 7209 069 3

Riksantikvarieämbetet (National Heritage Board of Sweden) (1997). **Riktlinjer for Miljökonsekvensbedomningar i Bistandet (Historical and Cultural Values of the Environment: aims and guidelines for the EIA process).** Riksantikvarieambetet, Stockholm. (98 p.) ISBN 91-7209-069-3

These guidelines from the National Heritage Board are written for undertakers, engineers, officials and others responsible for heritage work. Topics include historical and cultural heritage as a resource; who

works with and is responsible for cultural heritage; how to describe the historical and cultural values of the environment; which alternatives are advantageous to cultural heritage; what are the right questions to ask and at what time; how to deal with prehistoric issues; what are the effects of historical and cultural heritage and how do these influence the values; how to judge and chose amongst different alternatives; what is significant damage and how this can be mitigated; and how to sum up the conclusions. Five examples illustrate how to deal with historical and cultural values by solving problems with new roads, new industries, prehistoric sites, and development of areas of low population.

Contact: Riksantikvarieambetet, Box 5405, 114 84 Stockholm, Sweden.

Swedish Environmental Protection Agency (1994). **Miljönsekvens-beskrivning inom Trafiksektorn – Miljövardsaspekter. Rapport 4334 (EIA in the Transport Sector - Environmental Protection Aspects. Report 4334).** Statens Naturvårdsverk, Solna. (52 p., annexes)

Swedish Environmental Protection Agency (1995). **MKB I Miljoskydds och Naturvardslagen (EIA Guidelines).** Statens Naturvårdsverk (Environmental Protection Agency), Solna. (66 p.)

Swedish Environmental Protection Agency (1996). **Environmental Impact Assessment in the Environment Protection Act and the Nature Conservation Act. Report 4666.** Swedish Environmental Protection Agency, Solna. (22 p.)

This booklet is an abbreviated version of the report "MKB I miljöskydds – och naturvårdslagen. Allmänna råd 95.3) ("EIA in the Environment Protection Act and the Nature Conservation Act. General Guidelines 95.3"). The guidelines are aimed primarily at County Administrative Boards and other authorities to assist them when consulted by development project applicants, and for the use of such applicants in their work. The document outlines the basis for working with EIA with sections on: background and purpose, procedure, important steps, screening and scoping, alternatives, responsibility and roles, participation of the general public, reviewing the quality of EIA and EIA for the entire development. It also sets out the EIA regulations within the framework of these two Acts.

Contact: Statens Naturvärdsverk (Environmental Protection Agency), Kundtjänst, 171 85 Solna, Sweden.

Swedish National Rail Administration (1992). **Miljökonsekvensbeskrivning fö järnvägsprojekt (EIA in Railway Projects).** Swedish National Rail Administration, Borlange.

Swedish National Rail Administration & Swedish National Road Administration (1996). **Bedömning av Ekologiska Effekter av Vägar och Järnvägar: Rekommendationer om arbetssätt / Assessment of Ecological Effects of Roads and Railways: Recommendations for Methodology.** Swedish National Roads Administration, Borlänge. (32 p.) (Available in Swedish and English)

This document presents recommendations which aim to support the assessment of ecological effects in the context of EIA in the planning of roads and railways. The recommendations focus on the consideration of functions and relations in the landscape as well as environmental adaptation, in order to promote biodiversity. Applications are described for three planning levels: initial study, road/rail feasibility study, and detailed design. The document is well illustrated with photographs, figures and maps.

Swedish National Road Administration (1995). **Environmental Impact Assessment for Roads: Manual.** National Roads Administration, Borlänge. (50 p., appendices)

This manual describes how the regulations issued by the Swedish National Road Administration on EIA (which came into effect in October 1993) are to be applied. It replaces "The Environmental Effects of Roads" (1987) and a review version (Dec 1993). The document is aimed at EIA practitioners, clients and review bodies. There are seven sections. The first explains the aim of EIA and its legislative aspects (this sub-section is excluded in the English version). The next is a general section which discusses EIA for Roads in the planning and decision-making process in Sweden, EIA work at different stages of road planning, and effectiveness and quality in EIA. Section 3 focuses on EIA for road projects, covering: roles, organization and procurement; activities in EIA work; basic information; analysis of preconditions and consequences; mitigation measures; and consultation, firm grounding (working with representatives of public interests affected) and reporting. In Section 4, requirements and methods for the Initial Study and delimitation or scoping of future EIA work are described. Important tasks for EIA in feasibility studies are dealt with in Section 5, whilst Section 6 is concerned with EIA in road design. Finally Section 7 deals with follow-up work (e.g. monitoring) after a road becomes operational. A bibliography is provided and there are two appendices covering: Swedish National Road Administration Regulations on EIA, and definitions. Four other appendices are listed in the contents (but not included in the English version): GD-policy 1992:1; legislation; international objectives; and public interest in EIA.

Contact: Road Management Division, Swedish National Roads Administration, S-781 87 Borlänge, Sweden.

Switzerland

EIA was formally introduced by the Swiss Environmental Protection Act, 1985. The Federal Ordinance on Environmental Impact Assessment, 1989, clarified the procedures involved. EIA is now integrated with other existing consent procedures. Screening lists are given in the 1989 Ordinance. This also provides for preliminary studies to be submitted after which a full EIS may be requested. The "competent authority" is that which has responsibility for approving the project. This authority is in co-operation with Environmental Protection Agencies at the federal/cantonal level which evaluate the EISs.

Government of Switzerland (1989). **Le Domaine du Bruit dans le Cadre d'une EIE (EIA and Noise Abatement). Information Concerning EIA No.2.** Office Fédéral de l'Environnement des Forêts et du Paysage (Federal Office of Environment, Forests and Landscape), Berne. (24 p.)

Government of Switzerland (1990). **Étude de l'Impact sur l'Environnement. Manual EIE (Environmental Impact Assessment Manual).** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne. (107 p., 5 annexes)

Government of Switzerland (1990). **Étude de l'Impact dur l'Environnement (EIE). Lors d'Améliorations Foncières (EIA of General Land Improvements). Information Concerning EIA No.3.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne. (25p., annexes)

Government of Switzerland (1990). **Le Domaine Protection des Eaux et Pêche dans le Cadre d'une EIE (EIA and Water Protection and Fisheries). Information Concerning EIA No.5.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne. (20 p.)

Government of Switzerland (1991). **Protection de la Nature et du Paysage et Protection du Patrimoine (N/P + P) lors de l'Élaboration de Rapports d'Impact (EIA and the Protection of Nature, Landscape and the Cultural Heritage). Information Concerning EIA No.4.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne. (42 p., annexes)

Government of Switzerland (1991). **SOL-EIE. Recommendations pour l'Élaboration du Domaine "Qualitié des Sols" dans une Repport d'EIE (EIA and Soil Conservation). Information Concerning EIA No.6.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne. (10 p., annex)

Government of Switzerland (1993). **EIE et Infrastructures Routières (EIA and Road Infrastructure). Information Concerning EIA No.7.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne. (vii, 176 p., annexes)

Government of Switzerland (in preparation). **EIA of Hydro Power Plants.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne.

Government of Switzerland (in preparation). **EIA and Contaminated Sites.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne.

Government of Switzerland (in preparation). **Improving Environmental Impact Assessment: Practical Steps and Recommendations.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne.

Swiss Government (1989). **Stations d'Épuration des Eaux Usées. Étude de l'Impact sur l'Environnement (Environmental Impact Assessment of Sewage Treatment Plants). Information Concerning EIA No.1.** Office Fédéral de l'Environnement des Forêts et du Paysage, Berne. (23 p.)

Contact: Office Federal de l'Environnement des Forets et du Paysage, Service de Documentation, Hallwylstrasse 4, 3003 Berne, Switzerland.

Ukraine

The Ukraine still uses the former Soviet EIA systems: State Ecological Expertise (SEE) and Assessment of Environmental Effects (OVOS). SEE is the responsibility of the Department of Environment Review (*ekspertiza*) within the Ministry of Environmental Protection and Nuclear Safety (MEPNS). It is a scientific-practical activity conducted by specially authorized government bodies - the Department of State Ecological Expertise in the MEPNS, and ecological expertise subdivisions of MEPNS local bodies in the autonomous Republic of

Crimea, and the cities of Kyiv and Sevastopol, as well as by the analagous subdivisions of State inspectorates for the protection of the Black and Azov seas. SEE is based on inter-sectoral environmental research, and analysis and assessment of preliminary design, planning and other documents, the implementation of which can have a negative impact on environmental conditions, and examines the compatibility of planned activities with norms and requirements of environmental legislation. SEE is regulated by a number of laws, particularly the Law on Environmental Protection,1991 (Articles 50, 51 and 59) which requires the application of SEE to all levels of economic activity; and the 1995 Law on Environmental Expertise (*Zakon pro ekologichnu expertizu*), 1995, which stipulates that implementation of certain listed types of project, program or activity without positive conclusions of an SEE is prohibited. Article 36 of the latter law sets out the general requirements for OVOS (EIA). Details are given in special normative-instructional documents: State Construction Norms DBNA. 2.2-1-95, issued jointly by the State Committee on Construction and Architecture and by the Ministry of Environment, and the Regulations on the form and content of OVOS materials (MEPNS 1992). The proponent is responsible for the execution of the OVOS process.

United Kingdom

The United Kingdom implemented EC Directive 85/337/EEC through amendments to existing legislation: in England and Wales, the Town and Country Planning (Assessment of Environmental Effects) Regulations 1988 (SI No 1199); in Scotland, the Environmental Assessment (Scotland) Regulations 1988 (SI No 1221); and in Northern Ireland, the Planning (Assessment of Environmental Effects) Regulations 1989). The EA system is overseen by the Department of the Environment, Transport and the Regions (DETR) (The Department of the Environment, DoE, before 1997), and by the Scottish Office, Welsh Office and DoE Northern Ireland. Environmental assessments of projects are carried out by local planning authorities or, for non-planning projects, by the relevant government departments. Approximately 70% of projects within the scope of Directive 85/337/EEC are dealt with under planning legislation. The rest are considered under consent procedures administered by central government departments. It is the responsibility of the proponent of the project to carry out the assessment process in accordance with procedures set out in DoE Circular 15/88 "Environmental Assessment" (DoE 1988) (and equivalents in Scotland and Northern Ireland), and additional guidance provided at the central and local authority level. The regulations provide screening lists to determine if a project requires EA, advise voluntary scoping, require public consultation and participation and environmental statement preparation. The next changes to EA in the UK will be regulations to implement EC Directive 97/11/EC in March 1999. These changes will include increasing the coverage of EIA to additional projects, mandatory consideration of alternatives and scoping, and implementing the provisions of the UN ECE Espoo Convention on transboundary EIA. At the strategic level, local planning authorities are required to carry out environmental appraisal of their own development plans. Government departments have guidance on assessment of the environmental implications of policies.

Much of the UK statutory guidance is contained within Policy Planning Guidelines (PPGs), many official Circulars, and the good practice guides etc, produced by the DETR, (including for Northern Ireland), and the Welsh and Scottish Offices. A selection of the most pertinent of these is given below. Also included are the current guidelines from other responsible Ministries, Departments and statutory agencies, including the Ministry of Agriculture, Fisheries and Food, Department of Trade and Industry, Department of Transport (now part of the DETR), the Environment Agency, Forestry Authority, English Nature and the Countryside Commission. Guidelines are also produced at the sub-national level by District and County Councils, and at the sectoral level by non-governmental organisations and institutes, but these are not included in this edition of the Directory. The DETR should be contacted regarding sub-national guidelines. Both the EIA Centre at Manchester University, and the Institute of Environmental Assessment can be contacted for information about non-statutory material (the IEA have themselves produced guidelines on Road Traffic, Landscape and Visual Assessment, and Baseline Ecological Assessment).

Contact: Institute of Environmental Assessment, Welton House, Limekiln Way, Lincoln LN2 4US, UK, and EIA Centre, Department of Planning and Landscape, The University of Manchester, Oxford Road, Manchester M13 9PL, UK

Department of the Environment (1988). **Circular 24/88 (Welsh Office 48/88). Environment Assessment of Projects in Simplified Planning Zones and Enterprise Zones.** Her Majesty's Stationary Office, London. (2 p.)

Department of the Environment (1988). **Circular 15/88: Environment Assessment.** Her Majesty's Stationary Office, London. (12 p.)

Department of the Environment (1991). **Environmental Assessment: A Guide to the Procedures.** Her Majesty's Stationery Office, London. (64 p.)

This booklet is intended primarily for developers and their advisers. It explains how requirements for the environmental assessment of major projects have been incorporated into consent procedures in the UK in response to EC Directive 85/337/EEC which came into effect in 1988. The effect of the Directive is to require environmental assessment to be carried out, before development consent is granted, for certain types of major project which are judged likely to have significant environmental effects.

Parts I and II explain the procedures which apply to projects which fall within the scope of the Directive and require planning permission in England and Wales. They give some general guidance on the nature of environmental assessment, and on the practical aspects of preparing an environmental statement. Part III provides a brief account of the procedures which apply to other projects within the scope of the Directive which are not subject to planning procedures. It also deals briefly with environmental assessment procedures in Scotland and Northern Ireland.

Department of the Environment (1991). **Policy Appraisal and the Environment. A Guide for Government Departments.** Her Majesty's Stationary Office, London. (v, 67 p.)

This guide is written for civil servants whose responsibility it is to advise ministers on policies which involve allocation of resources and which have significant effects on the environment. It is intended to increase awareness within government of the need to examine such impacts and offers a systematic approach to the treatment of environmental issues within policy analyses. The book starts with an overview of policy appraisal and the environment and then offers more detailed advice about ways of gathering information on environmental impacts and how to use it in the development and appraisal of policy. While specifically addressed to decisions about policies and programmes, much of the advice contained in the guide is also relevant to the appraisal of projects. Appendices describe a variety of appraisal techniques including matrices, cost-benefit analysis, weighting and scoring, and monetary valuation.

Department of the Environment (1992). **Planning Policy Guidance No.12: Development Plans and Regional Planning Guidance.** Her Majestys Stationery Office, London. (16 p.)

This document provides guidance on the preparation of regional development plans of various types.

Chapter 6 includes more detailed guidance on the environmental appraisal of plan proposals.

Department of the Environment (1992). **Circular 19/92 (Welsh Office 39/92): The Town and Country Planning General Regulations 1992/The Town and Country Planning (Development Plans and Consultation) Directions.** Her Majesty's Stationary Office, London.

Department of the Environment (1992). **Circular 15/92 (Welsh Office 32/92): Publicity for Planning Applications.** Her Majesty's Stationary Office, London. (10 p.)

Department of the Environment (1993). **Environmental Appraisal of Development Plans: A Good Practice Guide.** Her Majesty's Stationery Office, London. (57 p.)

This guide has been designed to help local planning authorities carry out environmental appraisals of plans. It offers guidance on a range of straightforward techniques and procedures which can easily be used at each stage of the plan-making process, without the need for specialist staff.

The guidelines draw heavily on the general experience of local planning authorities in England and Wales, on relevant literature, and on detailed studies of practice in twelve local authorities. The proposed appraisal process is intended to be adaptable to every level of plan. Key stages in the process are clearly described, with extensive use of diagrams, checklists, matrices and examples from scoping to presentation.

Department of the Environment (1994). **Environmental Appraisal in Government Departments.** Her Majesty's Stationery Office, London. (vii, 70 p.)

Department of the Environment (1994). **Evaluation of Environmental Information for Planning Projects: A Good Practice Guide.** Her Majestys Stationery Office, London. (56 p.) ISBN 0 11 753043 3

The main purposes of this guide are two fold. First, to provide guidance which assists planning authority officers and planning committees to consider whether information submitted in the Environmental Statement (ES) is adequate. Second, to help them evaluate that information and any representations made by statutory consultees and others.

There are chapters on Setting up an Administrative Framework, Initial Vetting of the ES and Planning Application, the Process of Consultation, Reviewing the Adequacy of the ES, Evaluating Individual Environmental Impacts and their Effects, Weighing up Information to Reach a Decision, and Presenting Findings and Recommendations.

Department of the Environment (1995). **Preparation of Environmental Statements for Planning Projects that Require Environmental Assessment: A Good Practice Guide.** Her Majesty's Stationary Office, London. ISBN 011 753 207 X

Department of the Environment (1995). **Circular 3/95 (Welsh Office 12/95): Permitted Development and Environmental Assessment.** Her Majesty's Stationary Office, London.

Department of the Environment (1995). **Circular 11/95: The Use of Conditions of Planning Permissions.** Her Majesty's Stationary Office, London.

Department of the Environment (1995). **Circular 13/95 (Welsh Office 39/95): The Town and Country Planning (Environmental Assessment and Unauthorised Development) Regulations 1995.** Her Majesty's Stationary Office, London.

Contact: Her Majesty's Stationary Office, PO Box 276, London SW8 5DT.

Department of the Environment (Northern Ireland) (1989). **Development Control Advice Note 10. Environmental Impact Assessment.** Department of the Environment (Northern Ireland), Belfast. (8 p.)

This Advice Note gives general guidance to intending developers, their professional advisers and agents. It provides advice on the criteria which are used to indicate the types of developments for which environmental assessment may be required. An annex lists indicative criteria and thresholds for a variety of sectors including agriculture, extractive industries, manufacturing industries, industrial estate developments, urban development, airports, infrastructure and waste disposal.

Department of the Environment (Northern Ireland) (undated). **Environmental Assessment. No. 5 in a series of Information Leaflets.** Department of the Environment (Northern Ireland), Belfast. (leaflet)

This leaflet answers some basic questions about the requirements for environmental assessment in respect of development which requires planning permission under the planning procedures in Northern Ireland. The questions addressed include "What is environmental assessment?"; "What is an environmental statement?" and "What types of development are subject to environmental assessment?".

Department of the Environment (Northern Ireland) (undated). **Your Permitted Development Rights and Environmental Assessment. No. 1 in a series of Information Leaflets.** Department of the Environment (Northern Ireland), Belfast. (leaflet)

This leaflet explains how permitted development rights in Northern Ireland may be affected by environmental assessment. It answers some basic questions about which types of development are subject to environmental assessment.

Contact: Planning Service Headquarters, Department of the Environment, Clarence Court, 10-18 Adelaide Street, Belfast BT2 8GB, Northern Ireland.

Department of the Environment (Welsh Office) (1992). **Planning Policy Guidance No.5: Simplified Planning Zones.** Her Majestys Stationery Office, London. (16 p.)

This document outlines the general nature and role of simplified planning zones (SPZs). Annex A provides information on environmental assessment with respect to SPZs. Appendices 1 and 2 provide examples of appropriate provisions for inclusion where an SPZ scheme would otherwise permit development requiring and environmental assessment.

Department of Trade and Industry (1992). **Guidelines for the Environmental Assessment of Cross-Country Pipelines.** Her Majesty's Stationery Office, London, UK. (68 p.)

Contact: Her Majesty's Stationary Office, PO Box 276, London SW8 5DT, UK.

Department of Trade and Industry (1998). **Guidance Notes on the Offshore Petroleum Production and Pipe-Lines (Assessment of Environmental Effects) Regulations 1998.** Oil and Gas Directorate, Department of Trade and Industry, London. (33 p.)

These guidance notes are intended to assist licensees, environmental authorities and the public in understanding the environmental assessment process introduced by the EU Regulations on Offshore Petroleum Production and Pipe-lines, the

requirements of the environmental statement and to provide detailed explanation of the Regulations. A summary of the environmental statement process is included together with information on the statement itself and its requirements in the context of petroleum production and pipe-lines, the consultation process and enforcement. Annexes provide flowcharts to illustrate the process and sample forms.

Contact: Department of Trade and Industry, Oil and Gas Directorate, London, UK.

Department of Transport (1992). **Assessing the Environmental Impact of Road Schemes: The Standing Advisory Committee on Trunk Road Assessment.** Her Majesty's Stationery Office, London.

Department of Transport (1992). **Design Manual for Roads and Bridges Volume II: Environmental Assessment.** Her Majestys Stationery Office, London.

Department of Transport (1992). **Transport and Works Act 1992: a Guide to Procedures for obtaining orders relating to transport systems, inland waterways and works interfering with rights of navigation.** Her Majesty's Stationary Office, London.

Contact: HMSO Publications Centre, PO Box 276, London SW8 5DT, UK.

English Nature (1995). **Environmental Assessment: English Nature's role and a guide to best practice.** English Nature, Peterborough. (6 p.)

The aim of this brief publication is to provide guidance on English Nature's involvement throughout the environmental assessment process and to highlight standards and best practice at each stage of the EIA process.

Contact: English Nature, Northminster House, Peterborough PE1 1UA, UK.

Environment Agency (1995). **Scoping Guidance Notes - Series.** Scoping Guidance Notes. Her Majesty's Stationery Office, London. (Series of 61 documents)

Subjects covered in this series include: generic impacts of construction work, reservoirs, marinas, barrages, fish farms, pipelines, sea outfalls, points of large abstraction, points of large discharge, sewage treatment works – extension and installation, large residential developments, large industrial/ manufacturing developments and operations, golf courses, power stations, wind farms, hydroelectric power, oil refineries/oil exploration, forestry, redevelopment of contaminated land, waste management, mineral extraction – mining and quarrying, restoration of mineral extraction sites, roads and road widening, railways, airports, cemeteries, navigation issues, navigation works, channel works, flood diversion channels, fluvial dredging, bank protections, flood storage area, flood embankment, culverts and tunnels, barriers/bridges/ weirs, off line ponds and reservoirs, coastal protection, beach nourishment, suction dredging, restoration and enhancement of river channels, conservation enhancements, water-based recreation, off road recreation activities, vegetation management, deliberate introduction of species, groundwater abstraction, interbasin transfer of flow, agriculture, kennels/ catteries/stables, intensive livestock/poultry units, tipping/dumping, camping and caravan sites, septic tanks/cesspits etc., vehicle parks/plant hire, swimming pools, chemical storage units, petrol stations, peat extraction, bait digging, pest control species.

Environment Agency (1996). **Environmental Assessment: Scoping Handbook for Projects.** Her Majestys Stationery Office, London. (25 p.) ISBN 0 11 31011 2

This handbook has been produced for Environment Agency staff; developers and other consultants; local planning authorities and others who are involved in promoting and appraising projects and activities which are likely to affect the water environment. The publication aims to encourage consultation with the Environment Agency, now widely termed the 'scoping' stage. The series of Scoping Guidance Notes complement the handbook.

Environment Agency (1997). **Best Practice Environmental Option Assessments for Integrated Pollution Control. Technical Guidance Note (Environment) No.E1. Volume I: Principles and Methodology, Volume II: Technical Data (for consultation)** Technical Guidance Note (Environment). Her Majestys Stationery Office, London. (Volume I: 35 p.; Volume II: 123 p.)

Contact: Her Majesty's Stationary Office, PO Box 276, London SW8 5DT.

Environmental Resources Ltd (1994). **Nature Conservation in Environmental Assessment.** English Nature, Peterborough. (50 p.)

This handbook is intended to provide guidance on the treatment of nature conservation issues to developers, local authorities and others involved in the

environmental assessment process. It introduces methods and techniques that constitute good practice in nature conservation assessment and illustrates these with examples taken from English practice. The handbook is in three parts. Part A looks at environmental assessment procedures and the role of English Nature. Part B discusses how nature conservation concerns should be dealt with during the various stages of the environmental assessment process. Part C consists of appendices covering projects subject to environmental assessment and a bibliography.

Contact: English Nature, Northminster House, Peterborough PE1 1UA, UK.

The Forestry Authority (1993). **Environmental Assessment of New Woodlands.** The Forestry Authority, Edinburgh. (9 p.)

This document provides an overview of the environmental assessment procedure under The Environmental Assessment (Afforestation) Regulations 1988. It is aimed at those applying to The Forestry Authority for grants for planting new woodlands. Brief information is given on preparing an environmental statement and the consultation process. An appendix gives details of the type of information that must be provided in an environmental statement.

Contact: The Forestry Authority, 231 Cortorphine Road, Edinburgh EH12 7AT, UK.

Ministry of Agriculture, Fisheries and Food (1996). **Code of Practice on Environmental Procedures for Flood Defence Operating Authorities.** Ministry of Agriculture, Fisheries and Food, The Welsh Office, London. (37 p.)

This document provides a practical guide to help the Environment Agency, Internal Drainage Boards and local authorities follow good environmental practice when considering and carrying out flood defence works, including sea defence works. It concentrates on actions directly connected with the flood and sea defence functions of the operating authorities. The Code sets out a strategic framework and then follows this up with a procedural framework for individual schemes. The final chapter looks at practical considerations relating to maintenance operations including dredging, habitat management and vegetation control. Annexes provide details of the legal framework and statutory powers, environmental designations and other relevant legislation and agri-environmental land management schemes.

Contact: HMSO Publications Centre, PO Box 276, London SW8 5DT, UK.

Penny Anderson Associates (1994). **Roads and Nature Conservation - Guidance on Impacts, Mitigation and Enhancement.** English Nature, Peterborough. (81 p.)

This document provides guidance on handling nature conservation resources in the context of planning and design of new road schemes. It first examines the nature of the site resources and the need to adopt principles of sustainability in dealing with highly valued sites. It then identifies how a road might impact on nature conservation interests before setting out the most appropriate mitigating measures for habitat loss and fragmentation, hydrological effects, geological issues, air pollution and construction effects. The final section describes scheme enhancement through habitat creation. A bibliography is provided.

Contact: English Nature, Northminster House, Peterborough PE1 1UA, UK.

Scottish Development Department (1988). **Circular No 26/1988. Environmental Assessment of Projects in Simplified Planning Zones and Enterprise Zones.** Scottish Development Department, Edinburgh. (3 p.)

This circular provides advice on the action which planning authorities need to take to ensure that developments within simplified planning zones and enterprise zones created since 15 July 1988 are subject to environmental assessment where necessary. It expands on previous advice given in Circular 13/88.

Scottish Development Department (1988). **Circular No 13/1988. Environmental Assessment: Implementation of EC Directive - The Environmental Assessment (Scotland) Regulations 1988.** Scottish Development Department, Edinburgh. (11 p., annexes)

The Environmental Assessment (Scotland) Regulations implement the requirements of the European Community Directive No 85/337 on the assessment of the effects of certain private and public projects on the environment. This circular gives a general introduction to the Regulations. Annexes A and B explain the provisions of the Regulations in more detail while Annex C gives guidance on the scale and type of development likely to require environmental assessment. The Regulations apply to projects which require planning permission, electricity applications, specific developments in New Town Development Corporation areas, drainage works, and trunkroads.

Scottish Development Department (1994). **Circular 26/1994. The Environmental Assessment (Scotland) Amendment Regulations 1994. Planning Series.** Scottish Development Department, Edinburgh. (6 p.)

This Circular explains the provisions of the Environmental Assessment (Scotland) Amendment Regulations 1994, which amend the 1988 Regulations. The amendment Regulations add additional categories of project requiring environmental assessment and make some minor technical amendments. The additional categories are wind generators, motorway service areas and coast protections works.

Contact: The Scottish Office, Development Department, Victoria Quay, Edinburgh EH6 6QQ, UK.

Stiles, R. & Wood, C. & Groome, D. (1991). **Environmental Assessment - The Treatment of Landscape and Countryside Recreation Issues.** Countryside Commission, Cheltenham. (52 p.)

This guide provides advice on the way in which landscape and countryside recreation issues should be treated within the environmental assessment process. It is also intended to be of assistance to local authorities and other bodies that are involved in reviewing environmental statements. The opening chapter outlines the role of the Countryside Commission in the environmental assessment process. The guide then discusses the various stages involved in carrying out an environmental assessment from screening to monitoring, highlighting how landscape and countryside recreation issues should be incorporated at each stage. Case examples are used throughout.

Contact: The Countryside Commission, John Dower House, Crescent Place, Cheltenham, Gloucestershire GL50 3RA, UK.

Therivel, R. & Thompson, S. (1996). **Strategic Environmental Assessment and Nature Conservation.** English Nature, Peterborough. (76p.)

This report reviews strategic environmental assessment (SEA) practice and evaluates how best it can be used to further nature conservation interests. The report begins with an overview of SEA and reviews the need for SEA in relation to nature conservation. It then discusses existing and proposed systems of SEA and how these treat the subject of nature conservation with a focus on British and European Commission guidance. The document then discusses the various stages in the SEA process, reviewing at each stage how nature conservation issues can be addressed and giving a range of examples of how this has been done in practice. The report concludes with advice from practitioners on how to approach the process of carrying out an SEA.

Contact: English Nature, Northminster House, Peterborough PE1 1UA, UK.

Latin America

Regional

Asistencia Recíproca Petrolera Empresarial Latinoamericana (ARPEL) (Latin American Oil Business Joint Assistance) (undated). **Lineamientos Ambientales (Environmental Guidelines).** ARPEL, Montevideo & ALCONSULT, Alberta.

This document was developed by experts of the Canadian oil industry and reviewed by the Environment, Health and Industrial Safety Committee of ARPEL. It covers a wide range of legislation, protocols, internal and external guides, regulations and standards for environmental protection in the oil industry, and includes consideration of different project phases from design to implementation as well as the location of sites.

Asistencia Recíproca Petrolera Empresarial Latinoamericana (ARPEL) (Latin American Oil Business Joint Assistance) (undated). **Guía para la Conducción de Auditorías Ambientales para Operaciones Petroleras en Tierra (Guide to Conducting Environmental Audits of Onshore Petroleum Operations).** Asistencia Recíproca Petrolera Empresarial Latinoamericana, Montevideo & ALTCONSULT, Alberta. (113 p.)

These guidelines aim to help auditors and company personnel to evaluate the effectiveness of environmental protection measures in onshore oil production operations. The audit procedure sets out a series of questions for an operation review. Each question is followed by a "helping guide" to orient the auditors. The document includes guidelines for auditing, environmental planning and management; seismic surveying; drilling, production processes; refining and transport.

Asistencia Recíproca Petrolera Empresarial Latinoamericana (ARPEL) (Latin American Oil Business Joint Assistance) (1992). **Normas para la Administración Ambiental del Diseño, Construcción, Operación y Mantenimiento de Oleoductos (Guidelines for the Environmental Management of the Design, Construction, Operation and Mantainance of Oil Pipelines).** ARPEL, Montevideo & ALCONSULT, Alberta.

This document provides general guidance to members of ARPEL on identifying the environmental effects of oil pipeline projects arising during their design, construction, operation and maintenance phases; and on analyzing measures to prevent or mitigate such impacts, including during the preconstruction phases. A glossary and various appendices are included. There are checklists for environmental planning, considerations for risk assessment, mitigation, and general measures for environmental protection.

Contact: Secretario General de ARPEL, Javier de Viana 2345, (11200), Montevideo, Uruguay, & ALCONSULT, P.O. BOX 6632, Station D, Calgary, Alberta, Canadá.

Inter-American Development Bank (IADB) (1990). **Procedures for Classifying and Evaluating Environmental Impacts of Bank Operations.** Inter-American Development Bank, Washington, D.C. (5 p.)

These procedures formalise the established practice of the Environmental Management Committee of early identification of those Bank operations that may have significant environmental impacts. Bank operations are classified according to their environmental impacts as follows: Category I - operations which are designed specifically to improve environmental quality and, in general, do not require an EIA; Category II - operations that have no direct or indirect environmental impact and, therefore, do not require an EIA; Category III - operations which may have a moderate impact on the environment and those that have recognised and well-defined solutions, usually requiring a preliminary EIA (in some cases with a full EIA for specific components); and Category IV - operations which may have significant negative impacts and require a full EIA.

Contact: Inter-American Development Bank (IADB), 1300 New York Avenue NW, Washington DC 20577, USA.

Organization of American States (OAS) (1990). **Disasters, Planning, and Development: Managing Natural Hazards to Reduce Loss.** Organization of American States, Washington D.C. (xv, 80 p.)

Organization of American States (OAS) (1991). **Primer on Natural Hazard Management in Integrated Regional Development Planning.** Organization of American States, Washington D.C. (xvii, 416 p.)

Organization of American States (OAS) (1991). **Desastres, Planificacion y Desarrollo: Manejo de Amenazas Naturales para Reducir los Danos (Disasters, Planning, and Development: Managing Natural Hazards to Reduce Loss)** Organization of American States, Washington D.C. (xviii, 80 p.)

Organization of American States (OAS) (1993). **Manual Sobre el Manejo de Peligros Naturales en la Planificacion para el Desarrollo Regional Integrado (Primer on Natural Hazard Management in Integrated Regional Development Planning)** Organization of American States, Washington D.C.

Organization of American States (OAS) (undated). **Plan Hemisferico de la Guia de Manejo Ambiental de Corredores de Transporte Vial (Hemispheric Plan for the Guide to Environmental Management of Road Transport Corridors)** 180 p.. Organization of American States, Washington D.C. (xv, 80 p.)

Contact: Organization of American States, Department of Regional Development and Environment, 17th Street and Constitution

Weitzenfeld, H. Ing. (1996). **Manual Básico sobre Evaluación del Impacto en el Ambiente y la Salud de Acciones Proyectadas (Basic Handbook for Environmental and Health Impact Assessment for Proposed Development)** (Second edition). Centro Panamericano de Ecología Humana y Salud (CEPIS), Organización Panamericana de la Salud (OPS), & World Health Organization (WHO), México. (350 p.)

This book extends and updates the first edition published in 1990. It reflects the author's experience gained during the development of short training courses on EIA in different countries in the region. The different technical aspects of Environmental Health Impact Assessment (EHIA). are presented. Part One covers: EHIA as a framework for health and environmental development, environmental management, the project cycle, and evaluation. Part Two analyses the preparation of an EHIA study (general aspects of the study, project description, impact identification, initial environmental description, prediction of impacts, importance or significance of impacts, mitigation, selection of alternatives, environmental monitoring, environmental auditing, and the statement). The final part reviews analytical tools, and provides information on relevant organisations and international agreements.

Contact: ECO/OPS, Apartado Postal 37-473, 006696 Mexico, D.F. Mexico.

Argentina

Administración de Parques Nacionales (1994). **Reglamento para la Evaluación de Impacto Ambiental en Areas de la Administración Nacional de Parques Nacionales (Regulation for Environmental Impact Assessment in National Parks Administration Areas).** Administración de Parques Nacionales (APN), Secretaría Recursos Naturales y Desarrollo Sustentable de la Nación, Buenos Aires. (10 p.)

This regulation describes the requirements for preparing, and sets out the contents of Environmental Impact Studies (EIS's). for developments within national parks. An annex lists projects and initiatives requiring EIA. The National Parks Administration (APN). is responsible for the evaluation and control of these procedures.

Contact: Administración de Parques Nacionales (APN), Avda. Santa Fe 690, Buenos Aires, Argentina.

Dawidowski, L., Gomez, D. & Reich, S. (1997). **Guía Metodológica para la Evaluación del Impacto Ambiental Atmosférico (Methodological Guidelines for Evaluating the Environmental Impact of Gaseous Emissions on Air Quality).** Honorable Cámara de Diputados de la Nación, & Comisión Nacional de Energía Atómica, Buenos Aires. (50 p.)

This publication provides guidance on evaluating the impact of gaseous emissions on air quality. It covers data management, the selection of appropriate simulation models and the presentation of results and documentation. Risk assessment is not considered. The different pollutants to be taken into account and the limits established by the Secretariat of Energy for therma plants are analysed. Consideration is also given to the different stages (survey and detailed study phases). of an EIA study, particularly those for power stations.

Contact: Honorable Cámara de Diputados de la Nación, Riobamba 25, piso 11, Of. 1108. (1025), Buenos Aires, Argentina.

Ministerio de Economía, Obras y Servicios Públicos (1987). **Manual de Gestión Ambiental para Obras Hidráulicas con Aprovechamiento Energético (Environmental Management**

Handbook for Hydropower Development). Secretaría de Energía de la Nación, Buenos Aires. (268 p.)

This handbook summarizes the experience gained by different environmental and sectoral research teams in Argentina and the Region. It sets out the environmental procedures for the planning, design and operation of hydropower projects. A glossary is included, and an annex which describes the basic requirements for public opinion consultation, lists environmental indicators, and discusses general considerations concerning health and hydraulic works. The National Secretariat for Energy is responsible for evaluating and controlling this procedure.

Ministerio de Economía, Obras y Servicios Públicos (1990). **Manual de Gestión Ambiental para Centrales Eléctricas Convencionales para Generación de Energía Eléctrica (Environmental Management Handbook for Power Station Development).** Secretaría de Energía de la Nación, Buenos Aires. (59 p.)

This handbook sets out the environmental procedures for the planning, design and operation of fossil fuel power stations. The National Secretariat for Energy is responsible for evaluating and controlling this procedure.

Ministerio de Economía, Obras y Servicios Públicos (1992). **Manual de Gestión Ambiental del Sistema de Transporte Eléctrico de Extra Alta Tensión (Environmental Management Handbook for High Voltage Transmission Lines).** Secretaría de Energía de la Nación, Buenos Aires. (23 p.)

This handbook sets out the environmental procedures for the planning, design and operation of high voltage transmission lines. It includes a glossary, and an annex that reviews the effects of electro-magnetic fields, interference radii, audible noise and toxic gas production. The National Secretariat for Energy is responsible for evaluating and controlling this procedure.

Ministerio de Economía, Obras y Servicios Públicos (1993). **Consideraciones Ambientales para la Actividad Petrolífera y Gasífera. Manual de Procedimientos (Environmental Considerations for Oil and Gas Development. Handbook of Procedures).** Secretaría de Energía de la Nación, Buenos Aires.

This document sets out the obligations to undertake EIA studies and remedial/mitigatory actions related to all phases of oil and gas development projects, including exploration, construction, operation, transport and decommissioning. The National Secretariat for Energy is responsible for evaluating and controlling this procedure.

Contact: Secretaria de Energia, Hipilito Yrigoyen 250, 1310 Buenos Aires, Argentina

Ministerio de Economía, Obras y Servicios Públicos (1993). **Manual de Evaluación y Gestión Ambiental de Obras Viales (Environmental Assessment and Management Handbook for Public Roads).** Secretaría de Energía de la Nación, Buenos Aires. (180 p.)

This handbook contains three sections. Section I (Environmental Planning and Assessment of Road Works) is aimed at contractors and the general public, and describes the basic concepts and methodologies of EIA. Section II (Internal Management) is aimed at technicians and officials of the National Directorate of Public Roads, and discusses the role of the Environmental Unit. The section sets out the methodology for rapid environmental assessment and classification of public road projects, and describes the specific procedures to be followed. Section III (External Management) is also aimed at contractors and the public, and considers possible measures for environmental impact mitigation and fiscal and control mechanisms. The handbook includes lists of the possible environmental impacts, and the impacts of the environment on infrastructure. The National Directorate for Public Roads is responsible for evaluating and controlling this procedure.

Contact: Validad Nacional, Julio A Roca 731, Buenos Aires, Argentina.

Ministerio de Economía, Obras y Servicios Públicos (1996). **Declaración de Impacto Ambiental de Actividades Portuarias (Environmental Impact Declaration for Harbour Facilities).** Administración General de Puertos, Buenos Aires.

As a complementary rule for the National Law No. 24.093/93 (Port and Harbour Activities), this declaration sets out the basic contents required for an Environmental Impact Declaration (DIA) for all projects concerned with the construction of new port and harbour facilities, or the expansion of existing facilities. The Port General Administration (AGP) is responsible for the evaluation and control of these procedures.

Contact: Administración General de Puertos, Ing. Huergo 431, 1107 Capital Federal, Buenos Aires, Argentina.

Ministerio de Economía, Obras y Servicios Públicos (1996). **Código de Minería. Título Complementario: De la Protección Ambiental para la Actividad Minera (Mining Code. Environmental Protection Associated with**

Mining Activities). Secretaria de Minería de la Nación, Buenos Aires.

This is complementary to the Mining Code (National Law No. 24.585). Section Two sets out the obligation to undertake an environmental impact study before any of the following activities: survey, exploration, exploitation, development, preparation, extraction and storage of mineral substances, including abandoning and closing mines. The responsible authority is determined by each provincial government, and is responsible for evaluating the Environmental Impact Report and approving it through an Environmental Impact Declaration for each project phase. If required by the proponent, an Environmental Quality Certificate may be issued. Section Three provides for the creation of both a National Register of Consultants and a register of organisations, companies or individuals who fail to respect the guidelines. The chapter also sets out the minimum contents required for Environmental Impact Reports for survey, exploration and exploitation phases.

Contact: Secretaría de Industria, Comercio Minería de la Nación, Av. Julio A. Roca 651, 1322 Capital Federal, Buenos Aires, Argentina

Secretaría de Recursos Naturales y Desarrollo Sostenible (SRNyDS), & Banco de Inversión y Comercio Exterior (BICE) (1995). **Guía General para Proyectos de Inversión Pública (General Guide for Public Investment Projects).** Secretaría de Recursos Naturales y Desarrollo Sostenible, Banco de Inversión y Comercio Exterior, Buenos Aires. (15 p.)

This document presents general guidelines for public investment projects. It sets out the scope of Environmental Impact Studies (EIAs), and suggest two kind of formats for Environmental Impact Declarations giving the basic contents for each. These guidelines will be applied for the management of credit given by different national and subnational banks through the Banco Interamericano Comercio Exterior (BICE).

Contact: Banco Interamericano Comercio Exterior, 25 de Mayo 526, Buenos Aires, Argentina.

Belize

EIA was introduced formally in Belize under the Environmental Protection Act 1992, a framework law implemented by regulations approved in 1995 which specified the projects that should undergo EIA and which described the procedures in the EIA process (S.I. No. 107/1995). Compliance with the regulations is mandatory. The regulations established the National Environmental Appraisal Committee (NEAC) - a multi-disciplinary team responsible for the review of the EIA documents and for decision-making. EIAs are commissioned by the Department of the Environment or carried out in co-operation with an other competent authority. Following scoping, an EIA should be completed by a "competent team". Detailed guidelines have been prepared by the Department of the Environment, which specify that EIA applies to government-sponsored as well as private sector projects and activities because this is not made explicit in the Act.

Government of Belize (1994). **Procedures for the Preparation of an Environmental Impact Assessment.** Department of the Environment, Ministry of Tourism and the Environment, Belmopan. (iii, 56 p.)

A general introduction sets out the objectives of EIA in Belize and the requirements to be met by a project developer. The guidelines are then presented in eight sections. The first deals with general matters such as the role of the public, appeals, and a timetable for completion of the EIA process. The next section covers screening. Section 3 lists types of projects under three categories, as prescribed under the 1992 Environment Protection Act: schedule I (full EIA required), schedule II (full EIA or some environmental analysis, depending on location, size, etc.), and schedule III (no EIA required). Further sections provide guidance on scoping, the content of an EIA report, the decision-making process, the development planning process, and monitoring. There are three appendices which provide a basic checklist to describe an environmental setting, a screening form and checklists for preliminary project assessment, and a list of permitting agencies.

Contact: Department of the Environment, Ministry of Tourism and the Environment, 19 Mayflower Street, Belmopan, Belize.

McCalla, W. (1995). **Guide for Developers.** Department of the Environment, Ministry of Tourism and the Environment, Belmopan. (vii, 211 p.)

This document is a guide to developers and applicants for planning permission. It provides information to development professionals and technicians on the laws, regulations and requirements for all types of development, and aims to facilitate the physical planning, design and development of projects in Belize. Details of the legal framework are set out in Chapters 2 and 3. Chapters 4 - 15 contain guidelines (including rules and regulations given in government instruments) covering: planning and building, subdivision, EIA, effluent, mangrove clearance, archaeological sites, fish processing establishments, factories, fiscal incentives, national land leases, tourist developments, and mining. There are 30 appendices providing a wide range of supporting information.

Contact: Department of the Environment, Ministry of Tourism and the Environment, 19 Mayflower Street, Belmopan, Belize.

Bolivia

Responsibility for managing the EIA system and for national standards lies with the Director General of the Environment, Policies and Regulations (DGMAPN) within the Ministry of Sustainable Development and the Environment. EIAs are undertaken by DGMAPN in coordination with prefecture departments (for regions), town councils and sectors. EIA was formally introduced with the Law of the Environment No.1333 (27/04/1992), particularly through Articles 24 and 28, but became more widely applied with the enactment of the Regulation for Environmental Protection and Control (08/12/1995). General Regulations for Environmental Management (1996) provide institutional guidelines for the management of environmental quality. Development promoters must submit an Environmental Form which is used to assess in which category a project falls: category 1 (comprehensive EIA required), 2 (specific EIA analysis needed), 3 (requires only a statement of mitigation measures and an environmental monitoring plan) and 4 (no EIA required). Category 1 or 2 activities (if approved) are granted an Impact Assessment Certificate by the Competent Authority. Category 3 or 4 activities (if approved) are granted a Certificate of Dispensation. These constitute an Environmental Licence - a legal administrative document guaranteeing compliance with Law 1333 and the corresponding regulations.

Valle, H.C., Vaquez, E.L. & Ballester, W.V. (1993). **Manual de Evaluación de Impacto Ambiental para Proyectos de Desarollo Urbano - Seguridad Industrial-Control Ambiental: Salud e Higiene Ocupacional (Environmental Impact Assessment Manual for Urban Development - Industrial Safety-Environmental Control: Occupational Health and Hygiene).** Fondo Nacional de Desarrollo Regional, La Paz. (2 volumes)

This manual was developed to promote the inclusion of an "integral protection component" in projects funded by the National Fund for Regional Development (Fondo Nacional de Desarollo Regional - FNDR). It covers health and hygiene, industrial safety, and environmental control and protection issues.

Volume One covers general issues and EIA methodologies. The introduction describes FNDR environmental policies and strategies. A variety of methodologies are examined including Leopold, Delphi, Characteristic Indicators, Weight & Scale Techniques. An "Environmental Questionnaire for Urban Development Projects" is provided which is intended to allow comparisons between project activities and FNDR policies.

Volume Two includes specific guidelines for the most common types of project funded by FNDR. Each set of guidelines has two sections: a) Environmental Analysis: this includes a list of activities, an environmental analysis matrix, a descriptive list of identified impacts and typical mitigation measures; and b) Environmental Assessment: this indicates the studies and activities that the project proponents must carry out for predicting and evaluating impacts identified through environmental analysis.

Guidance is provided for the following sectors: transportation infrastructure; basic sanitation; energy projects (including hydropower, thermoelectric stations, substations and networks); urban planning; urban cleaning; food industries.

Contact: SEMTA, c Alfredo Arrunz 2675, Telf 360042, Casilla 15041, La Paz, Bolivia.

Gobierno de Bolivia (1993). **Environmental Impact Guidelines** (series). Secretaria General del Medio Ambiente, La Paz.

This series of "Environmental Impact Guidelines" includes guidelines for EIA of projects in various industrial sectors. They are complemented by the "General Directive on Environmental Assessment" described in Valle et al (1993).

Each of the sector guidelines contains the following information: a list of project types within that sector; a description of the different activities associated with different phases of the project - for example construction, operation, etc.; a generic "environmental analysis matrix" for each sector; a description of the potential environmental impacts and mitigation measures; and a list of essential information that should be included in environmental assessment reports.

Sectors included are: Food Industry Projects, Transport Sector, Tanning Industry Projects, the Metal Industry, Thermoelectric Projects (Substations and Networks), Mining Projects, and Hydroelectric Dams.

Contact: Secretaria General del Medio Ambiente, Edificio Batallon, Colorados 162, Piso 3, La Paz, Bolivia.

Ministerio de Desarrollo Sostenible y Medio Ambiente (1996). **Implementación del Sistema Nacional de Evaluación de Impacto Ambiental y Control de Calidad Ambiental (Implementation of a National Environmental Impact Assessment and Environmental Quality Control Systems).** Ministerio de Desarrollo Sostenible y Medio Ambiente, Secretaria Nacional de Recursos Naturales y Medio Ambiente, Subsecretaria de Medio Ambiente, La Paz. (64 p.)

This document was prepared under the framework of the "Implementation Plan for the National System of Environmental Protection and Control" managed by the Bolivian National Secretary for the Environment as a support for human resources training on environmental management issues. It includes five chapters which deal with: the sustainable development model in Bolivia (Chapter I); the legal-institutional framework (Chapter II); the country environmental problematique (Chapter III); the legal-technical tools established by the National Environmental Law; and policy tools and administrative procedures for environmental prevention and control (Chapter IV).

Contact: SEDI, Casilla de Correos 3136, La Paz, Bolivia.

Brazil

During the 1970s, EIA was practised at the individual State level and for projects which were dependent on external funding. An EIA system was introduced formally by the Brazilian National Environmental Policy of 1981. The National Council for Environment (*Comision Nacional del Medio Ambiente-* **CONAMA) issued Directives in 1986 to apply EIA to the environmental licensing system. At the federal level, these directives covered screening lists, the contents of the environmental impact study and report, and public participation. The National Environmental Policy also instructs individual States to develop their own detailed EIA regulations and guidelines to reflect their particular environment and institutional structure. The Brazilian Institute for the Environment and Renewable Resources (IBAMA) supports the State agencies if their capacity to develop their own systems is limited.**

Government of Brazil (1993). **Manual de Procedimentos de Avalicao de Impacto Ambiental (Manual of Procedures for Environmental Impact Assessment).** Special Secretariat for the Environment (SEMA), State Foundation for Engineering and the Environment (FEEMA), Brasilia. (350 p.)

Contact: Special Secretariat for the Environment (SEMA), Superintendencia do Recursos Hidricos e Meio Ambiente, Rua Engenheiros Reboucas 1206, 80215-100 Curitiba - PR - Brazil.

Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renovaveis (IBAMA), & Secretaria Nactional de Irrigacao (SENIR) (1992). **Directrices Ambientales para el Sector de Irrigación (National Environmental Guidance for the Irrigation Sector).** Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renovaveis (IBAMA), Secretaria Nactional de Irrigacao (SENIR), Programa das Nacoes Unidas para o Desenvolvimento (PNUD), Organizacao Meterological Mundial (OMM), Brasilia. (164 p.)

This document is intended mainly for technicians of the different irrigation and environmental agencies at national and sub-national levels. Its main aim is to provide guidance for environmental conservation activities in the irrigation sector, in particular in connection with the identification, feasibility study, implementation and operation stages of irrigation projects. The document also discusses the scope of environmental studies required for proposed activities during each project phase, the extent of the initiative, and the scale of potential impacts involved.

There are three main chapters. The first concerns protection and mitigatory measures anticipated for the planning, implementation and operation phases, and the establishment of institutional measures to accomplish each phase. The second chapter covers the environmental studies required during the global/ regional planning phase. The last chapter presents the terms of reference for environmental studies during the feasibility, basic project, executive project and operation phases.

Contact: IBAMA/DIRPED/DEDIC/DITEC, Divisão de Divulgacão Técnico-Científica SAIN, Av. L 4 Norte, s.n.,Edificio -Sede- Ibama - CEP: 70800-200 - Brasilia, D.F., Brazil.

Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA). (Brazilian Institute for Environment and Natural Resources). (1995). **Avaliacão de Impacto Ambiental: Agentes Sociais, Procedimentos e Ferramentas (Environmental Impact Assessment: Social Agents, Procedures and Tools).** Ministerio do Meio Ambiente, dos Recursos Hidricos e da Amazônia Legal, Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA), Divisão de Desenvolvimento de Tecnologias Ambientais, Brasilia. (134 p.)

This document is the first attempt by IBAMA (Brazilian Institute for Environment and Natural Resources) to provide basic guidance to the different social actors involved in conducting EIA participatory processes, including responsible environmental agencies and affected groups. The document is organized in two main parts. The first presents an analysis of the EIA process in the context of national environmental management (history, instruments, theoretical background and demands). The second gives a basic orientation to the EIA process on a phase-by-phase basis, analyzing the present situation concerning the involvement of social actors, procedures, tools and alternatives for each of these elements.

Contact: IBAMA/DIRPED/DEPES/DITAM, Divisdão de Desenvolvimento de Tecnologia Ambiental, SAIN, Av. L/4 Norte, s.n. Bloco B, Edificio-Sede-IBAMA CEP, 70800-200-Brasilia-DF, Brazil.

Chile

(No.19.300), 1994, which has been fully implemented since 1997. This law contains a full chapter on the Environmental Impact Assessment System ("*SEIA*"). The National Environment Commission (*Comision Nacional del Medio Ambiente*****- CONAMA) was established in 1990, under the jurisdiction of the Ministry of the Secretary General to the Presidency, as the co-ordinating body for EIA across all sectors and State ministries. It also exists as decentralised Regional Environment Commissions (COREMAs). The EIA process established in the 1994 Law stipulates a series of projects and activities subject to EIA and all environmental permits for these activities are granted through this system. If the proposal is deemed (by the proponent) to have no negative impacts upon the listed components, then an "Environmental Impact Declaration" must be submitted by the proponent. If negative impacts after mitigation are predicted, then an "Environmental Impact Study" (EIS) is required. The 1994 Law does not state specific terms of reference for the EIS and, in practice, these are determined by the proponent and the authority. The regulations which implemented the Framework Law in 1997 (which also made compliance mandatory) provide for community participation and post-project monitoring and control. Guidelines on the implementation are published by CONAMA.**

Comisión Nacional del Medio Ambiente (1993). **Instructivo Presidencial: Pauta para la Evaluación del Impacto Ambiental de Proyectos de Inversión (Presidential Instruction: Guidelines for Environmental Assessment of Investment Projects).** Comisión Nacional del Medio Ambiente, Santiago.

Contact: Commision Nactional del Medio Ambiente (CIPMA), Avda Holanda 1515, Casilla 16362, Santiago 9, Chile.

Comisión Nacional de Medio Ambiente (CONAMA) (Forthcoming series 1998). **Guías Metodológicas (Methodological Guidelines).** Comisión Nacional de Medio Ambiente.

This forthcoming series of guidelines will address the EIA of the following project types: production, storage, transport, disposal or re-utilization of toxic, explosive, radioactive and inflammable substances; production of paper and paper pulp, timber, processing, and chip plants and sawmills; bus terminals; trucks and railways; railroads; metropolitan trains and gas stations; hydrobiological resources culture and processing; forestry development and exploitation; manufacturing and agro-industry projects; and environmental sanitation projects.

Contact: Depto. Evaluación Impacto Ambiental, Comisión Nacional de Medio Ambiente (CONAMA), Obispo Donoso 6, Providencia, Santiago, Chile.

Colombia

Colombia was the first Latin American country to initiate a formal EIA system. Under the National Code of Renewable Natural Resources and Protection of the Environment, 1974, a wide range of policies were issued covering all aspects of environmental protection, including the provision for "environmental impact statements" for public and private projects. The Ministry for the Environment is responsible for overseeing the EIA system in Colombia.

Interconexión Eléctrica SA (1991). **Manual de Etapas: Definición de Actividades Ambientales en las Etapas de un Proyectos Hidroeléctrico (Stages Manual: Definition of the Environmental Activities in the Stages of a Hydroelectric Project).** Environment Office, Ministry of Mines and Energy, Medellin. (99 p.)

Interconexión Eléctrica SA (1991). **Metodología para la Evaluación Ambiental del Plan de Expansión del Sector Eléctrico Colombiano (Methodology for the Environmental Assessment of the Expansion Plan for the Colombian Electricity Sector).** Environment Office, Ministry of Mines and Energy, Medellin, Colombia. (28 p.)

The document outlines a technique termed "multi-objective analysis" which is used to predict the impact of electricity generation projects. The technique employs the use of biophysical and socioeconomic objectives, qualitative and quantitative indicators and their variables. The method itself and the associated weighting factors have been approved by the electricity sector companies in Colombia, and have also been tested using information from operating power plants. It is an original approach for environmental and socioeconomic assessment in Latin America.

Contact: Interconexion Electrica SA (ISA), Calle 12 sur No 18-168, Medellin. PO Box 8915/8762, Colombia.

Terms of reference produced by the Ministerio del Medio Ambiente

Terms of reference for assessing alternatives

The Terms of Reference for the next 4 documents describe the general and specific objectives as well as the scope and contents to be covered by the environmental assessment, including: executive summaries, technical descriptions, description of alternatives, environmental characterisation of the study area, identification and evaluation of impacts, preliminary environmental management plan for each alternative, and comparison and selection of alternatives.

(1997). **Términos de Referencia para Diagnósticos Ambientales de Alternativas en Construcción de Proyectos Viales (Terms of Reference for Assessing Alternatives for Road and Highway Projects).** Sector Vial, Ministerio de Medio Ambiente, Bogotá. (8 p.)

(1997). **Términos de Referencia para Diagnósticos Ambientales de Alternativas de Lineas de Transmisión y Subestaciones (Terms of Reference for Assessing Alternatives for Electric Transmission Lines and Substations).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (7 p.)

(1997). **Términos de Referencia para Diagnósticos Ambientales de Alternativas en Centrales Termoeléctricas (Terms of Reference for Assessing Alternatives for Thermoelectric Plants).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (11 p.)

(1998). **Términos de Referencia para Diagnósticos Ambientales de Alternativas en Proyectos de Aprovechamiento Hidroeléctrico (Terms of Reference for Assessing Alternatives for Hydropower Projects).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (12 p.)

Terms of reference for Environmental Impact Studies

Each of the Terms of Reference for the following 8 documents describes the general and specific objectives as well as the scope and contents to be covered by Environmental Impact Studies, and includes sections covering: introduction, description and project analysis, environmental characterisation, impact identification, evaluation and description, and the Environmental Management Plan.

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Construcción de Proyectos Viales (Terms of Reference for Environmental Impact Studies for Road and Highway Projects).** Sector Vial, Ministerio del Medio Ambiente, Bogotá. (29 p.)

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Construcción de Puentes y Viaductos (Terms of Reference for Environmental Impact Studies for Bridges and Viaducts).** Sector Vial, Ministerio del Medio Ambiente, Bogotá. (28 p.)

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Construcción de Tuneles para Vías (Terms of Reference for Environmental Impact Studies for Tunnels for Roads and Railroads).** Sector Vial, Ministerio del Medio Ambiente, Bogotá, Bogotá. (29 p.)

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Proyectos de Mejoramiento Vial que Involucren un Movimiento de Tierra Superior a 15.000 m3/km (Terms of Reference for Environmental Impact Studies for Road Improvement Projects which involve land movements greater than 15.000 m3/km).** Sector Vial, Ministerio del Medio Ambiente, Bogotá. (22 p.)

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Bloques de Exploración Sísmica de Hidrocarburos (Terms of Reference for Environmental Impact Studies for Seismic Oil Exploration Programs).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (10 p.)

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Areas de Perforación Exploratoria de Hidrocarburos (Terms of Reference for Environmental Impact Studies for Exploratory Drilling for Oil).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (19 p.)

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Perforación de Pozos de Desarrollo o Producción y sus Líneas de Flujo (Terms of Reference for Environmental Impact Studies for Oil Well Drilling and Pipelines).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (33 p.)

(1997). **Términos de Referencia para Estudios de Impacto Ambiental para Centrales Termoeléctricas (Terms of Reference for Environmental Impact Studies for Thermoelectric Plants).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (37 p.)

Terms of reference for Environmental Management Plans

For Environmental Management Plans, the Terms of Reference include more specific, detailed and demanding requirements than usually demanded of an EIA.

(1997). **Términos de Referencia para Planes de Manejo Ambiental para Programas de Exploración Sísmica de Hidrocarburos (Terms of Reference for Environmental Management Plan for Seismic Oil Exploration Programs).** Sector Energía, Ministerio de Medio Ambiente, Bogotá. (9 p.)

(1997). **Términos de Referencia para Planes de Manejo Ambiental para Perforación de Pozos Exploratorios (Terms of Reference for Environmental Management Plans for Drilling of Exploratory Oil Wells).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (20 p.)

(1997). **Términos de Referencia para Planes de Manejo Ambiental para Construcción y Operación de Lineas de Flujo (Terms of Reference for Environmental Management Plans for Construction and Operation of Oil Pipelines).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (18 p.)

Terms of reference for environmental management and assessment documents

These Terms of Reference describe the general and specific objectives as well as the scope and contents to be covered by the Environmental Management and Assessment Documents.

(1997). **Términos de Referencia para Documentos de Evaluación y Manejo Ambiental para Pavimentación de Vías (Terms of Reference for Environmental Management and Assessment Documents for Road Surfacing).** Sector Vial, Ministerio del Medio Ambiente, Bogotá. (11 p.)

(1997). **Términos de Referencia para Documentos de Evaluación y Manejo Ambiental para Proyectos de Rehabilitación Vial (Terms of Reference for Environmental Management and Assessment Documents for Road Rehabilitation Projects).** Sector Vial, Ministerio de Medio Ambiente, Bogotá. (13 p.)

(1997). **Términos de Referencia para Documentos de Evaluación y Manejo Ambiental para Proyectos de Mejoramiento Vial (Terms of Reference for Environmental Management and Assessment Documents for Road Improvement Projects).** Sector Vial, Ministerio de Medio Ambiente, Bogotá. (14 p.)

(1997). **Términos de Referencia para Documentos de Evaluación y Manejo Ambiental para la Construcción de Puentes en dos Apoyos que no intervengan en forma directa en el cauce de la Corriente Hídrica (Terms of Reference for Environmental Management and Assessment Documents for Bridge Construction with Supports that are Not Directly Involved with the Bed of the River).** Sector Vial, Ministerio del Medio Ambiente, Bogotá. (13 p.)

(1997). **Términos de Referencia para Documentos de Evaluación y Manejo Ambiental para Perforación de Pozos Exploratorios (Terms of Reference for Environmental Management and Assessment Documents for Drilling of Exploratory Oil Wells).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (19 p.)

(1997). **Términos de Referencia para Documentos de Evaluación y Manejo Ambiental para Perforación de Pozos de Desarrollo o Producción y sus Líneas de Flujo (Terms of Reference for Environmental Management and Assessment Documents for Oil Wells Drilling and Pipelines).** Sector Energía. Ministerio del Medio Ambiente, Bogotá. (20 p.)

(1997). **Términos de Referencia para Documentos de Evaluación y Manejo Ambiental para Programas de Exploración Sísmica de Hidrocarburos (Terms of Reference for Environmental Management and Assessment Documents for Seismic Oil Exploration Programs).** Sector Energía, Ministerio del Medio Ambiente, Bogotá. (18 p.)

Ministerio del Medio Ambiente (1997). **Términos de Referencia para el uso, aprovechamiento o afectación de los recursos naturales para bloques de exploración sísmica de hidrocarburos (Terms of Reference for the Use and Degradation of Natural Resources for Seismic Hydrocarbons Exploration).** Ministerio del Medio Ambiente, Bogotá. (2 p.)

These Terms of Reference set out the main issues to be considered for the assessment of natural resources potentially affected during project development - water resources, forestry, and air quality. Information is provided on the status, availability and restrictions for human intervention, as well as on quantifying resources use and exploitation.

Ministerio del Medio Ambiente (1997). **Términos de Referencia para el Estudio de Impacto Ambiental para la Explotación de Campos Petroleros y de Gas, y el Uso, Aprovechamiento o Afectación de los Recursos naturales (Terms of Reference for the Environmental Impact Study for the Exploitation of Oil and Gas Fields and the Use or Degradation of Natural Resources).** Ministerio del Medio Ambiente, Bogotá. (33 p.)

The first part of these Terms of Reference set out the contents for environmental impact studies focusing on environmental management for oil and gas exploitation, site selection, analysis of alternatives and selection of technological alternatives. The second discusses those aspects to be considered during the assessment of natural resources potentially affected as a consequence of project development.

Contact: Ministerio del Medio Ambiente, Bogotá, Colombia.

Costa Rica

The Law on the Organisation of the Environment, Article No 19, provides the legislative framework for EIA in Costa Rica. The *Secretaria Tecnica Nacional Ambiental* **(SETENA) at the Ministry of the Environment (MINAE) is responsible for the EIA system. EIA is required for all projects that pose a risk of adverse impact upon the environment. SETENA issues lists of project which require mandatory EIA and is responsible for technical evaluation.**

Astorga, A. (undated). **Manual de Procediementos Ambientales de la Secretaria Tecnica Nactional Ambiental (SETENA). (Manual of Environmental Procedures for the National Environmental Technical Secretariat).** La Secretaria Tecnica Nactional Ambiental, Ministerio del Ambiente y Energia, San José. (84 p.)

Contact: Comision Gubernamental de Control y Evaluacion de Estudios de Impacto Ambiental, Ministerio de Recursos Naturales, Avda 8-10, Calle 25, Apdo 10.104, 1000 San Jose, Costa Rica.

Mata Jimenez, A. (1995). **Evaluaciones de Impacto Ambiental. Guía de Preparación (Environmental Impact Assessment. Preparation Guide).** Centro Científico Tropical, San José. (66 p.)

This document provides a conceptual background and analysis of the role of EIA, taking into account the National Government norms. It covers the project cycle, methodologies for different levels of the environmental studies required, data analysis and integration, and provides examples, criteria and procedures to be considered in the development of an EIA.

Contact: Apartado Postal 366. 2100, Guadalupe, San José, Costa Rica.

Ministerio de Recursos Naturales. **Guías para la Elaboración Estudios de Impacto Ambiental (Guides for Conducting Environmental Impact Studies) (**series**).** Comisión Gubernamental de Control y Evaluación de Estudios de Impacto Ambiental, Ministerio de Recursos Naturales, San José.

This series of sectoral guides indicates relevant issues to be considered by project proponents for environment impact studies. Each guide has a similar structure, providing a general description of sectoral information needed for addressing the requirements of the "Governmental Commission for Environmental Impact Studies Control and Evaluation". The series provides general information to be considered for public works planning and execution.

(1992). **Guía para la Elaboración de Estudios de Impacto Ambiental Para Proyectos Turísticos (Guide for Conducting Environmental Impact Studies for Tourism Projects).** (9 p.)

(1993). **Guía para la Elaboración de Estudios de Impacto Ambiental Para la Ejecución de Obras Públicas: Carreteras y Ferrocarriles (Guide for Conducting Environmental Impact Studies of Public Works: Roads and Railways**. (12 p.)

(1993). **Guía para la Elaboración de Estudios de Impacto Ambiental Para la Ejecución de Obras Públicas. Muelles (Guide for Conducting Environmental Impact Studies of Public Works. Ports).** (4 p.)

(undated). **Guía Básica para la Elaboración de Estudios de Impacto Ambiental Para Actividades Agrícolas (Basic Guide for Conducting Environmental Impact Studies for Agricultural Activities).** (5 p.)

(undated). **Guía para la Elaboración de Estudios de Impacto Ambiental de Proyectos Avícolas, Para Más de 5000 Animales (Guide for Conducting Environmental Impact Studies for Aviculture Projects of more than 5000 Animals).**

(undated). **Guía Básica para la Elaboración de Estudios de Impacto Ambiental de Proyectos Urbanísticos (Basic Guide for Conducting Environmental Impact Studies for Urban Projects).** (3 p.)

(undated). **Guía para la Elaboración de Estudios de Impacto Ambiental Para Actividad Industrial (Guide for Conducting Environmental Impact Studies for Industrial Activities).** (5 p.)

(undated). **Guía para la Elaboración de Estudios de Impacto Ambiental Para Proyectos de Salinas en Refugios de Vida Silvestre y Humedales (Guide for Conducting Environmental Impact Studies of Saltland Projects in Wildlife Reserves and Wetlands).** (2 p.)

(undated). **Guía para la Elaboración de Estudios de Impacto Ambiental Para Proyectos de Acuacultura en Refugios de Vida Silvestre y Humedales (Guide for Conducting Environmental Impact Studies of Aquaculture Projects in Wildlife Reserves and Wetlands).** (5 p.)

(undated). **Borrador de Guía de Estudio de Impacto Ambiental Para Explotación de Cauces de Dominio Público (Draft Guide for Environmental Impact Studies of Public Watersheds).** (8 p.)

Contact: Comision Gubernamental de Control y Evaluacion de Estudios de Impacto Ambiental, Ministerio de Recursos Naturales, Avda 8-10, Calle 25, Apdo 10.104, 1000 San Jose, Costa Rica.

Ecuador

The Ministry of Environment (*Ministerio de Medio Ambiente***- MMA) has overall responsibility for EIA. Within the MMA, the** *Comision Asesora Ambiental de la Presidencia de la Republica* **(CAAM) issues policy. In 1996, CAAM issued the "Strategy for the Implementation of a National System for EIA in Ecuador" ("***Estragia para la Implantacion del Sistema Unico Nacional de Evaluacion de Impacto Ambiental en el Ecuador***). It describes the process needed to develop an action plan and a regulatory framework for EIA, although neither has been established to date. However, EIAs have been carried out since 1989 under a variety of sectoral regulations. Approval of a proposal requiring EIA is the responsibility of the relevant Ministry. The developer must submit terms of reference for the EIA which are reviewed by an independent commission. Public participation is not compulsory although, in practice, it usually occurs. Due to the lack of a framework law or procedures, EIAs vary in their coverage of environmental conditions and prediction of impacts.**

Paez, J.C. (1991). **Introduccion a los Metodos de Evaluacion de Impactos Ambientales: Recomendaciones para los Gobiernos Seccionales del Ecuador (Introduction to Environmental Impact Assessment Methods: Recommendations for the Regional Governments of Ecuador).** Fundacion Natura: Programa de Asesoria Ambiental para la Region Andina, Quito. (55 p.)

This document discusses the importance of including EIA in development projects planned or carried out by Ecuadorian sectoral governmental organisations at municipal and provincial levels. It aims to raise awareness of the EIA process amongst public officials and technicians. Some recommended methodologies are described including review lists, cause-effect matrix (Leopold), mapping systems, and quantitative methods (Batelle). Advantages and disadvantages of the various methods are compared, and their applicability to projects in Ecuador is assessed.

Contact: Fundacion Natura, Avda America 5653 y Voz Andes, Casilla 17-01-253, Quito, Ecuador.

Paez Zamora, J.C. & Espinoza, G. (in press). **Tópicos de Evaluación de Impacto Ambiental para Ecuador (Topics for Environmental Impact Assessment in Ecuador).** Comisión Asesora Ambiental, Presidencia de la República de Ecuador, Quito.

This document sets out a national framework for EIA and sustainable development, information systems and the use of environmental indicators. It includes a comprehensive discussion of civil society participation - analyzing methodologies to facilitate participation and conflict resolution in the EIA process. The basic contents of EIA studies, techniques and methods are described. A review and classification of EIA studies

is presented and follow up activities for control and monitoring are considered. The document includes matrices and diagrams.

Contact: Subsecretario de Gestión Ambiental. Ministerio de Medio Ambiente, Avenida 10 de Agosto Nº 3560, Edificio Metrocar, Piso 3, Quito, Ecuador.

Guatemala

Comisión Nacional de Medio Ambiente (CONAMA). (1991). **Guía para los Estudios de Impacto Ambiental (Environmental Impact Studies Guide).** Comisión Nacional de Medio Ambiente, Ciudad de Guatemala.

Contact: La Programa de Legislación Ambiental de la Comisión Centroamericana de Ambiente y Desarrollo. 7a. Avenida 13-31, Zona 9 - Edificio Cúpula, Nivel II, Ciudad de Guatemala, Guatemala.

Honduras

The EIA system in Honduras is not mandatory in terms of compliance and its application has no legal status as yet. EIA legislation is integrated into other resource protection and pollution control laws. A set of regulations exist as *Reglamento del Sistema Nacional de Evaluacion de Impacto Ambiental* **(SINEIA) which serve as tools for pollution control. The** *Secretaria de Recursos Naturales y Ambiente* **(SERNA) is the co-ordinating unit for EIA and is housed at the Ministry of the Environment. SERNA has administrative responsibility for enforcement of EIA regulations using a licensing system. All projects must be submitted to SERNA for approval.** *Direccion General de Evaluacion de Impacto y Control Ambiental* **(DECA) is the review and scoping agency.**

Mexico

The Environmental Protection Law, 1982, established the Ministry of Ecology and Urban Development (*SEDUE***) and introduced the mandatory EIA system. In 1988, the "Ecological Equilibrium and Environmental Protection Law" (***LGEEPA***) restructured the Environment Ministry into the Ministry of Social Development. In 1992, a legal enforcement body was created in the form of the "Environmental Protection Attorney" (***PROFEPA***). Under the 1988 law, one of three types of EIA may be required depending on the impact. EIA has also been legislated at State level since 1988. The** *Instituto Nacional De Ecologia* **(INE) is responsible for EIA policy, regulations and procedures. This is part of the Ministry of the Environment, Natural Resources and Fishing which also carries out EIA of federal projects.**

Instituto Nacional de Ecología (undated). **Guía para la elaboración de Estudios de Riesgo Ambiental de Ductos Terrestres (Guidelines for the Preparation of Environmental Risk Studies of Terrestrial Pipelines).** Dirección General de Ordenamiento Ecológico e Impacto Ambiental, Mexico City. (8 p.)

This guideline summarizes issues to be considered in the preparation of formal documents, including appropriate methodologies for Environmental Risk Assessment studies.

Instituto Nacional de Ecología (undated). **Instructivo para la Elaboración del Resúmen Ejecutivo de la Manifestación de Impacto Ambiental (Instructions for the Preparation of the Executive Summary for the Environmental Impact Study).** Instituto Nacional de Ecología, Dirección General de Ordenamiento Ecológico e Impacto Ambiental, Mexico City. (2 p.)

This instruction sets out the required contents and scope of the Executive Summary included in the Environmental Impact Assessment Study.

Instituto Nacional de Ecología (undated). **Guía para la elaboración de Estudios de Riesgo Ambiental. Modalidad Informe Preliminar de Riesgo (Guideline for the Preparation of Environmental Risk Studies. Environmental Risk Preliminary Report).** Instituto Nacional de Ecología, Mexico City.

Instituto Nacional de Ecología (undated). **Guía para la elaboración de Estudios de Riesgo Ambiental. Modalidad Análisis de Riesgo (Guideline for the Preparation of Environmental Risk Studies. Environmental Risk Analysis).** Instituto Nacional de Ecología, Dirección General de Ordenamiento Ecológico e Impacto Ambiental, Mexico City. (12 p.)

Instituto Nacional de Ecología (undated). **Guía para la elaboración de Estudios de Riesgo Ambiental. Modalidad Análisis Detallado de Riesgo (Guideline for the Preparation of Environmental Risk Studies. Detailed Environmental Risk Analysis).** Instituto Nacional de Ecología, Mexico City. (12 p.)

Secretaría de Desarrollo Urbano y Ecología (1989). **Instructivo para desarrollar y presentar la Manifestación de Impacto Ambiental en la modalidad general a la que se refieren los artículos 9 y 10 del Reglamento de la Ley General del Equilibrio Ecológico y la Protección**

del Ambiente en Materia de EIA (Guideline for the Development of the Environmental Impact Declaration regarding articles 9 and 10 of the Regulation for the General Law for Ecological Equilibrium and Environmental Protection related with EIA). In: Gaceta Ecológica, 1:3 (88 p.). Secretaría de Desartrollo Social.

This document lists the issues that must be covered in an Environmental Impact Declaration.

Secretaría de Desarrollo Urbano y Ecología (1989). **Instructivo para desarrollar y presentar la Manifestación de Impacto Ambiental en la modalidad intermedia que se refieren los artículos 9, 10 y 11 del Reglamento de la Ley General del Equilibrio Ecológico y la Protección al Ambiente en materia de EIA (Guideline for the Development of the Environmental Impact Declaration regarding the intermediate mode established in articles 9, 10 and 11 of the Regulation for the General Law for Ecological Equilibrium and Environmental Protection related with EIA).** In: Gaceta Ecológica, 1:4 (28-37 p.). Gobierno de México, Secretaría de Desarrollo Social.

This document sets out the required contents of an Impact Assessment Declaration covering: general information, project description, general aspects of the natural and socio-economic environment, identification and description of environmental impacts caused by different stages of project implementation, and preventative and mitigatory measures.

Secretaría de Desarrollo Urbano y Ecología (1989). **Instructivo para desatrrollar y presentar la Manifestación de Impacto Ambiental en la modalidad específica a que se refieren los artículos 9 y 12 del Reglamento de la Ley General del Equilibrio Ecológico y la Protección del Ambiente en Materia de EIA (Guideline for the Development of the Environmental Impact Declaration regarding the articles 9 and 12 of the Regulation for the General Law for Ecological Equilibrium and Environmental Protection related with EIA).** In: Gaceta Ecológica, 1:4 (38-51 p.). Secretaría de Desarrollo Social.

This document sets out the required contents of the Impact Assessment Declaration covering: description of the proponent, project description and justification, environmental scenario before project implementation, analysis of present and projected environmental quality, identification and evaluation of environmental impacts, preventative and mitigatory measures, and end of activities and project decommissioning.

Secretaría de Desarrollo Urbano y Ecología (1989). (September 1989). **Instructivo para la Formulación del Informe Preventivo del Reglamento (arts. 7 y 8). de la Ley General del Equilibrio Ecológico y la Protección al Ambiente en Materia de EIA (Guidelines for the Formulation of the Precautionary Report. Regulation for the General Law for Ecological Equilibrium and Environmental Protection related with EIA).** In: Gaceta Ecológica, 1:3, Mexico City. (88).

This document lists the information that must be included in the Precautionary Report, including general information, location, project and process description.

Contact: Instituto Nacional de Ecología, Subdirección de Riesgo Ambiental, Avenida Revolución 1425 (Planta Baja), 01040 México, D.F.

Paraguay

Ministerio de Agricultura y Ganaderia (MAG), Subsecretaria de Estado de Recursos Naturales y Medio Ambiente (SSERNMA) & Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ) (1996). **Manual de Evaluación de Impactos Ambientales (MEvIA): Proyecto Estrategia Nacional para la Proteccion de los Recursos Naturales (ENAPRENA) (Environmental Impact Assessment Handbook. Project: National Strategies for the Protection of Natural Resources and the Environment).** Ministerio de Agricultura y Ganaderia (MAG), Subsecretaria de Estado de Recursos Naturales y Medio Ambiente (SSERNMA), Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ), Asunción.

This handbook is intended as a working tool for undertaking and preparing Environmental Impact Assessment studies and Environmental Impact Reports. It includes papers by several authors and is divided in three main thematic sections. Section 1 is a general vision of EIA as a tool for environmental protection and sustainable development. Section 2 provides an analysis of EIA procedures as applied in Paraguay, the sectors involved and their responsibilities. Section 3 gives an analysis of EIA methods from different perspectives: EIA procedures for landscape analysis; method for the assessment of hydrological balance components; environmental monitoring systems; basic concepts; methods for the analysis of aquatic environments; methods for sedimentology studies and monitoring for EIA;

methods for the assessment of riverine water quality; and methods for the characterization of flora and wildlife.

The following references are papers from the manual which have been chosen for their particular relevance to environmental impact assessment guidance:

Dias, P.L.F. (1996). **Términos de Referencia para la Elaboración y Presentación del Estudio de Impacto Ambiental (Terms of Reference for Environmental Impact Assessment Study Preparation and Presentation).** (0900:1-14 p)

These Terms of Reference set out the basic required contents of EIA Reports covering: a) project characterization; b) project integration with governmental plans and policies; c) environmental diagnosis (physical, biological and anthropogenic environment in the area influenced by the project; d) impacts analysis; e) environmental management plans; f) technological and site alternatives and g) environmental reports (Relatorios de Impacto Ambiental: RIMAs). The obligations of the proponent are discussed as well as the role of the Dirección de Ordenamiento Ambiental (Environmental Management Directorate).

Dias, P.L.F., de Oliveira, N.M. & dos Reis Branco, S.M. (1996). **Participación de la Comunidad en el proceso de Evaluación de Impactos Ambientales (Community Participation in the Environmental Impact Assessment Process).** (0970: 1-6 p.)

This document discusses community participation in the EIA process (sectors directly or indirectly affected), and public audiences (meetings with the community and public audience structure).

Dias, P.L.F. (1996). **Criterios para la Selección de Proyectos, Aceptación, Acompañamiento y Análisis de Estudios de Impacto Ambiental y Relatorios de Impacto Ambiental (Criteria for Project Selection, Approval, Monitoring and Analysis of Environmental Impact Studies and Environmental Impact Reports).** (0930: 1-12 p.)

This paper discusses methods and criteria for the selection of projects to be subjected to EIA (ad-hoc selection, check-lists, environmental screening). and provides a list of activities which require an EIA under the National Law for Environmental Impact Assessment. The document also presents criteria to be considered by the institutions responsible for giving environmental permission (Dirección de Ordenamiento Ambiental), and for the acceptance, monitoring and analysis of the environmental studies and reports.

Molinas, A. & Oporto, O. & Duarte, E. (199). **Análisis de la Aplicación del EvIA en Paraguay (Procedures for Environmental Impact Assessment on the basis of the present situation in Paraguay).** Proyecto ENAPRENA (SSERNMA/MAG-GTZ), Asunción. (0700: 1-16 p.)

Contact: Proyecto ENAPRENA, Ruta II "Mcal. Estigarribia", Km. 11- San Lorenzo, Asunción, Paraguay.

Oporto, O. & Urué, D. (in press). **La Explotación de Canteras en el Marco de la Evaluación de Impacto Ambiental (The Exploitation of Mines under the Environmental Impact Assessment Framework).** Dirección Nacional de Medio Ambiente, Asunción.

This document analyses the main characteristics of quarry exploitation in Paraguay (exploitation regime, legal and institutional aspects), and sets out the procedures for EIA. Different environmental impacts of quarry exploitation are discussed, as are mitigatory measures.

Contact: Departamento de Evaluación de Impacto Ambiental. Dirección Nacional de Medio Ambiente, 25 de Mayo 640, Asunción, Paraguay.

Peru

The Environment and Natural Resources Code, 1990, set out a legal requirement for federal-level EIA and gave responsibilities for EIA to various ministries: the Ministry of Energy and Mines - which has developed the most advanced EIA legislation, including provision for public participation (unlike the other ministries); and the Ministries of Fishing, Agriculture, Industry, Transport and Housing, and Defence. Directive No. 757, 1991, requires these sectoral competent authorities to screen projects to determine which need EIA. Each ministry has its own sectoral regulations to require EIA as part of their consent procedures. The relevant sectoral authorities develop the terms of reference and keep registers of projects that have been subjected to an EIA. There is no central EIA authority but the *Consejo Nacional del Ambiente* **(CONAM), which acts as a co-ordinating authority for the preparation of the National Environmental Action Plan, is likely to assume a similar responsibility for EIA. In addition to the federal system, the Municipality of Lima has also adopted procedures for EIA.**

Instituto Nacional de Recursos Naturales (INRENA) (1995). **Guia para la formulacion de Terminos de Referencia de Estudios de Impacto Ambiental en el Sector Agrario (Guidelines for the formulation of Terms of Reference for Environmental Impact Studies in the**

Agricultural Sector). Direccion de Evaluacion y Ordenamiento Ambiental, Ministerio de Agricultura, Lima. (5 p.)

This document comprises three sections. The first is a guide for technicians and practitioners to the preparation of terms of reference for EIA studies of agricultural projects. The second section analyses the contents of, and issues to be developed in, such studies. The third section covers methodologies and evaluation techniques for assessing agricultural activities.

Contact: Direccion de Medio Ambiente del Instituto Nactional de Recursos Naturales, (INRENA), Calle 17/Los Petirrojos 335, El Palomar, Lima 27, Peru.

Ministerio de Energía y Minas (1994). **Guía para Elaborar Estudios de Impacto Ambiental: Subsector Minería (Guide for Environmental Impact Studies Elaboration: Mining Sector).** Dirección General de Asuntos Ambientales, Lima. (87 p.)

This document presents general procedures for the preparation of an EIA Study in the mining sector. The guide has nine sections covering the different phases of EIA with the main emphasis on the EIA Study.

Ministerio de Energía y Minas (1995). **Guía para elaborar Programas de Adecuación y Manejo Ambiental. Sub Sector Minería (Guide for Environmental Compliance and Management. Mining Sub Sector).** Dirección General de Asuntos Ambientales, Lima. (45 p.)

The purpose of this guide is to help users in the preparation and implementation of PAMAs in order to control and mitigate environmental impacts related to mining activities. The document includes sections covering: a). requirements for the presentation of PAMAs; b). information to be included in PAMAs; c). mitigation measures and implementation plan; d). abandonment plan; e). emission and effluent monitoring; and f). specific PAMA requirements for operations/activities.

Contact: Ministerio de Energía y Minas, Dirección General de Asuntos Ambientales Avenida Las Artes 260, San Borsa, (41). Lima, Peru.

Ministerio de Pesquería (1994). **Lineamientos para la Elaboración de los Estudios de Impacto Ambiental (EIA) para Acuicultura (Guidelines for the Elaboration of Aquaculture Environmental Impact Studies).** Comisión Ambiental Permanente para la Protección del Sector Pesquero, Dirección Nacional de Acuicultura, Lima. (1 p.)

These guidelines specify the required contents of environmental impact studies for aquaculture projects. All projects need the approval of the National Directorate of Aquaculture (Permanent Environmental Commision for Fishing Sector). before implementation.

Ministerio de Pesquería (1994). **Lineamientos para la Elaboración de los Estudios de Impacto Ambiental (EIA) para la Siembra, Introducción y Traslado de Especies Hidrobiológicas (Guidelines for Environmental Impact Studies for Seeding, Introduction and Moving of Hydrobiological Species).** Comisión Ambiental Permanente para la Protección del Sector Pesquero, Dirección Nacional de Acuicultura, Lima. (1 p.)

These guidelines specify the required contents of environmental impact studies for fisheries projects concerned with the seeding, introduction, and moving of fish and different hydrobiological species. All projects need the approval of the National Directorate of Aquaculture (Permanent Environmental Comision for Fishing Sector). before implementation.

Ministerio de Pesquería (1994). **Lineamientos para la Elaboración de Programas de Adecuación y Manejo (PAMAs) para la Acuicultura (Guidelines for Assessment and Management Programs for Aquaculture).** Comisión Ambiental Permanente para la Protección del Sector Pesquero, Dirección Nacional de Acuicultura, Lima. (1 p.)

These guidelines provide guidance on issues to be covered when assessing the environmental impacts of aquaculture projects. PAMAs must be approved by the National Directorate of Aquaculture (Permanent Environmental Comision for Fishing Sector).

Ministerio de Pesqueria (1994). **Terminos de Referencia para la Elaboración de Estudios de Impact Ambiental en el Sector Pesquero (Terms of Reference for the preparation of EIA Studies for the Fishing Sector).** Ministerio de Pesqueria, Lima. (112 p.)

This document specifies the required contents of EIA studies in the fishing sector.

Contact: Ministerio de Pesqueria, Direccion de Medio Ambiente, Calle Umo Oeste 060, Urbanizacion Corpac, Lima 27, Peru.

Ministerio de Transportes, Comunicaciones, Vivienda y Construcción (1995). **Términos de Referencia Para Estudios de Impacto Ambiental en la Construcción Vial (Terms of Reference for Environmental Impact Studies for Roads and Highways).** Dirección General de Medio Ambiente, Lima. (12 p.)

These Terms of Reference specify the required contents of Environmental Impact Studies for all road

and highway projects. All projects need the approval of the General Directorate for the Environment (Ministry of Transport, Communications, Housing and Construction), before implementation.

Contact: Ministerio de Transportes, Comunicaciones, Vivienda y Construcción, Dirección General de Medio Ambiente, Avenida 28 de Julio 800, Lima 1, Perú.

Ministerio de Defensa (1996). **Lineamientos para el Desarrollo de Estudios de Impacto Ambiental Relacionados con Proyectos de Construccion de Muelles, Embarcaderos y otros similares (Guidelines for the Development of Environmental Impact Studies for Piers, Wharfs and similar facilities).** Ministerio de Defensa, Lima. (1 p.)

These guidelines specify the required contents of environmental impact studies to be presented by organisations, institutions, companies or industries concerned with the construction of piers, wharfs, breakwaters, landing places and similar harbour or aquatic (marine, river or lakes). facilities, under the jurisdiction of the General Directorate of Capitanias y Guardacostas.

Contact: Ministerio de Defensa, Av. Arequipa 291, Lima, Peru.

Ministerio de Defensa (1996). **Lineamientos para el Desarrollo de Estudios de Impacto Ambiental Relacionados con los efectos que pudiera causar la evacuacion de residuos por tuberias a los cuerpos de agua (Guidelines for the Development of Environmental Impact Studies on the effects of residues discharged by pipelines to water bodies).** Direccion de Medio Ambiente de la Direccion de Capitanias and Guardacostas, Lima. (1 p.)

These guidelines include terms of reference for environmental impact studies to be presented by organisations, institutions, companies or industries that plan discharge systems for liquid effluents (or liquids mixed with solids), through underwater pipelines with final disposal in the sea or other water bodies.

Contact: Direccion de Medio Ambiente de la Direccion de Capitanas and Guardacostas, Constitucion 150, Callao, Lima, Peru.

Uruguay

The Ministry of Housing, Land Use Management and Environment (MHLUME) was established in 1990, after which EIA was undertaken informally. The Law on Environmental Impact Assessment (No. 435/994) 1994, made EIA mandatory for a prescribed range of public and private activities. Competent ministries have the responsibility to evaluate projects in their jurisdiction. MHLUME is responsible for the development of EIA policy and its implementation while proponents must undertake the process and submit full documentation to the National Environmental Directorate (DINAMA) within MHLUME for review and in order to obtain prior authorisation for the activity. As yet, no EIA guidelines have been produced.

Venezuela

EIA is integrated with land use planning in the Organic Law of the Environment 1976 (*La Lay Organica del Ambiente***) and the Organic Law of the Land Use Planning (***La Ley Organica de Ordenacion del Territorio)***. The Regulation on Environmental Impact Studies, Decree 2213 in 1992 (***Reglamento de los Estudios de Impacto Ambiental***), reorganised the system. The Ministry of Environment and Renewable Natural Resources (***Ministerio del Ambiente y de los Recursos Naturales Renovables***) is responsible for EIA and land-use planning. The EIS must be carried out by the proponent. The present EIA system uses screening lists to decide if an EIS is required. Requirements for an EIS are also made by sectoral ministries. Public participation and consultation is limited to consultations with non-governmental organisations.**

Ministerio del Ambiente y los Recursos Naturales Renovables (MARN). **Guía para la Aplicación del Decreto No. 1257 sobre Evaluación del Impacto Ambiental (Guide for the application of Decree No. 1257: Implementation of Environmental Impact Assessment).** Ministerio del Ambiente y los Recursos Naturales Renovables (MARN), Caracas.

Ministerio del Ambiente y de los Recursos Naturales Renovables (1996). **Guía para la Aplicación del Decreto 1257 relativo a "Normas sobre Evaluación Ambiental de Actividades Susceptibles de Degradar el Ambiente" (Guidelines for the Application of Decree No. 1257: "Rules for the Environmental Assessment of Potentially Degradable Activities).** Dirección General Sectorial de Calidad Ambiental, Ministerio del Ambiente y los Recursos Naturales, Caracas. (44 p.)

These guidelines aim to facilitate the understanding and application of National Decree No.1257. They cover ordinary procedures, procedures for mining and oil activities, and procedures for urban areas. The document also includes project-specific guidelines for environmental assessment, assessing impact potential and the vulnerability of the local environment in respect of three categories of assessment:

Environmental Impact Assessment (EIA), Specific Environmental Assessment (EAE), and Specific Care (RECAUDOS). Procedures are included for citizen participation, supervision, monitoring and environmental control, and the National Register of Environmental Consultants is described.

Ministerio del Ambiente y de los Recursos Naturales Renovables (1996). **Normas sobre Recaudos para la Evaluación Ambiental de Programas y Proyectos Mineros y de Exploración y Producción de Hidrocarburos (Rules for Specific Attention for Environmental Assessment of Mining and Oil Programmes and Projects).** Despacho del Ministro, Ministerio del Ambiente y los Recursos Naturales, Caracas. (33 p.)

Under the Decree No.1257, these rules specify the required basic contents of an Environmental Questionnaire which must be completed and presented for approval when land will be occupied for mining activity or for oil exploration and exploitation. The document also sets out the information to be included in the authorization form for the "affect on natural resources" during the exploration phase of mining activities and during the seismic prospecting phase of hydrocarbon exploration.

Contact: Dirección de Calidad Ambiental, Ministerio del Ambiente y los Recursos Naturales Renovables, Torre Sur, Centro Simón Bolivar, El Silencio, Caracas, Venezuela.

North America

North America Regional

Organization of American States (OAS) (1990). **Disasters, Planning, and Development: Managing Natural Hazards to Reduce Loss.** Organization of American States, Washington D.C. (xv, 80 p.)

Organization of American States (OAS) (1991). **Primer on Natural Hazard Management in Integrated Regional Development Planning.** Organization of American States, Washington D.C. (xvii, 416 p.)

Organization of American States (OAS) (1991). **Desastres, Planificacion y Desarrollo: Manejo de Amenazas Naturales para Reducir los Danos (Disasters, Planning, and Development: Managing Natural Hazards to Reduce Loss)** Organization of American States, Washington D.C. (xviii, 80 p.)

Organization of American States (OAS) (1993). **Manual Sobre el Manejo de Peligros Naturales en la Planificacion para el Desarrollo Regional Integrado (Primer on Natural Hazard Management in Integrated Regional Development Planning)** Organization of American States, Washington D.C.

Organization of American States (OAS) (undated). **Plan Hemisferico de la Guia de Manejo Ambiental de Corredores de Transporte Vial (Hemispheric Plan for the Guide to Environmental Management of Road Transport Corridors)** 180 p.. Organization of American States, Washington D.C. (xv, 80 p.)

Contact: Organization of American States, Department of Regional Development and Environment, 17th Street and Constitution Avenue, Washington D.C. 20006, USA.

Canada

The Environmental Assessment and Review Process (EARP) was introduced in Canada in 1973. Compliance with EARP guidelines became legally binding in 1989. The Canadian Environmental Assessment Act, 1992, provided a statutory foundation for the EIA system and sets of regulations were issued to implement the Act. This system is almost entirely separate from other legal provisions. The Canadian Environmental Assessment Act, 1995, created the Canadian Environmental Assessment Agency (CEAA) which directs and administers the process. Both federal and provincial governments are responsible for EIA. The provinces have EIA principles embodied in relevant acts and guidelines, but only Ontario has specific EIA legislation (Environmental Assessment Act 1975). A key feature of the present Canadian system under the 1995 Act is a set of four regulations covering mandatory screening, scoping, reporting, review (by public and expert bodies) and post-project monitoring. All stages are covered by Agency procedural guidelines. The Agency expects to make increasing the use of SEA for policy decisions made at the federal level in the future. The rights of indigenous peoples is an issue also being integrated into the EIA system.

In line with the rest of this Directory, the documents listed in the Canadian section are for federal level only. Many of the provincial governments have produced guidance material, much of which is referenced in the Canadian Environmental Assessment Agency (CEAA) Directory of Environmental Impact Assessment Practices in Canada (1995). For those with Internet access, the CEAA Directory, some of their other guidelines, and related information can be found on http://www.ceaa.gc.ca.

Agriculture and Agri-Food Canada (1995). **The Responsible Authority's Guide to the Canadian Environmental Assessment Act/Le guide des autorités responsables sur la loi canadienne sur l'évaluation environnementale**. Agriculture and Agri-Food Canada, Ottawa.

Contact: Agriculture Canada, Policy Branch, Environment Bureau, Ottawa, Canada.

Canadian Environmental Assessment Agency (CEAA) (undated). **Biological Diversity and Environmental Assessment.** Canadian Environmental Assessment Agency, Hull, Quebec.

This guide was prepared as a collaborative effort by the Agency and the Biodiversity Convention Office of Environment Canada. The guide provides an overview of the legal responsibilities for biodiversity under the United Nations Convention on Biological Diversity and biodiversity considerations in project and policy planning. It also provides general guidance to EA practitioners in considering biodiversity within current EA approaches, regardless of jurisdiction.

Canadian Environmental Assessment Agency (CEAA) (1994). **The Responsible Authority's Guide to the Canadian Environmental Assessment Act/Guide des autorités responsables sur la loi canadienne sur l'évaluation environnementale**. Canadian Environmental Assessment Agency (CEAA), Hull, Quebec. (162 p.)

This guide is one part of the Canadian Environmental Assessment Act Procedural Manual, a set of reference materials designed to provide guidance on the application of the Canadian Environmental Assessment Act to federal government departments and agencies, provincial and municipal governments, private sector developers and members of the project. The guide interprets the legal framework established by the Act and provides guidance to responsible authorities for conducting environmental assessments. It consists of separate guides for managers and environmental assessment practitioners, and includes a set of detailed Reference Guides on specific assessment topics including Cumulative Environmental Effects, Public Registries, Determining whether a project is likely to cause Significant Adverse Effects, and Federal Coordination Regulations.

Canadian Environmental Assessment Agency (CEAA) (1995). **Directory of Environmental Impact Assessment Practices in Canada.** Canadian Environmental Assessment Agency (CEAA), Hull, Quebec. (ii, 47 p.)

This directory provides a listing of various EIA legal and policy instruments and guidelines in Canada, at federal, sectoral, provincial, and territorial levels. It identifies the EIA legislation and regulation in various jurisdictions and the EA policy statements and directives of government departments and organizations. It also has an appendix listing contacts for the producers of the guides and other documentation. Although some of the information is out of date, this Directory remains nonetheless a valuable and comprehensive source for Canadian EIA guidelines and related information. It is understood that the section on guidelines produced by federal departments is currently being updated, including their contact details (June 1998).

Canadian Environmental Assessment Agency (CEAA) (1995). **Procedures Guide.** Canadian Environmental Assessment Agency, Hull, Quebec. (227 p.)

This document provides policy and procedural guidance for CEAA staff in meeting CEAA's responsibilities under the Canadian Environmental Assessment Act. It is organised into six chapters: public registry, class screening, comprehensive study, mediation, panel reviews and participant funding. Each chapter briefly reviews the scope and nature of the CEAA's obligations as set out in the Act, presents the CEAA's major cross-cutting policy guidelines, provides step-by-step explanations of the procedures that CEAA staff should follow, and presents resource material including checklists and guidelines for many of the procedures.

Canadian Environmental Assessment Agency (CEAA) (1996). **Reference Guide: Assessing Environmental Effects on Physical and Cultural Heritage Resources** (second edition). Canadian Environmental Assessment Agency, Hull.

Canadian Environmental Assessment Agency (CEAA) (1997). **Procedures for an Assessment by a Review Panel: A guideline issued by the Honourable Christine S. Stewart, Minister of the Environment pursuant to s. 58(1)(a) of the Canadian Environmental Assessment Act.** Canadian Environmental Assessment Agency, Hull, Quebec. (29 p.)

This document sets out the procedures to be applied to all assessments of a project, by a review panel from the responsible authority or the Minister of the Environment, for the period beginning from referral (including pre-referral notice) and ending at government response to the report of the panel. The procedures are intended to be followed by all federal review panels. Annexes include a list of documents in a panel review, federal-provincial harmonisation agreements, and a detailed flow chart of the panel process.

Canadian Environmental Assessment Agency (CEAA) (1997). **Guide to the Preparation of a Comprehensive Study for Proponents and Responsible Authorities.** Canadian Environmental Assessment Agency, Hull, Quebec. (70 p.)

This document offers guidance to those involved in planning, conducting, documenting, reviewing and

participating in the comprehensive study of projects, in accordance with the Canadian Environmental Assessment Act. A comprehensive study is a full environmental impact assessment applied to projects that require a more intensive assessment than a screening. Such projects tend to be large-scale and have the potential to result in significant environmental effects and/or to generate considerable public concern. The guide is divided into three phases. Phase 1 outlines the steps required to prepare for a comprehensive study. Phase 2 discusses the steps necessary to conduct the comprehensive study and to prepare the comprehensive study report. Phase 3 explains the process followed by the CEAA and the Minister of the Environment for the review and approval of the report.

Contact: Canadian Environmental Assessment Agency (CEAA), 200 Sacre Coeur Blvd, Hull, Quebec, K1A 0H3, Canada.

Canadian Environmental Assessment Agency (CEAA) (1998). **Guide to Information Requirements for Federal Environmental Assessment of Mining Projects in Canada. Draft.** Canadian Environmental Assessment Agency, Hull, Quebec. (ii, 42 p., appendices)

This guide is intended to offer a common and widely accepted reference point on environmental assessment information requirements and report preparation for mining projects that are subject to the Canadian Environmental Assessment Act. It also provides additional guidance on key steps in preparing EIA reports for mining projects. Part I of the document reviews EIA in relation to mining projects and provides an overview of legislative requirements. Part II consists of guidance on preparing an environmental assessment report. Appendices contain additional process and technical information.

Cumulative Effects Assessment Working Group & Axys Environmental Consulting Ltd (1997). **Cumulative Effects Assessment Practitioners Guide: Draft for Discussion.** Canadian Environmental Assessment Agency (CEAA), Hull, Quebec. (x, 68 p., 5 appendices)

This guide is intended primarily for practitioners who are responsible for preparing Cumulative Effects Assessments (CEAs) for project review. It provides an overview and clarification of current understanding about the practice of CEA; suggestions on practical approaches to complete CEAs that meet statutory requirements and best professional practice; and case studies that provide examples of approaches that have been used by project proponents for their CEAs. The guide focuses on CEA in the context of project-specific assessments rather than regional planning and deals strictly with biophysical effects. While it provides some specific information and case studies related to the Canadian Environmental Assessment Act, the guide is intended to be helpful for the conduct of CEA in any environmental assessment framework across the country.

Department of Canadian Heritage (1995). **Canadian Heritage Procedures for Complying with Canadian Environmental Assessment Act.** Department of Canadian Heritage, Ottawa.

Contact: Department of Canadian Heritage, Environmental Conservation, Natural Resources Branch, 25 Eddy Street 4th Floor, Hull, Quebec, K1A 0M5 Canada.

Department of the Environment (1995). **Department of the Environment CEAA Handbook.** Environmental Assessment, National Programs Directorate, Department of the Environment, Ottawa.

Contact: Environment Canada, Environmental Assessment Branch, National Programs Directorate, Place Vincent Massey, 351 St Joseph Blvd., Hull, Quebec KIA 0H3, Canada.

Department of Fisheries and Oceans **Department of Fisheries and Oceans Guide to the Implementation of CEAA.** Department of Fisheries and Oceans, Ottawa.

Contact: Department of Fisheries and Oceans, Marine Environment and Habitat, 200 Kent Street 11th Floor, Ottawa, Ontario K1A 0G2, Canada.

Department of Fisheries and Oceans (1995). **Environmental Screening Guide.** Department of Fisheries and Oceans, Small Craft Harbours Directorate, Ottawa.

Contact: Department of Fisheries and Oceans, Marine Environment and Habitat, 200 Kent Street 11th Floor, Ottawa, Ontario K1A 0G2, Canada.

Department of Foreign Affairs and International Trade (1995). **Property Manual.** Department of Foreign Affairs and International Trade, Ottawa.

The parts of this Manual concerned with EIA are: Chapter 8 Protecting the Environment; Appendix 21 Environmental Assessment: Exclusion Test; Appendix 23 Environmental Assessment of Property Conservation; and Appendix 24 Screening Report Form. The manual is currently being updated, and the revised version is expected to be available by September 1998.

Contact: Department of Foreign Affairs and International Trade, Office of the Coordinator for Environmental Assessment and Stewardship, Lester B Pearson Buidling, 125 Sussex Drive, Ottawa, Ontario K1A 0G2, Canada.

Department of Indian Affairs and Northern Development (1991). **Northern Affairs Programme Guide to the Environmental Assessment and Review Process.** Department of Indian Affairs and Northern Development, Natural Resources and Economic Development Branch, Ottawa.

Department of Indian and Northern Affairs Canada (1995). **Implementation of the Canadian Environmental Assessment Act at India Oil and Gas Canada. India Oil and Gas Canada Information Letter IL95-1.** India and Northern Affairs Canada, Alberta.

Contact: Indian and Northern Affairs Canada, Northern Affairs Program, Environment and Renewable Resources Directorate, Room 644 - 10 Wellington Street, Hull, Quebec K1A 0HA, Canada.

Emery, A. & Patten, L. (1997). **Guidelines for Environmental Assessments and Traditional Knowledge. Prototype.** Centre for Traditional Knowledge, World Council of Indigenous People, Ottawa, Ontario. (vii, 67 p.)

These prototype guidelines derive from a process involving the Centre for Traditional Knowledge, the World Council of Indigenous People, Environment Canada, and the Canadian International Development Agency. They are based on a broad search of the literature and the internet, on discussion with aboriginal leaders in the field, and on responses from over 50 reviewers of a first draft. The aim is to test the guidelines in mock development projects during a series of six workshops around the world, and then to produce a revised set in a series of different media: text, video, audio tapes, and possibly a theatre piece.

The document is presented in five sections The first provides a context for the guidelines, defining indigenous people and describing the nature of traditional knowledge and particularly such knowledge held by women, comparing it with "scientific knowledge" and dealing with traditional rights to resources issues. Relationships between indigenous people and development projects are discussed and the role of traditional knowledge in EAs.

Section 2 provides guidelines for indigenous people, detailing how they can cooperate with non-indigenous groups planning development projects in their areas and involve themselves in the EIA process. Section 3 gives guidelines for corporations to assist them to understand the ways of indigenous people and to be especially sensitive to their values and needs, and how to interact with and involve indigenous people. Section 3 focuses on governments, their role in managing natural resources and sets out recommendations for how they should relate to and involve indigenous people. Finally, Section 5 is a synoptic summary of the guidelines.

Contact: Centre for Traditional Knowledge, Box 3443, Stn D, Ottawa, Ontario, Canada K1P 6P4.

Federal Environmental Assessment Review Office (FEARO) (1988). **Manual on Public Involvement in Environmental Assessment: Planning and Implementing Public Involvement Programs.** Federal Environmental Assessment Review Office, Ottawa.

Contact: Canadian Environmental Assessment Agency, 13th Floor, Fontaine Building, Hull, Quebec, Canada K1A 0H3.

National Defence (1996). **DND Environmental Assessment Manual.** National Defence, Ottawa.

Contact: National Defence Headquarters, Environmental Protection/ Resource Conservation, Ottawa, Ontario K1A 0K2, Canada.

Natural Resources Canada (1995). **Natural Resources Canada (NRCAN's) Environmental Assessment Manual.** Natural Resources Canada, Ottawa.

Manuel sue l'evaluation environnementale des RNCan.

Contact: Natural Resources Canada, Office of Environmental Affairs, Environmental Assessment, 580 Booth Street, Ottawa, Ontario K1A 0E4, Canada.

Task Force reporting to the Federal, Provincial, Territorial Committee on Environmental and Occupational Health, Health Canada (1997). **A Canadian Health Impact Assessment Guide. Volume 1: The Beginners Guide. Draft.** Health Canada, Ottawa, Ontario. (v, 80 p., appendix)

This draft guide defines health assessment and environmental assessment, provides an outline of the stages of an environmental assessment, and outlines the determinants of health. Information on environmental assessment within a Canadian, aboriginal and international is also provided. This document is due to be followed by a second document for practitioners which will provide details on how to carry out, and who should be involved in, a health assessment.

Contact: Office of Environmental Health Assessment, Health Canada, Ottawa, Ontario, Canada.

United States of America

EIA was first required by the National Environmental Protection Act (NEPA), 1969, which is the source of the majority of modern EIA systems. The Council on Environmental Quality (CEQ) has been central in strengthening the system by promoting many of the

procedures and guidelines in the USA. At the federal level, the Environmental Protection Agency (EPA) is responsible for the management of the system while EIAs are undertaken by the developer and the "lead agency". This "lead agency" is responsible for deciding if a project requires a preliminary "Environmental Assessment" or a full "Environmental Impact Statement" (EIS). A preliminary assessment may lead to the request for a full EIS or a "Finding of No Significant Impact" (FONSI) being declared. Many individual States also have their own EIA systems which are usually similar to the NEPA system. The current federal EIA practice has recently undergone an extensive review and changes are expected due to the increasing interest in cumulative environmental impact assessment and strategic environmental assessment. The review has also noted the increasing use of environmental assessments rather than the full Environmental Impact Statements and more identification of impacts needing mitigation.

In line with the rest of this Directory, the guidelines listed below cover the USA federal level only. However, responses to our requests for documents from relevant federal agencies varied and coverage may not be complete. Contact details of NEPA liaisons in all relevant federal agencies are provided in a list available from the Council for Environmental Quality (CEQ) (also available on the Internet at http://ceq.eh.doe.gov/. Many States have also produced their own guidelines, and individual State contacts are also available from the CEQ. Many of these also have their own Websites on the Internet, and a useful Internet site linked to the individual responsible State agencies can be found on the Australian government website at http://environment.gov.au/portfolio/epg/other_govt.html. The EPA website is http://www.epa.gov/.

Bass, R.E. & Herson, A.I. (1993). **Mastering NEPA: A Step-by-Step Approach.** Solano Press Books, Point Arena, California. (233 p.)

The National Environmental Policy Act (NEPA) is the United States' broadest environmental law. It applies to all federal agencies and most of the agencies they manage, regulate that effect the environment. It requires all agencies to disclose and consider the environmental impact of their proposed actions, through the preparation of an environmental impact statement (EIS).

This guidebook provides the users with a simplified framework for understanding NEPA and incorporating it into their agencies' day-to-day activities, helping them obtain maximum benefit from the environmental review process.

The first chapter provides background to NEPA, and the steps involved in its implementation. The following three chapters examine in depth the preparation of an EIS, from how to determine whether to prepare one to a detailed analysis of the required contents. The final two chapters cover NEPA's role in federal agency decision-making, and judicial review. Appendices include guidance on scoping, Council on Environmental Quality (CEQ) regulations and guidelines, and sources of information.

Contact: Solano Press, PO Box 773, California 95468, USA.

Council on Environmental Quality (CEQ) (1981). **Memorandum for General Counsels, NEPA Liaisons and Participants in Scoping.** Council on Environmental Quality, Executive Office of the President, Washington D.C. (15 p.)

Based on the experience of many agencies and other participants in scoping, this document provides advice on what does and does not work. It does not establish new requirements, but is intended to encourage the use of better techniques for ensuring public participation and efficiency in the scoping process. It leads government agencies step-by-step through the scoping process, highlights the pitfalls, provides practical methods for analysis and gives advice for public participants.

Council on Environmental Quality (CEQ) (1983). **Memorandum for Heads of Federal Agencies.** Council on Environmental Quality, Executive Office of the President, Washington D.C. (12 p.)

Council on Environmental Quality (CEQ) (1992). **The Council on Environmental Quality Regulations Implementing the Procedural Provisions of the National Environmental Policy Act.** Council on Environmental Quality, Washington D.C. (46 p.)

Council on Environmental Quality (CEQ) (1993). **Incorporating Biodiversity Considerations into Environmental Impact Analysis under the National Environmental Policy Act.** Council on Environmental Quality, Executive Office of the President, Washington D.C. (vii, 29 p.)

This report provides a background to the complex subject of biodiversity, and outlines some general concepts that underlie biodiversity analysis and management. It describes how the issue is currently addressed in National Environmental Policy Act (NEPA) analyses, and gives recommendations for improving the consideration of biodiversity in these analyses. Examples of biodiversity indicator variables are given in an appendix.

Council on Environmental Quality (CEQ) (1997). **Considering Cumulative Effects Under the National Environmental Policy Act.** Council on Environmental Quality, Executive Office of the President, Washington D.C. (xii, 64, 2 appendices)

This handbook presents the results of research and consultations by the Council on Environmental Quality (CEQ) concerning the consideration of cumulative effects in analyses prepared under the National Enviromental Policy Act (NEPA). It introduces the issue of cumulative effects, outlines general principles, and then discusses basic steps for the incorporation of cumulative effects analysis into the various stages of environmental impact assessment - scoping, describing the affected environment and determining the environmental consequences. The last chapter discusses developing a cumulative effects analysis methodology that draws upon existing methods, techniques and tools. An appendix provides brief descriptions of 11 cumulative effects analysis methods.

Council on Environmental Quality (CEQ) (undated). **Environmental Justice: Guidance under the National Environmental Policy Act.** Council on Environmental Quality, Executive Office of the President, Washington D.C. (ii, 28 p.)

This document provides guidance on how environmental justice issues (as described in Executive Order 12898) should be considered under the National Environmental Policy Act (NEPA). It lays out general principles, and then considers environmental justice in specific phases of the NEPA process, from scoping to mitigation. An appendix provides guidance on key terms in Executive Order 12898.

Contact: Council on Environmental Quality, Executive Office of the President, 722 Jackson Place NW, Washington D.C. 20503, United States of America.

Department of Housing and Urban Development (1991). **The Noise Guidebook.** Department of Housing and Urban Development, Washington D.C.

Department of Housing and Urban Development (1991). **Environmental Review Guide for Community Development Block Grant Programs.** Department of Housing and Urban Development, Washington D.C.

Department of Housing and Urban Development (1994). **A Guide to HUD Environmental Criteria and Standards contained in 24 CFR 51 (Handbook 1390.4)** Department of Housing and Urban Development, Washington D.C.

Department of Housing and Urban Development (1995). **Environmental Assessment Guide for Housing Projects (Handbook 1390.2)** Department of Housing and Urban Development, Washington D.C.

Department of Housing and Urban Development (1998). **Training Manual For HUD Staff to Conduct an Environmental Review.** Department of Housing and Urban Development, Washington D.C.

Contact: US Department of Housing and Urban Development, Washington D.C., United States of America.

Department of the Interior (1980). **Departmental Manual: Environmental Quality, Part 516 National Environmental Policy Act of 1969.** Department of the Interior, Washington D.C. (75 p.)

This manual establishes the Department's policies and procedures for complying with the National Environmental Policy Act (NEPA), and also the regulations of the Council on Environmental Quality (CEQ) implementing the procedural provisions of NEPA.

Contact: Department of the Interior, MS 2340 Interior Building, 1849 C Street NW, Washington D.C., United States of America.

Environmental Protection Agency (undated). **EPA Procedures for Implementing the Requirements of the Council on Environmental Quality in the National Environmental Policy Act (40 CRF Part 6)** Environmental Protection Agency, Washington D.C. (59 p.)

This document is set out in 10 parts, each of which deals with a specific aspect of the Council of Environmental Quality's requirements. These include content of EISs, coordination with other environmental review and consultation requirements, and public and other federal agency involvement. It then addresses the environmental review procedures for a number of sectors including wastewater treatment, the new source National Pollutant Discharge Elimination System (NPDES) programme, Office of Research and Development projects, solid waste demonstration projects, and EPA facility support activities. The final part deals with the assessment of the environmental effects abroad of EPA actions.

Environmental Protection Agency (1984). **Policy and Procedures for the Review of Federal Actions Impacting the Environment.** Environmental Protection Agency, Washington D.C. (28 p.)

This document establishes policies and procedures for carrying out the EPA's responsibilities to review and comment on Federal actions affecting the quality of the environment. It assigns specific responsibilities and outlines mechanisms for resolving problems that arise in the environmental review process. As well as considering the review process for environmental impact statements, the document covers monitoring and follow-up, review of documents other than environmental impact statements and referrals to the Council on Environmental Quality. An appendix provides a summary of rating definitions and follow-up action.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1991). **Checklist for NEPA Reviewers - Non-Coal Mine Sites. Final Draft.** Environmental Protection Agency, Washington D.C. (i, 76 p.)

These guidelines are intended to assist EPA staff in providing scoping comments on National Environmental Policy Act (NEPA) documents for non-coal mining activities. The guidelines focus on EPA's major concerns with surface and groundwater, air, and sensitive receptors of impacts - as related to mining. The document provides an overview of site operations, potential environmental impacts associated with the operation, possible mitigation measures and types of questions that the EPA should raise. The document is intended to cover all major non-coal mining sectors including gold and silver, base metals and phosphate.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1992). **Background for NEPA Reviewers: Crude Oil and Natural Gas Exploration, Development and Production. Draft.**, Washington D.C. (95p.)

This document is intended to assist EPA staff in providing scoping comments on National Environmental Policy Act (NEPA) documents. It focuses on the EPA's major concerns with surface and groundwater, air, and ecosystems and sensitive receptors as related to oil and gas. It does not discuss human health risks in any detail since such risks are very site-specific. Also, it addresses only onshore operations and does not deal with offshore drilling and development. The document provides a general description of site operations, potential environmental impacts associated with each operation, possible mitigation measures, and types of questions to be raised by the EPA. The document focuses on those operations that have significant impact on the environment, including reserve pits, drillings fluids/ cuttings management, water disposal, well site and road construction, pipelines and storage tanks, and production operations.

Environmental Protection Agency (1993). **Sourcebook for the Environmental Assessment (EA) Process.** United States Environmental Protection Agency, Washington D.C. (400 p.)

This sourcebook was developed in response to an increasing demand for information on the EA process in the United States by foreign governments, states and others. Although the sourcebook reflects the U.S. experience in implementing the National Environmental Policy Act (NEPA), the process described is widely applicable.

The focus is on project-level EA, and the book is organised around the major EA components, including scoping, assessment, decision-making and post-decision analysis. Each section contains a description of the activity followed by subsections describing the relevant needs, tools, issues, linkages and references. In addition attachments to each section provide information that is often not widely available e.g. internal reports, pertinent journal articles etc.

The sourcebook is intended to be an easy to use reference manual. It is in a loose-leaf format, designed to facilitate frequent updating. A supplement is provided on diskettes.

Southerland, M. & Environmental Protection Agency (EPA) (1993). **Habitat Evaluation: Guidance for the Review of Environmental Impact Assessment Documents.** Environmental Protection Agency, Washington D.C. (vii, 129p.)

This document is designed to assist National Environmental Policy Act (NEPA) reviewers in evaluating the ecological risks associated with the impacts of federal activities. In particular it is intended to help reviewers recommend mitigations to prevent the loss of habitat. The document starts with a general discussion of habitat issues relevant to environmental assessment, including habitat values, degrading activities, impacts and mitigations. Eight regional habitat evaluation sections, representing the six major habitat regions of the US plus Alaska and Hawaii, provided more specific information. Each regional discussion includes a list of habitats of concern, activities impacting on habitats and recommended mitigations for habitat conservation. The focus of the document is on terrestrial habitats, and it is not intended to serve as complete guidance or as a simplified checklist for environmental project review.

Southerland, M. & Environmental Protection Agency (EPA) (1994). **Evaluation of Ecological Impacts from Highway Development.** Environmental Protection Agency, Washington D.C. (iv, 69p.)

This report builds on the guidance provided in Habitat Evaluation: Guidance for the Review of Environmental Impact Assessment Documents, and provides specific information on the ecological impacts associated with highway development. The document focuses on the potential mitigations that may be implemented during highway planning, design, construction and operation. The document illustrates how the evaluation of ecological impacts meets existing requirements for National Environmental Policy Act (NEPA) analyses. It then discusses the many specific impacts on ecosystems that result from highway development activities and goes on to provide a framework for addressing ecosystem conservation through evaluation of highway impacts. Specific methods for evaluating these impacts are presented along with mitigation measures. A bibliography is included.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1994). **Environmental Impact Assessment Guidelines for New Source NPDES Permits. Ore Mining and Dressing and Coal Mining and Preparation Plants Point Source Categories.** Environmental Protection Agency, Washington D.C. (vii, 325 p.)

These guidelines provide background information for EPA staff to assist them in consulting with, and directing, applicants for new source National Pollutant Discharge Elimination System (NPDES) permits. The document sets out the scope and contents of environmental information documents (EIDs) and is a reference to assist the identification and evaluation of the potential impacts of proposed mining projects. The guidelines consider the requirements and provisions of the National Environmental Policy Act of 1969 (NEPA). They then provide an overview of ore mining and dressing; commodity-specific mining (including precious metals, iron, uranium and other metals); coal mining and processing. Environmental issues and impacts associated with mining operations are then considered, including: acid rock drainage, cyanide heap leaching, structural stability of tailings impoundments, sedimentation/erosion, pollutants, air quality, subsidence and methane emissions. A section on impact analysis describes specific NEPA requirements and needs, building on the information presented in the previous sections. A final section looks at the statutory framework, describing the purpose and broad goals of the various Federal statutes that are applicable to the mining industry.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1994). **Environmental Impact Assessment Guidelines for New Source NPDES Permits. Pulp, Paper, and Paperboard and Timber Products Processing Point Source Categories.** Environmental Protection Agency, Washington D.C. (vi, 258 p.)

These guidelines provide background information for EPA staff, and for applicants, for new source National Pollutant Discharge Elimination System (NPDES) permits on the scope and content of environmental assessments. The document is a supplement to the more general Environmental Impact Assessment Guidelines for Selected new Source Industries, which provides general guidance for preparing environmental assessments. An historical overview of the 1969 National Environmental Policy Act (NEPA) is given, including the information required from permit applicants and EPA's review procedures. The document goes on to provide an overview of the pulp and paper and timber industries, including major processes, process wastes, control technologies and pollution prevention measures. The major environmental issues associated with the industries are described, including impacts on water quality and quantity, impacts on air quality, solid waste management impacts, issues related to siting and construction, socioeconomic issues, aesthetics and noise. Guidance is then provided on the NEPA requirements for impact analysis. Finally, a regulatory overview gives information on the various statutes that affect the pulp and paper and timber industries.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1994). **EIA Guidelines for New Source Petroleum Refineries and Coal Gasification Facilities.** Environmental Protection Agency, Washington D.C. (xii, 128 p.)

These guidelines are arranged in three parts. A regulatory overview outlines the National Environmental Policy Act (NEPA), the Clean Water Act under which National Pollutant Discharge Elimination System (NPDES) permits are granted, and other relevant laws and statutes that provide the regulatory context for the guidelines. A technology overview covers the processes and pollution control activities that are used in petroleum refining and coal gasification. Finally, a section on environmental documentation sets out the structure of a typical environmental impact statement. Emphasis is on qualitative and quantitative approaches for identifying the occurrence, magnitude and significance of specific impacts.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1994). **Environmental Impact Assessment Guidelines for New Source Fossil Fueled Steam Electric Generating Stations.** Environmental Protection Agency, Washington D.C. (viii, 95 p.)

These guidelines are in three parts. A regulatory overview outlines the National Environmental Policy Act (NEPA), the Clean Water Act under which National Pollutant Discharge Elimination System (NPDES) permits are granted, and other relevant laws and statutes that provide the regulatory context for the guidelines. A technology overview covers the processes and pollution control activities that are used in fossil fueled steam electric generating stations. The final part on environmental documentation follows the structure of a typical environmental impact statement. Emphasis is on qualitative and quantitative approaches for identifying the occurrence, magnitude and significance of specific impacts.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1994). **Background for NEPA Reviewers - Grazing on Federal Lands.** Environmental Protection Agency, Washington D.C. (iii, 39p.)

This document is intended to assist EPA staff in providing scoping comments and comments on National Environmental Policy Act (NEPA) documents associated with grazing on federal lands, such as grazing environmental impact statements and resource management plans. The document focuses on the EPA's major concerns with surface and groundwater, soils and ecosystems as related to livestock overgrazing and provides technical background material explaining these issues. The document includes a technical description of grazing; potential environmental impacts, direct and indirect, associated with grazing; possible mitigation measures; types of questions that should be raised by the EPA; and an explanation of the statutory and regulatory framework under which grazing on federal land occurs.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1994). **Energy Efficiency Reference for Environmental Reviewers.** Environmental Protection Agency, Washington D.C. (ii, 46p.)

This document provides background information on the ways that the environmental review process required by the National Environmental Policy Act (NEPA) and the environmental oversight provisions of Section 309 of the Clean Air Act (CAA) can be employed to prevent pollution and save valuable natural resources through the promotion of energy efficiency. The document describes a number of processes and methodologies for energy impact assessment and provides an overview of the regulatory and policy framework relating to energy conservation. An appendix gives details of a number of energy conservation programmes in practice.

Environmental Protection Agency (EPA) & Science Applications International Corporation (1995). **Pollution Prevention - Environmental Impact Reduction Checklists for NEPA/309 Reviewers.** Environmental Protection Agency, Washington D.C. (110 p.)

This guidance was prepares to assist National Environmental Policy Act (NEPA)/Section 309 Clean Air Act reviewers in incorporating pollution prevention into each step of the environmental review process, including scoping, mitigation, monitoring and enforcement. Following a brief introduction to the concept of pollution prevention, the document provides 30 sectoral checklists for environmental impact reduction. These cover the following: energy management; habitat protection; landscaping; pest management; siting; vehicle maintenance; water use; irrigation; airports; construction; chemical demilitarization; coal-fired power plants; dams, hydropower and water supply reservoirs; defense testing; dredging; flood control; forestry; grazing; hazardous waste incinerators, storage and treatment facilities; highways and bridges; military base closure; mining; natural gas pipelines; nuclear decommissioning; oil and gas; recreation and tourism; rockets and missiles; landfills; and waste site investigations and cleanup activities.

Environmental Protection Agency (1995). **Draft Guidance for Consideration of Environmental Justice in Clean Air Act 309 Reviews.** Environmental Protection Agency, Washington D.C. (10 p.)

This guidance is intended to help EPA environmental reviewers achieve two goals in reviewing environmental effects of proposed actions under section 309 of the Clean Air Act. Firstly, to ensure the full analysis of environmental effects on minority communities and low-income communities, including human health, social and economic effects, as directed in the Executive Order signed by President Clinton in February 1994 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Secondly, to identify project impacts, alternatives and mitigation measures that minimize environmental effects, including identifying and addressing impacts to minority communities and low-income communities, as mandated by the National Environmental Policy Act (NEPA). The document notes that the issues associated with environmental justice are complex and diverse and that every region will encounter unique situations. This guidance is therefore not intended to be the definitive guide on the subject.

Environmental Protection Agency (1997). **Interim Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses.** Environmental Protection Agency, Washington D.C. (iv, 57 p.)

This document provides guidance on how to implement environmental justice goals into the EPA's preparation of environmental impact statements and environmental assessments under the National Environmental Policy Act (NEPA). It highlights important ways in which EPA-prepared NEPA documentation may help to identify and address environmental justice concerns by considering the full potential for disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. Methods and tools for identifying and assessing such effects are illustrated and mechanisms to enhance public participation are considered.

Contact: US Environmental Protection Agency, Office of Federal Activities, 401 M Street, SW, Washington DC 20460, USA.

Federal Aviation Authority (FAA) (1986). **Policies and Procedures for Considering Environmental Impacts.** Federal Aviation Authority, Department of Transportation, Washington D.C. (54 p.)

This document establishes policy and procedure for assuring FAA compliance with environmental procedures as set forth in the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA). It provides advice on the various stages of the environmental assessment process, from preliminary procedures to preparation of environmental impact statements. Appendices provide further information on specific activities including airports, air traffic and environment and energy.

Contact: Federal Aviation Authority, Department of Transportation, 800 Independence Avenue SW, Washington D.C. 20591, United States of America.

Federal Emergency Management Agency (FEMA) (undated). **FEMA's NEPA Desk Reference.** Federal Emergency Management Agency, Washington D.C. (53 p.)

This document is a student reference which is distributed to FEMA training course participants and is at present the only guidance on EIA produced by the Agency. It provides an overview of the National Environmental Policy Act (NEPA), how this is implemented by FEMA, and when and how FEMA should conduct an environmental assessment.

Contact: Federal Emergency Management Agency, 500 C Street SW, Washington D.C. 20472, United States of America.

Federal Emergency Management Agency (FEMA) (undated). **44 CFR Part 10: Environmental Considerations.** Federal Emergency Management Agency, Washington D.C. (10 p.)

This document implements the Council on Environmental Quality's regulations. It provides policy and procedures to enable FEMA officials to be informed of, and take account of, environmental considerations when authorising or approving major FEMA actions that significantly affect the environment in the United States.

Contact: Federal Emergency Management Agency, 500 C Street SW, Washington D.C. 20472, United States of America.

Interorganizational Committee on Guidelines and Principles for Social Impact Assessment (1994). **Guidelines and Principles for Social Impact Assessment.** NOAA Technical Memorandum NMFS-F/SPO-16. U.S. Department of Commerce, Washington, D.C. (29 p.)

This monograph presents the central principles of social impact assessments (SIA) and some operational guidelines for use by federal agencies. Social impacts are defined in terms of efforts to assess or estimate in advance, the social consequences that are likely to follow from specific policy actions and specific government actions, particularly in the context of the US National Environmental Policy Act (NEPA) of 1969.

The document is the first systematic and interdisciplinary statement to offer guidelines and principles to assist government agencies and private sector interests in using SIA to make better decisions under NEPA. A broad overview on SIA is provided, focusing less on methodological details - although the basic steps in the SIA process are laid out - and more on the guidelines and principles for the preparation of technically and substantively adequate SIA's within reasonable time and resource constraints.

Contact: International Association for Impact Assessment, PO Box 70, Belhaven NC 27810, USA.

Polar Regions

Antarctic

The Protocol on Environmental Protection to the Antarctic Treaty of 1991 ("the Madrid Protocol") was signed by Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, South Africa, the United Kingdom, the Soviet Union and the United States. Fourteen other countries are now "consultative parties". The Protocol is being implemented by the treaty nations through their own domestic legislation. The Committee of Managers of National Antarctic Programs (COMNAP) has published practical guidelines to assist those preparing initial and comprehensive assessments.

Her Majesty's Stationary Office (1992). **Protocol on Environmental Protection to the Antarctic Treaty, with Final Act of the Eleventh Antarctic Treaty Special Consultative Meeting, 4th October 1991, Madrid.** Her Majesty's Stationary Office, London. (38 p.)

This Protocol was agreed by the Antarctic Treaty nations in 1991 and includes requirements that EIA must be applied in the planning and operation of all activities undertaken in Antarctica. Article 8 provides for the EIA of specified activities listed in Annex I. The Protocol identifies three levels of EIA: Preliminary, Initial Environmental Evaluation, and Comprehensive Environmental Evaluation. These relate to the degree and type of impact that the proposal may produce. The detailed requirements for EIA set out in Annex 1 cover issues such as initial and comprehensive environmental evaluation, monitoring, circulation of information, and cases of emergency.

Contact: Her Majesty's Stationary Office, PO Box 276, London SW8 5DT, United Kingdom.

Council of Managers of National Antarctic Programmes (CONMAP) (1992). **The Antarctic Environmental Assessment Process: Practical Guidelines.** (second edition) Council of Managers of National Antarctic Programmes (CONMAP), Washington D.C. (11 p.)

This guide provides general advice to managers of national Antarctic programmes on the implementation of EIA procedures in Antarctica. Such procedures are called for by the Protocol on Environmental Protection to the Antarctic Treaty (see HMSO 1992). The guidelines are meant to encourage flexibility and creativity in the preparation of both initial and comprehensive environmental evaluations (IEEs and CEEs). The document reiterates and then elaborates on the Protocol's requirements for IEE and CEE documentation. Various issues are covered: description of proposed activity, existing environment, methods and data, analysis of expected impacts, alternatives, mitigation, monitoring, unavoidable impacts, potential impacts on research and other uses, timetable for the EA process, and audit arrangements. A set of definitions of terms is included.

Contact: CONMAP Secretariat, GPO Box 824, Hobart, Tasmania 7001, Australia.

Foreign and Commonwealth Office (1995). **Guide to Environmental Impact Assessment of Activities in Antarctica.** Foreign and Commonwealth Office, London. (14 p.)

This guide is a simple introduction to EIA in Antarctica and the requirements for EIA under the UK Antarctic Act 1994, and the Antarctic Regulations 1995. The document describes the principles of the Environmental Protocol to the Antarctic Treaty 1991, briefly describes the main provisions of the Antarctic Act, provides details of the EIA procedures required by the Antarctic regulations,and gives advice on best practice in carrying out EIA.

Contact: Polar Regions Section, South Atlantic and Antarctic Department, Foreign and Commonwealth Office, King Charles Street, London SW1A 2AH, United Kingdom.

Arctic

EIA is legislated in all of the eight countries surrounding the Arctic (Denmark/Greenland, Finland, Iceland, Norway, Sweden, Canada, USA (Alaska) and Russia). In 1991, the Arctic Environment Protection Strategy (AEPS) was agreed by the arctic nations. The Arctic Council, established in September 1996, assumed control of the AEPS and other activities. EIA guidelines were published in 1997. EIA will be an integral part of the Arctic Offshore Oil and Gas

Guidelines prepared under PAME (Protection of Arctic Marine Environment, AEPS).

Ministry of the Environment (1997). **Guidelines for Environmental Impact Assessment in the Arctic: Arctic Environmental Protection Strategy.** Ministry of the Environment, Helsinki. (50 p.)

These guidelines are the result of an international effort involving all of the Arctic countries, representatives of indigenous peoples and the WWF Arctic Programme. They give practical guidance for EA in the northern circumpolar areas, especially for local authorities, developers and local people. The guidelines raise issues that are unique to arctic assessments - such as permafrost - but they also emphasise universal issues that are particularly important in the Arctic - such as public participation and the use of traditional knowledge.

The introduction explains the aim of the guidelines and the key tasks and objectives of an Arctic EIA process, explaining why EIA in the arctic is special and what are its important elements. Subsequent sections consider when an EIA should be undertaken and the scope of an assessment, and review the need for baseline information. Types of impact, cumulative impacts, impact prediction, and evaluation of impacts are also discussed. Further sections cover mitigation and monitoring, the EIA document, public participation, traditional knowledge and transboundary impacts. There are several appendices covering: common Arctic features, areas demanding particular attention, definitions, and sources of information.

Contact: Finnish Ministry of the Environment, PO Box 399, FIN-00251 Helsinki, Finland.

Agency Guidelines

Multilateral Development Banks

African Development Bank

African Development Bank (AFDB) (1995).
Environmental Sectoral Policy Guidelines for the Industrial Sector. African Development Bank, Abidjan. (30 p., 6 appendices)

This report contains environmental sectoral policy (ESP) guidelines for the industrial sector which are intended as a working tool for Bank staff, officials in Regional Member Countries (RMCs) and managers of industry projects financed by the Bank Group. The guidelines are based on the Bank's Environmental Policy paper of 1990 and its Environmental Assessment Guidelines (AFDB 1992). They present general principles for integrating environmental concerns into industry projects and introduce tools for obtaining environmental information from this sector.

The environmental situation in RMCs is reviewed and the main environmental issues encountered in industry projects are presented. Principles of responsible environmental management are restated with special emphasis on environmental management systems (EMS). A number of methods and measures for improving environmental performance of industry projects and mitigative measures are discussed: cleaner production, principles for pollution control, monitoring and data collection, and clean-up of contaminated sites. The EA procedure of the Bank is reviewed and two new tools are introduced for improving environmental information needed for categorization and ensuring an environmentally acceptable project design: Initial Environmental Examination Checklist (IEEC), and environmental audit methodology. There are six appendices for industry projects covering: environmental guideline values; IEEC; environmental audit protocol; model for an EMS; suggested terms of reference and a suggested report format for an environmental audit.

These guidelines are complemented by separate sectoral guidelines, which are referenced separately below.

African Development Bank (AFDB) (1995).
Environmental Guidelines for Mining Projects. African Development Bank, Abidjan. (75 p., 2 annexes)

These guidelines are structured in nine sections. The environmental policy of the Bank is outlined and the basis for the categorization of projects into three distinct categories of environmental impact classification is presented. The EA system for mining projects is described: identification, preparation, appraisal, implementation and post-evaluation phases. Guidelines on EA during the pre-mining, operational and rehabilitation phases are outlined for small-, medium-, and large-scale mining activities. Socio-economic and cultural issues related to mining activities such as noise and dust levels, waste disposal, water pollution, work conditions, and disruption of social infrastructures, are discussed and mitigative measures suggested. The importance of adequate legislative measures to guarantee adherence to the environmental mining guidelines is emphasized. Recommendations for legislation in mining are provided. An environmental impact checklist and sensitivity index score sheet is included to facilitate impact assessment by Bank and government officials. The guidelines conclude with annexes including internationally approved limits for air and water pollution and well as recommended limits for noise and vibration.

African Development Bank (AFDB) (1995).
Guidelines on Involuntary Displacement and Resettlement in Development Projects. African Development Bank, Abidjan. (54 p.)

These guidelines, presented in four sections, are primarily for internal use by Bank staff. They are intended as flexible procedures to be regularly revised. The document sets out basic policy principles and operational procedures to apply when addressing development-induced involuntary resettlement for the Bank Group. The introductory section provides background and objectives. It is followed by a discussion of involuntary resettlement by sector (agriculture, industry and infrastructure, public utilities, transportation, and parks and protected areas) and also covering the role of NGOs. Section 3 deals with general considerations for planned resettlement. The final section is concerned with development-oriented resettlement planning and

covers: alternative project design; development approach (including the legal framework); valuation and compensation (including land ownership, tenure and acquisition, shelter, infrastructure and social services), environmental protection and management, and cost estimation.

African Development Bank (AFDB) (1997).
Environmental Assessment Guidelines: Fisheries. African Development Bank, Abidjan. (viii, 35 p., 5 appendices)

The sector overview sets out the Bank's priorities and existing and future projects. Chapter 3 deals with environmental issues in this sector and discusses: resources and problems; benefits associated with the sector; and issues and impacts in respect of capture-based and aquaculture fisheries.

African Development Bank (AFDB) (1997).
Environmental Assessment Guidelines: Energy. African Development Bank, Abidjan. (viii, 69 p., 5 appendices)

The sector overview sets out the Bank's priorities for non-renewable (oil and gas, coal and nuclear) and renewable (hydropower, solar, wind, biomass) energy sources. Energy use, potential and production is also discussed. Chapter 3 deals with environmental issues and impacts in this sector and examines: alternative energy - both non-renewable energy sources (including thermoelectric projects) and renewable sources (hydropower, solar energy systems, wind energy, geothermal energy and biomass); transmission and distribution (oil and gas pipelines, electrical transmission lines).

African Development Bank (AFDB) (1997).
Environmental Assessment Guidelines: Crop Production. African Development Bank, Abidjan. (viii, 68 p., 5 appendices)

The sector overview sets out the Bank's objectives, describes its crop production programmes, provides a rationale for EA of crop production and considers specific issues related to food crops and export/ industrial crops. Chapter 3 deals with environmental issues in this sector and examines: environmental impacts, mitigation and enhancement; physical issues (soil and water quality); biological issues (particularly habitat loss and decreased biodiversity); and social issues (health, resettlement, land tenure, alternative land use, and cultural resources).

African Development Bank (AFDB) (1997).
Environmental Assessment Guidelines: Forestry and Watershed Management. African Development Bank, Abidjan. (viii, 96 p., 5 appendices)

The first chapter is an introduction. The second is a sector overview which discusses forest and watershed resources, describes the Bank's priorities and projects and provides a rationale for EA. Chapter 3 deals with environmental issues in this sector and examines: macroeconomic policies; biodiversity, wildlands and wetlands; and WID perspectives. A tabular framework for EAs is presented with potential environmental impacts for each of four types of project (planting, harvesting, processing, and watershed improvement) divided into physical, biological and social effects. Potential mitigation measures are listed for each negative impact, and potential enhancement measures are listed for each positive effect. Further sub-sections discuss the impacts of these four types of projects.

African Development Bank (AFDB) (1997).
Environmental Assessment Guidelines: Education. African Development Bank, Abidjan. (viii, 63 p., 5 appendices)

The first chapter is an introduction. The second is a sector overview which sets out priority areas for Bank educational projects. Chapter 3 deals with environmental issues in this sector and presents a rational for EA. It examines potential environmental impacts, mitigation and enhancement, and discusses educational infrastructure and the positive impacts of educational programs covering: environmental curriculum components, teacher training, cross-sectoral collaboration, literacy programs, skills and on-the-job training, micro-credit lending, and income generating activities.

African Development Bank (AFDB) (1997).
Environmental Assessment Guidelines: Irrigation. African Development Bank, Abidjan. (viii, 73 p., 5 appendices)

The first chapter is an introduction. The second gives an overview of the irrigation sector. Chapter 3 deals with potential environmental impacts and mitigation in this sector. There are sub-sections covering physical and chemical impacts (in relation to such matters as soils, management of nutrients in irrigation, groundwater, return irrigation flows quality, etc.); biological impacts; human and cultural impacts; impacts and mitigation during construction and during operations and maintenance; education on the practice of irrigation and drainage projects; and remote sensing and GIS. Chapter sets out questions to be asked at each stage of the project cycle and the final chapter discusses technical and institutional resources and constraints. Appendices provide: a list of AFDB environmental and policy documents; outline of Category I and II environmental impact studies; environmental documentation for Category III projects; 'women in development' perspectives in EA; and technical guidance.

African Development Bank (AFDB) (1995). **Environmental Assessment Guidelines on Coastal and Marine Resources Management.** African Development Bank, Abidjan. (vi, 136 p., 6 annexes)

These guidelines are primarily for use by Bank staff and are intended as flexible procedures to be regularly revised. They are organized in six chapters. Chapter 1 is an introduction which also outlines the Bank's overall environmental policy. Chapter 2 discusses the main issues in coastal zones and introduces the concept of integrated coastal zone management. It briefly focuses on demographic and infrastructural pressure and global sea rise. The next chapter provides an overview of coastal habitats and resources, their distribution and uses, and an assessment of development trends for Africa as a whole as well as for selected countries. Chapter 4 addresses the need for strengthening environmental and other institutions related to the management of coastal and marine resources. Guidelines of particular relevance for coastal and marine resources are given in Chapter 5, organised by sector. The final chapter presents the project cycle adopted by the AFDB. There are six annexes covering: a list of literature, sample terms of reference for EA, sample lists of contents for an EIA report, the AFDB checklist for initial environmental examination, sample table of contents for a coastal zone management plan, and the Montreal Guidelines on Land-Based Pollution.

Contact: African Development Bank, BP 1387, Abidjan 01, Cote d'Ivoire.

Asian Development Bank

Asian Development Bank (ASDB) (1987). **Handbook on the Use of Pesticides in the Asia-Pacific Region.** Asian Development Bank, Manila. (294 p.)

Asian Development Bank (ASDB) 1988). **Guidelines for Integrated Regional Economics-cum-Environmental Development Planning: A Review of Regional Environmental Planning Studies in Asia. I: Guidelines, II: Case Studies.** Asian Development Bank, Manila (xi, 125 p., case studies)

Asian Development Bank (ASDB) (1987). **Environmental Guidelines for Selected Agricultural and Natural Resources Development Projects.** Asian Development Bank, Manila. (iv, 115 p.)

This manual is one of a series of three prepared by the Asian Development Bank for use by the Bank's project divisions. The other two volumes cover industrial and power development projects, and infrastructure projects. It is understood that all three are currently under revision (July 1998).

The purpose of the guidelines is to enable Bank project staff to prepare an initial environmental assessment. The sectors considered are irrigation, fisheries/aquaculture, watershed development, coastal zone development, forestry and land clearance. For each sector, the required procedure for conducting the initial assessment is detailed with a checklist of environmental parameters to be considered, examples of mitigation measures and an outline for a full EIA. As in the other manuals the final annex contains guidelines for all types of projects including resettlement, encroachment and noise abatement.

Asian Development Bank (ASDB) (1991). **Environmental Guidelines for Selected Infrastructure Projects.** Asian Development Bank, Manila. (xiv, 128 p.)

This manual is one of a series of three prepared by the Asian Development Bank for use by the Bank's project divisions. The other two volumes cover agricultural and natural resource development projects, and industrial and power development projects. It is understood that all three are currently under revision (July 1998).

The guidelines are designed for use by Bank project staff, to enable them to prepare an initial environmental assessment (IEE) for the proposed project. Annexes set out guidelines, checklists and report formats for the IEE for specific projects: airports, highways and roads, ports and harbours, sewerage and excreta disposal, community water supply systems and urban development. As in the other manuals in the series, the final annex provides guidelines relevant to all types of projects, covering issues such as environmental standards and critical parameters.

Asian Development Bank (ASDB) (1990). **Environmental Guidelines for Selected Industrial and Power Development Projects.** Asian Development Bank, Manila. (xiii, 154 p.)

This manual is one of a series of three prepared by the Asian Development Bank for use by the Bank's project divisions. The other two volumes in the series cover agricultural and natural resource development projects, and infrastructure projects. It is understood that all three are currently under revision (July 1998).

The purpose of the guidelines is to assist Bank project staff to prepare an initial environmental assessment (IEE) for the proposed project. The annexes of the manual set out guidelines, checklists and report formats for the IEE for specific projects. These

include: dams, reservoirs and hydropower; thermal power development; industries; fertilizer; mining; cement manufacturing plants; power transmission lines; oil and gas distribution lines. The final annex provides guidelines relevant to all types of projects, covering issues such as resettlement, pollution control and monitoring.

Asian Development Bank (ASDB) (1991). **Environmental Evaluation of Coastal Zone Projects: Methods and Approaches.** ASDB Environment Paper. Asian Development Bank, Manila. (ii, 72 p.)

The material in this paper supplements that provided in several previous ASDB documents: "Environmental Guidelines for Selected Agricultural and Natural Resources Development Projects" (1987); "Guidelines for Integrated Economic-cum-Environmental Development Planning" (1988); and "How to Assess Environmental Impacts of Tropical Islands and Coastal Areas" (prepared by the East-West Centre, Hawaii, 1989).

Key features of selected coastal habitats are described for non-technical readers, followed by a fuller treatment of the potential impacts of development projects at the level of an initial environmental assessment (IEE). These are presented in the form of impact matrices covering three broad categories of projects: managed ecosystems (agriculture, wetland forestry, nearshore fisheries, and aquaculture/ mariculture); infrastructure (roads, ports and harbours, and residential urban development); and, industry (location, design, construction, and operations). Cross-sectoral impacts and interactions are also considered.

The document then applies the integrated planning approach (discussed in "Environmental Guidelines for Selected Agricultural and Natural Resources Development Projects" mentioned above) to coastal zone development. It discusses regional and local coastal resource plans and gives country examples of coastal resource management approaches. Appendices include an ASDB checklist for IEE of coastal zone projects and a list of organisations dealing with wetlands and coastal habitats in ASDB's developing member countries.

Asian Development Bank (ASDB) (1991). **Environmental Risk Assessment: Dealing with Uncertainty in Environmental Impact Assessment. ASDB Environment Paper.** Asian Development Bank, Manila. (vii, 182 p.)

This paper, prepared by the East-West Centre, Honolulu, is one of a series published by the Asian Development Bank dealing with environmental and natural resources planning and management in the Asian and Pacific region. It is a training and reference document intended to help project managers in the Bank and in developing countries to apply environmental risk assessment (ERA) in decision-making. The document provides a good, though brief, account of ERA and its application.

The several parts of the document are designed for different uses. Part 1 presents the state-of-the-art (in 1990) of ERA and serves as a reference for understanding the procedures and guidelines in Part 2. The Guidelines themselves (Part 2) are a stepwise approach to setting Terms of Reference for an ERA. The logic diagrams and checklists screen projects to select which require ERA and set the scope of the analysis. Part 3 comprises case examples that illustrate the Guidelines.

Asian Development Bank (ASDB) (1991). **Environmental Considerations in Energy Development.** Asian Development Bank, Manila.

Asian Development Bank (ASDB) (1993). **Environmental Assessment Requirements and Environmental Review Procedures of the Asian Development Bank.** Asian Development Bank, Manila. (43 p.)

Asian Development Bank (ASDB) (1993). **Guidelines for Incorporation of Social Dimensions in Bank Operations.** Asian Development Bank, Manila. (viii, 39 p.)

These guidelines supersede the 1991 Guidelines for Social Analysis of Development Projects. They aim to encourage the incorporation of social dimensions in the formulation of development strategies, in the translation of strategies into operational programmes, and in the design, implementation and evaluation of development programmes and projects.

The guidelines are for use by Bank staff, consultants, member countries and other practitioners, and provide an overall framework for incorporation of social issues and associated processes in all the Bank's operations. Detailed instructions for incorporating specific social dimensions are provided in the companion volume Handbook for Incorporation of Social Dimensions in Projects (1995).

Contact: Asian Development Bank (ASDB), PO Box 789, 1099 Manila, Philippines.

ASDB (1995). **Handbook for Incorporation of Social Dimensions in Projects.** Asian Development Bank, Manila. (104 p.)

This handbook is a supplement to Guidelines for Incorporation of Social Dimensions in Bank Operations (1993) and provides detailed suggestions for incorporating social dimensions into projects. It presents an overview of the elements which are covered in a social analysis, describes a framework for application of this analysis and provides guidance on conducting the analysis. Checklists are provided for 19 subsectors including forestry, water supply and sanitation, health and education, and development of small scale enterprises.

Birley, M.H. & Peralta, G.L. (1992). **Guidelines for the Health Impact Assessment of Development Projects.** AsDB Environment Paper No. 11. Asian Development Bank, Manila. (45 p. + Appendices)

This is one of a series of documents produced by the Asian Development Bank describing tools for use in the field. It is aimed at a non technical audience and provides a methodological framework. The document guides readers to more detailed information via the reading lists. This approach makes for a clear and succinct guide.

The main text contains five chapters describing health and its rationale for inclusion, types of health hazard, their identification, Initial Health Examination (IHE), and Health Impact Assessment (HIA). IHE aims to screen projects for health hazards as part of an Initial Environmental Examination (IEE). If projects pose a potential health a full HIA will be required. This involves three main tasks - the identification of the hazard, interpreting the health risk, and risk management. Stress is placed on the need for good collaboration between organisations and experts and on the need for community involvement.

Appendices outline the background to HIA and cover cross-boundary issues, (e.g. malaria, nutrition, mobility, resettlement and construction) as well as sectoral impacts such as agriculture, energy, industry, mining, transport and communication, urban renewal, water supply and sanitation, and tourism.

Carpenter, R.A., Maragos, J.E., Asian Development Bank (ASDB) & South Pacific Regional Environment Programme (SPREP) (1989). **How to Assess Environmental Impacts on Tropical Islands and Coastal Areas. South Pacific Regional Environment Programme Training Manual.** Environment and Policy Institute, East-West Center, Honolulu. (xiii, 345 p.)

This manual is a scientific training guide which recommends various techniques of EIA, whilst stressing the need to develop an individual approach towards each project. Its theme is the prediction of future environmental conditions resulting from economic development and technological change.

The manual explains how to design an EIA, and suggests key references to assist the practitioner undertake a full assessment. The documents provides a framework for drawing up terms of reference for EIA consultants, and also as a useful standard for EIA reviews. It is a useful desk reference work, providing definitions of common terms, examples of impacts and mitigative measures. Specific sectors covered by the manual include: agriculture, forestry, fisheries, tourism, energy, mining, waste management, construction, ports and harbours.

Dixon, J.D. et al. (1988). **Economic Analysis of the Environmental Impacts of Development Projects.** Asian Development Bank, & Earthscan, London.

Contact: Asian Development Bank (ASDB), PO Box 789, 1099 Manila, Philippines.

Caribbean Development Bank

Caribbean Development Bank (CDB) (undated). **Procedures for Environmental Impact Assessment (EIA).** Caribbean Development Bank, St Michael. (5 p.)

This short document lists the categories assigned to projects/components at the screening stage, and identifies the responsibilities of the project officer. Annex I illustrates the types of projects/components that might we included within the categories.

Contact: Caribbean Development Bank (CDB), PO Box 408, Wildey, St Michael, Barbados.

Development Bank of Southern Africa

Baskind, P., Holland, J., McKenzie, C. & Weilbach, D.J. (1994). **Environmental Analysis: Requirements and Monitoring Procedures: Internal Operating Guideline Paper No.1.** Environmental Policy Programme, Development Bank of Southern Africa, South Africa. (15 p.)

This document sets out the environmental analysis requirements of the Development Bank of Southern Africa (DBSA). It is intended to serve as a guide to the Bank's project staff and to provide information to Bank borrowers. It illustrates the extent and depth of

analysis required at each stage of the project cycle and other necessary compliance mechanisms. DBSA's procedures are compatible with the South African Department of Environmental Affairs' Integrated Environment Management Guidelines, and also aim to be compatible with internationally accepted procedures - in particular those of the World Bank and Asian Development Bank.

The guidelines are in two sections covering principles of environmental analysis, and environmental analysis and the project cycle, supported by flow diagrams. Appendices provide a categorisation of projects based on potential environmental impact, a list of designated and demarcated areas as a guide to projects requiring sensitive analysis, suggested contents for an initial environmental examination report and for an environmental assessment report, and a list of projects for which initial environmental matrices have been prepared.

Contact: Corporate Affairs Division, Development Bank of Southern Africa, PO Box 1234, Halfway House 1685, South Africa.

European Bank for Reconstruction and Development

European Bank for Reconstruction and Development & EC's PHARE Programme (1994). **Investors' Environmental Guidelines.** Graham and Trotman, London. (540 p.)

These guidelines are designed to clarify the environmental requirements in nine European countries: Bulgaria, the Czech and Slovak Republics, Estonia, Hungary, Latvia, Lithuania, Poland and Romania. For each country, an overview is provided of the administrative structure, environmental legislation and other regulatory requirements. The EIA process is described and the environmental requirements applicable to industrial and commercial facilities are presented for air emissions, water use, noise, waste management, and use of chemicals. Annexes for each country detail the key legislation, regulatory bodies, environmental standards and investment projects subject to EIA.

European Bank for Reconstruction and Development (EBRD) (1996). **Environmental Procedures.** European Bank for Reconstruction and Development, London. (31p.)

This document is a revision of procedures for Bank staff first published in 1992 and addresses the environmental appraisal process. Roles and responsibilities in this process are described together with types of environmental appraisal work: EIA, environmental analysis, environmental audit, initial environmental examination, and environmental action plans. The environmental appraisal process within the Bank is set out in detail with sections covering: operational identification, initial review, environmental investigations, consultation with the public, negotiations/environmental covenants, final review, Board approval, monitoring, completion and evaluation, reappraisal of operations, and workout and foreclosure. There are five annexes covering: public consultation, sample formats for EBRD EIA and audit reports, screening categories, and environmental standards.

European Bank for Reconstruction and Development (EBRD) (1997). **Investors' Guidelines for Environment, Health and Safety: Russian Federation. Volumes 1 and 2.** European Bank for Reconstruction and Development, London. (Vol 1: xiv, 149 p.; Vol 2: iii, 40 p., 5 annexes)

This is the first in a series of guidebooks for potential investors focusing on environmental, health and safety regulations that should be taken into account in making investment decisions in Eastern Europe and the countries of the former Soviet Union. This document deals with the Russian Federation and is intended to enable investors to familiarise themselves with the basic environmental regulatory regime related to commercial and industrial greenfield site developments, joint venture operations or company acquisitions in the Russian Federation. The guidebook reviews institutional arrangements for environmental control, legislative requirements and procedures, time implications for permitting, public consultation requirements, liability and sanctions.

The guidebook is organised in two parts. Volume 1 contains 15 chapters dealing with the principles of environmental, natural resource and safety regulations in the Russian Federation. Chapter 4 describes the requirements for and processes of pre-investment environmental investigation and environmental review, lists the scope of activities subject to such review and projects requiring EIA, describes documentation and reports required and the issues to be covered, discusses provisions for public participation, and covers environmental audit requirements.

Volume 2 contains a number of case studies which present a view of environmental regulations as they are practiced in various regions of the country. Annexes list permitting and enforcement authorities, legislative and normative Acts, proposed legislation, international conventions to which Russia is a signatory, and selected regulations on technical and economic substantiation (TEO) and EIA.

Contact: European Bank for Reconstruction and Development, One Exchange Square, London EC2A, United Kingdom.

Inter-American Development Bank

Inter-American Development Bank (IADB) (1990). **Procedures for Classifying and Evaluating Environmental Impacts of Bank Operations.** Inter-American Development Bank, Washington, D.C. (5 p.)

These procedures formalise the established practice of the Environmental Management Committee of early identification of those Bank operations that may have significant environmental impacts.

Bank operations are classified according to their environmental impacts as follows: Category I - operations which are designed specifically to improve environmental quality and, in general, do not require an EIA; Category II - operations that have no direct or indirect environmental impact and, therefore, do not require an EIA; Category III - operations which may have a moderate impact on the environment and those that have recognised and well-defined solutions, usually requiring a preliminary EIA (in some cases with a full EIA for specific components); and Category IV - operations which may have significant negative impacts and require a full EIA.

Contact: Inter-American Development Bank (IADB), 1300 New York Avenue NW, Washington DC 20577, USA.

World Bank

Haeuber, R. (1992). **A Citizen's Guide to World Bank Environmental Assessment Procedures.** World Bank, Washington D.C.

Brief precis of world Bank EA procedures.

Seglins, V. (undated). **Investors Guidelines for Performing Environmental Due Diligence in Latvia.** Ministry of Finance, World Bank, Riga. (28 p.)

The goal of environmental due diligence is to identify and assess the environmental consequences of economic activity, to determine the environmental situation in a particular area, and to develop proposals to improve environmental quality. In Latvia, this is a necessary requirement prior to the financing or realisation of any economic activity. These guidelines explain the mandatory minimum requirements an investor must fulfill, and the EIA process conducted by regional and/or national environmental authorities.

World Bank (1989). **Operational Directive 4.00 Annex B: Environmental Policy for Dam and Reservoir Projects.** World Bank, Washington D.C., USA. (25 p.)

World Bank (1990). **Operational Directive 4.30: Involuntary Resettlement.** World Bank, Washington D.C. (88 p.)

World Bank (1991). **Operational Directive 4.01: Environmental Assessment.** World Bank, Washington, D.C. (Includes Attachment 2, 1995.)

World Bank (1991). **Local Participation in Environmental Assessments of Projects.** Environmental Assessment Working Paper; 2. Environment Division, Africa Region, World Bank, Washington, D.C. (11 p.)

The World Bank's Environmental Assessment Operational Directive (OD 4.00) calls for the involvement of affected groups and NGOs in project design and implementation, and particularly in the preparation of EA reports. It is recognised, however, that conditions for effective local participation vary significantly between regions of the developing world, between countries within a region, and even between different parts of the same country. These guidelines are thus intended to promote the most effective local participation possible in the context of the Africa region.

The guidelines were prepared to assist regional staff, consultants, and borrower staff in planning for local participation in project environmental assessments. They are intended to complement the instructions given in Operational Directive 4.00, Annex A, and the more extensive guidance provided in Chapter 7 of the Bank's Environmental Assessment Sourcebook (World Bank 1991). A short checklist for Task Managers follows the guidelines, a more detailed version of which may be found in Chapter 7 of the Sourcebook.

World Bank (1991). **Environmental Assessment Sourcebook.** World Bank, Washington D.C. (3 volumes)

This Sourcebook collects World Bank policies and procedures, guidelines, precedents and practices regarding the environment into a three volume set of documents (referenced separately below). It is a reference manual which contains the information needed to manage the process of EA according to the requirements of the Bank's Operational Directive on EA (OD 4.00 Annex A, October 1989). It is specifically designed to assist EA practitioners, project designers and Bank task managers, but is of

interest and value to environmentalists in general and to all those concerned with EA or involved in establishing EA guidelines. The Sourcebook sets out to assist task managers in their advisory responsibilities, through discussion of fundamental environmental considerations (with emphasis on those with relatively more impact); summaries of relevant Bank policies; and analyses of other topics that affect project implementation (e.g. financial intermediary lending, community involvement, economic evaluation).

The contents have been organised to be individually accessible. The focus is on those operations with major potential for negative environmental impact, such as new infrastructure, dams and highways. Projects with less negative potential, such as maintenance and rehabilitation, are not examined in detail. The updates issued to date are referenced separately below. The most up-to-date version is available electronically to those able to access the Bank's "All-in-one" electronic mail.

Volume I: Policies, Procedures, and Cross-Sectoral Issues. World Bank Technical Paper 139 (1991). (227 p.)

Chapter 1 is recommended reading for those responsible for a Bank-supported project with potential significant environmental impacts. It summarises Bank EA requirements and outlines the Bank's environmental review process - from project screening, at the time of identification, to post-completion evaluation. A number of 'boxes' illustrate different applications of EA in development activities. OD 4.00, Annex A is provided as an appendix with other Bank operational policy and procedural documents relevant to EA. Annex 1-3 offers a standard format for Terms of Reference for an EA.

Chapters 2 and 3 consider ecological and socio-cultural issues, respectively, which are likely to arise in EA. In contrast, Chapters 4, 5 and 6 deal with 'methods': economic evaluation; institutional strengthening; and sector and financial intermediary lending. Chapter 7 discusses the implications of OD 4.00, Annex A, with respect to community involvement and the role of NGOs.

Volume II: Sectoral Guidelines. World Bank Technical Paper 140 (1991). (282 p.)

Chapters 8 and 9 in this volume, and Chapter 10 in Volume 3, outline general considerations and other relevant topics. The topics are indicated in the contents and are cross-referenced throughout the Sourcebook. The balance of each chapter covers specific types of projects chosen primarily because they have potentially significant environmental impacts. Projects are described briefly, potential impacts summarised and special issues noted. Possible alternatives to the project are outlined, and management and training needs discussed along with monitoring requirements. Each review provides a table of potential impacts and mitigatory measures. Sample terms of reference for the various project types are given.

Chapter 8 is concerned with agriculture and rural development with sections covering: management of agricultural production; integrated pest management and use of agrochemicals; agroindustry; dams and reservoirs; fisheries; flood protection; natural forest management; plantation development/reforestation; watershed development; irrigation and drainage; livestock and rangeland management; and rural roads.

Chapter 9 covers population, health and nutrition, transportation, urban development, water supply and sewerage. The following sections are included: public health and safety; environmental considerations for development projects in urban areas; roads and highways; inland navigation; port and harbor facilities; large-scale housing projects; solid waste collection and disposal systems; tourism development; water supply; and wastewater collection, treatment, reuse, and disposal systems.

Volume III: Guidelines for Environmental Assessment of Energy and Industry Projects. World Bank Technical Paper 154. (xiii, 237 p.)

This volume contains Chapter 10, which discusses energy and industry and includes 20 sections: industry hazard management; hazardous material management; plant siting and industrial estate development; electric power transmission systems, oil and gas pipelines; oil and gas development - offshore and onshore; hydroelectric projects; thermoelectric projects; financing nuclear power (options for the Bank); cement; chemical and petrochemical industry; fertilizers; food processing; small- and medium-scale industries; iron and steel manufacturing; nonferrous metals; petroleum refining; pulp, paper and timber processing; and mining and mineral processing.

World Bank (1993). Environmental Assessment Sourcebook Update No.1: The World Bank and Environmental Assessment: An Overview. World Bank, Washington D.C. (4 p.)

This first update provides a brief review of World Bank efforts to integrate environmental concerns into the mainstream of its lending activities during the last two decades. It also gives a summary of the main

findings and conclusions of the first EA Annual Review, and institutional responsibilities for implementing the EA process in Bank operations.

World Bank (1993). **Environmental Assessment Sourcebook Update No.2: Environmental Screening.** Environment Department, World Bank, Washington D.C. (4 p.)

This update covers the Bank's requirements for screening, determining the level of EA, selecting appropriate EIA instruments, criteria for making the classification decision, project type and scale, project location, sensitivity of issues, nature and magnitude of impacts, screening operations with multiple sub-projects, and outputs of screening. It replaces the screening section in Chapter 1 of the EA Sourcebook.

World Bank (1993). **Environmental Assessment Sourcebook Update No.3: Geographic Information Systems for Environmental Assessment and Review.** Environment Department, World Bank, Washington D.C. (4 p.)

GIS was not discussed in the EA Sourcebook. This update offers an overview of what GIS is and discusses the advantages of GIS and applications in EA, and also GIS as a tool for supporting resource inventories and baseline surveys, for impact assessment and analysis of alternatives, and for environmental monitoring.

World Bank (1993). **Environmental Assessment Sourcebook Update No.4: Sectoral Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (8 p.)

This Update expands on information in Chapter 1 (pp. 14-17) of the EA Sourcebook. It describes sectoral environmental assessment in terms of advantages, operational context, selection criteria, and components. It also discusses some of the challenges associated with sectoral environmental assessment preparation and how it is used in Bank operations.

World Bank (1993). **Environmental Assessment Sourcebook Update No.5: Public Involvement in Environmental Assessment - Requirements, Opportunities and Issues.** Environment Department, The World Bank, Washington D.C. (8 p.)

This Update describes information disclosure, consultation and participation requirements in the EA process. It replaces the EA Sourcebook's Chapter 7 "Community Involvement and the Role of Non-governmental Organisations in Environmental Review".

World Bank (1994). **Environmental Assessment Sourcebook Update No.6: Privatization and Environmental Assessment: Issues and Approaches.** Environment Department, The World Bank, Washington D.C. (8 p.)

This Update belongs in Chapter 2 of the EA Sourcebook, "Global and Cross-Sectoral Issues in Environmental Review". It seeks to: (i) present the main environmental issues frequently associated with privatization; (ii) show how these issues can be addressed in preparation and implementation of privatization schemes within the framework of the Bank's Environmental Assessment Operational Directive (OD 4.01); and (iii) suggest options for ensuring appropriate implementation of the required or recommended actions. Due to the different nature of the privatization operations of the International Finance Corporation (IFC), the Update only addresses the operations supported by the Bank (IBRD/IDA).

World Bank (1994). **Environmental Assessment Sourcebook Update No.7: Coastal Zone Management and Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (8 p.)

This Update expands on Chapter 1 (Vol 1, pp. 87-91) of the EA Sourcebook. It focuses on the use of environmental assessment as a coastal zone management tool in Bank-funded projects and programmes. Important subsystems of the coastal zone are described and examples given of relevant approaches in EA work.

World Bank (1994). **Environmental Assessment Update No.8: Cultural Heritage in Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (8 p.)

This update draws attention to the importance of cultural heritage in the EA process and suggests ways in which EA can help protect heritage. Sections discuss cultural heritage in international and national law, in World Bank work, in the EA report, and also public consultation. It replaces the guidance provided on this subject in Chapter 3 of the EA Sourcebook.

World Bank (1995). **Environmental Assessment Sourcebook Update No.9: Implementing Geographic Information Systems in Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (8 p.)

This Update builds on EA Sourcebook Update No. 3 and discusses in practical terms how GIS might be introduced institutionally and technologically in the project context.

World Bank (1995). **Environmental Assessment Sourcebook Update No.10: International Agreements on Environment and Natural Resources, Relevance and Application in Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (8 p.)

Since 1991, significant developments have taken place in the area of international environmental law, particularly with regard to global concerns: climate, biological diversity, and the high seas. This Update revises the EA Sourcebook (pp. 63-65) on these conventions and provides more in-depth information on some particularly important agreements.

World Bank (1995). **Environmental Assessment Sourcebook Update No.11: Environmental Auditing.** Environment Department, The World Bank, Washington D.C. (10 p.)

This Update discusses the principles of environmental auditing and different types of audits: compliance audits, liability audits, environmental management systems, auditing company environmental statements, and specialised audits. The Update also covers how audits can be used in the context of Bank projects and describes the various stages of an environmental audit. Useful boxes provide examples of terms of reference for a liability audit, a checklist of relevant audit activities and examples of audit processes in practice.

World Bank (1996). **Environmental Assessment Update No.12: Elimination of Ozone Depleting Substances.** Environment Department, The World Bank, Washington D.C. (8 p.)

This update provides guidance on the issues associated with the use of ozone depleting substances (ODSs) and the application of EA to control such substances. It also provides a comprehensive introduction to alternative technologies, processes or chemicals which may be employed to control the release of ODSs from existing or proposed developments.

World Bank (1996). **Environmental Assessment Sourcebook Update No.13: Guidelines for Marine Outfalls and Alternative Disposal and Reuse Options.** Environment Department, The World Bank, Washington D.C. (10 p.)

This update focuses on assessing the potential environmental impacts of proposed sewage outfalls on coastal waters and estuaries. It is intended to assist those involved in managing coastal wastewater discharges and planning appropriate levels of pollution. It complements EA Sourcebook Updates nos. 2, 7 and 10 concerned respectively with environmental screening, coastal zone management and international environmental agreements. This update is not a design manual, nor is it a definitive statement on the international or regional agreements governing discharges to the oceans. It expands on pp. 231-236, Vol II, of the EA Sourcebook.

World Bank (1996). **Environmental Assessment Sourcebook Update No.14: Environmental Performance Monitoring and Supervision.** Environment Department, The World Bank, Washington D.C. (8 p.)

Environmental performance monitoring (EPM) incorporates technical and institutional activities to measure and evaluate environmental changes induced by a project. This Update defines EPM and discusses its objectives. It considers the process of implementing EPM and supervision of Bank projects covering: project preparation and appraisal considerations, developing a performance monitoring programme, preparing a supervision plan, implementation, institutional issues, public consultation and involvement, and the role of panels of experts. The advantages for EPM of sectoral and regional EAs is also discussed.

World Bank (1996). **Environmental Assessment Sourcebook Update No.15: Regional Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (10 p.)

Regional Environmental Assessment (REA) is a tool used by the World Bank to help development planners design investment strategies, programmes and projects that are environmentally sustainable for a region as a whole. REAs take into account the opportunities and limitations represented by the environment of a region and assess on-going and planned activities from a regional perspective. This Update describes REA in terms of its nature and purpose, advantages, operational context, selection criteria, and key components. It also discusses challenges associated with REA preparation and offers examples from World Bank experience. The Update expands upon existing information in Chapter 1, pp. 12-14 in the EA Sourcebook.

World Bank (1996). **Environmental Assessment Sourcebook Update No.16: Challenges of Managing the EA Process.** Environment Department, The World Bank, Washington D.C. (8 p.)

This Update attempts to identify the most important challenges that face individuals and institutions

responsible for managing and preparing environmental assessments (EAs), particularly in relation to their implementation. It covers the selection and management of EA teams, impact identification and prediction, evaluation of impact significance, and information presentation, and suggests approaches for addressing the challenges. This Update supplements information in Chapter 1 of the EA Sourcebook.

World Bank (1996). **Environmental Assessment Sourcebook Update No.17: Analysis of Alternatives in Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (10 p.)

This Update builds on lessons learned from the Second EA Review of World Bank-financed projects, and outlines how analysis of alternatives (designs, sites, technologies and operational alternatives) can be undertaken at different levels of development planning, through project-specific, sectoral and regional EAs. Although it does not attempt to provide a thorough review of decision methods for comparative assessment of alternatives, this Update aims to provide broad guidance on comparative assessment and an introduction to systematic methods for comparing alternatives. The Update expands on existing material in Chapter 1 of the EA Sourcebook.

World Bank (1997). **Environmental Assessment Sourcebook Update No.18: Health Aspects of Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (10 p.)

This update provides guidance to task managers and borrowers on systematically integrating public health and safety concerns into EA. There are sections on health hazards, risks and impacts; screening projects for health hazards; health risk assessment; and health risk management.

World Bank (1997). **Environmental Assessment Sourcebook Update No.19: Assessing the Environmental Impact of Urban Development.** Environment Department, The World Bank, Washington D.C. (10 p.)

This update discusses how environmental assessment (EA) can contribute to improved urban development and environmental planning at the project and policy levels, and introduces analytical tools to support such planning. It expands on Volume II, pages 153-167 of the EA Sourcebook, and provides background for a forthcoming update on urban environmental auditing, a tool to determine baseline environmental conditions in urban areas.

World Bank (1997). **Environmental Assessment Sourcebook Update No.20: Biodiversity and Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (10 p.)

This update provides an introduction to the policy framework for protection or enhancement of biodiversity, the relevant project contexts where biodiversity may be adversely impacted (or conversely, projects which offer opportunities for conserving or enhancing biodiversity), and guidelines for integrating biodiversity concerns into EA. It complements Chapter 2 of the EA Sourcebook.

World Bank (1997). **Environmental Assessment Update No.21: Environmental Hazard and Risk Assessment.** Environment Department, The World Bank, Washington D.C. (10 p.)

This update provides an introduction to hazard and risk assessment, outlines some available methodologies, and discusses the use of these techniques in assessing environmental liability.

World Bank (1998). **Environmental Assessment Sourcebook Update No.22: Environmental Assessment of Mining Projects.** Environment Department, The World Bank, Washington D.C. (12 p.)

This update provides an introduction to the environmental issues associated with mining activities, the relevant contexts where the World Bank might be involved with mining projects, and the extent to which environmental issues should be addressed by private or public sector organisations seeking World Bank Group support for such projects. The primary focus is on physical environmental issues and only brief mention is made of social impacts. The Update complements material in Chapter 10, pages 179-194 of the Environmental Assessment Sourcebook.

World Bank (1998). **Environmental Assessment Sourcebook Update No.23: Economic Assessment and Environmental Assessment.** Environment Department, The World Bank, Washington D.C. (14 p.)

This Update replaces guidance provided in Chapter 4 of the EA Sourcebook. It discusses the relationship of EA and economic analysis and gives guidance on how the latter might incorporate environmental costs and benefits.

World Bank (1994). **Incorporating Social Assessment and Participation into Biodiversity Conservation Projects.** Environment Department, The World Bank, Washington D.C. (10 p., 2 annexes)

This best practice note is intended primarily for Global Environment Facility (GEF) and World Bank task managers working on various types of biodiversity conservation projects, but is useful more widely. The main body of the document discusses the social challenges of preparing biodiversity conservation projects: in particular, ways of designing projects where ecological requirements are met at the same time that human needs are addressed. Sections cover the purposes of social assessment and participation, key considerations in the design of social assessments, and incorporating social assessments into the project cycle. There are two annexes: data gathering and analysis techniques commonly used in social assessment of biodiversity conservation projects; and a useful set of references.

World Bank (1996). **Introduction to Environmental and Social Assessment Requirements and Procedures for World Bank-Financed Projects.** Environment Department, The World Bank, Washington D.C. (222 p.)

This booklet was prepared primarily to assist the economic transition of Kazakhstan, but is useful in a general context also. It provides an introduction, for both professionals and the public, to the World Bank Group and the Bank's environmental and social policies and activities. It is intended to help in-country project managers use environmental and social assessment effectively to aid project design and implementation. The booklet describes the Bank's structure and its various institutions, its strategy for assisting countries to move towards sustainable development, the elements of its project cycle and the role of EA and SA in this. The Bank's environment- and social-related policies and procedures are listed, and original texts of these are included in full.

World Bank (1997). **Pollution Prevention and Abatement Handbook: Toward Cleaner Production.** The World Bank Group, UNIDO, UNEP, WHO, Washington D.C. (vi, 544 p.)

This handbook replaces Environmental Guidelines published by the World Bank in 1988. It is based on technical documents from UNEP, UNIDO and commissioned consultant reports. The document comprises three parts. Part I summarises key policy lessons in pollution management, Part II provides good practice notes on the implementation of policy objectives, and Part III includes detailed guidelines to be applied in preparing World Bank Group projects where a full EIA is not deemed to be warranted and/or as a starting point for an environmental assessment. The guidelines cover some 40 industrial sectors, and provide numerical targets for reducing pollution as part of production processes, as well as maximum emission levels that are normally achievable through a combination of cleaner production and end-of-pipe treatment. Some sections of Part II are still in draft or under reviewed and will be included in the final published version in 1998.

Contact: World Bank, 1818 H Street NW, Washington DC 20433, USA.

BILATERAL DONOR AGENCIES

Bilateral Donor Agencies

Australia / AUSAID

Australian Agency for International Development (AusAID) (1996). **Environmental Assessment Guidelines for Australia's Aid Program.** Australian Agency for International Development, Canberra. (25 p., 9 appendices)

This booklet sets out new guidelines for undertaking EA of activities in Australia's aid program. It supersedes the "Environmental Assessment for International Development Cooperation - Incorporating Environmental Screening Guidelines: Activity Guideline No.1, 1991", and incorporates lessons learned since 1991. AusAID also draws on the sector guidelines in the World Bank's Environmental Assessment Sourcebook. A background section describes the policy context for the guidelines and discusses the Australian legislative framework for EIA. The main part of the document deals with EA in the activity cycle for bilateral country or regional programs. There are sections covering strategic environmental assessment, initial screening, proposal assessment (scoping), activity design and feasibility, appraisal, implementation, completion and evaluation, and other programs. There are nine appendices covering: major issues for the Environmental Protection Agency in assessing environmental impact, OECD environmental checklist, Activity Management System (AMS) environment markers and generic field codes, international environmental conventions, World Bank Assessment Sourcebook contents, environmental management plans, acronyms, and general references.

Contact: Australian Agency for International Development (AusAID), GPO Box 887 Canberra, A.C.T. 2601, Australia.

Austria

Ministry of Foreign Affairs (1998). **Environmental Assessment of Projects of the Austrian Development Cooperation: Explanation in brief of the Assessment Procedure regarding Socio-Ecology, Gender Equality and Ecology.** Austrian Ministry of Foreign Affairs, Vienna. (30 p.)

This document briefly explains the overall environmental assessment procedure of the Austrian Development Cooperation agency, and covers socio-ecology, gender equality and ecology.

Grunberg, F., Fahrenhorst, B. & Krausnecker, E. (eds) (1997). **Explanations of Socio Ecology: Interrelations between the social, cultural, economic and economic factors.** Ministry of Foreign Affairs, Vienna. (30 p.)

This document is concerned with the interrelations between social, cultural, economic and ecological factors and provides 'socio ecology' screening list.

Contact: Ministry of Foreign Affairs (Section VII), Minoritenplatz, A-1010 Vienna, Austria.

Canada / CIDA

Canadian International Development Agency (CIDA) (undated). **Guide for Proponents Preparing a Submission to CIDA-INC: Integration of Environmental Considerations. Draft.** Canadian International Development Agency, Hull, Quebec. (31 p.)

This draft document is a guide for proponents seeking financial support under CIDA's Industrial Cooperation Programme (CIDA-INC) to assist in integrating environmental considerations in order to satisfy CIDA's prerequisites. Section 1 provides guiding principles and a general introduction to environmental assessment. Section 2 gives brief examples of INC funding mechanisms and the integration of environment. Section 3 reviews CIDA-INC EA implementation in relation to the project cycle. Section 4 provides an overview on how the proponent might prepare an EA work plan. Section 5 discusses basic technical requirements for EA reports. Section 6 concerns environmental management plans.

Canadian International Development Agency (CIDA) (1989). **La Procédure Interne d'Examen des Risques d'Impact sur l'Environnement (Internal Procedure for Examining the Risks of Impact on the Environment).** Agence Canadienne de Développement International, Direction Générale des Ressources Naturelles, Secteur Forestière

(Canadian Agency for International Development, Directorate General for Natural Resources, Forestry Sector), Hull, Quebec. (51 p.)

Canadian International Development Agency (CIDA) (1995). **Implementation of the Canadian Environmental Assessment Act (CEAA)** Canadian International Development Agency, Hull, Quebec. (170 p.)

This document, presented in both French and English, is a tool kit on the Canadian Environmental Assessment Act (CEAA) in eight sections providing information on: management of EA and compliance in CIDA; attached posters (3) describing the EA process; EA forms and instructions; public registry information; transition from the Environmental Assessment and Review Process Guidelines Order (EARPGO) to the CEAA; copies of the CEAA and amendments; the Inclusion List, Exclusion List and Comprehensive Study List regulations; and a guide to the latter lists.

Canadian International Development Agency (CIDA) (1995). **Guide to Integrating Environmental Considerations into CIDA's Policies and Programs. 2nd Draft.** Canadian International Development Agency, Hull, Quebec. (84 p.)

This guide was developed to help staff in all Branches of CIDA to clearly and objectively integrate environmental considerations into their policy and program activities. It comprises three parts: "The Basics" which sets out a five step analytical approach to be taken; a "Work Book" with work sheets to help staff work through an assessment; and "Going Further" which contains more detailed information including specialized advice for assessing Country and Regional Development Policy Frameworks, Branch Strategic Plans, Corporate Policies and Sectoral Reviews and Guidelines.

Canadian International Development Agency (CIDA) (1995). **The Geographic Program Road Map. Revision No.4.** Canadian International Development Agency, Hull, Quebec. (99 p.)

This 'Road Map' summarizes current CIDA information on the project cycle. Its contents are revised and updated as required. Chapter 1 provides an overview of the document. Chapter 8 indicates how issues such as environmental analysis and risk analysis should be addressed in the project cycle, and Chapter 9 describes the procedures relating to the application of the Canadian Environmental Assessment Act (1995) to bilateral project management.

Canadian International Development Agency (CIDA) (1996). **Manual on the Canadian Environmental Assessment Act for the Canada Fund and Mission-Administered Funds.** Environmental Assessment and Compliance Unit, Policy Branch, Canadian International Development Agency, Hull, Quebec. (43 p.)

This manual is designed to assist CIDA field staff to integrate EA into small-scale development projects in developing countries. It provides practical guidance on how to meet the spirit and intent of the Canadian Environmental Assessment Act (CEAA) within the context of the Canada Fund and other Mission-administered funds. The information in the manual is intended to be updated as field operations and EA practices evolve. An overview on implementing CEAA covers preliminary assessment, screening and using EA processes other than the CEAA. Advice on maintaining a public registry of EA records for projects is provided and a framework is set out for roles and responsibilities within Missions/Embassies. Guidance is included on how to complete EA forms and critical environmental factors to be considered in the project planning process are presented. There is also a useful glossary of terms. There are several annexes including a list of projects excluded from the CEAA, sample EA forms, sample mitigation measures and EA design criteria, and generic terms of reference for an EA.

Canadian International Development Agency (CIDA) (1997). **Environmental Assessment at the Canadian International Development Agency / Les Évaluations Environnementales a l'Agence Canadienne de Développement International.** Canadian International Development Agency, Hull, Quebec. (23 p.)

This pamphlet is introduced as the first in a series of documents (yet to be published) that will include a detailed guide on procedures and practices within the Canadian International Development Agency (CIDA). This first 'primer' defines CIDA's commitment to EA. It describes the principles of EA and how it has developed. It touches on Canada's international and national obligations in terms of EA and shows how the process is implemented at CIDA and in other countries. Finally, it summarises the future prospects for EA. This primer will be of interest to those who have not had much experience with EA. It also aims to be a guide for using EA as part of sustainable decision-making in all CIDA branches.

Contact: Canadian International Development Agency (CIDA), 200 Promenade du Portage, Hull K1A 0G4, Quebec, Canada.

Emery, A. & Patten, L. (1997). **Guidelines for Environmental Assessments and Traditional Knowledge. Prototype.** Centre for Traditional

Knowledge, World Council of Indigenous People, Ottawa, Ontario. (vii, 67 p.)

These prototype guidelines derive from a process involving the Centre for Traditional Knowledge, the World Council of Indigenous People, Environment Canada, and the Canadian International Development Agency. They are based on a broad search of the literature and the internet, on discussion with aboriginal leaders in the field, and on responses from over 50 reviewers of a first draft. The aim is to test the guidelines in mock development projects during a series of six workshops around the world, and then to produce a revised set in a series of different media: text, video, audio tapes, and possibly a theatre piece.

The document is presented in five sections The first provides a context for the guidelines, defining indigenous people and describing the nature of traditional knowledge and particularly such knowledge held by women, comparing it with "scientific knowledge" and dealing with traditional rights to resources issues. Relationships between indigenous people and development projects are discussed and the role of traditional knowledge in EAs.

Section 2 provides guidelines for indigenous people, detailing how they can cooperate with non-indigenous groups planning development projects in their areas and involve themselves in the EIA process. Section 3 gives guidelines for Corporations to assist them to understand the ways of indigenous people and to be especially sensitive to their values and needs, and how to interact with and involve indigenous people. Section 3 focuses on governments, their role in managing natural resources and sets out recommendations for how they should relate to and involve indigenous people. Finally, Section 5 is a synoptic summary of the guidelines.

Contact: Centre for Traditional Knowledge, Box 3443, Stn D, Ottawa, Ontario, Canada K1P 6P4.

Lazier, J.R. (1994). **A Framework for the Assessment of Impacts in Natural Resource Based Projects.** Canadian International Development Agency (CIDA), Hull, Quebec. (iii, 46 p.)

The document provides a methodology for assessing the impact of CIDA natural resource projects based on the standard CIDA logical framework matrix. The report provides a framework of simple methodologies and indicators of impact which can be readily and inexpensively utilised to assess impact in agroforestry and other natural resource based programs. The study draws heavily on the on-going work of the USAID, the World Bank, the NGO community and other research and development organisations.

Pallen, D. (1996). **Environmental Assessment Manual for Community Development Projects. Draft.** Canadian International Development Agency (CIDA), Hull, Quebec. (74 p., annexes)

This practical and open-ended reference document offers a clear and simple strategy for assessing the environmental impact of small community development projects. It complements existing CIDA guidance materials and is primarily for use by project management personnel working in CIDA missions and Canadian NGOs. The manual makes no attempt to define ideal community development practice, but does review established approaches in order to lay the groundwork needed for effective use of EA at the community level. It should, therefore, be of assistance to environmental specialists and others with limited experience in community development work

Chapter 1 discusses the emergence of a new consciousness concerning community development and the environment and the impact of small projects, and considers why it is necessary to go beyond the basic requirements of the Canadian Environmental Assessment Act. Chapter 2 introduces the reader to "best practices" and outlines key issues associated with the EA of community development projects. Brief discussions are included about acceptable environmental impact, the role of science, the importance of trial and error, and the timing, duration and cost of the EA process,. Tips for conducting an EA and preparing a report are provided. Chapter 2 deals with building environmental assessment capacity, the role of all parties involved and support mechanisms, and includes a checklist for project managers. Chapter 4 focuses on working with a community and how communities can take part in the EA process, stressing the value of local and traditional knowledge. The nature and role of Participatory Rural Appraisal (PRA) is described and explained. Chapter 5 presents three fictional case studies which illustrate the process of community-based EA. Guidance notes for manual users provide a summary of the main recommendations of the manual, and a very useful bibliography is included. Annex 1 gives suggestions for undertaking studies of local and traditional knowledge in rural areas. Annexes 2 and 3 provide a list of indigenous knowledge resource centres and PRA contacts, respectively.

Contact: Canadian Environmental Assessment Agency, 13th Floor, Fontaine Building, Hull, Quebec, Canada K1A 0H3.

Denmark / DANIDA

Danish International Development Agency (Danida) (1994). **Environmental Assessment for**

Sustainable Development. Danish International Development Agency, Copenhagen. (37 p.)

This document describes Danida's environmental assessment procedures. It outlines the responsibilities and decisions appropriate to different stages of the project cycle, as defined in Guidelines for Project Preparation (Danida 1992). The aim of these guidelines is to examine the environmental effects (adverse and beneficial) of development projects and programmes, and to ensure that these effects are taken into account in an appropriate way at all stages of the project cycle.

The primary target groups for the guidelines are embassy staff and country desk officers. In addition they may be used by project proponents, government officials, consultants, representatives of NGOs and others involved with Danida in development projects or programmes.

The guidelines describe various environmental assessment techniques and procedures in a practical, user-friendly format. The presentation is in the form of a 'tool kit' for each stage in the assessment process, from initial screening to review. The tool kits include sector checklists, sample terms of reference, World Bank procedures, and suggestions of questions to be considered. Environmental assessment is described by these guidelines as ".. a management exercise involving some technical inputs, rather than a pure technical exercise involving management inputs".

Danish International Development Agency (Danida) (1998). **Guidelines for Sector Programme Support.** Danish International Development Agency, Copenhagen. (126 p.)

This document describes Danida's Sector Programme Support (SPS) strategy. SPS is the operational approach applied by Danida for providing sector-wide bilateral development support. Annex 2 contains a short section on the environmental assessment of the impact of the SPS proposal on the human and physical environment., including screening, categorisation (Category A require a full EIA, Category B require a partial EIA), and how EIA's relate to the Environmental Management Plan for the proposal.

Contact: Danish International Development Agency (Danida), 2 Asiatisk Plads, DK 1448 Copenhagen K, Denmark.

Finland / FINNIDA

Finnish International Development Agency (FINNIDA) (1989). **Guidelines for Environmental Impact Assessment in Development Assistance.** Finnish International Development Agency, Helsinki. (20 sections each ca. 10-14 p.)

The guidelines are presented in two parts - general EIA guidelines and sectoral guidelines. The general guidelines set out the EIA procedure to be followed in FINNIDA-funded projects. A number of methodologies are introduced including checklists, matrices and models. The sectoral guidelines focus on the types of projects most important in FINNIDA's development assistance programme. The sectors covered are forestry and agriculture; human settlements and basic services development; transport; mining; electrification; and fisheries and aquaculture. Within each sector, the main types of environmental problems and the potential negative impacts are considered, and mitigation measures suggested.

The guidelines are intended for use in FINNIDA's development assistance programme by project planners, administrators and implementing agencies, both in the recipient country and in Finland. It is also hoped that the guidelines will be used by NGOs, commercial companies and multilateral agencies.

Finnish Department for International Development Corporation (1998). **Guidelines for Programme Design, Monitoring and Evaluation.** Finnish International Development Agency, Ministry for Foreign Affairs, Helsinki. (79 p., 12 annexes)

Although concerned mainly with project design, monitoring and evaluation, this document includes the principle requirements for EIA revised since the 1989 Guidelines for EIA in Development Assistance (and also the 1991 Guidelines for Project Preparation and Design).

Contact: Finnish International Development Agency (FINNIDA), Katajanokanlaituri 3, 00160 Helsinki, Finland.

Germany / BMZ, GTZ, & KfW

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) (German Federal Ministry for Economic Cooperation and Development) (1995). **Environmental Handbook: Documentation on Monitoring and Evaluating Environmental Impacts. Vols.1-III.** Friedrich Vieweg & Sohn, Braunschweig.

This handbook in three volumes is a revised version of the 1987 publication "Materialen zur Erfassung und Bewertung von Umweltwirkungen in Vorhaben der wirtscaftlichen Zusammenarbeit" (documentation on monitoring and evaluating the environmental impacts of economic cooperation projects). The documents were compiled in cooperation with the Deutsche Gesellschaft fur Technische

Zusammenarbeit (GTZ), the Kreditanstalt fur Wiederaufbau (KfW) and other German organisations. They incorporate new technical developments concerning environmental protection and experience gained using the original publication.

Volume I: Introduction, Cross-Sectoral Planning, Infrastructure. (591 p)

The first section provides guidelines for conducting a comprehensive study of a project's environmental aspects. Under the theme of cross-sectoral planning are seven briefs covering: spatial and regional planning; locations for trade and industry; overall energy; water framework; transport and traffic; tourism; and analysis, diagnosis and testing. The last section on infrastructure contains 19 briefs covering: provision and rehabilitation of housing; public facilities (schools, health care, hospitals); urban water supply; rural water supply; disposal of wastewater, solid waste and hazardous waste; erosion control; road building, and maintenance and building of rural roads; road traffic; railways and railway operation; airports; river and canal engineering; rural hydraulic engineering; large-scale hydraulic engineering; inland ports; shipping on inland waterways; ports and harbours, port construction and operations; and shipping.

Volume II: Agriculture, Mining/Energy, Trade/ Industry (736 p.)

This volume incorporates three sections. The first concerns agriculture with 8 briefs covering: plant production; plant protection; forestry; livestock farming; veterinary services; fisheries and aquaculture; agricultural engineering; and irrigation. The next section on mining and energy contains a further 9 briefs dealing with: reconnaissance, prospecting and exploration of geological resources; surface and underground mining; minerals (handling and processing); petroleum and natural gas (exploration, production, handling storage); coking plants, coal-to-gas plants, gas production and distribution; thermal power stations; power transmission and distribution; and renewable sources of energy. The third section covers trade and industry with 16 briefs on: nitrogenous fertilisers (raw materials, ammonia, and urea production, starting materials and end products); cement and lime, gypsum; ceramics (fine, utilitarian and industrial); glass; iron and steel; non-ferrous metals; mechanical engineering, workshops and shipyards; agro-industry; slaughterhouses and meat processing; mills handling cereal crops; vegetable oils and fats; sugar; timber, sawmills, wood processing and wood products; pulp and paper; and textile processing.

Volume III: Compendium of Environmental Standards (660 p.)

This volume contains information about environmental standards, but those described in full and the scope of the related information are still limited. In the introduction it is recognised that it should not be viewed as an exhaustive compendium, but rather a manual still in the process of being compiled. It has a modular structure to permit both the addition of further information to existing sections and the inclusion of new or supplementary sections. The main sections are: guidelines for the user; standards for influences on the environment; standards for environmental quality; chemical substances and groups of substances/register of substances; and international environmental legislation. Supplementary lists include the WHO recommended classification of selected pesticides according to hazards, and the FAO/UNEP Joint Programme on Prior Informed Consent (PIC) Import Decisions from participating countries (as of July 1994). A bibliography, list of abbreviations, and units and measures are also included.

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) (German Federal Ministry for Economic Cooperation and Development) (1995). **Environmental Impact Assessment in Development Cooperation Projects.** Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, Bonn. (19 p.)

This document provides guidance on the role and application of EIA within German development cooperation, and comprises a series of short sections. The first two set out the origins and role of environmental protection within German development policy and introduce the basic elements of EIA. Section 3 focuses on EIA in development cooperation, discussing the historical context and the aim and structure of EIA, whilst section 4 is concerned with key issues in assessing environmental impacts. Subsequent sections deal with project classification (BMZ uses 5 categories), the use of the ER (environmental and resource protection) 'label' as an administrative tool in annual project planning, the use of EIA within the project process, and applying EIA in practice within BMZ and its implementing institutions. Reference is made to other documents and sources of information, including the three-volume BMZ manual (BMZ 1995) - its contents are listed in Annex 2. Section 8 considers problems in the application and development of EIA.

Contact: Bundesministerium fur Wirtschaftliche Zusammenarbeit (BMZ), Friedrich-Ebert-Allee 114-116, D-5300 Bonn, Germany.

Petermann, T. (1996). **Environmental Appraisals for Agricultural and Irrigated Land Development.** Deutsche Stiftung für internationale Entwicklung (DSE) (German Foundation for International Development), Zentralstelle für Ernährung und Landwirtschaft (ZEL) (Food and

Agriculture Development Centre), Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) (German Agency for Development Cooperation), Zschortau. (iv, 60p., working aids, annexes)

These guidelines are intended to help agricultural planners, environmental specialists, administrators, and project managers. They provide a set of methods and tools to be used in planning and managing environmentally sound projects, and set out sector-specific guidance on how to undertake environmental appraisal and how to follow-up through an environmental management plan. The guidelines are applicable to agricultural and irrigated land development and associated activities such as flood control, drainage and land development. They supplement a related document: "A Review of Environmental Issues, Part II: Environmental Considerations in Planning and Operation" (Petermann, T, 1993, GTZ).

The document is divided into three parts. Section 1 of Part 1 describes the aim of the guidelines and describes the procedure of rapid environmental appraisal. Section 2 discusses the role of environmental appraisal - particularly in development cooperation terms, priority concerns, rationales and focus for environmental appraisal, links with project appraisal and integration into project development processes, scales and boundaries, special considerations for agricultural and irrigation development, and stakeholder involvement and local participation. Sections 3 - 7 deal with the scope of EIA, screening, scoping, the focus and content of an EIA study, working steps of an EIA study. Section 8 provides a sample outline of an EIA study while Section 9 considers personnel and time requirements. A very useful reference list follows. The text is well supported by figures and boxes. The second part of the document comprises 16 working aids. The final part of this document is a set of annexes containing checklists and matrices.

Contact: German Foundation for International Development (DSE), Leipziger Str.15, D-04509 Zschortau, Federal Republic of Germany.

Ireland

Department of Foreign Affairs (1996). **Environmental Guidelines for Irish Aid. Draft.** Economic Division, Department of Foreign Affairs, Dublin. (23 p.)

An introduction puts environmental issues in context and considers Irish aid and the environment. The rest of this document is presented in two parts. Part One sets out the major environmental issues and the Irish Aid response. Part Two is concerned with good practices for environmental assessment, covering such issues as project and environmental appraisal, managing environmental issues, project identification, concept appraisal, monitoring, and project review. It also suggests five project categories: EO - no environmental impact; E1 - marginal impact - environmental statement needed; E2 - modest but manageable impact - environmental justification required; E3 - environmental impact likely - preliminary EA or full EIA required; and E4 - considerable negative impacts - project should not be considered unless acceptable mitigation measures are agreed - full EIA required. Further sections discuss mitigation measures and provide an environmental checklist.

Contact: Department of Foreign Affairs, Economic Division, 76-78 Harcourt Street, Dublin 2, Ireland.

Japan / JICA

Japanese International Cooperation Agency (JICA) (1990). **Environmental Guidelines for Dam Construction Projects.** Japanese International Cooperation Agency, Tokyo. (Japanese and English versions available)

These guidelines are presented in five chapters. The first provides an outline of environmental considerations in dam construction and indicates how these are incorporated in JICA's survey and study operations. Chapter 2 deals briefly with screening whilst Chapter 3 is concerned with scoping and contains various checklists, matrices and explanatory tables. Chapter 4 discusses items for consultation with the government of a recipient country at the implementation of screening and scoping, and considers laws and regulations concerning EA. It also covers the type and accuracy of environmental data in preliminary study and sets out survey methods, as well as discussing the use of local knowledge. Finally, Chapter 5 sets out the requirements for and contents of EA reports. A set of definitions of terms is provided.

Japan International Cooperation Agency (JICA) (1992). **Environmental Guidelines for Infrastructure Projects - series.** Japan International Cooperation Agency, Tokyo

This series of guidelines was prepared to enable JICA project preparatory study members to conduct screening and scoping of environmental impacts effectively and efficiently while maintaining a dialogue with their counterparts and officials concerned in the host countries for the purpose of predicting environmental problems caused by the infrastructure projects and to incorporate adequate environmental consideration into the projects. The series comprises guidelines for 13 sectors, each of which are available in both Japanese and English.

Each guideline in this series and follows an identical four chapter format. Chapter 1 discusses the basic concept of

EIA, the process in relation to the project cycle and environmental considerations for the sector concerned. Chapter 2 deals with project and site description whilst Chapters 3 and 4 cover screening and scoping, respectively. Each document contains numerous tables, figures, formats for organising and presenting information, checklists, matrices, evaluation forms, tabulated explanatory notes, and a flow chart of environmental impacts, and also contains a set of definitions of terms.

I. Ports and Harbors
II. Airports
III. Roads
IV. Railways
V. River and Erosion Control
VI. Solid Waste Management
VII. Sewerage
VIII. Groundwater Development
IX. Water Supply Development
X. Regional Development
XI. Tourism Development
XII. Transportation Development
XIII. Urban Transportation Development

Japanese International Cooperation Agency (JICA) (1992). **Environmental Guidelines on JICA Development Study for Agricultural and Rural Development Projects.** Japanese International Cooperation Agency, Tokyo. (Available in Japanese and English)

These guidelines aim to assist screening and scoping during the environmental impact review of JICA development studies for projects in the agricultural sector. They are intended to be an easy-to-use reference manual, and will be reviewed on the basis of comments and suggestions by users. Chapter 1 discusses basic concepts of JICA's 'environmental consideration' process (screening, scoping, initial environmental examination and EIA) and relates these to the project cycle. Chapter 2 outlines how to use the guidelines. Chapter 3 is concerned with preparing project and site description forms. Initial screening and scoping are dealt with in Chapter 4, and checklists and reference matrices are provided. Chapter 5 focuses on joint screening and scoping procedures with checklists again included. Appendix A presents significant environmental impacts and issues concerning agricultural and rural development projects, with sections on significant natural and social environments. Appendix B provides information on key international treaties and international declarations for the agricultural environment. A final appendix is an extensive glossary of terms. An index is also included.

Japan International Cooperation Agency (JICA) (1993). **Environmental Guidelines for JICA Development Study on Fishery Development Projects.** Japan International Cooperation Agency, Tokyo. (Available in Japanese and English)

These guidelines aim to assist JICA staff and mission members in screening and scoping during the environmental impact review of JICA development studies for projects in the fisheries sector. The introduction sets out the scope of the guidelines in the context of JICA's 'environmental consideration' process (screening, scoping, initial environmental examination and EIA). Chapter 1 outlines the basic concept of this process and relates it to the project cycle. It also discusses the components of fisheries development projects and related environmental impacts. Chapter 2 presents the main guidelines with introductory notes on their use. A section is devoted to preparing project and site description forms for fisheries projects, with a list of the major types of operation. Other sections deal with initial screening and joint screening and scoping (supported by checklists and reference matrices), overall evaluation, and the preparation of a preparatory study report. A further and substantial section considers the possible significant environmental impacts to be assessed for projects in the fisheries sector, with definitions and discussion of major potential impacts, development activities generating impacts, special considerations for environmental assessment, mitigative measures, and related studies required. Environmentally-sensitive areas requiring special attention are also described. A glossary of terms is included.

Japanese International Cooperation Agency (JICA) (1993). **Environmental Guidelines on JICA Development Study for Mining Development Projects. Environmental Guidelines for Infrastructure Projects (JR 93-120)** Japanese International Development Agency, Tokyo. (307 p.)

These guidelines are mainly in Japanese. Project and site descriptions sheets, check lists for screening and scoping, and a questionnaire on mining development, are provided in English.

Japanese International Cooperation Agency (JICA) (1993). **Environmental Guidelines on JICA Development Study for Industrial Development Projects. Environmental Guidelines for Infrastructure Projects (JR 93-119)** Japanese International Cooperation Agency, Tokyo. (269 p.)

These guidelines are mainly in Japanese. Project and site descriptions sheets, check lists for screening and scoping, and a questionnaire on industrial development, are provided in English.

Japanese International Cooperation Agency (JICA) (1993). **Environmental Guidelines on JICA Development Study for Power Plant Development**

Projects. Environmental Guidelines for Infrastructure Projects (JR 93-121) Japanese International Cooperation Agency, Tokyo. (269 p.)

These guidelines are mainly in Japanese. Project and site descriptions sheets, check lists for screening and scoping, and a questionnaire on power development, are provided in English.

Japan International Cooperation Agency (JICA) (1994). **Environmental Guidelines for JICA Development Study on Forestry Development Projects.** Japan International Cooperation Agency, Tokyo. (Japanese and English versions available)

These guidelines aim to assist screening and scoping during the environmental impact review of JICA development studies for projects in the forestry sector. Chapter 1 discusses basic concepts of JICA's 'environmental consideration' process (screening, scoping, initial environmental examination and EIA) and relates these to the project cycle. Chapter 2 outlines how to use the guidelines. Chapter 3 is concerned with preparing project and site description forms, and describes types of forestry development projects. It discusses initial screening and scoping, joint screening and scoping, and provides checklists and reference matrices. Procedures for overall evaluation are outlined and guidance is given on the presentation of a study report. An appendix sets out the major environmental impacts to be assessed for projects in this sector and describes significant natural and social environments. A glosssary of terms is included.

Contact: Japan International Cooperation Agency (JICA), JICE Desk, Shinguku MAYNDS Tower, 1-1, Yoyogi 2-chome, Shibuya-ku, Tokyo, Japan 151

Netherlands / NEDA (formerly DGIS)

Directorate General for International Cooperation (DGIS) (1990). **Environmental Impact Assessment in Development Cooperation: A Practical Tool for Initial Screening of Development Projects and Programmes.** Directorate General for International Cooperation, Ministry of Foreign Affairs, The Hague. (31 p.)

Directorate General for International Cooperation (DGIS) (1993). **Environmental Impact Assessment in Development Cooperation.** Directorate General for International Cooperation, Ministry of Foreign Affairs, The Hague. (31 p.)

This publication is intended to present a procedure for the initial environmental screening of development projects, not the complete EIA process. It contains information and some practical guidelines for the identification of impacts at the early stages of project development. The material is based partly on statements reports and recommendations of the World Bank, OECD and bilateral donors as well as on current policy documents of the Netherlands Ministry of Foreign Affairs. The document is intended for use of embassy staff involved in the identification and appraisal of projects and programmes, country desk officers, consultants and counterpart staff. The EIA process is described in general terms, with more specific details on the Netherlands project cycle process which stresses that EIA should be implemented at an early stage of project identification and is relevant for all phases of the project cycle. A procedure for initial screening of projects and programmes is described.

Directorate General for International Cooperation (DGIS) (1994). **Gender Assessment Study: A Guide for Policy Staff.** Special Programme Women and Development, Directorate General for International Cooperation, Ministry of Foreign Affairs, The Hague.

The purpose of this guide is to explain what a gender assessment study is, why and when it can be useful, and which methodologies can be used. The guide is intended to be used within the Netherlands' bilateral aid programme and is primarily intended for DGIS staff. It also provides useful information for other policy staff and development officers seeking to incorporate gender concerns in the planning of development projects. Chapter one of the guide sets the policy context for gender assessment. Chapter two describes the objectives of the study, and outlines the key features including its relationship to the project cycle. Chapter three describes the design and organisation of the study while the final chapter sets out a methodology. Annexes provide further information on research methods and techniques.

Directorate General for International Cooperation (DGIS) (undated). **Explanatory Notes on "Development Screening" of Project Assistance.** Special Programme Women and Development, Directorate General for International Cooperation, Ministry of Foreign Affairs, The Hague. (56 p.)

Bisset, R. & Verbeek, L. Directorate General for International Cooperation (DGIS) (1998). **Guide for Environmental Appraisal for use in Development Cooperation: Options for Action. Draft (WW124801)** Directorate General for International Cooperation, Ministry of Foreign Affairs, The Hague, The Netherlands. (57 p.)

This draft guide provides practical advice and information to ensure that environmental issues are included in Netherlands Development Assistance

(NEDA) development cooperation activities. The overall goal is to improve current practice and ensure that there is a clear sequence of decisions showing how environmental issues were incorporated throughout all stages of a specific development cooperation activity. The guidance is based on the types of situation which are most often faced by NEDA staff, and includes advice on the selection of environmental actions/tools and subsequent management and coordination. The guide is compatible with NEDA policy documents, guidelines and working instruments.

Contact: Netherlands Development Assistance, Ministry of Foreign Affairs, PO Box 20061, 2500 EB The Hague, The Netherlands.

Kessler, J.J. (1997). **Strategic Environmental Analysis: Reader with Theoretical Background and Application Guidelines.** AIDEnvironment, Amsterdam. (146 p.)

This reader provides a detailed theoretical background to Strategic Environmental Analysis (SEAn). There are four chapters: introduction; concepts and approach principles; basic structure and getting started; and executing the 10 methodological steps of SEAn. The document contains numerous case study boxes and figures, There are six appendices: tools for SEAn, environmental monitoring (guidelines, tools, list of indicators), checklist for environmental context analysis, proposed table of contents of a SEA report, criteria for evaluation on environmental issues, and list of references.

Contact: AIDEnvironment, Donker Curtiusstraat 7 - 523, 1051 JL Amsterdam, The Netherlands.

Norway / NORAD

Norwegian Agency for Development Cooperation (NORAD) (1988). **Environmental Impact Assessment (EIA) of Development Aid Projects: Check Lists for Initial Screening of Projects.** Norwegian Agency for Development Cooperation, Oslo, Norway. (29 p.)

This is the first of a series of booklets compiled to assist project planners and desk officers to integrate environmental considerations into various types of aid projects at an early stage in the planning process. This volume describes the role and scope of environmental impact assessment in development planning, together with a brief outline of the main components of the EIA process. Check lists for initial screening of projects are included. These cover: agriculture; animal husbandry; forestry; fisheries; aquaculture; hydro-electric power; water supplies; irrigation; transport; industry; mining; waste treatment and disposal; development of densely populated or urban areas; use of chemical pesticides. Separate volumes in the series have now been prepared for eleven of these project categories (agriculture; animal husbandry; forestry; fisheries; aquaculture; hydropower development; water supply, wastewater, irrigation; transport; industry and energy; mining and extraction of sand and gravel; and waste management. Two more are due to be published later in 1995 covering development of densely populated areas and use of chemical pesticides.

Norwegian Agency for Development Cooperation (NORAD) (1990-1996). **Environmental Impact Assessment (EIA) of Development Aid Projects: Initial Environmental Assessments (series).** Norwegian Agency for Development Cooperation, Oslo, Norway.

Each of the following sectoral guidelines, published between 1990 and 1996, outlines the characteristics of that sector and reviews the potential impacts of the sector on the environment. The final section includes a checklist to assist project planners to assess and evaluate potential impacts.

1. Agriculture (32 p.)
2. Animal Husbandry (30 p.)
3: Forestry (28 p.)
4: Fisheries (21 p.)
5: Aquaculture (23 p.)
6: Hydropower Development (21 p.)
7: Water Supply, Wastewater (33 p.)
8: Transport (35 p.)
9: Industry and Energy (36 p.)
10: Mining and Extraction of Sand and Gravel (29 p.)
11: Waste Management (31 p.)
12. Urban (37 p.)
13. Plant Protection (30 p.)
14. Oil and Gas (35 p.)

Contact: Norwegian Agency for Development Cooperation (NORAD), PO Box 8034 Oslo Dep, 0030 Oslo 1, Norway.

Sweden / SIDA

Swedish International Development Agency (SIDA) (1991). **Riktlinjer for Miljokonsekvensbedomningar i Bistandet (Guidelines for Environmental Impact Assessment)** Swedish International Development Agency, Stockholm. (39 p.)

Contact: Swedish International Development Agency, Birjir Jarsgeten 61, S10525 Stockholm, Sweden.

Switzerland / SDC

Swiss Development Cooperation (SDC) (1994). **Impact Hypotheses. Development and its Environmental Impacts.** Swiss Development Cooperation, Berne. (101 p.)

Although not strictly EIA guidelines, this document sets out hypotheses on environmental impact and describes interactions in man-environment systems. It makes

projections about how these interactions might be affected by development activities. These are intended as a tool to be used for assessing potential environmental risks at an early stage. Following the introduction is a section describing the local setting, discussing social order, modes of production, and cultural values and norms. The next section deals with sectoral interventions: renewable resources, industrial production, the service sector, infrastructure, health and education. The final section covers transectoral interventions: energy, training and advisory services, research, technology transfer, political dialogue and structural adjustments, institutional and legal development, financial assistance, and humanitarian aid. The document, originally published in German, is also available in French.

Contact: Environmenmt & Forestry Service, Swiss Development Cooperation (SDC), 303 Berne, Switzerland.

United Kingdom / DFID (formerly ODA)

Overseas Development Administration (ODA) (1993). **Social Development Handbook: A Guide to Social Issues in ODA Projects and Programmes.** Overseas Development Administration, London, UK. (93 p.)

This first edition supplements advice on how to address social issues described in ODA's Guide to Aid Procedures. Part 1 explains what is meant by social development and social issues, and can be used either as an introduction to the rest of the manual or as a stand-alone document. Part 2 summarises the basic questions for social impact assessment. This part of the handbook is designed for use by administrators and advisers during project identification and design, sector reviews and project appraisal. Part 3 outlines the way in which social issues should be identified and addressed in ODA aid procedures, and this is expanded in Part 4 which examines social issues in various sectoral and non-sectoral aspects of ODA's work. Nine sectoral checklists are provided (primarily intended for use by professional advisers working in those sectors) to help identify and address social issues in projects. The final part of the handbook is also available as a separate document. It summarises ODA's approach to gender planning as a means of enhancing women's participation in development, providing examples of how to incorporate this approach into project design.

Overseas Development Administration (ODA) (1996). **The Manual of Environmental Appraisal.** Overseas Development Administration, London. (v, 135 p.)

This five part document is an expanded revision of a manual first published in 1989 and updated in 1992. It gives practical guidance to ODA staff to address environmental issues early in the decision cycle of projects and programmes. Section 1 provides a simple, step-by-step procedure to identify the environmental impacts of development projects and to take steps to alleviate and manage them, supported by checklists. Section 2 considers ways of valuing the environment in decision-making, describing the most important multilateral environmental agreements and looks in detail at special habitats and the most common degradation processes. Section 3 gives an outline of environmental analysis and audit. Its annexes deal with natural resources, infrastructure, urban development, industry and mining, and tourism. Section 4 considers further practical methods of environmental appraisal whilst Section 5 deals with commissioning, managing, monitoring and evaluating an EIA, and includes guidance on public participation in EIAs and involving NGOs.

Contact: Environment Policy Department, Department for International Development, 94 Victoria Street, London SW11E 5JL.

United States of America / USAID

United States Agency for International Development (USAID) (1980). **22 CFR 216: Environmental Procedures.** AID Handbook 3 (US Government Federal Register). United States Agency for International Development, Washington D.C.. (Appendix 2D).

USAID uses the guidelines/procedures laid out in 22CFR 216 Environmental Procedures for the majority of its projects. However, when a project has a direct significant impact on the environment of the U.S (for example a project in Mexico along the US border) or on the global commons, USAID uses regulations/guidelines of the Council for Environmental Quality (CEQ), and Environmental Protection Agency (EPA). USAID has resisted issuing formal guidelines that explain how to implement 22 CFR 216 because of the legal ramification that a US government agency may not change a Federal Regulation other than by the very lengthy and difficult formal amendment process. Issuing official guidelines on how to implement 22 CFR 216 would be challenged in court.

This document sets out the procedures to be followed in the development of USAID programmes to ensure that environmental factors and values are integrated into USAID decision-making processes. They are Federal Regulations and are intended to implement the requirements of the National Environmental Protection Act (1969) as they affect the USAID programme. The section on procedures covers requirements for initial environmental examination, threshold decision, negative declaration, scope of EA or impact statement, preparation of EAs and EISs, processing and review within USAID, environmental review after

authorization of financing, revisions, other approval documents, and pesticide procedures. Other sections provide more specific guidance on the content of environmental assessments and EISs, and public hearings.

United States Agency for International Development (USAID) (undated). **Major Functional Series 200: USAID Programme Assistance. ADS 204 Environmental Procedures.** United States Agency for International Development, Washington D.C.. (7 p.)

This chapter provides policy and essential procedures about how to apply CFR 216 to the USAID assistance process in order to ensure that assessments of the environmental consequences of all progams, activities, and substantive amendments are in full accordance with the requirements of Title 22 of the Code of Federal Regulations, Part 216.

Bottrell, D.G. & Mann, J.B. et al (1991). **How to prepare environmental assessments of pesticide use in AID agriculture projects.** Consortium for International Crop Protection, United States Agency for International Development, Washington D.C.. (v, 54 p.)

Kenning Massa, A. (1992). **Planning and Production of Environmentally Sound Housing: Environmental Impact Assessment for Housing Development Projects. Office of Housing and Urban Programs Working Paper.** United States Agency for International Development, Washington D.C.. (71 p.)

Knausenberger, W.I., Booth, G.A., Bingham, C.S. & Gaudet, J.J. (Eds) (1996). **Environmental Guidelines for Small-Scale Activities in Africa: Environmentally Sound Design for Planning and Implementing Humanitarian and Development Activities. Technical Paper No.18, SD Publication Series.** Productive Sector Growth and Environment Division, Office of Sustainable Development, Bureau for Africa, United States Agency for International Development (USAID), Washington D.C.. (xiii, 126 p., appendices)

The purpose of these guidelines is to promote environmentally sound development activities that build on the principles of sustainable natural resource management. They are intended for use by private voluntary organisations (PVOs), non-governmental organisatyions (NGOs) and other recipients of USAID grants as a tool for activity design, implementation and monitoring.

Guidelines are presented for 18 diverse but interrelated sectors. Individual sectors covered include: agriculture (soil and water resources, including irrigation); timber harvesting and production; livestock and range management; fisheries management; ecotourism; small-scale rural enterprises; small industry; rural roads and energy. Multisectoral guidelines are provided for: agroforestry; integrated conservation and development projects; agricultural pest management; water supply and sanitation; construction; waste management; environmental mitigation during refugee relief; resettlement activities and the environment; and food aid, humanitarian relief, and the environment. For each sector, key questions and suggested actions are included.

The document also outlines the principles of EIA and USAID's environmental review procedures, and describes the USAID African Bureau's Activity Categorization process for NGO/PVO grants and subgrants. Two appendices provide guidelines for safe pesticide use and integrated pest management. Another appendix describes the classification of project activities during activity planning and initial environmental assessment. An Environmental Screening and Reporting Form (ESF) is included, and other appendices set out pertinent USAID environmental procedures and strategies and regulatory documents, and a useful list of key contacts and reviewers. Finally, a list of useful general references and others specific to the sectors covered is also provided.

Phelps, R.P. (1981). **Environmental Considerations in Aquaculture.** International Center for Aquaculture, Auburn, Alabama. (97 p.)

This manual provides planners with a background to environmental issues associated with donor-funded aquaculture development. It is principally intended for use by United States Agency for International Development (AID) program staff. The document describes basic procedures and methods associated with aquaculture development, and reviews environmental aspects of aquaculture. The latter includes impacts on soils, hydrology, land use patterns, water quality, natural resources, air quality, and economic, social and cultural effects. A checklist of environmental effects is included and special considerations for brackish water aquaculture are discussed.

Tillman, R. (1981). **Environmental Guidelines for Irrigation.** United States Agency for International Development, Washington D.C. (74 p.)

Contact: United States Agency for International Development (USAID), 320 21st Street NW, Washington DC 20523, USA.

United Nations Agencies

Department of Technical Cooperation for Development

United Nations Department of Technical Cooperation for Development (UN/DTCD) & Development and Development Policy Forum of the German Foundation for International Development (DSE) (1992). **Mining and the Environment: The Berlin Guidelines.** Mining Journal Books, London. (xi, 180 p.)

This volume contains a selection of the papers presented at the Berlin Round Table of June 1991, organized by the Department of Technical Cooperation for Development, United Nations and the Development Policy Forum of the German Foundation for International Development. The main purpose was to formulate international principles, guidelines and national regulatory standards regarding mining, with particular emphasis on developing countries. Chapters include: Environmental Regulations; Environmental Aspects of Non-Ferrous Mining; Small-scale Mining in Developing Countries; Mining and Environmental Taxes; Economic Aspects of Environmental Protection; Socio-Cultural Impacts; Environmental Standards; and the Berlin Guidelines themselves.

Contact: Mining Journal Books, 60 Worship Street, London EC2A 2HD, UK.

United Nations Development Programme (UNDP)

United Nations Development Programme (UNDP) (1992). **Handbook and Guidelines for Environmental Management and Sustainable Development.** United Nations Development Programme, New York. (72 p.)

This document comprises three main parts. Part I presents the general concepts and ideas relevant to environmental management and sustainable development, setting out basic environmental information needed by a general development practitioner. Separate sections discuss: (a) policies, legislation, institution-building, and environmental management strategies; (b) economic development, conservation, socio-economic appraisal and economic analysis; (c) socio-economic development, basic needs, women, children and the workplace; and (d) population growth, the urban environment, industry, education and information, and community participation.

Part II consists of a set of operational guidelines that aim to assist UNDP professionals to introduce the "environmental dimension" systematically into all UNDP technical co-operation activities. Sections cover: (a) environmental management steps (technical assistance, country programme cycle, project cycle), (b) environmental management tools (checklists, environmental overviews, screening, environmental management strategies), (c) integration of steps and tools, (d) appraisal of UNDP-sponsored activities, and (e) reducing environmental impact in UNDP offices. Part III is a bibliography of selected environmental assessment and management guidelines covering: general references, agriculture, water, conservation/ biodiversity, industry, chemicals and metals, planning, economics, and regional and national EA studies.

There are four annexes. The first discusses various techniques for environmental assessment and management. The use of particular techniques are not specifically recommended, but information is provided on existing alternatives. The other annexes provide an environmental overview of a sample UNDP country programme and an overview and environmental management strategy for a sample project.

Contact: United Nations Development Programme (UNDP), 1 United Nations Plaza, New York NY 100017, USA.

Economic and Social Commission for Asia and the Pacific (ESCAP)

Economic and Social Commission for Asia and the Pacific (ESCAP) (1985). **Environmental Impact Assessment: Guidelines for Planners and Decision-Makers.** United Nations, New York. (viii, 196 p.)

Part One is concerned with concept, procedures and methodologies, and includes five sections:

organisation of EIA, methodologies, environmental impacts of sectoral development, the situation in the Asian and Pacific region, and summary and conclusions. There are six appendices: guidelines for IEE, terms of reference for preparing an EIS, recommended format for preparing EIS proposals, actions and environmental items in Leopold interaction matrix, reference checklist for the EIA process, and a glossary. Part Two presents nine EIA case studies.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Agricultural Development.** ESCAP Environment and Development Series. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok. (viii, 51p.)

These guidelines were written to assist government agencies concerned with environmental protection in developing countries (specifically the Asia-Pacific region) in the planning and execution of EIAs for agricultural development projects, in particular land clearance projects. A brief overview is given of the EIA process, as well as its application to agricultural development projects. Summaries of current EIA methodologies are recommended. Annexes provide project case studies and sample terms of reference. This document is one of a series of four. Other volumes cover industrial development, water resources and transport.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Industrial Development.** ESCAP Environment and Development Series. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok. (viii, 61 p.)

These guidelines aim to assist government agencies concerned with environmental protection in developing countries in the planning and execution of EIAs for industrial development projects. They summarise general assessment methodologies, identify data collection and evaluation methodologies for assessing the quality and quantity of key parameters, and present the typical impacts and pathways relevant to industrial development projects based on literature references and case studies. Annexes provide sample terms of reference for industrial development EIA studies, and case studies of industrial development projects. This document is one in a series of four - the other volumes cover agriculture, transport and water resources.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Transport Development.** ESCAP Environment and Development Series. United Nations Economic and Social Commission for Asia and the Pacific, Bangkok. (viii, 99 p.)

These guidelines aim to assist government agencies concerned with environmental protection in developing countries in the planning and execution of EIAs for transport development projects. Like other ESCAP guidelines, these guidelines summarise existing methodologies. The impacts and management requirements of the transport sector are discussed with reference to port and harbour projects, highways and roads, and airports. Annexes give sample terms of reference for these types of projects. This document is one of a series of four. The other three volumes cover water resources, agriculture and industrial development.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1990). **Environmental Impact Assessment Guidelines for Water Resource Development.** ESCAP Environment and Development Series. United Nations Economic Social Commission for Asia and the Pacific, Bangkok. (viii, 119 p.)

These guidelines aim to assist government agencies concerned with environmental protection in developing countries in the planning and execution of EIAs for water resource development projects. They summarise general EIA methodologies, and discuss typical impacts related to water resources including rivers, lakes and estuarine areas. Marine waters per se are not considered. The document is one in a series of four. The other volumes cover agriculture, transport, and industrial development.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1992). **Assessment of the Environmental Impact of Port Development: A Guidebook for EIA of Port Development.** United Nations Economic and Social Commission for Asia and the Pacific, New York. (iv, 73 p., appendices)

This guidebook provides port planners with basic information on EIA of port development. It comprises five sections: requirements for EIA, environmental impacts of port development, environmental indicators and criteria, methods for survey and impact prediction (water pollution, coastal hydrology, marine and coastal ecology, air quality, noise, odour and visual pollution), and methods for pollutionless dredging and reclamation. There are 13 appendices including checklists of potential adverse effects of port development and operation.

Economic and Social Commission for Asia and the Pacific (ESCAP) (1995). **Planning Guidelines on Coastal Environmental Management.** United Nations, New York. (vi, 116 p.)

Chapter 7 of these planning guidelines discusses the environmental impact of development activities in coastal areas. The rationale for assessing such impacts is considered and significant impacts of various types of activities on the coastal environment are briefly set out. Checklists of such impacts are provided for fisheries development, tourism, coastal environments, and ports and harbours. A methodology for assessing the impacts of future development activities on the coastal environment is suggested. Annexes to this chapter provide EIA guidelines (from the Sri Lanka Coast Conservation Department), a listing of cross-sectoral interactions and impacts associated with coastal zone projects, and planning and management guidelines for managing coastal habitats without degradation.

Economic and Social Commission for Asia and the Pacific, United Nations (ESCAP) (1995). **Guidelines on Environmentally Sound Development of Coastal Tourism.** United Nations, New York. (vii, 124 p.)

These guidelines attempt to identify the cause-effect relationship between tourism and the environment in coastal locations, and to illustrate remedial and preventive measures that can be adopted to promote the environmentally sound and sustainable development of coastal tourism. They focus mainly on tools and methodologies, but also bring together the experience of selected countries in promoting sustainable tourism development in coastal areas of the Asia and Pacific region. Two chapters are of particular interest in the context of EIA. Chapter II discusses the environmental impacts of coastal tourism development, covering impact types and their extent, and the impacts of components of coastal development. Chapter IV deals with management through EIA with an introduction on measures to promote EIA in the region, and sections on: costs and benefits; the project cycle; the EIA process covering screening, initial environmental examination, and full-scale EIA; methodologies; presentation of the EIA; management and evaluation; constraints in EIA implementation and recommendations to overcome these. Annexes include EIA guidelines for existing beach resort hotels, coastal water quality and effluent standards in Thailand, and noise emission and air quality standards in Thailand and Malaysia.

Contact: United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), UN Building, Rajdamnern Avenue, Bangkok 10200, Thailand.

Economic Commission for Europe (ECE)

United Nations Economic Commission for Europe (1987). **Application of Environmental Impact Assessment: Highways and Dams. Environmental Series No.1, ECE/ENV/50.** United Nations Economic Commission for Europe, Geneva. (xix, 149 p.)

This report was prepared for the UNECE by a task force, led by The Netherlands, which analysed practical experience with the application of EIA to highways and dam projects. Part One gives a background to the study. Part Two describes the legal/administrative systems (then applying) for the countries participating in the study: Canada, Finland, Germany (Federal Republic of), Netherlands, Norway, and USA. Part Three gives summary descriptions of 11 case studies (6 highway and 5 dam cases), whilst Part Four analyses these and sets out conclusions and recommendations related to: the EIA process, the content of an EIA, and the link between EIA and decision-making. Details of the case studies and the legal systems are presented in annexes.

United Nations Economic Commission for Europe (UNECE) (1990). **Post-Project Analysis in Environmental Impact Assessment. Environmental Series No.3, ECE/ENVWA/11.** United Nations Economic Commission for Europe, Geneva. (v, 42 pp. 2 annexes)

This report was prepared for the UN ECE by a task force, led by Canada, which analysed practical experience with the application of post-project analyses (PPAs). Chapter I provides definitions of PPA, EIA processes and various types of monitoring, and discusses two types of classification of PPAs: by use or purpose (project management or EIA process development); and by type of study (scientific and technical, or procedural and administrative). Chapter II gives summary descriptions of 11 case studies. The final chapter presents the results of the analysis with conclusions and recommendations. Annex 1 contains information provided by ECE member countries on PPA practices. Annex 2 gives a more detailed description of the approach taken by the task force, and Annex 3 provides a glossary of terms.

United Nations Economic Commission for Europe (UNECE) (1991). **Policies and Systems of Environmental Impact Assessment. Environmental Series No.4, ECE/ENVWA/15.** United Nations Economic Commission for Europe (UNECE), Geneva. (v, 35 p., annex)

This report describes trends and experience gained regarding policies and systems of EIA in the ECE

region, with information from the following countries: Byelorussian SSR, Canada, Finland, France, Federal Republic of Germany, Hungary, Ireland, Netherlands, Norway, Poland, Spain, Sweden, UK and USA. It includes information complementary to that contained in two earlier reports in this series (Nos. 1 and 3) and the recommendations should be read in connection with those in these earlier reports.

Chapter I presents recommendations to ECE governments on EIA. Chapter II gives information on legal frameworks and systems of EIA, and covers procedures by which alternatives are generated in EIA. Chapter III describes experience on criteria for determining the environmental significance of projects in the ECE region. Examples of types of activities and criteria used in determining the latter are given in Annex 1.

United Nations Economic Commission for Europe (UNECE) (1992). **Application of Environmental Impact Assessment Principles to Policies, Plans and Programmes. Environmental Series No.5, ECE/ENVWA/15.** United Nations Economic Commission for Europe, Geneva. (v, 39 p.)

This report was prepared for the UNECE by a task force, led by USA, to help develop a framework for including environmental considerations in decision-making at the national, regional and local levels. The report begins with an introduction followed by the findings of the task force. Annex I contains a summary description of 10 case studies covering the EIA of policies, plans and programmes (PPP) on various activities. Annex II presents a description of the (then) legal and administrative systems for EIA of PPPs in the participating countries: Canada, Czechoslovakia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Norway, Poland, Spain, Sweden, Turkey, UK and USA.

United Nations Economic Commission for Europe (UNECE) (1996). **Guidelines on Access to Environmental Information and Public Participation in Environmental Decision-Making. ECE/CEP/24/Rev.1.** United Nations Economic Commission for Europe, Geneva. (9 p.)

These short guidelines are presented in separate sections in English, French and Russian. They were developed by an ECE Task Force on Environmental Rights and Obligations and endorsed by the Third Ministerial Conference in Sofia in October 1995. The document sets out principles on access to environmental information and on public participation in environmental decision-making.

United Nations Economic Commission for Europe (UNECE) (1996). **Convention on Environmental Impact Assessment in a Transboundary Context.** United Nations Economic Commission for Europe, Geneva.

The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) stipulates the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries. This document includes the full text of the convention, its main procedural steps, status of the convention, and documents prepared under the convention - Bilateral and Multilateral Cooperation on Environmental Impact Assessment in a Transboundary Context, Specific Methodologies and Criteria to Determine the Significance of Adverse Transboundary Impact, and the Final Report of the Task Force on Legal and Administrative Aspects of the Practical Application of Relevant Provisions of the Convention.

United Nations Economic Commission for Europe (UNECE) (1996). **Current Policies, Strategies and Aspects of Environmental Impact Assessment in a Transboundary Context. Environmental Series No.6, ECE/CEP/9.** United Nations Economic Commission for Europe, Geneva. (viii, 76 p.)

The preface provides background to the Convention on EIA in a Transboundary Context, adopted at Espoo, Finland in 1991, and discusses the obligations and actions to date of Signatories. This four part publication provides a thorough description of current practice and state-of-the-art knowledge (in 1995) regarding 'transboundary EIA' and completes information provided in other UNECE publications.

Part One deals with policies and strategies promoting EIA. There are chapters on legal and administrative measures for the application of EIA, mechanisms for the implementation of the Convention, experiences with transboundary EIA, and bilateral and multilateral agreements related to the Convention. A further chapter discusses EIA principles, research initiatives and national centres on EIA. Annexes provide lists of projects in relation to EIA in the UNECE region, detail transboundary EIA experiences in the Netherlands, and give the addresses of some European centres of expertise in EIA.

Part Two focuses on legal and administrative aspects of the subject with chapters on time limits for notification and submission of information, the content of notification, responsibility for procedural

steps to ensure public participation, responsibility for translations, and organisational questions. Part Three discusses specific methodological issues concerning transboundary EIA, with sections on the identification of proposed activities requiring EIA, "significance" of adverse transboundary impacts, and harmonisation of methods and standardisation, supported by eight tabular annexes on various related issues. Part Four is concerned with bilateral and multilateral cooperation on transboundary EIA, setting out key elements for its effective application. A final annex details the main elements for an agreement on transboundary EIA between Austria and Slovakia.

Contact: United Nations Economic Commission for Europe, Palais des Nations, CH-1211 Geneva 10, Switzerland.

United Nations Environment Programme (UNEP)

The UNEP documents listed below are those identified as being mainly concerned with providing direct guidance on environmental impact assessment procedures. However, it should be noted many other UNEP guidelines refer in part to environmental impacts and how they can be managed. For example, there are four series of reports and publications: Technical Reports (TR), Industrial Pollution Management (PM), Tourism Programme (T), and Environmental Technology Assessment (TA), which are all either available or indexed on their website. The TR series regroups the Guidelines, Overviews, Technical Reviews and Workshop Proceedings, and includes the UNEP Environmental Management Guidelines - a series of twenty environmental operational guidelines prepared between 1982-1990 to identify and offer measures to minimise the possible adverse environmental impacts across the main sectors of development activities.

Ahmad, Y.J. & Sammy, G.K. (1987). **Guidelines to Environmental Impact Assessment in Developing Countries. UNEP Regional Seas Reports and Studies 85.** United Nations Environment Programme, Nairobi. (44 p.)

These guidelines were originally printed by Hodder and Stoughton in 1985. They have been reprinted by UNEP as part of its Regional Seas Programme. The authors explain the history of EIA in developed countries and how it has been adopted in the Third World. The first chapters explain the importance of EIA to developing countries. Subsequent chapters outline steps in EIA, from information gathering and analysis through to project monitoring. Common problems encountered in EIA are illustrated and examples provided of ways in which they have sometimes been solved.

An important instrument for environmental decision-making is cost-benefit analysis. Some of the problems that arise when cost-benefit analysis is used as a component of EIA, or as a separate exercise, are considered. The document also discusses the importance of fostering relationships between the various institutions that need to work together, to improve the use of EIA as a decision-making tool in developing countries. The book concludes with a perspective on the future of EIA in developing countries.

Contact: United Nations Environment Programme (UNEP), PO Box 30552, Nairobi , Kenya

Carter, T.R., Parry, M.L., Nishioka, S., Harasawa, H.,United Nations Environment Programme (UNEP) & WMO (1992). **Preliminary Guidelines for Assessing Impacts of Climate Change.** Environmental Change Unit, University of Oxford (UK) and Center for Global Environmental Research (Tsukuba, Japan), (28 p.)

Climate impact assessment has two mutually-dependent objectives: first, to construct a firm scientific basis for evaluating the interactions of climate, environment and society; and second, to provide the best possible information to policy-makers, decision-makers and managers at all levels of government and industry to enable them to develop responses to future environmental and socio-economic consequences.

This report is the outcome of the work of an expert group established by the Intergovernmental Panel on Climate Change (IPCC). It is a preliminary report which IPCC intends to develop and improve. It does not seek to prescribe a single preferred method for the assessment of the impacts of climate change, but provides an analytical outline that comprises seven steps, with a range of methods identified at each step which can yield comparable results. The report outlines a basic framework for the study of climate-environment-society interactions, with a particular emphasis on assessing the impacts of possible future changes in climate due to the enhanced greenhouse effect.

Contact: Environmental Change Unit, 1a Mansfield Road, Oxford OX1 3TB, UK.

United Nations Environment Programme (UNEP) (1988). **Environmental Impact Assessment: Basic Procedures for Developing Countries.** United Nations Environment Programme, Nairobi. (16 p.)

This booklet is an explanation of the EIA process. Sections include: What is Environmental Impact

Assessment; EIA is a Management Tool; Who is Involved in the EIA process; Important Principles in Managing an EIA; the EIA Process; and Resources Needed for an EIA.

United Nations Environment Programme (UNEP) (1990). **An Approach to Environmental Impact Assessment for Projects Affecting the Coastal and Marine Environment. UNEP Regional Seas Reports and Studies 122.** UNEP Regional Seas Reports and Studies: 122. United Nations Environment Programme, Nairobi, Kenya. (35 p.)

This document provides simple procedures and guidelines for the preparation of EIAs in the context of regional agreements on the protection of the marine environment adopted in support of UNEP's Regional Seas Programme. The approach is limited to a narrowly defined, practical and easily applicable EIA methodology for certain types of project: a marina, a tourist complex, and sewage treatment plants of testing of the approach on case studies.

United Nations Environment Programme (UNEP), International Labour Office (ILO), and United Nations Environment Programme Industry and Environment Programme Activity Centre (1991). **Environmental Aspects of Selected Non-Ferrous Metals Ore Mining: A Technical Guide. Technical Report Series No.5.** United Nations Environment Programme, International Labour Office, Geneva, Switzerland. (Xvii, 116 p.)

This technical guide gives an overview of the methods and technologies that can be applied to achieve mining at an acceptable environmental cost. Chapters include among others: Potential Impacts of Mining on the Environment; Potential Sources of Contaminants; and Procedures for Environmental Control (including Environmental Assessment).

United Nations Environment Programme (UNEP) (1997). **The Environmental Management of Industrial Estates. IE Technical Report No.39.** Industry and Environment Centre, United Nations Environment Programme, Paris. (140 p.)

This publication derives from two workshops and provides advice for estate planners, operators and managers. It proposes a practical set of options for day-to-day work activities based on best current experience. The document is presented in two parts. Part I provides background information including definitions and general consideration of environmental impacts and environmental, health and safety concerns, and sets out some key issues. It also discusses guiding principles and approaches and the key aspects of establishing an environmental management framework. Part II contains environmental guidelines for both new and existing industrial estates. The guidelines for new estates cover such matters as site selection, evaluating potential environmental and socio-economic impacts, designing the site, using environmentally-sensitive construction methods, developing environmentally-appropriate infrastructure, and planning for operations. The guidelines for existing estates deal with assessing existing environmental conditions, developing environmental management performance objectives, and implementing environmental management systems and projects. A series of worksheets are also included for use in actual situations. The document contains references and recommended further reading and various useful appendices.

Contact: United Nations Environment Programme (UNEP), PO Box 30552, Nairobi , Kenya

Food and Agriculture Organisation (FAO)

Barg, U.C. (1992). **Guidelines for the Promotion of Environmental Management of Coastal Aquaculture Development. FAO Fisheries Technical Paper No.328.** FAO Fisheries Technical Paper No. 328. Food and Agriculture Organisation of the United Nations, Rome. (122 p.)

This document is aimed at aquaculture development specialists, coastal resource use planners and government officials involved in the planning and management of coastal aquaculture development within the wider context of resource use in coastal areas. Guidelines are given for improved environmental management of coastal aquaculture based on an overview of selected published experiences. The potential adverse environmental effects of coastal aquaculture practices are outlined and the main socio-economic and bio-physical factors are considered. Methodologies for the assessment and monitoring of environmental hazards and impacts of coastal aquaculture are presented. Finally, selected environmental management options are described for application both at policy-level and farm-level.

Burbridge, R., Norgaard, R.B. & Hartshorn, G.S. (1988). **Environmental Guidelines for Resettlement Projects in the Humid Tropics. FAO Environment and Energy Paper No. 9.** FAO Environment and Energy Paper; 9. Food and Agriculture Organisation (FAO), Rome. (vii, 67 p.)

These guidelines are designed to serve two purposes. The first is to assist in identifying potential adverse

effects inherent in proposed resettlement projects, and the second is to identify ways in which the design, implementation and on-going management of proposed projects could be improved. Part One presents an overview of the impact of resettlement projects in the humid tropics. Part Two provides environmental principles and checklists for the formulation and assessment of such projects, including guidance on how to review and evaluate the initial environmental assessment.

Dougherty, T.C. & Hall, A.W. (1996). **Environmental Impact Assessment of Irrigation and Drainage Projects. Irrigation and Drainage Paper 53.** Food and Agriculture Organisation of the United Nations, Rome. ISBN 92 5 103731 0

The aim of this publication is to provide guidance enabling personnel working in irrigation and drainage to take environmental impacts into account. The main focus of the document is on the process of undertaking environmental impact assessment. Major environmental and draining projects are discussed in detail.

Food and Agriculture Organisation of the United Nations (FAO) (1982). **Environmental Impact Assessment and Agricultural Development.** Food and Agriculture Organisation of the United Nations, Rome.

Food and Agriculture Organisation (FAO) (1984). **Cage and Pen Fish Farming: Carrying Capacity Models and Environmental Impact. FAO Fisheries Technical Paper No.255.** FAO Fisheries Technical Paper; 255., Rome, Italy. (131 p.)

The purpose of this report is to review what is known about the environmental impacts of inland water cage and pen fish culture, and to examine possible methods for estimating carrying capacity. Efforts have been made to deal not only with intensive culture in temperate countries, but also with the more extensive methods practiced in the tropics, and to choose predictive models which are comparatively simple and inexpensive to use.

Food and Agriculture Organisation of the United Nations (FAO) (1996). **Environmental Impact Assessment and Environmental Auditing in the Pulp and Paper Industry.** Food and Agriculture Organisation of the United Nations, Rome. (89 p.)

Food and Agriculture Organisation of the United Nations (FAO) (1996). **Assessing forestry project impacts: issues and strategies. Forestry Papers 114.** Food and Agriculture Organisation of the United Nations (FAO), Rome. (78 p.) ISBN 92 5 103428 1

Wrammer, P. (1987). **Procedures for Environmental Impact Assessment of FAO's Field Project.** Food and Agriculture Organisation of the United Nations, Rome.

Zimmerman, R.C. (1992). **Environmental Impact of Forestry: Guidelines for its Assessment in Developing Countries.** (2nd ed.) Conservation Guide Vol. 7. Food and Agriculture Organisation (FAO), Rome. (85 p.)

Contact: Food and Agriculture Organisation (FAO), Via Terme di Caracalla, I-00100 Rome, Italy.

United Nations High Commission For Refugees (UNHCR)

United Nations High Commission For Refugees (UNHCR) (1994). **Interim Guidelines for Environment-Sensitive Management of Refugee Programmes.** United Nations High Commission For Refugees, Geneva. (15 p.)

These Interim Guidelines aim to assure the integration of the environmental perspective into the planning and implementation of UNHCR's programmes. The main thrusts of the Guidelines are: to institute environmental reporting, surveys, monitoring and studies; to define environmental criteria for selection and design of a refugee site; to promote environment-orientated projects and programming; and to define the technical and operational support available from UNHCR headquarters. A technical support document, Manual for Environmental Surveys and Studies, is attached.

United Nations High Commissioner for Refugees (UNHCR) (1996). **Environmental Guidelines.** United Nations High Commissioner for Refugees, Geneva. (68 p.)

These guidelines are concerned with refugee-related environmental impacts. An initial overview section provides the context for the guidelines in relation to refugee situations (and associated problems) evolving through three distinct phases: emergency, care-and-maintenance, and durable solutions. It also sets out the objectives of the guidelines to assist UNHCR staff in identifying and designing their interventions. Other sections briefly consider environmental problems associated with refugee assistance, and set out both environmental and operational principles of

UNHCR's activities. The main section covers environment-related measures, including institutional measures, that need to be applied to all phases of refugee assistance programmes. Various technical issues are discussed: supplies and logistics, physical planning, water, sanitation, health, food, domestic energy, forestry, agriculture, livestock, community services, education, income generation, garbage clean-up and disposal, site rehabilitation, ecosystem rehabilitation, repatriation and reintegration, and local integration. Six appendices are included covering: UNHCR environmental project categories; draft terms of reference for an environmental specialist, environmental coordinator, and local environmental task force; the role and content of environmental planning; and factors in developing a rehabilitation scheme.

Contact: United Nations High Commission for Refugees (UNHCR), CP-2500, CH 1211 Geneva 2 Depot, Switzerland.

United Nations Industrial Development Organisation (UNIDO)

United Nations Industrial Development Organization (1986). **Environmental** United Nations Industrial Development Organization (1986). **Environmental Assessment and Management in the Production of Six Non-Ferrous Metals (Aluminium, Nickel, Copper, Lead, Zinc and Tin). Sectoral Studies No.30.** United Nations Industrial Development Organization, Vienna. (xii, 163 p.)

This document presents an overview of the main environmental implications of the production of six of the most important non-ferrous metals: aluminium, nickel, copper, lead, zinc and tin. It surveys the main technical aspects of the various production processes, from mining to metal refining, with specific emphasis on the impact of the existing and emerging production technologies on the environment. In the chapters covering the individual metals, additional aspects of the manufacturing processes are also considered including: the possibilities of metals production from by-product utilization, potential for metal recycling, cost implication for pollution control or reduction, environmental standards recommended for emissions of pollutants, and worker health, safety and protection. In each chapter a case study is presented for the metal under consideration giving examples of actual application of the concepts expressed in the document.

United Nations Industrial Development Organization (1988). **First Guide for UNIDO Officers in Evaluating the Environmental Impact of Industrial Projects.** United Nations Industrial Development Organization, Vienna. (25 p.)

This document provides guidance on industrial project evaluation with respect to environmental impact. It contains: a checklist for assessment of pollution possible at the level of specific industrial projects; black-list and grey-list materials and substances requiring steps for pollution control; pollution control parameters listed by 28 industrial subsectors; and annexes with a synopsis of environmental guidelines issued by various international organizations.

United Nations Industrial Development Organization (1990). **EIA (Environmental Impact Assessment) Models for UNIDPLAN.** United Nations Industrial Development Organization, Vienna. (10 p.)

This is a report from experts concerning the introduction of models designed at facilitating environmental impact assessment. It covers: the structure of such models surveying the transport, distribution, transformation etc. of chemicals and pollutants and their effect problems; priority industries in the UNIDO environmental programme, such as metalworking, pulp and paper, cement, textiles and low-grade coal power plants, and the recipients of such industrial effluents; and a characterization of special models requirements for different purposes.

United Nations Industrial Development Organisation (UNIDO) (1990-1991). **Project Design Reference File. Volume II: Guidelines for Environmental Appraisal.** Vol. 2, No. 2. United Nations Industrial Development Organisation, Vienna.

This file brings together a number of papers on environmental assessment, previously published as a series of separate guidelines for the Project Appraisal Section of UNIDO. They are technical guidelines covering different industrial sectors, and they have the following objectives: (a) to provide guidance to Backstopping and AREA officers in the introduction of environmental considerations in the design and development of projects under the auspices of UNIDO; and (b) to help the Project Appraisal Section judge whether appropriate environmental measures have been included in the project in order to recommend, on environmental grounds, whether or not the project should proceed as planned.

Part I looks at the Environmental Appraisal of Category A Projects, defined as technical assistance projects with no capital implications and which do not produce direct environmental impacts. The environmental appraisal for Category A projects therefore concentrates on environmental awareness

and the development of technical and institutional capabilities. The guidelines are intended to be used by UNIDO officers as a checklist at the project formulation stage, and as an appraisal tool at the review stage.

Part II considers the Environmental Appraisal of Category B, defined as those with primary or secondary environmental impacts. The guidelines were designed in order to allow UNIDO officers to verify, at a glance, whether or not a project is environmentally sound and what can be done to improve it. They take the reader through the industrial process, highlighting the points where environmental impacts are likely to occur, the receptors that may be affected, and the measures to minimise the impact at each stage. UNIDO notes that since environmental impacts of most industrial sectors are readily identifiable, and there is sufficient information available regarding clean practices and waste treatment and disposal, most assessments will be completed at the project formulation stage, and only exceptionally will a full EIA be required. The guidelines are presented in the form of tables which can be used for any type of capital project. However in order to facilitate the appraisal of projects most frequently sponsored by UNIDO, a series of sector-specific guidelines have been developed covering the following:
IIIA. Tanneries and Leather Finishing Industries (1990), 28 pages
IIIB. Iron and Steel (1990, 42 p.)
IIIC. Fertilizers (1990, 29 p.)
IIID. Food Agro-Industries (1991, 32 p.)
Each of these sectoral guidelines contains a description of unit processes and operations; working tables for environmental appraisal; annotations supporting the tables; a glossary and references.

Contact: United Nations Industrial Development Organisation (UNIDO), PO Box 200, A-1400 Vienna, Austria.

International Fund for Agricultural Development (IFAD)

United Nations International Fund for Agricultural Development (IFAD) (1994). **Administrative Procedures for Environmental Assessment. President's Bulletin 94/03 of 12/08/1994.** International Fund for Agricultural Development, Rome. (59 p.)

This document sets out the environmental assessment procedures applying to IFAD projects from 1994. These follow the IFAD project cycle and are implemented mainly by project development teams, particularly project controllers. The basic steps of IFAD's EA process are outlined: screening and scoping, environmental assessment (for Category A projects), EA review and project appraisal, Board approval, supervision and ex-post EA. General provisions are set out including the basic responsibilities of borrowers, arrangements for projects initiated by co-financing institutions, consultation, and disclosure of documentation. A range of supporting materials is also included: environmental principles and criteria, recommended information for inception papers, criteria for project categorization (following the World Bank process), recommended format for environment screening and scoping note, steps for formal explicit environmental assessment, recommended format for EA reports, sample terms of reference for EA, recommended content of environmental implementation note section of appraisal reports, screening and scoping of project components, and technical review of EA. In addition, the document incorporates brief non-binding operational statements, to assist in environmental screening and scoping, covering: irrigation, rural roads, pesticides, fertilizers, wetlands, biodiversity and protected area management, fisheries, forest resources, and range resources.

Contact: International Fund for Agricultural Development (IFAD), Via del Serafico 107, 00142 Rome, Italy.

World Health Organisation (WHO)

Birley, M.H. (1991). **Guidelines for Forecasting the Vector-Borne Disease Implications of Water Resources Development.** PEEM Guidelines Series; 2. Joint WHO/FAO/UNEP/UNCHS Panel of Experts on Environmental Management for Vector Control (PEEM), Geneva. (115 p.)

This paper outlines a methodology for a rapidly assessing the health risks associated with water development projects in the tropics or sub-tropics. It uses a minimum number of questions which should provide reasonably accurate answers, and it assumes that local information will be available. Early involvement at the planning stage is advocated. Three main components are outlined: community vulnerability, environmental receptivity and vigilance of the health services. The document outlines what to do, how to do it and who to involve, and provides background information on vector-borne diseases. It also provides a useful summary for non-health specialists, grouped into topics: geophysical; biotic - plants and animals; demographic and socio-cultural, infrastructure; and disease management by vector control. The document is supplemented by references, worksheets, factsheets and pull out flow charts.

Go, F.C. (1988). **Environmental Impact Assessment: Operational Cost Benefit Analysis. An EIA Guidance Document.** MARC Report; 42. Monitoring and Assessment Research Centre, London & World Health Organization, Geneva. (60 p.)

Phillips, M., Mills, A. & Dye, C. (1993). **Guidelines for Cost-Effectiveness Analysis of Vector Control.** PEEM Guidelines Series; 3. Joint WHO/FAO/UNEP/UNCHS Panel of Experts on Environmental Management for Vector Control (PEEM), Geneva. (192 p.)

Cost is an important issue in selecting control methods for vector-borne diseases. This guide is aimed at health planners and managers of vector control programmes. It provides guidelines on the principles and methods of cost-effectiveness analysis and their application to the control of disease vectors. There are separate chapters on planning a cost-effective study, procedures for estimating the costs and the effectiveness of vector control, and data analysis and presentation. Two case studies are included: one from India concerning malaria control; the other examining schistosomiasis in Ghana. Five appendices give clear guidance on particular issues.

Sloan, W.M. (1993). **Site Selection for New Hazardous Waste Management Facilities.** WHO Regional Publications European Series No. 4-6. World Health Organization Europe, Copenhagan. (xiv, 118 p.)

Tiffen, M. (1991). **Guidelines for the Incorporation of Health Safeguards into Irrigation Projects Through Intersectoral Cooperation.** PEEM Guidelines Series; 1. Joint WHO/FAO/UNEP/UNCHS Panel of Experts on Environmental Management for Vector Control (PEEM), Geneva. (81 p.)

Turnbull, R.G.H. (1992). **Environmental and Health Impact Assessment of Development Projects: A Handbook for Practitioners.** Elsevier Applied Science: London (on behalf of the Centre for Environmental Planning and Management, Aberdeen and the World Health Organisation, Geneva), London. (xi, 282 p.)

This handbook is based on 29 papers which were written in 1987 and 1988 as part of a series of training seminars. Aimed at EIA and Environmental Health Impact Assessment (EHIA) practitioners, it assumes experience in environmental or public health, toxicology or ecotoxicology. Seven chapters outline EIA and its method of approach, highlighting health considerations which should be included. Health issues are outlined and fitted into environmental and public health impact assessment. The handbook deals with effects on local inhabitants as well as workers and emphasises the need to consider groups which may be more sensitive, such as the young, the elderly or women. Research needs are discussed and the book ends with a variety of case studies examining how health can be incorporated into EIA. These cover irrigation, water provision, industrial areas, and iron smelting drawing on situations in Africa, Indonesia, Thailand, Turkey, Poland, Brazil and Italy.

World Health Organisation & Regional Office for Europe (1987). **Health and Safety Component of Environmental Impact Assessment. Report No.15.** World Health Organisation, Geneva.

World Health Organisation (WHO) & United Nations Environment Programme (UNEP) (1990). **Public Health Impact of Pesticides used in Agriculture.** World Health Organization, Geneva. (128 p.)

This publication reviews current knowledge on the effects of pesticides on health together with the levels of exposure of various groups. It is intended for use by national health officials responsible for pest management and by researchers working on the epidemiology of pesticide poisoning. Individual chapters cover the production and use of pesticides, their toxic effects, short- and long-term health effects, sources and indicators, populations at risk, the public health impact and prevention. It ends with proposals and recommendations.

Contact: World Health Organisation (WHO), 20 Avenue Appia, CH-1211 Geneva 27, Switzerland.

Other

Biswas, A.K. & Geping, Q. (1987). **Environmental Impact Assessment for Developing Countries.** UN University Series: Natural Resources and the Environment Series Vol. 19. Tycooly International for the United Nations University, London. (232 p.)

This book is now out of print although old copies may be available from the United Nations University or from libraries. The book is the result of a workshop sponsored by the United Nations Environment Programme, the International Society for Ecological Modeling and the United Nations University. It includes a state-of-the-art report on EIA, case studies from developing countries, and comprehensive guidelines on processes and

techniques that can be adopted, especially by developing countries.

Contact: Tycooly International, Cassell Plc, Villiers House, 41-47 Strand, London WC2N 5JE, UK.

Environmental Resources Management, United Nations System & United Nations Environment Programme (1990). **Environmental Assessment Procedures in the UN System.** Environmental Resources Limited, London. (vii, 80 p.)

This study focuses on the organisational aspects of environmental decision-making within the specific context of the UN system. It aims to identify and assess the procedures by which environmental considerations are incorporated into the UN agency decision making, and examines agency/government and inter-agency coordination in this area. Options for improving environmental procedures and coordination are identified. The type of EA procedures pertinent to the UN system is assessed, and the current procedures identified and assessed. The final section looks at an assessment of the need for change, the constraints to change, and the practical options for improvement.

Contact: Environmental Resources Management (ERM), 8, Cavendish Square, London W1H 0ER, UK.

Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) (1994). **Guidelines for Marine Environmental Assessments. GESAMP Reports and Studies No.54.** Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, London. (20 p., annexes)

These guidelines are intended as a common basis for the design and conduct of regional marine environmental assessments (MER). MER is defined as "the collection, analysis and interpretation of information with the purpose of assessing the quality of marine areas" - not conventional EIA but a "comprehensive process comprising the collection of reliable physical, chemical and biological information of spatial and temporal variability". The guidelines have five sections comprising: introduction, criteria for environmental quality, content and structure of the assessment report, process (teams, data quality, sources of information, drafting the report, etc.), and preparing an action plan. There are three annexes: guide to information needed for assessing change and quality of marine areas; guide to quality assurance procedures for marine environmental data; and primary considerations in the design of marine monitoring programmes.

Contact: Marine Environment Division, International Maritime Organisation, 4 Albert Embankment, London SE1 7SR, United Kingdom.

Joint Group of Experts on the Scientific Aspects of Marine Pollution & IMO/FAO/UNESCO/WMO/WHO/IAEA (1991). **Reducing Environmental Impacts of Coastal Aquaculture.** Food and Agriculture Organisation of the United Nations, Rome. (35 p.)

Contact: Food and Agriculture Organisation (FAO), Via Terme di Caracalla, I-00100 Rome, Italy.

Inter Governmental Organisations

Commonwealth Development Corporation

Commonwealth Development Corporation (CDC) (1996) (second edition). **Statement of Environmental Policies and Procedures.** Commonwealth Development Corporation, London (9 pages).

This document sets out the environmental policy of the Commonwealth Development Corporation (CDC) and provides definitions of environment and sustainability. It describes issues of relevance to CDC: pollution, biodiversity and sustainability. Other sections provide discussions of international environmental policies and strategies, and environmental standards. The document also details CDC procedures including business investigation and approval, and monitoring and evaluation. Appendices describe CDC's environmental classification and environmental screening, and list international conventions adopted by the British government.

Commonwealth Development Corporation (CDC) (forthcoming 1998). **CDC Procedures for Social Assessment**. Commonwealth Development Corporation, London.

Contact: Commonwealth Development Corporation, One Bessborough Gardens, London SW1V 2JQ, United Kingdom.

Commonwealth Secretariat

Environmental Resources Management (1993). **Environmental Impact Assessment: A Practical Handbook.** Commonwealth Secretariat (v, 171 p.)

This document was commissioned by the General Technical Assistance Services Division of the Commonwealth Secretariat and is primarily designed for middle/senior level staff in policy making and planning. It introduces the key issues involved in EIA in its broad sense as an important environmental policy management tool, both as an overall process and as a formal procedure for investigating the potential impacts of projects.

The document reflects the lessons of EIA experience at the project level and focuses on key issues in the application of EIA to specific types of development projects. It also emphasises the importance of EIA in overall environmental management. Chapters include: Overview: Sustainable Development and Environmental Impact Assessment; Role of EIA in Environmental Management; Institutional Framework for EIA; EIA Procedures; EIA Methods; and Key Principles in Managing an EIA.

Contact: Commonwealth Secretariat, Malborough House, Pall Mall, London SW1Y 5HX, UK

European Community (EC)

Commission of the European Communities (CEC) (1993). **Sectoral Environmental Assessment Sourcebook. Environment Manual.** Directorate-General for Development, Commission of the European Communities, Brussels. (415 p.)

This Sourcebook is designed to support the environmental appraisal system established for the Lome IV Convention, laid out in an accompanying Users Guide. The Sourcebook is an edited compilation of existing environmental guidelines produced by the donor community. It has been designed to assist government authorities in Asian, Caribbean and Pacific (ACP) countries to prepare terms of reference (TOR) for an EIA, incorporate EIA into the TOR for a project or programme feasibility study, appraise the results of an EIA, and place monetary values on environmental impacts.

Part I is a guide to the economic valuation of environmental costs and benefits. Part II comprises sixteen sections, setting out guidelines for each sector within the Commission's development programme. The sectors covered are rural and urban water supply and sanitation; solid waste management; urban infrastructure development; transport infrastructure; ports and harbours; energy; agriculture; irrigation; forestry; fisheries and aquaculture; livestock; mining; industry; tourism; resettlement; pesticides and fertilisers. For each sector there is a checklist, intended to assist in the preparation of the TOR for an EIA, background notes to provide non-technical

explanations of the key environmental issues in each sector, and references to existing environmental guidelines. The sector checklists and background notes are each divided into four sections - sources of impacts, receptors of impacts, significance of environmental impacts and mitigating measures. The final part of the document is a bibliography of cross-sectoral and miscellaneous environmental assessment guidelines.

Commission of the European Communities (CEC) (1993). **Report from the Commission of the Implementation of Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, and annex for the United Kingdom.** Directorate-General for Environment, Nuclear Safety and Civil Protection, Brussels. (107 p.)

This is a report of the Review of the application and effectiveness of EC Directive 85/337/EEC, covering the period 1985 to 1991. The review is presented in two parts, the Report and the Member State Annex for the UK. The Report contains the principal findings and recommendations and incorporates a comparative analysis of the EIA Directive in each of the twelve Member States up to July 1991. Chapter 2 briefly explains the purpose and main provisions of the Directive. The Structure of the remainder of the Main Report closely follows the main topics addressed in the Review: formal compliance, practical application; and final considerations and action to be taken.

The Member State Annex contains a short Introduction followed by separate chapters reviewing the implementation of the EIA Directive in the UK, and addresses five main topics: the extent of formal compliance by the UK concerned with the requirements of the Directive; the criteria and/or thresholds adopted by the UK for the selection of Annex II projects to be subject to assessment; the nature and extent of practical compliance with the Directive; specific aspects of the Directive's translation into UK legislation and practice; and an overall assessment of the effectiveness of the Directive's implementation in the UK.

Commission of the European Communities (CEC) (1993). **Environmental Procedures and Methodology Governing Lome IV Development Cooperation. Environment Manual.** Commission of the European Communities, Directorate General for Development, Brussels. (8 sections, diskette)

The guide sets out the recommended methodology for the initial screening of projects funded under Lome IV into three categories according to the potential significance of their environmental effects: Category A projects that are unlikely to have significant environmental impacts and require no EIA; Category B projects that have potential to cause some significant impacts and require a preliminary EIA; Category C projects that are highly likely to have significant impacts and therefore require a full EIA. A Preliminary Environmental Assessment methodology is set out, and sectoral checklists provided. The guide also describes a methodology to undertake a full EIA study. Later parts of the Users Guide set out methodologies for review and evaluation of the EIA, monitoring and project evaluation. A separate Sectoral Environmental Assessment Sourcebook provides sector checklists for a full EIA study, which is supplied on diskette with the User's Guide.

This guide is a response to commitments on sustainable development and environment protection in the Lome IV Convention. It is based on a number of similar texts, including the OECD Good Practices on Environmental Assessment, Community legislation, environmental assessment procedures of the Member States and the World Bank Operational Directives.

Council of the European Communities (CEC) (1985). **Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment. Official Journal No. L 175, 05/07/1985 P.0040 - 0049.** Council of the European Communities, Brussels, Belgium. (11 p.)

Council of the European Communities (CEC) (1997). **Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment. Official Journal No. L 073, 14/03/1997 P. 0005.** Council of the European Communities, Brussels, Belgium. (15 p.)

European Commission (1996). **Forests in Sustainable Development. Guidelines for Forest Sector Development Co-operation. Vol I: Strategic Approach; Vol II: Tools for Project Cycle Management.** Directorate General for Development, Directorate General for External Relations and North-South Co-operation, Luxembourg. (Vol I: xv, 208 pp. including annexes. Vol II: 9 parts)

These two inter-related volumes provide complementary information. Volume 1 outlines the strategic approach of the European Community to forest sector development co-operation. Volume II

addresses the needs of those dealing directly with EC forest programmes and projects. Each part of this volume is a stand-alone module. Parts H and I set out methodological guidelines and procedural steps for Social Impact Assessment and EIA, respectively, with numerous checklists. Annexes contain background notes and discuss economic valuation of environmental costs and benefits.

A compilation of support material for use by target groups is provided on diskette, annexed to Vol.1 (in English and French, Word for Windows 6.0). These comprise: standardised terms of reference for forest sector country studies, feasibility and pre-feasibility studies in the forest sector; various checklists for social impact analysis, environmental appraisal (including EIA), and programming of forest sector development co-operation; a logical framework matrix sheet; and action report forms for the various phases of the project cycle. It is intended that the guidelines will be updated at regular intervals.

European Commission (1996). **Environmental Impact Assessment: Guidance on Scoping.** Directorate General for Environment, Nuclear Safety and Civil Protection, Luxembourg.

This document is directed at competent authorities and developers, and provides guidance on scoping - identifying potential impacts and potential alternatives, consultation, and criteria for evaluating the significance of impacts.

European Commission (1996). **Environmental Impact Assessment: Guidance on Screening.** Directorate General for Environment, Nuclear Safety and Civil Protection, Luxembourg.

This document is directed at responsible authorities and developers. It defines screening, and explains the stages in the screening process. A checklist is provided of questions concerning project type, location, impact and wider considerations.

European Commission (1997). **Checklist for the review of environmental information submitted under EIA procedures.** Directorate General for Environment, Nuclear Safety and Civil Protection, Luxembourg. (29 p.)

This checklist was developed as a method for reviewing environmental information submitted by developers to the competent authorities as part of an EIA procedure. Its purpose is to assist reviewers in evaluating the completeness and suitability of this information from a technical and decision-making standpoint. The review criteria are organised in eight review areas, within which are questions that identify the items of information which may need to be provided by the developer to the competent authority.

Contact: Office for Official Publications of the European Communities, L-2985 Luxembourg Sustainable Development and Natural Resources Unit, Directorate General for Development, European Commission, Rue de la Loi 200, B-1049, Brussels, Belgium.

European Commission, Directorate General 1B (1997). **Environmental Impact Assessment DGIB Guidance Note.** European Commission, Brussels. (28 p., annexes) (Also available in French and Spanish.)

This note deals with the environmental aspects of sustainability, and specifically with DGIB's internal procedures for EIA in development cooperation. It summarises current EIA practice and requirements in DGIB, and compiles and explains the most relevant of the instructions and support material issued since EIA procedures were first introduced in 1992. It includes a step by step description of DGIB's procedures including Identification (initial screening and preliminary EIA), Formulation/appraisal (environmental impact studies, and their review and integration into project design), Financing, Implementation (monitoring) and Evaluation. Annexes include EC legislation and resolutions, and standard TORs and checklists to be used in the EIA process.

Contact: European Commission, DGIB, Rue de la Loi 200, B-1049 Brussels, Belgium.

Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)

Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) (1994). **Guidelines for Marine Environmental Assessments. GESAMP Reports and Studies No.54.** Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, London. (20 p., annexes)

These guidelines are intended as a common basis for the design and conduct of regional marine environmental assessments (MER). MER is defined as "the collection, analysis and interpretation of information with the purpose of assessing the quality of marine areas" - not conventional EIA but a "comprehensive process comprising the collection of reliable physical, chemical and biological information of spatial and temporal variability". The guidelines have five sections comprising: introduction, criteria for environmental quality, content and structure of the assessment report, process (teams, data quality,

sources of information, drafting the report, etc.), and preparing an action plan. There are three annexes: guide to information needed for assessing change and quality of marine areas; guide to quality assurance procedures for marine environmental data; and primary considerations in the design of marine monitoring programmes.

Contact: Marine Environment Division, International Maritime Organisation, 4 Albert Embankment, London SE1 7SR, United Kingdom.

International Atomic Energy Agency (IAEA)

International Atomic Energy Agency (IAEA) (1989). **Evaluating the Reliability of Predictions Made Using Environmental Transfer Models.** International Atomic Energy Agency, Vienna. (106 p.)

This publication provides guidance on the available methods for evaluating the reliability of environmental transfer model predictions. It provides a practical introduction to the subject, and particular emphasis is given to worked examples in the text. The document is intended to supplement existing IAEA publications on environmental assessment methodology.

International Atomic Energy Agency (IAEA) (1995). **Environmental Impact of Radioactive Releases. Proceedings Series.** International Atomic Energy Agency, Vienna. (874 p.)

This document is the proceedings of a symposium held in Vienna in May 1995 and deals with the transfer of radionuclides in the environment. It reviews information that has become available in recent years, particularly since the Chernobyl accident but also gained from studies of the discharges from civil and military nuclear facilities. This information has been used for improving the reliability of environmental model predictions. The contents cover global impact assessments, new roles for environmental monitoring, radionuclide releases to the atmosphere and the aquatic environment, radionuclides in the terrestrial environment and radionuclide transfer in the freshwater environment, environmental model testing, radiological impact assessment (including risk impact assessment), and environmental remediation.

Contact: Division of Publication, International Atomic Energy Agency, Wagramer Strasse 5, PO Box 100, A-1400 Vienna, Austria.

International Tropical Timber Organisation (ITTO)

International Tropical Timber Organisation (ITTO) (1993). **Guidelines for the Establishment and Sustainable Management of Planted Tropical Forests. Policy Development Series No.4.** International Tropical Timber Organisation, Yokohama. (38 p.)

These guidelines provide a summary of the major issues and principles that need to be addressed in the planning, establishment and management of planted forests in tropical environments. Section 3.1 includes brief recommendations for environmental assessment during pre-planting feasibility investigations, and highlights key environmental, socio-economic and institutional issues that need to be considered.

Contact: International Tropical Timber Organisation, International Organisations Centre, 5th Floor, Pacifico-Yokohama, 1-1-1, Minato-Mirai Nishi-ku, Yokohama 220, Japan.

North Atlantic Treaty Organisation (NATO)

North Atlantic Treaty Organisation (NATO) (1994). **Methodology, Focalization, Evaluation and Scope of Environmental Impact Assessment. Second Report: Methodological Aspects.** Committee on the Challenges of Modern Society, North Atlantic Treaty Organisation, Antwerp. (xiv, 246 p.)

Contact: North Atlantic Treaty Organisation, B-1110, Brussels, Belgium.

Organisation for Economic Cooperation and Development (OECD)

Organisation for Economic Cooperation and Development (OECD) (1989). **Good Practices for Environmental Impact Assessment of Development Projects. Guidelines on Environment and Aid No.1.** Development Assistance Committee, Organisation for Economic Cooperation and Development, Paris. (17 p.)

The guidelines are designed for policy-makers and practitioners in donor agencies and developing countries. The first part of the document describes the basic purpose of EIA, and the second part goes on to set out a number of 'good practices' for the various steps in the EIA process.

Organisation for Economic Cooperation and Development (OECD) (1992). **Guidelines for Aid Agencies on Involuntary Displacement and Resettlement in Development Projects.** OECD Development Assistance Committee Guidelines on Environment and Aid; 3. Organisation for Economic Cooperation and Development, Paris. (15 p.)

This document provides guidance on the basic elements to consider in preparing a resettlement action plan, how to involve the local community, and effective sequencing of steps in planning and implementation. The guidelines aim to ensure that project designers and implementors follow best practices so that people displaced by projects receive benefits from them, and are re-established on a sound productive basis.

The document is one a series of Guidelines on Environment and Aid produced by the Development Assistance Committee (DAC) of the OECD. The guidelines are designed to help policy-makers and practitioners in developing countries and donor agencies prepare strategies to address serious national, regional and international environmental concerns.

Organisation for Economic Cooperation and Development (OECD) (1994). **Environmental Impact Assessment of Roads.** Development Assistance Committee, Organisation for Economic Cooperation and Development, Paris.

Organisation for Economic Cooperation and Development (OECD) (1996). **Coherence in Environmental Assessment: Practical Guidance on Development Cooperation Projects.** Development Assistance Committee, Organisation for Economic Cooperation and Development, Paris. (106 p.) ISBN 92 64 14798 5

The Working Party on Development and the Environment of the OECD's Development Assistance Committee has prepared this guide as an aid for officials in bilateral donor agencies and their counterparts in developing countries. Its aim is to promote a more coherent approach to the implementation of the varying assessment procedures and methodologies used by the different agencies, which should be similar in principle as a result of previous DAC work. A parallel activity undertaken by the main multilateral financial institutions is also referred to, together with recommendations by both groups that the two should get together. The related UNEP EIA programme is seen as being a vehicle for response to the OECD proposals.

The main sections of the guide are: terms of reference for environmental assessment of development projects; guidelines for managing environmental assessment of development projects; summaries of DAC member states' policies and procedures; and other recommendation of the task force.

The framework Terms of Reference that are included and the guidelines for managing the EA process are both relatively independent of individual agency procedures, and may be used in parallel with them. The individual donor agency summaries cover both their legal and policy base and procedural requirements, which are grouped under each of the main areas of the project cycle. Other considerations in the guide include: a comparison of factors influencing EA decisions between the different agencies; a review of the status of Strategic Environmental Assessment among the agencies; comparisons of training arrangements; comparisons of EA evaluation mechanisms; the role of non-governmental organisations.

Contact: Organisation for Economic Cooperation and Development (OECD), Development Cooperation Directorate, 2 rue Andre-Pascal, Paris 75016, France.

Organization of American States (OAS)

Organization of American States (OAS) (1990). **Disasters, Planning, and Development: Managing Natural Hazards to Reduce Loss.** Organization of American States, Washington D.C. (xv, 80 p.)

Organization of American States (OAS) (1991). **Primer on Natural Hazard Management in Integrated Regional Development Planning.** Organization of American States, Washington D.C. (xvii, 416 p.)

Organization of American States (OAS) (1991). **Desastres, Planificacion y Desarrollo: Manejo de Amenazas Naturales para Reducir los Danos (Disasters, Planning, and Development: Managing Natural Hazards to Reduce Loss).** Organization of American States, Washington D.C. (xviii, 80 p.)

Organization of American States (OAS) (1993). **Manual Sobre el Manejo de Peligros Naturales en la Planificacion para el Desarrollo Regional Integrado (Primer on Natural Hazard**

Management in Integrated Regional Development Planning). Organization of American States, Washington D.C.

Organization of American States (OAS) (undated). **Plan Hemisferico de la Guia de Manejo Ambiental de Corredores de Transporte Vial (Hemispheric Plan for the Guide to Environmental Management of Road Transport Corridors).** 180 p. Organization of American States, Washington D.C. (xv, 80 p.)

Contact: Organization of American States, Department of Regional Development and Environment, 17th Street and Constitution Avenue, Washington D.C. 20006, USA.

Organisation of Eastern Caribbean States (OECS)

Organisation of Eastern Caribbean States (OECS) (1993). **Environmental Impact Assessment Handbook for Physical Planners.** Organisation of Eastern Caribbean States, St Lucia.

Contact: Organization of Eastern Caribbean States (OECS), PO Box 179, The Morne, Castries, St Lucia, West Indies.

Overseas Economic Cooperation Fund (OECF)

Overseas Economic Cooperation Fund (OECF) (1995). **OECF Environmental Guidelines.** (second edition) Overseas Economic Cooperation Fund, Tokyo. (118 p.)

This document updates the first edition published in 1989. The guidelines give guiding principles for the environmental assessment of OECF-funded projects, and set out the environmental matters to be considered and steps to be taken by recipient countries in the planning and preparation stages of a project. Lists of project types are given, classified into three categories: A - EIA report required; B - no EIA report needed, but project must be appraised following the guidelines; and C - no EIA or appraisal required. Environmental checklists are provided for a range of project types, e.g. roads and railroads, thermal power, forestry, etc. The document also contains reference materials including OECD recommendations on environmental assessment, Japanese environmental standards, and examples of environmental conventions.

The Overseas Economic Cooperation Fund (OECF) (1995). **A Guide to Preparing an Environmental Impact Assessment (Thermal Power Generation Sector).** The Overseas Economic Cooperation, Tokyo. (71 p.)

This guide summarises the objectives of EIA, discusses a selection of issues to be covered in an EIA of a thermal power station, sets out the required contents of an EIS, and explains survey. prediction and assessment methods. Two appendices provide environmental quality standard values relating to the atmosphere and air pollutant emission standards.

The Overseas Economic Cooperation Fund (OECF) (1996). **A Guide to Preparing an Environmental Impact Assessment (Hydropower Generation Sector).** The Overseas Economic Cooperation, Tokyo. (91 p.)

This guide comprises four sections. Section I discusses the objectives and procedure of EIA in relation to the project cycle. Section II focuses on EIA in hydropower projects (determining environmental factors, classifying impacts on environmental elements, assessing the relative importance of resulting changes, and selection of EIA criteria requiring forecasting). Section III is concerned with methods for implementing EIA on important criteria. The final section describes the composition and content of an EIA report.

The Overseas Economic Cooperation Fund (OECF) (1996). **A Guide to Preparing an Environmental Impact Assessment (Waste Disposal Sector).** The Overseas Economic Cooperation, Tokyo. (80 p.)

This guide comprises four sections. Section I discusses the objectives and procedure of EIA in relation to the project cycle. Section II focuses on EIA in waste disposal operations (determining environmental factors, classifying impacts on environmental elements, assessing the relative importance of resulting changes, and selection of EIA criteria requiring forecasting). Section III is concerned with methods for implementing EIA on important criteria. The final section describes the composition and content of an EIA report.

The Overseas Economic Cooperation Fund (OECF) (1997). **A Guide to Preparing an Environmental Impact Assessment (Road Sector).** The Overseas Economic Cooperation, Tokyo. (106 p., appendix)

This guide is designed to assist recipient countries in which an EIA system has not been fully established. Chapter 1 describes potential impacts of road projects, the relationship between EIAs and such projects, issues to be considered and the benefits of an EIA. Chapter 2 discusses general EIA procedures applied in many countries procedures (screening, scoping, assessing, examination of alternatives and mitigation, EIA report preparation, reviewing, monitoring and environmental management) including issues to be considered and

examples for each step in the preparation of an EIA. Chapter 3 covers important issues to be considered during the preparation of an EIA for a road project including potential impacts, key points and content considerations. An appendix gives sample terms of reference for an EIA. The document contains numerous boxes, tables and matrices.

The Overseas Economic Cooperation Fund (OECF) (1997). **A Guide to Preparing an Environmental Impact Assessment (Railroad Sector).** The Overseas Economic Cooperation, Tokyo. (110 p., appendix)

This guide is designed to assist recipient countries in which an EIA system has not been fully established. Chapter 1 describes potential impacts of railroad projects, the relationship between EIAs and such projects, issues to be considered and the benefits of an EIA. Chapter 2 discusses general EIA procedures applied in many countries procedures (screening, scoping, assessing, examination of alternatives and mitigation, EIA report preparation, reviewing, monitoring and environmental management) including issues to be considered and examples for each step in the preparation of an EIA. Chapter 3 covers important issues to be considered during the preparation of an EIA for a railroad project including potential impacts, key points and content considerations. An appendix gives sample terms of reference for an EIA. The document contains numerous boxes, tables and matrices.

The Overseas Economic Cooperation Fund (OECF) (1997). **A Guide to Preparing an Environmental Impact Assessment (Irrigation Sector).** The Overseas Economic Cooperation Fund, Tokyo. (117 p., appendix)

This guide is designed to assist recipient countries in which an EIA system has not been fully established. Chapter 1 describes potential impacts of irrigation projects, the relationship between EIAs and such projects, issues to be considered and the benefits of an EIA. Chapter 2 discusses general EIA procedures applied in many countries procedures (screening, scoping, assessing, examination of alternatives and mitigation, EIA report preparation, reviewing, monitoring and environmental management) including issues to be considered and examples for each step in the preparation of an EIA. Chapter 3 covers important issues to be considered during the preparation of an EIA for an irrigation project including potential impacts, key points and content considerations. An appendix gives sample terms of reference for an EIA. The document contains numerous boxes, tables and matrices.

Contact: OECF, Environment and Social Development Division, Project Development Department, 1-4-1 Ohtemachi, Chiyoda-Ku, Tokyo 100, Japan.

South Pacific Regional Environment Programme (SPREP)

South Pacific Regional Environment Programme (SPREP) (undated). **Environmental Impact Assessment Guidelines for Mine Development and Tailings Disposal at Tropical Coastal Mines.** South Pacific Regional Environment Programme, Honolulu.

South Pacific Regional Environment Programme (SPREP) (undated). **Environmental guidelines for fish processing plant discharges into the sea.** South Pacific Regional Environment Programme, Honolulu.

Carpenter, R.A., Maragos, J.E., Asian Development Bank (AsDB), & South Pacific Regional Environment Programme (SPREP) (1989). **How to Assess Environmental Impacts on Tropical Islands and Coastal Areas. South Pacific Regional Environment Programme Training Manual.** Environment and Policy Institute, East-West Center, Honolulu. (xiii, 345 p.)

This manual is a scientific training guide which recommends various techniques of EIA, whilst stressing the need to develop an individual approach towards each project. Its theme is the prediction of future environmental conditions resulting from economic development and technological change.

The manual explains how to design an EIA, and suggests key references to assist the practitioner undertake a full assessment. The documents provides a framework for drawing up terms of reference for EIA consultants, and also as a useful standard for EIA reviews. It is a useful desk reference work, providing definitions of common terms, examples of impacts and mitigative measures. Specific sectors covered by the manual include: agriculture, forestry, fisheries, tourism, energy, mining, waste management, construction, ports and harbours.

Morgan, R.K. (1993). **A Guide to Environmental Impact Assessment in the South Pacific.** South Pacific Regional Environment Programme (SPREP), Apia, Western Samoa. (51 p.)

The main purpose of this booklet is to provide a guide for using EIA as a planning and management tool for decision making for the South Pacific Region. It is primarily for government officials, and also for private developers, non-government officials and interested individuals. The guide discusses the values and importance of the EIA process for government decisions about development, outlines the main steps

involved in an EIA study, and assists in implementing EIA procedures. It draws on the extensive experience gained from EIA in-country workshops, and is expected it will be revised as more experience with EIA accumulates.

Contact: South Pacific Regional Environment Programme (SPREP), PO Box 240, Apia, Western Samoa.

The World Conservation Union (IUCN)

IUCN, Norwegian Agency for International Development, Swedish International Development Agency, & Australian International Development Assistance Agency (1991). **EIA Guidelines for the Pakistan Energy Sector.** IUCN-The World Conservation Union (on behalf of the Environmental and Urban Affairs Division, Government of Pakistan), Gland, Switzerland. (42 p.)

These guidelines provide comprehensive information on EIA for the energy sector in Pakistan. They are intended for use in connection with the World Bank loan to Pakistan for energy sector projects, but also have general application. The document is in two parts. Part 1 provides background information including an introduction to EIA, the legal requirement for EIA in Pakistan, a perspective on the Pakistan energy sector and the sensitivity of Pakistan's environment to disturbance by development projects. Part 2 includes a generalised procedure for the EIA of all energy sector projects except nuclear power proposals, gives guidance on the environmental issues associated with each specific type of energy sector development, and provides checklists of factors which need to be taken into account in their assessment.

The World Conservation Union (IUCN) (1991). **Oil Exploration in the Tropics: Guidelines for Environmental Protection.** IUCN-The World Conservation Union, Gland. (vi, 30 p.)

The World Conservation Union (IUCN) (1993). **Oil and Gas Exploration and Production in Mangrove Areas: Guidelines for Environmental Protection.** IUCN-The World Conservation Union, The Oil Industry International Exploration and Production Forum, Gland. (vii, 47 p.)

A working party from the Oil Industry International Exploration and Production Forum (E&P), and IUCN, has prepared this guide to assist people from the oil industry, and officials, to plan for and manage the exploration and production of oil and gas resources found in mangrove areas in a manner that minimises potentially adverse environmental impacts. The purpose of the guidelines is to provide practical direction to achieve conservation of mangroves and enhance protection of marine ecosystems. There are chapters on: the major features of mangrove forests which can influence planning and implementation of oil and gas operations; environmental management and planning (including EIA procedures); and environmental management of field operations in mangrove areas.

The World Conservation Union (IUCN) (1993). **Oil and Gas Exploration and Production in Arctic and Subarctic Onshore Regions.** IUCN-The World Conservation Union, The Oil Industry International Exploration and Production Forum, Gland. (viii, 56 p.)

The purpose of these Oil and Gas Guidelines is to establish internationally acceptable goals and guidance on environmental protection during oil and gas exploration and production operations in the onshore Arctic and Subarctic. There are chapters on: Description of the Environment; Overview of the Oil and Gas Exploration and Production Process; Potential Environmental Impacts; Environmental Management (including EIA procedures); and Environmental Protection.

World Conservation Union (IUCN) (1993). **Manual on Environmental Assessment for Sustainable Forest Development. Environmental Management in Forestry Development: A Project of the Forest Department in the Ministry of Lands, Irrigation and Mahaweli Development, Sri Lanka.** IUCN-The World Conservation Union, Gland. (65 p.)

This manual was prepared for the United Nations Food and Agriculture Programme as part of the Environmental Management in Forestry Development Project - a project of the Forestry Department, Ministry of Lands, Irrigation and Mahaweli Development, Sri Lanka. It sets out guidelines for environmental impact assessment applicable to natural forests and forest plantations in Sri Lanka. Part I describes the legal and administrative framework for EIA in Sri Lanka and introduces the process of environmental assessment. Part II examines the ways in which this might affect work within the forest sector. It introduces procedures to be adopted in the Forest Department to deal with the formal requirements of EIA, and to ensure that environmental considerations are taken into account at all levels - in the formulation of policy, in planning and in field operations.

Contact: IUCN-The World Conservation Union, Forest Conservation Programmme, Rue Mauverney 28, CH 1196 Gland, Switzerland.

Sectoral Guidelines Miscellaneous

Sectoral - Miscellaneous

The guidelines in this section are for sectors only and are not listed elsewhere in this Directory. An paginated Matrix on pages [page numbers to be inserted post-pagination] shows where to find the sectoral guidelines listed in other sections. Note that the guidelines in this section are not the results of a dedicated literature search for sectoral guidelines. It is acknowledged that may be many others not identified in this edition.

General/Multisectoral

Biswas, A.K. & Agarwala, S.B.C. (1992). **Environmental Impact Assessment for Developing Countries.** Butterworth-Heinemann, Oxford, UK. (249 p.)

This book is based on selected papers presented at an International Conference on Environmental Impact Assessment, held at New Delhi, India. Part I consists of overviews and general considerations. Part II focuses on environmental impact analyses of different sectors, while Part III looks at a variety of different national experiences. Part IV provides a summary of the conference and the recommendations it produced.

Contact: Butterworth-Heinemann, Linacre House, Jordan Hill, Oxford OX2 8DP, UK.

Coastal/Marine

Berwick, N.L. (1983). **Guidelines for the Analysis of Biophysical Impacts to Tropical Coastal Marine Resources. The Bombay Natural History Society Centenary Seminar: Conservation in Developing Countries: Problems and Prospects.** The Bombay Natural History Society (122 p.)

This paper focuses on the mangrove-seagrass-coral reef complex and is intended to provide a general framework for the collection and assessment of ecological information for the management of these tropical coastal resources. Topics reviewed include: interactions between the three coastal ecosystems; the influences of the configuration of the land mass, coastal terrain and substratum, as well as water current patterns on these ecosystems; the critical environmental parameters necessary for the maintenance of each ecosystem; the major sources of environmental stress; an approach to environmental assessment; current methodologies for resource inventories and baseline surveys; and recommendations for applied research related to development of realistic coastal zone management strategies.

Contact: Conservation Systems, 102 Seventh Street N.E, Washington DC 20002, USA.

Construction Industry

Construction Industry Research and Information Association (CIRIA) (1993). **Environmental Assessment: A Guide to the Identification, Evaluation and Mitigation of Environmental Issues in Construction Schemes.** Pre-publication Draft. Construction Industry Research and Information Association, London. (iii, 270 p.)

This document is targeted at construction and environmental groups. It aims to raise awareness of the interaction between development schemes and their related activities, and the environment. It is stressed that, while most building and construction activities will lead to long-term benefits to the community and society as a whole, the location of these developments, and the way they are planned, designed, constructed and operated can have environmental implications. Information is provided on the engineering and operational activities associated with a range of different development schemes, together with their likely environmental effects. Guidance is given on available techniques to identify the nature and extent of these effects and, where potentially adverse impacts are identified, and on measures likely to avoid or minimise their impact with reference to case studies. Where appropriate, the document also describes opportunities for environmental enhancement. The document is applicable to developments of all scales, irrespective of whether formal environmental assessment is required, and is aimed at a broad readership including government agencies, planning authorities, developers and environmental interest groups.

Construction Industry Research and Information Association (CIRIA) (1996). **Environmental Assessment: Special publication.** Construction Industry Research and Information Association, London.

Contact: Construction Industry Research and Information Association (CIRIA), 6 Storeys Gate, London SW1P 3AU, UK.

Health

Birley, M.H. & Wooldridge, R. (1991). **Methods of Forecasting the Vector-borne Disease Implications in the Development of a Water Resources Project. Techniques for Environmentally Sound Water Resources Development.** Pentech Press, London, UK. (pp. 50-63)

Contact: Hydraulics Research (HR) Wallingford Ltd, Howberry Park, Wallingford, Oxford OX10 8BA, UK.

Human Settlements

Leitmann, J. (1993). **Rapid Urban Environmental Assessment: Toward Environmental Management in Cities of the Developing World.** In: Impact Assessment, 11 (3) (225-260 p.).

The research summarized in this paper was to be used, in combination with other background studies and research, to develop an overall document on environmental strategies for cities, as part of Urban Management and Environment component of the Joint UNDP/World Bank/UNCHS Urban Management Program (UMP). The objectives of the case study work reported on were to use and test rapid evaluation methods in different cities that cut across sectors, to identify generalisable constraints and analytical approaches to problems, outline approaches for setting relative priorities amongst urban environmental problems, and indicate options that could form part of environmental management strategies.

Irrigation

Dougherty, T.C. & Hall, A.W. (1994). **A Guide to the Environmental Impact Assessment of Irrigation and Drainage Projects in Developing Countries.** Hydraulics Research Wallingford, Wallingford, Oxford. (67 p.)

Contact: Hydraulics Research (HR) Wallingford Ltd, Howberry Park, Wallingford, Oxford OX10 8BA, UK.

Mock, J.F. & Bolton, P. Overseas Development Administration (ODA) (1993). **The ICID Environmental Check-List to Identify Environmental Effects of Irrigation, Drainage and Flood Control Projects.** Hydraulics Research Wallingford, Oxford. (70 p.)

The Working Group established by the International Commission on Irrigation and Drainage (ICID) to investigate the environmental impacts of irrigation, drainage and flood control projects, has produced this environmental check-list to help identify possible changes which such projects may bring. Effects are grouped under eight sectors: hydrology, pollution, soils, sediments, ecology, socio-economic, health and ecological imbalances. The checklist provides a framework to identify the environmental effects of new or existing projects and is intended for use by engineers and planners who are not specialists in the environmental sciences. Practical guidance is given in the use of the procedure in various localities and for various types of projects, and suggestions are given as to how it might be adapted to specific situations. The main components of the procedure are given in a form which can be photocopied for field use.

Contact: Environment and Policy Institute, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96848.

Social

Burdge, R.J. (1994). **A Community Guide to Social Impact Assessment.** Social Ecology Press, Middleton, Wisconsin. (173 p.)

This document is structured as a workbook to assist the user, with the aid of an instructor or workshop facilitator, to undertake a social impact assessment (SIA) of a proposed project or policy change at the community level. The first three chapters outline the field of SIA; discuss its evolution in the context of environmental assessment, environmental planning and project evaluation; and outline the concepts used by social scientists in practicing SIA and conducting related research. Chapters 4-6 help focus on a community level project. They discuss the steps in the SIA process, how to determine project boundaries, and sources of information. Chapters 7-11 give detailed instructions for obtaining data and evaluating the significance level of 26 SIA variables, organised under five categories: population impacts; community and institutional change; conflict between local residents and newcomers; individual and family level impacts; and community and infrastructure needs. Chapter 12 provides a format to consolidate and rank the most significant social impacts, while chapter 13 outlines a community-level approach to the identification and mitigation of social impacts.

Contact: Social Ecology Press, PO Box 620863, Middleton, Wisconsin 53562-0863, USA.

Oberai, A.S. (1992). **Assessing the Demographic Impact of Development Projects.** Routledge, London. (xiii, 143 p.)

Very little is currently known about the demographic impacts of most development projects and about the ways in which such impacts can be assessed. This book, based on studies in Third World countries, focuses on conceptual, methodological and policy issues. It considers whether demographic effects of projects can be assessed and why development planners should be interested in such an assessment. The author examines the extent to which economic and social changes generated by specific development interventions have influenced demographic behaviour in a particular context. Suggestions are made for how desired effects can be enhanced and undesired effects minimised by policy makers and planners in developing countries, in order to deal with problems of population growth and its distribution. The major shortcomings of existing methodologies are identified and the future direction which research might take in order to be more scientifically valid and useful to policy-makers is indicated.

Contact: Routledge, 11 New Fetter Lane, London EC4P 4EE, United Kingdom.

Waste

Glennie, E. & Frost, R.C. (1989). **Guidance on Carrying out an Environmental Assessment for a Sludge Incineration Plant.** Water Research Centre, Swindon, UK.

Contact: Water Research Centre Plc (WRC) Swindon, PO Box 85, Frankland Road, Blagrove, Swindon, Wilts SN5 8YR, UK.

Water Resources

Pal, K. & Rajappa, R. (1993). (1993). **EIA Guidelines for Water Resources Development Projects.** In: Water Resources Development, 9 (2) (pp. 189-204).

This paper is a spin-off of a document developed by Water and Power Consultancy Services on Sustainable Water Resources Development and Management to carry out an Environmental Impact Assessment Study. In this phase the aims, objectives and approaches to prepare guidelines are discussed, taking into account the policy and legal considerations. The various stages in EIA are reported along with assessment techniques for sustainable development.

Wetlands

Howe, C.P. & Claridge, G.F. & Hughes, R. & Zuwendra (1991). **Manual of Guidelines for Scoping EIA in Tropical Wetlands. PHPA/AWB Sumatra Wetland Project Report.** Asian Wetland Bureau, Bogor. (xvi, 261 p., annexes)

The manual is designed to assist in the identification of wetland benefits at a site before project plans are finalised, and to assess the potential impacts of development projects on these benefits. Originally developed for use in Indonesia, this 'internationalised' text will be of use for scoping development projects that may impact on tropical wetlands in general. The manual includes descriptions and diagrams of all recognised benefits provided by tropical wetlands, together with lists of the types of activities associated with development projects that may have impacts on such benefits. The manual is designed in such a way as to assist users to determine potential impacts of particular projects on specific wetland types.

Contact: Asian Wetlands Bureau (AWB), University of Malaya, Lembah Pantai, 59100 Kuala Lumpur, Malaysia.

Windschy, J.W. & Kraft, M. & Carpenter, M. (1997). **Guide to Hazardous Materials and Waste Management.** Solano Press Books, California. (xiv, 344 p.) ISBN 0 923956 24 7

This text book, adapted from a university course, is written for both students and professionals in the field. It provides a wealth of information on: the chemical properties of hazardous materials and wastes; the legal requirements (in the USA) for their handling, storage, transportation, and disposal; and guidance on managing these materials effectively for the protection of employees, facilities, and communities. The guide focuses on risk, regulation and responsibility.

Contact: Solano Press Books, PO Box 773, Point Arena, California 95468, United States of America.

The International Institute for Environment and Development is an independent not-for-profit organisation which exists to promote sustainable development. IIED is one of the largest independent groups engaged in research and policy analysis on environment and development issues. IIED seeks to promote patterns of sustainable development through:

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- providing advice to those who influence or make policy;
- encouraging debate, through dissemination of environmental and development information/education materials in printed publications and other media, in talks and presentations, and through networking.

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