Environmental and Social Impact Assessment
Environmental and Social Impact Assessment
Course Introduction and Overview

Contents

1 Introduction 3
2 Course Content 3
3 Course Structure 4
4 The Course Authors 6
5 Study Materials 6
6 Studying the Course 8
Specimen Examination 13
Glossary 15
1 Introduction

As you will learn in this course, the intended beneficiaries or investors are not the only audiences to whom it must be demonstrated that that a project’s technical, institutional and financial attributes warrant that the project will be worthwhile. The effects a project will have (i.e. its impacts) on the environment, nearby communities and the wider society must also be investigated, so that these can be taken into consideration by the decision-makers who determine whether or not the project should proceed.

The most widely used techniques to investigate projects’ environmental and social implications are Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA), or Environmental and Social Impact Assessment (ESIA). Many governments, project financiers and project developers require ESIA or EIA.

Two types of project assessment can be distinguished:

- **Ex ante** assessment: determining in advance (before it is implemented) whether or not a project is worthwhile and should proceed and, if so, in what format – this is sometimes called project appraisal or evaluation
- **Ex post** assessment: assessing the performance of a project after it has been implemented and completed (i.e. retrospectively) – this is sometimes called (environmental) auditing or performance monitoring.

This course covers the *ex ante* ESIA of projects. It also introduces tools that are used to support ESIA, ways of improving the effectiveness of ESIA, and other techniques, besides ESIA, that are used to investigate the environmental and social implications of projects and other initiatives.

2 Course Content

The course is divided into eight units of study, each to be completed within one week.

**Unit 1 Introduction to Environmental and Social Impact Assessment (ESIA)**

The first unit of the course introduces ESIA, the functions and tools of Environmental and Social Impact Assessment. It provides an overview of the origins and variations in application. It discusses the purpose and the drivers for ESIA, and it describes the overall ESIA process, including the structuring of ESIAs. This unit also looks at the success of ESIA, and includes a discussion on Social Impact Assessment (SIA).

**Unit 2 Laying the Foundations for ESIA**

Unit 2 explains how the foundation is laid for ESIA via the screening, scoping, project description, and baseline description steps. It discusses the fundamentals of screening, approaches to screening, the purpose of scoping, scoping procedure, identification of alternatives – and data collection, interpretation and report.
Unit 3 Impact Assessment – the ‘Heart’ of ESIA

Unit 3 is concerned with impact assessment. It covers impact identification and prediction, discussing a number of the tools available to facilitate impact identification. It also covers impact significance evaluation, looking at judging significance with and without management, significance criteria and methods for judging and presenting significance evaluations. In addition, this unit discusses the distribution of impacts, taking into consideration social equity.

Unit 4 Impact Management, Reporting and Decision-Making

Unit 4 deals with the management hierarchy – the mitigation of negative impacts (undesirable consequences) and the enhancement of positive impacts (benefits), which is a key purpose of ESIA, and how mitigation relates to project design. In addition, this unit covers the management and monitoring plan, reporting the ESIA and decision making.

Unit 5 Stakeholder Engagement / Public Consultation in ESIA

Unit 5 focuses on stakeholder engagement (also known as public consultation) in ESIA. It covers its aims and benefits, stakeholder identification and analysis, how stakeholder engagement fits in with the ESIA process, the nature and extent of involvement in stakeholder engagement, methods for stakeholder engagement and stakeholder engagement in practice.

Unit 6 Improving the Effectiveness of ESIA

Unit 6 is concerned with improving the effectiveness of ESIA. It covers ESIA planning and project management, including a discussion of the ESIA team, the project manager, and project scheduling and budgeting. It is also concerned with implementation and follow-up, covering monitoring, auditing and the linkage between ESIA and the Environmental Management System (EMS).

Unit 7 Other Thematic and Specialised Assessment Techniques


Unit 8 Strategic and Emerging Forms of Assessment

Unit 8 focuses on strategic and emerging forms of impact assessment. It begins by exploring approaches to widening the scope of impact assessment so as to explore cumulative and strategic impacts. Thereafter, emerging forms of assessment, namely integrated assessment and sustainability assessment, are examined.
3 Course Structure

Unit 1 Introduction to Environmental and Social Impact Assessment (ESIA)
  1.1 Introduction
  1.2 Origins and Variations in Application
  1.3 Purpose of ESIA
  1.4 Drivers for ESIA
  1.5 The Overall ESIA Process
  1.6 Structuring ESIA
  1.7 Success of ESIA
  1.8 Social Impact Assessment
  1.9 Summary and Conclusions

Unit 2 Laying the Foundations for ESIA
  2.1 Introduction
  2.2 Screening
  2.3 Scoping
  2.4 Project Description
  2.5 Baseline Description
  2.6 Data Collection, Interpretation and Reporting
  2.7 Summary and Conclusions

Unit 3 Impact Assessment – the ‘Heart’ of ESIA
  3.1 Introduction
  3.2 Impact Identification and Prediction
  3.3 Impact Significance Evaluation
  3.4 Social Impacts and Social Equity
  3.5 Summary and Conclusions

Unit 4 Impact Management, Reporting and Decision-Making
  4.1 Introduction
  4.2 Impact Mitigation and Enhancement
  4.3 The Management and Monitoring Plan
  4.4 Reporting the ESIA
  4.5 ESIA and Decision-Making
  4.6 Summary and Conclusions

Unit 5 Stakeholder Engagement / Public Consultation in ESIA
  5.1 Introduction
  5.2 Aims and Benefits of Stakeholder Engagement
  5.3 Methods for Securing Stakeholder Engagement
  5.4 Stakeholder Engagement in Practice
  5.5 Summary and Conclusions

Unit 6 Improving the Effectiveness of ESIA
  6.1 Introduction
  6.2 ESIA Planning and Project Management
6.3 Implementation and Follow-up
6.4 Summary and Conclusions

Unit 7 Other Thematic and Specialised Assessment Techniques

7.1 Introduction
7.2 Thematically Focused Forms of Impact Assessment
7.3 ‘Specialised’ Assessment Techniques
7.4 Summary and Conclusions

Unit 8 Strategic and Emerging Forms of Assessment

8.1 Introduction
8.2 Widening the Scope of Impact Assessment
8.3 Emerging Forms of Impact Assessment
8.4 Summary and Conclusions

4 The Course Authors

Theo Hacking is a Senior Research Associate at the University of Cambridge. He has spent most of his career working in industry and as a consultant in the fields of environmental management, sustainable development and corporate social responsibility. He has specialised in social and environmental impact assessment and has a particular interest in enhancing the effectiveness of impact assessment as a tool for sustainable development. Dr Hacking has a PhD from the University of Cambridge, and his thesis explores the ‘Sustainability Assessment’ of mining projects. His initial degrees were BSc Eng (Civil) and MSc Eng (Environmental) from the University of the Witwatersrand. He is an active member of the International Association of Impact Assessment.

Candice Kent is a technical writer with a PhD from the University of Cambridge. Her thesis investigates the intersections between science and literature. She has an Engineering Degree from the University of the Witwatersrand (Wits) in South Africa, and has practiced as a project engineer in the industrial minerals sector. Furthermore, she has postgraduate degrees in physics from both Wits and the University of Cambridge, and has lectured at the former in the Departments of Engineering, Physics and English.

5 Study Materials

Your main study guide will be the course text and is divided, as noted above, into eight units, which will introduce the topics to be studied each week and indicate when you are to study the set readings, in the textbook or Course Reader, and suggest questions and exercises for you to work on. It will also prompt your work on the case study you have chosen.

Textbook

One textbook will be supplied to you for this course:
Course Introduction and Overview


**Course Reader**

In addition, you will receive a Course Reader, with scholarly and topical articles and examples. You will be guided through all of this reading as you work through the course.

**Case Studies**

Some exercises in the course will involve using a case study, to illustrate the technical and theoretical issues that you will be studying in the course. You must select one of the following for this purpose.

**Case Study 1** Environmental Assessment Report for the Padma Multipurpose Bridge Project, Bangladesh.

The proposed project involves the construction of about 6.15km-long main bridge and transition structures, river training works, bridge connecting approach roads and associated structures, among other elements. The project area is located in the south-central part of Bangladesh (Munshiganj, Shariatpur and Madaripur Districts). The design life of the proposed project is 100 years. Two types of considerations were included in the environmental assessment: greenhouse gas emissions and climate change impacts. The draft environmental assessment report (Bangladesh Bridge Authority, 2010) can be found at the Asian Development Bank’s website:


**Case Study 2** Environmental Impact Statement for the Mackenzie Gas Project, Canada

The Mackenzie Gas Project proposes to build a 1,196-kilometre pipeline system in order to link northern natural gas producing wells to southern markets. The main Mackenzie Valley Pipeline would connect to an existing natural gas pipeline system in north-western Alberta. The proposed Project crosses four Aboriginal regions in Canada’s Northwest Territories. The gas fields can supply about 800 million cubic feet per day of natural gas over the life of the Project. In total, as much as 1.2 billion cubic feet per day of natural gas could be available initially to move through the Mackenzie Valley Pipeline, which – estimated at $16 billion – will entail cooperation among many different companies, communities, settlement regions, regulatory agencies and governments.

http://www.mackenziegasproject.com/theProject/regulatoryProcess/applicationSubmission/Applicationscope/EIS.html

**Case Study 3** Environmental and Social Impact Assessment for the Gulf Power Plant, Kenya and IFC Supplemental Environmental and Social Action Plan.

The project is the development of a green-field 80 MW Heavy Fuel Oil fired power plant, including a 66kv interconnector and backup metering equipment on a 20 years build-own-and-operate basis along the Nairobi–Mombasa
highway. The Project will have a 20-year Power Purchase Agreement with Kenya Power and Lighting Company, the national transmission and distribution company. The developer of the Project is Gulf Power Limited, a special purpose company incorporated in Kenya by a consortium of Kenyan investors with a view to enter the power generation business in Kenya. The Project is expected to generate 60-80 MW using medium speed diesel engines. The key environmental and social impacts include air quality, noise, occupational health and safety, community health and safety, traffic management, hazardous material and waste management, and access to water during both construction and operation.

http://www.ifc.org/ifcext/spiwebsite1.nsf/2bc34f011b50ff6e85256a550073ff1c/449695dfaaf3b48b852578a100762cd6?opendocument

These reports are extensive and consist of a number of documents – for example, Padma is 600 pages, and Mackenzie considerably more. Although it will not be necessary for you to read all of the report it will be beneficial for you to browse or search through it in order to be able to relate a real report to the theoretical content of the course. You will also get a sense of the structure and content of such reports and learn how to interpret them, as well as how to write them.

Should you be interested in looking at further examples of EIAs, SIAs and ESIs for recent major projects within various sectors, possible sources are:

<table>
<thead>
<tr>
<th>Possible Sources:</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financiers/ International Development Agencies</td>
<td>The World Bank; <a href="http://www.worldbank.org">www.worldbank.org</a>; from the website select 'Projects and Operations' and then 'Advanced Search'.</td>
</tr>
<tr>
<td></td>
<td>The International Finance Corporation (IFC); <a href="http://www.ifc.org/projects">www.ifc.org/projects</a>; select a Category A or B project.</td>
</tr>
<tr>
<td>Regulators</td>
<td>Canadian Environmental Assessment Agency Registry; <a href="http://www.ceaa.gc.ca/050/index_e.cfm">www.ceaa.gc.ca/050/index_e.cfm</a></td>
</tr>
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</table>

6. Glossary

<table>
<thead>
<tr>
<th>Term:</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Biophysical</td>
<td>The non-human environment, including living organisms (plants and animals) and non-living matter (e.g. water and air).</td>
</tr>
<tr>
<td>Cultural/ Heritage Impact Assessment</td>
<td>Assessment of impacts on anything that may have aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value. It may encompass the natural environment, buildings, objects and/or more intangible components, such as indigenous knowledge systems or rituals.</td>
</tr>
<tr>
<td>Cumulative Effects Assessment</td>
<td>Assessment of impacts due to numerous separate developments, which might be insignificant on their own, but which can interact or combine to cause significant impacts.</td>
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**Economic Impact Assessment**  
Assessment of the impacts of a project on the wider economy, which can be direct, indirect, induced or fiscal.

**Engagement**  
Process of interacting with stakeholders to produce better decisions/ outcomes. The level of engagement may increase in level, as follows: inform, consult, involve, collaborate, empower.

**Equator Principles**  
Initiative of financial institutions whereby the signatories commit to assessing potential investments in accordance with the International Finance Corporation’s Performance Standards on Social and Environmental Sustainability, which include ESIA. (www.equator-principles.com).

**Health Impact Assessment**  
A combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population. (World Health Organisation)

**Impact**  
Any change (beneficial or adverse) in the environment (social or biophysical) as a result of human activity.

**Integrated Assessment**  
Forms of impacts assessment that aim to: align/ combine a number of established assessment techniques (e.g. EIA+SIA); and/or to compare/ explore interrelationships between themes (e.g. biophysical & social).

**Life-Cycle Assessment**  
Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle. (ISO, 2006)

**Mitigation**  
Measures to prevent/ eliminate, reduce/ minimise, remediate/ repair or compensate adverse impacts.

**Significance**  
The significance of impacts is typically determined by considering their magnitude/ severity, extent, duration and probability. Opposite ends of the spectrum are:
- Highly significant impacts: Impacts that are diverse, irreversible and/or unprecedented.
- Low significance/ insignificant impacts: Impacts that are generally site-specific, largely reversible, and – in relation to adverse impacts – readily addressed by mitigation.

**Social**  
Anything relating to humans and their interactions, including economic, cultural, human rights, health and safety concerns.

**Stakeholders**  
Interested or affected parties, including: neighbouring communities and businesses; local, regional and national governments (i.e. the authorities); employees, contractors, and suppliers; Nongovernmental Organisations (NGOs) and Community-based Organisations (CBOs); and media groups.

**Strategic Environmental Assessment**  
A systematic, on-going process for evaluating, at the earliest possible stage of publicly accountable decision-making, the environmental quality, and consequences, of alternative visions and development intentions incorporated in policy, planning or programme initiatives, ensuring full integration of relevant biophysical, economic, social and political considerations. (Partidário, 1999:64)

**Sustainability**  
Assessment processes that aim to determine whether or not an
initiative will contribute to sustainable development. (Pope et al., 2004).

**Triple bottom-line**
Term used in the business literature to refer to companies expanding their traditional focus on the financial ‘bottom-line’ to also take into account (biophysical) environmental and social performance, i.e. people, planet and profit.

**Vulnerable individuals or groups**
People who are differentially or disproportionately sensitive to change (or in need of change), since they are underrepresented, disadvantaged or lacking in power/influence/capacity. Typical examples are children, the elderly, minority groups, indigenous peoples, women, and people with disabilities.

7 **Studying the Course**

As you work through the course materials, there are various exercises that are designed to consolidate your knowledge and skills. We recommend that you do the exercises, most of which take half an hour or less, before you look at any model answers that are given in the unit.

At certain points we will ask you to reflect on various aspects of the policy and process where you work. It will be valuable for you and your fellow students to share these reflections on the OSC (the online study centre). Short notes setting out the issue and the approach will enrich your, and your fellow students’, experience of the course.

Please feel free to raise queries with your tutor and with your fellow students if there are things that are not clear to you. Do this as soon as you find a problem, because waiting will hold you up as you work through the course.

We hope that you will find the course instructive, useful and occasionally challenging.

8 **Assessment**

There are two assignments for this course, one after four weeks and one after eight weeks. Together they account for 30% of the grade for the course. In addition there is a three-hour written examination, which counts for the other 70%. The specimen examination, which shows the format of the final exam but not the questions you will get, is printed at the end of this Course Introduction.

Your performance on each course is assessed through two written assignments and one examination. The assignments are written after weeks four and eight of the course session and the examination is written at a local examination centre in October.

The assignment questions contain fairly detailed guidance about what is required. All assignment answers are limited to 2,500 words and are marked using tutor-marking guidelines. When you receive your grade it is accompanied by comments on your paper, including advice about how you might improve, and any clarifications about matters you may not have understood.
These comments are designed to help you master the subject and to improve your skills as you progress through your programme.

The written examinations are ‘unseen’ (you will only see the paper in the exam centre) and written by hand, over a three hour period. We advise that you practice writing exams in these conditions as part of you examination preparation, as it is not something you would normally do.

You are not allowed to take into the exam room. This means that you need to revise thoroughly in preparation for each exam. This is especially important if you have completed the course in the early part of the year, or in a previous year.

Preparing for assignments and examinations

There is good advice on preparing for assignments and exams in Sections 8.2 and 8.3 of Studying at a Distance by Talbot. We recommend that you follow this advice.

The examinations you will sit are designed to evaluate your knowledge and skills in the subjects you have studied: they are not designed to trick you. If you have studied the course thoroughly, you will pass the exam.

Understanding assessment questions

Examination and assignment questions are set to test different knowledge and skills. Sometimes a question will contain more than one part, each part testing a different aspect of your skills and knowledge. You need to spot the key words to know what is being asked of you. Here we categorise the types of things that are asked for in assignments and exams, and the words used. All the examples are from CeFiMS examination papers and assignment questions.

Definitions

Some questions mainly require you to show that you have learned some concepts, by setting out their precise meaning. Such questions are likely to be preliminary and be supplemented by more analytical questions. Generally ‘Pass marks’ are awarded if the answer only contains definitions. They will contain words such as:

- Describe
- Define
- Examine
- Distinguish between
- Compare
- Contrast
- Write notes on
- Outline
- What is meant by
- List

Reasoning

Other questions are designed to test your reasoning, by explaining cause and effect. Convincing explanations generally carry additional marks to basic definitions. They will include words such as:

- Interpret
- Explain
- What conditions influence
- What are the consequences of
- What are the implications of

**Judgment**
Others ask you to make a judgment, perhaps of a policy or of a course of action. They will include words like:
- Evaluate
- Critically examine
- Assess
- Do you agree that
- To what extent does

**Calculation**
Sometimes, you are asked to make a calculation, using a specified technique, where the question begins:
- Use indifference curve analysis to
- Using any economic model you know
- Calculate the standard deviation
- Test whether

It is most likely that questions that ask you to make a calculation will also ask for an application of the result, or an interpretation.

**Advice**
Other questions ask you to provide advice in a particular situation. This applies to law questions and to policy papers where advice is asked in relation to a policy problem. Your advice should be based on relevant law, principles, evidence of what actions are likely to be effective.
- Advise
- Provide advice on
- Explain how you would advise

**Critique**
In many cases the question will include the word ‘critically’. This means that you are expected to look at the question from at least two points of view, offering a critique of each view and your judgment. You are expected to be critical of what you have read.

The questions may begin
- Critically analyse
- Critically consider
- Critically assess
- Critically discuss the argument that

**Examine by argument**
Questions that begin with ‘discuss’ are similar – they ask you to examine by argument, to debate and give reasons for and against a variety of options, for example
- Discuss the advantages and disadvantages of
- Discuss this statement
• Discuss the view that
• Discuss the arguments and debates concerning

The grading scheme

Details of the general definitions of what is expected in order to obtain a particular grade are shown below. Remember: examiners will take account of the fact that examination conditions are less conducive to polished work than the conditions in which you write your assignments. These criteria are used in grading all assignments and examinations. Note that as the criteria of each grade rises, it accumulates the elements of the grade below. Assignments awarded better marks will therefore have become comprehensive in both their depth of core skills and advanced skills.

70% and above: Distinction, as for the (60–69%) below plus:

• shows clear evidence of wide and relevant reading and an engagement with the conceptual issues
• develops a sophisticated and intelligent argument
• shows a rigorous use and a sophisticated understanding of relevant source materials, balancing appropriately between factual detail and key theoretical issues. Materials are evaluated directly and their assumptions and arguments challenged and/or appraised
• shows original thinking and a willingness to take risks

60–69%: Merit, as for the (50–59%) below plus:

• shows strong evidence of critical insight and critical thinking
• shows a detailed understanding of the major factual and/or theoretical issues and directly engages with the relevant literature on the topic
• develops a focussed and clear argument and articulates clearly and convincingly a sustained train of logical thought
• shows clear evidence of planning and appropriate choice of sources and methodology

50–59%: Pass below Merit (50% = pass mark)

• shows a reasonable understanding of the major factual and/or theoretical issues involved
• shows evidence of planning and selection from appropriate sources,
• demonstrates some knowledge of the literature
• the text shows, in places, examples of a clear train of thought or argument
• the text is introduced and concludes appropriately

45–49%: Marginal Failure

• shows some awareness and understanding of the factual or theoretical issues, but with little development
• misunderstandings are evident
• shows some evidence of planning, although irrelevant/unrelated material or arguments are included

0–44%: Clear Failure

• fails to answer the question or to develop an argument that relates to the question set
• does not engage with the relevant literature or demonstrate a knowledge of the key issues
• contains clear conceptual or factual errors or misunderstandings

Specimen exam papers

Your final examination will be very similar to the Specimen Exam Paper that is printed at the end of this Introduction. It will have the same structure and style and the range of question will be comparable.

CeFiMS does not provide past papers or model answers to papers. Our courses are continuously updated and past papers will not be a reliable guide to current and future examinations. The specimen exam paper is designed to be relevant to reflect the exam that will be set on the current edition of the course.

Further information

The OSC will have documentation and information on each year’s examination registration and administration process. If you still have questions, both academics and administrators are available to answer queries.

The Regulations are also available at www.cefims.ac.uk/regulations.shtml, setting out the rules by which exams are governed.
UNIVERSITY OF LONDON
CENTRE FOR FINANCIAL AND MANAGEMENT STUDIES
MSc Examination
Postgraduate Diploma Examination
for External Students 91DFMC369
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

SPECIMEN EXAMINATION

This is a specimen examination paper designed to show you the type of examination you will have at the end of the year for the course, Environmental and Social Impact Assessment. The number of questions and the structure of the examination will be the same but the wording and the requirements of each question will be different. Best wishes for success in your final examination.

The examination must be completed in THREE hours.

Answer THREE questions, selecting at least ONE question from EACH section. The examiners give equal weight to each question; therefore, you are advised to distribute your time approximately equally between three questions.

DO NOT REMOVE THIS PAPER FROM THE EXAMINATION ROOM. IT MUST BE ATTACHED TO YOUR ANSWER BOOK AT THE END OF THE EXAMINATION
Answer THREE questions, at least ONE from EACH section. Answer all parts of the questions.

**Section A**

*(Answer at least ONE question from this section)*

1. Discuss the purpose of Environmental and Social Impact Assessment and the key drivers (or motivations) of its use, including reference to both social and biophysical factors.

2a. What is the purpose of the screening and scoping steps of a typical ESIA process? You should explain clearly key similarities and differences.

2b. What is a ‘baseline description’, and why is it an important component of an ESIA? [50% each part]

3. Discuss the tools and methods used to identify, predict and evaluate the significance of different types of impacts. Detail, with your reasons, the sorts of impacts that should be prioritised for mitigation or enhancement.

4a. Explain the management hierarchy that should be adopted to mitigate adverse (or negative) impacts. [60%]

4b. Give a typical outline (or table of contents) of an ESIA report. Describe *at least two* features of a good ESIA report. [40%]

**Section B**

*(Answer at least ONE question from this section)*

5a. With reference to a real or hypothetical project, detail the benefits of using stakeholder engagement (or public consultation) as an integral part of the ESIA process. [60%]

5b. Give examples of challenges that might arise in stakeholder engagement (or public consultation), and how these problems might be addressed. [40%]

6. Discuss the processes of implementation and follow-up, focusing on monitoring, auditing and EMSs.

7. Describe *three* examples of thematically focused or ‘specialised’ forms of assessment, which may be used in addition to and/or to enhance ‘traditional’ EIA. Explain the additional insight that could be provided by each of these.

8a. What is Strategic Environmental Assessment (SEA), and why is it argued that it is should be undertaken in advance of project-level ESIA (or EIAs)?

8b. Emerging forms of impact assessment, such as Integrated Assessment and Sustainability Assessment, aim to introduce enhancements or address limitations of conventional ESIA. Discuss this. [50% each part]

[END OF EXAMINATION]
# Environmental and Social Impact Assessment

## Unit 1  Introduction to Environmental and Social Impact Assessment (ESIA)

### Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Introduction</td>
<td>3</td>
</tr>
<tr>
<td>1.2 Origins and Variations in Application</td>
<td>4</td>
</tr>
<tr>
<td>1.3 The Purpose of ESIA</td>
<td>6</td>
</tr>
<tr>
<td>1.4 Drivers for ESIA</td>
<td>9</td>
</tr>
<tr>
<td>1.5 The Overall ESIA Process</td>
<td>10</td>
</tr>
<tr>
<td>1.6 Structuring ESIAAs</td>
<td>11</td>
</tr>
<tr>
<td>1.7 Success of ESIA</td>
<td>13</td>
</tr>
<tr>
<td>1.8 Social Impact Assessment</td>
<td>14</td>
</tr>
<tr>
<td>1.9 Summary and Conclusions</td>
<td>20</td>
</tr>
<tr>
<td>References and Websites</td>
<td>20</td>
</tr>
<tr>
<td>Appendix I: Social Impacts</td>
<td>22</td>
</tr>
</tbody>
</table>
Unit Content

This first unit gives an overview of the origins and variations in application of Environmental and Social Impacts Assessment (ESIA). It also discusses the purpose and the drivers for ESIA; it describes the overall ESIA process, including the structuring of ESIs, and considers the effectiveness of ESIA. Finally, it concludes with a section that focuses on Social Impact Assessment (SIA).

Learning Outcomes

After completing this unit and the associated readings, you will be able to:

- discuss the origin, purpose and drivers of ESIA
- describe the typical steps in ESIA
- explain the role and scope of SIA in relation to ESIA
- discuss the key issues in SIA.

Readings for Unit 1

Textbook


Course Reader


Video

The video ‘Environmental impact assessment: useful tool or just another fashion?’ available of Youtube at [http://www.youtube.com/watch?v=CJWUR2x_aGk](http://www.youtube.com/watch?v=CJWUR2x_aGk).

It was made by UNESCO-IHE Water Management participants about environmental impact assessment, is it a useful tool or just another fashion?

Case Study

Please select an ESIA from the options given in the Course Introduction and Overview.
1.1 Introduction

Environmental Impact Assessment (EIA) is applied primarily to prevent or minimise the adverse effects, and maximise the positive effects, of major development proposals such as highways, power stations, water resource projects and large-scale industrial facilities. However, more limited forms of EIA can be used to ensure that smaller scale projects, such as road realignment and upgrading and housing subdivisions, conform to appropriate environmental standards. Developments and projects are often a consequence of implementing a policy or plan; for example, an extended highway network may be an outcome of a new transport policy. EIA is therefore closely linked to Strategic Environmental Assessment (SEA), which concentrates on the highest levels of decision-making: Policies, Programmes and Plans (PPPs):

SEA aims to ensure that account be taken of the environment in considering high-level development alternatives and options. (We consider SEA in a further in Unit 8.)

Both EIA and SEA are structured approaches for acquiring and assessing information about the environment before decisions are made with regard to developments or policies. They offer a prognosis of how the environment is expected to change if certain alternative actions are implemented and make recommendations on how to optimally manage environmental changes if one alternative is selected and implemented.

EIA and SEA are growing in scope to incorporate prediction and evaluation of social, economic and health impacts as well as environmental impacts. There are two main reasons for this trend. First, it is a response to the demands of those who may be affected. Secondly, social and economic impacts may be a direct cause of environmental impacts. Thus, EIA and SEA have progressed, in terms of scope of study and methods of analysis and evaluation, toward integration of a range of issues relevant to decision-making. The extent of integration depends to some extent on the definition of the environment in national legislation and policies. In some countries and international organisations the definition is broad, incorporating biophysical (‘green’) and social (including cultural and health) dimensions. In other jurisdictions the definition is more restricted, with the emphasis on biophysical impacts.

EIA and SEA are useful as ‘tools’ to promote sustainable development by integrating environmental and other considerations into the planning of a wide range of proposed actions. In Unit 8 we will consider how they are evolving into emerging forms of ‘sustainability assessment’.

Video

Please watch Video 1.1: ‘Environmental impact assessment: useful tool or just another fashion?’ produced by UNESCO-IHE Water Management participants, at http://www.youtube.com/watch?v=CJWUR2x_aGk
### 1.2 Origins and Variations in Application

Environmental Impact Assessment (EIA) is by far the most successful of the impact assessment techniques. Its development has been a result of support from governments and international funding agencies, such as the World Bank and the African and Asian Development Banks. Principle 17 of the Rio Declaration on Environment and Development emphasises the important role of EIA:

> 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.

The first EIA legislation was enacted in the USA in 1969. Since then it has spread across the globe, in a wide variety of guises, to the extent that there are now at least 120 countries with EIA systems. Somewhat surprisingly, the introduction of EIA has been swifter in some developing countries than in a number of developed countries, since they had fewer established planning procedures that needed to be reorganised. The adoption of EIA has also been a common ‘string attached’ to international aid; however, the existence of EIA regulations on paper does not necessarily correspond with effective implementation on the ground.

The evolution of EIA can be divided into four overlapping phases. The introduction and early development of EIA took place from around 1970–1975, during which period the mandate and foundations of EIA were established in the USA. These were then adopted by a few other countries, such as Australia, Canada and New Zealand.

The second phase in the evolution of ESIA (from the mid ’70s to early ’80s) saw an increase in scope and sophistication. More advanced techniques, such as risk assessment were developed; guidance on process implementation was introduced; social impacts began to be considered; and, public inquiries and reviews drove innovations in leading countries. The take up of ESIA remained limited but included developing countries, such as China, Thailand and the Philippines.

The third phase of process strengthening and integration took place from the early ’80s to early ’90s. ESIA practice and experience were reviewed; scientific and institutional frameworks of ESIA were updated; coordination of ESIA with other processes (e.g. project appraisal, land use planning) was implemented. In this phase ecosystem-level changes and cumulative effects began to be addressed, and monitoring and other follow-up mechanisms began to receive attention. Many more countries adopted EIA. The European Community and the World Bank respectively established supra-national and international lending requirements.

The final phase of strategic and sustainability orientation, extends from the early ’90s to date. During this period elements of EIA have been enshrined in international agreements; there has been a marked increase in international training, capacity building and networking activities; and sustainability concepts and criteria are now included in EIA practice. EIA
is now applied in all OECD countries and in a large number of developing and transitional countries.

While these major trends in EIA process development can be identified, it is important to bear in mind that, with the exception of the early pioneers, the phases and timescales identified do not necessarily correspond to the development of EIA in particular countries. In all countries more strategic, sustainability-based approaches are still at a relatively early stage.

Strategic Environmental Assessments (SEAs) emerged in the middle to late 1980s as it became clear that the EIA procedures in many countries did not require the application of EIA to policies, programmes and plans (PPPs). However, it was realised that the implementation of such actions could have significant environmental consequences. Thus, informally at first, SEAs were implemented for such actions. Over time, various moves have been initiated to introduce administrative requirements for use of SEA and then to amend existing EIA laws or to introduce new ones focusing on SEA.

A common misconception is that Social Impact Assessment (SIA) came into use far more recently than EIA; however, this is not the case. The same act that formally brought EIA into existence in the USA also required ‘actions significantly affecting the quality of the human environment’ to be assessed. SIA was applied for the first time in the early 1970s in connection with the construction of the Trans-Alaska oil pipeline. However, SIA has generally remained under-funded and neglected compared with EIA, and its status and influence has grown more slowly. Reasons for this include the continuing uncertainties and ambiguities over its legal status, the existence of a wide diversity of methodologies, inadequate data availability and a lack of expertise. The profile of SIA has grown in recent years with the shift in focus from environmental conservation to sustainable development. SIA guidelines have been developed by many organisations.

Many countries have enacted EIA legislation, usually for major projects, but the coverage varies with the definition of ‘environment’ that is used. In some countries it only encompasses biophysical (or natural/ ‘green’/ non-human) issues; whereas in others it is defined broadly to also include social, cultural, economic, health and other similar issues. The narrower definition is more common in developed countries and the broader in developing countries. Certain countries have adopted an intermediate approach and, besides biophysical impacts, also require the assessment of indirect social impacts caused by biophysical impacts, and/or the assessment of adverse (or negative) social impacts.

To avoid confusion, an impact assessment that covers both social and biophysical issues can be labelled Environmental and Social Impact Assessment (EIA) or Social and Environmental Impact Assessment (ESIA). In countries that use broad definitions of environment EIA = ESIA. In the prescribed textbook SIA is regarded as being an integral part of EIA; however, in these notes ESIA is used to avoid ambiguity.

Because EIA and SIA have similar objectives and approaches, and because of the frequent lack of sharp distinction between them, there is an increasing (although not universal) trend towards integration. Critics of integration
argue that this may cause biophysical matters to be diluted or overshadowed by social or economic considerations and that it may encourage the ‘trading off’ of the biophysical environment.

Readings

Please first read Section 2.4.2: ‘Socio-economic impacts’, pp. 322–23 in your textbook by Glasson et al.

Focus your reading with the following questions:

- Why is there a need for SIA?
- What are the current shortcomings of SIA?
- What are the advantages of including SIA in an ESIA?

Then read UNEP Case Study 1.1: ‘Environmental impact assessment from a Sudanese perspective’, and make notes on the issues related to the discussion above.

Activity

Establish the coverage of statutory ESIA in your country of birth/residence. Is it limited to biophysical ESIA or is the assessment of social impacts also covered?

Asking a government official or practitioner involved with ESIA locally is likely to be the most straightforward way to establish this. Alternatively, finding the definition of ‘environment’ in the local legislation can be a convenient indicator. For example, in the Canadian Environmental Assessment Act (2012) ‘environment’ is defined as ‘the components of the Earth, and includes:

- (a) land, water and air, including all layers of the atmosphere;
- (b) all organic and inorganic matter and living organisms; and
- (c) the interacting natural systems that include components referred to in paragraphs (a) and (b).’

The South African National Environmental Management Act (1998) contains essentially the same definition, but adds a fourth component, namely: ‘the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being’.

The above definitions suggest that both countries require the assessment of impacts on the biophysical environment. The addition to the South African definition suggests that the assessment of adverse social impacts caused indirectly by biophysical impacts is also required in that country.

A more detailed analysis of the regulations and their interpretation is needed to establish the full extent to which various types of impacts (e.g. direct social impacts) are required by the local ESIA regulations. You are not expected to undertake a detailed analysis at this stage, but merely to gain some indication of the coverage.

1.3 The Purpose of ESIA

The International Association for Impact Assessment defines ESIA as (IAIA, 2009):
The process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made.

ESIA is predicated on the notion that decision-makers should understand the consequences of their decisions before they act – that is, it is a decision-aiding process. It provides information to the project’s developer/proponent/designers, the host-country authorities, local communities and other stakeholders about the biophysical and social consequences of a proposed project, and the best means to maximise the benefits (positive impacts) and to mitigate the adverse consequences (negative impacts). Hence, ESIA is not simply a matter of preparing a report, and obtaining approval (where local regulations exist).

An impact is any beneficial or adverse change in the environment (social or biophysical) as a result of human activity. Impacts may be direct, secondary/indirect, induced, unplanned/non-normal or cumulative (see definitions and examples in Table 1.1). The assessment of direct impacts can be comparatively straightforward compared to the assessment of the other types of impacts.

### Table 1.1 Types of impacts

<table>
<thead>
<tr>
<th>Types</th>
<th>Definitions</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct/Primary</td>
<td>Impacts that result from the direct/primary interactions between some feature of the project and the social and/or biophysical environment. They generally occur at the same time and in the same space as the activity.</td>
<td>Reduced unemployment due to the creation of new jobs.</td>
</tr>
<tr>
<td>Indirect/Secondary</td>
<td>Impacts that follow on from the direct impacts, i.e. ‘knock-on effects’. They can occur later in time, or at a different place, from the causal activity, or as a result of a complex pathway.</td>
<td>Reduction in agricultural production due to soil erosion.</td>
</tr>
<tr>
<td>Induced</td>
<td>Impacts that result from other developments or activities that are encouraged to happen as a consequence of the project.</td>
<td>In-migration of non-project people to the project area.</td>
</tr>
<tr>
<td>Unplanned/Non-normal</td>
<td>Impacts that result from unintentional events within the project (e.g. breakdowns, failures) or in the external environment affecting the project (e.g. natural disaster).</td>
<td>Chemical spillage during transport to the site.</td>
</tr>
<tr>
<td>Cumulative</td>
<td>Impacts due to numerous separate developments, which might be insignificant on their own, but which can interact or combine to cause significant impacts.</td>
<td>Contamination of a water source due to numerous effluent discharges.</td>
</tr>
</tbody>
</table>
Activity

Consider a project that you have worked on, experienced as an affected party, or have heard about. It could be a new road, petrol filling station, shopping centre, or other development near your home. Write down some of the impacts that you believe the project may cause/has caused. Try to find at least one potential/actual biophysical impact and one social impact of the types identified in Table 1.1.

- Have you identified any positive impacts?
- If not, why do you think the project was approved?

Whilst the purpose of ESIA is to provide information for decision-making on the environmental and social consequences of proposed actions, it also has as the function of promoting sustainable development through the identification of appropriate enhancement and mitigation measures. The concept of sustainable development has gained increasing international acceptance in the last two decades. It is, perhaps, most effectively described, by the Brundtland report (1987), as ‘development that meets the needs of today’s generation without compromising those of future generations’. This can be formally stated in terms of the twin principles of intragenerational equity. In practice, these principles mean improving the welfare of the world’s peoples and not maintaining opportunities for the generations that follow by not undermining the earth’s ecological systems. Sustainable development is an evolving concept, which is continually being redefined and reinterpreted. UNEP (2002) summarises the challenge facing sustainable development by highlighting three overriding indicators:

- First, human activity is estimated to currently consume or pre-empt 40 per cent of net primary productivity on land.
- Second, 60 per cent of the world’s population live close to or under the poverty line.
- Third, the world’s population is projected to double by mid-century.

If these trends are allowed to continue unchecked by adjustments to policy and technology, the global environment and community are at risk. For development to be sustainable, adverse environmental and social impacts must be minimised and social impacts enhanced; hence the growing importance of ESIA.

ESIA, therefore, has both short-term and long-term goals. The immediate goal is: to identify appropriate measures to mitigating the potential negative impacts of development proposals and to enhance their benefits, and to inform the process of decision-making regarding their approval, including setting the environmental and social terms and conditions.

The long-term goal of ESIA is collectively to promote sustainable development by ensuring that development proposals do not threaten critical resources, natural areas and components of the ecosystem, whilst bringing benefits to society. They must also prevent developments from compromising the safety, wellbeing, lifestyle and/or livelihood of any community or individual.
Priority issues that set the context for ESIA vary from location to location. Unfortunately, in many parts of the world the serious damage to the environment already exists. Africa, with the world’s poorest and most resource-dependent populations, carries the highest health burden due to severe environmental problems. These include desertification and soil degradation, declining food security, and increasing water scarcity and stress in north, east and southern Africa. The Asian and Pacific regions have experienced rapid economic growth, urbanisation and industrialisation. These have helped in poverty alleviation but have simultaneously increased pressure on land and water resources, and have caused widespread environmental degradation and high pollution levels. The high population densities in southern and southeast Asia mean that mega-cities have become a particular focus of environmental and health concerns.

In Eastern Europe and Central Asia a legacy of industrial pollution and contaminated land remains, in spite of progress with economic restructuring and environmental clean-up. In many areas, emissions of particulates, sulphur dioxide (SO₂), lead and harmful chemicals continue to expose the residents to health risks, and, in the Balkans, war and regional conflict have exacted a heavy environmental and social toll.

In Latin America and the Caribbean approximately three-quarters of the population live in urban areas. Many cities are poor, overcrowded, polluted and lack basic infrastructure. The major ‘green’ issue is the destruction of tropical forests and consequent loss of biodiversity, which is especially serious in the Amazon basin.

In the Middle East most land is either subject to desertification or vulnerable to deterioration from saline, alkaline and/or nutrient deposition. Water resources are under severe pressure and groundwater sources are in a critical condition. Rapid and uncontrolled urbanisation has caused worsening air and water pollution in urban centres.

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### Reading

Please now read the second UNEP Case Study, ‘State of the Environment in Sudan’.

When you have finished reading, draw up a list of key environmental and social challenges facing your country of origin or your country of residence.

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### 1.4 Drivers for ESIA

The use of ESIA is driven by the following factors:

- **Legislative requirements**: some form of impact assessment, usually EIA, may be prescribed in law. Even when there is no specific requirement to consider social impacts, there may be a range of regulations that apply to social issues (e.g. such as employment conditions, ambient noise levels, protection of heritage sites, residential zoning requirements, sanitation standards).
• **Requirements of the project’s financiers:** more than 80% of commercial project financing is provided by institutions that have adopted the Equator Principles (www.equator-principles.com). These principles commit the financiers to assessing potential investments in accordance with the International Finance Corporation’s Performance Standards on Social and Environmental Sustainability, which include ESIA (IFC, 2012).

• **Pressure from communities, consumers, non-governmental organisations (NGOs), employees, investors and/or other lobbying groups:** the conduct of businesses and government agencies is under increasing scrutiny. It is not only necessary to demonstrate that efforts have been made to minimise negative impact, but also to show that the development will bring positive benefits to local communities and wider society.

• **Commitments to sustainable development:** most governments and many companies expose commitments to sustainable development via policies and other public statements. To ‘walk the talk’ it is necessary to incorporate biophysical and social considerations into their planning and decision-making.

• **Tangible benefits:** by helping the proponent to understand the consequences of its activities ESIA can contribute to:
  - costs and/or time savings by, for example, avoiding management time spent on conflict resolution
  - maintaining the informal ‘license to operate’ from society by ensuring that the host communities benefit from and are not unduly disadvantaged by projects
  - enhancing the organisation’s reputation, which can lead to improved performance via, for example, increased customer loyalty.

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**Reading**

Please now read Section 8.7: ‘Costs and benefits of ESIA’ (based on experience in the UK), pp. 217–19 in Glasson et al.

Make sure your notes enable you to answer the following questions.

- In what ways, and to what extent, does an ESIA increase project costs?
- How are these costs offset by the benefits of ESIA?

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### 1.5 The Overall ESIA Process

ESIA typically comprises the steps shown in Figure 1.1. The steps are shown sequentially; however, in practice, there are likely to be many overlaps and iterations. Statutory ESIA (or SIA) processes in different jurisdictions have variations in the terminology subdivisions, timing, and sequencing.

As shown, the discrete steps run alongside the parallel processes of:

- project planning and design, which encompasses the appraisal of the technical and financial feasibility
• stakeholder engagement (to be developed in Unit 5)
• research and data collection (again, see Unit 5)

**Figure 1.1** Steps in a typical SIA process

- **Screening** (see Unit 2.2)
- **Scoping** (see Unit 2.3)
- **Project Description** (see Unit 2.4)
- **Baseline Description** (see Unit 2.6)
- **Assessment of Impacts** (see 3.2 and 3.3)
- **Impact Mitigation & Enhancement** (see Unit 4.3)
- **Reporting the ESIA** (see Unit 4.4)
- **Review and Decision-Making** (see Unit 4.5)
- **Implementation and Follow-up** (see Unit 6.4)

**Reading**

Now please read Section 1.2.2 ‘EIA: a process’ (pp. 4–5) in Glasson et al.

After reading the section, compare Figure 1.1 above with Figure 1.1 on p. 4 of Glasson et al.

- Even though the sub-division and terminology is somewhat different, can you see that the steps are essentially the same?

Take a look at an example of the contents of an Environmental Impact Statement (EIS) in Table 1.1 on p. 6 in Glasson et al. Take note of how the outputs from the above steps are ultimately reported. (We will explore this further in Unit 4.)

### 1.6 Structuring ESIAs

ESIA involves linking human activities to the impacts that they are likely to have on the (social and biophysical) environment. Many environmental management models do not explicitly separate out the causal mechanisms; however, in the *International Standards Organisation* (ISO) Environmental Management Systems (EMSs) standards, ISO14001 and ISO14004, the ‘mechanisms’ that can cause impacts are referred to as aspects. This can be illustrated in Figure 1.2:
Figure 1.2 Activity – aspect – impact linkage model

![Activity – aspect – impact linkage model](image)

**EXAMPLES:**

<table>
<thead>
<tr>
<th>Project Activities Causes</th>
<th>Aspects Pressures, mechanisms</th>
<th>Impacts Effects Change in Conditions/States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste disposal</td>
<td>Contaminated seepage</td>
<td>Groundwater pollution</td>
</tr>
<tr>
<td>Open pit mining</td>
<td>Dewatering of aquifers</td>
<td>Loss of water supply</td>
</tr>
<tr>
<td></td>
<td>Employment opportunities</td>
<td>Development of local skills</td>
</tr>
<tr>
<td>Infrastructure construction</td>
<td>Noise</td>
<td>Disturbance of residents</td>
</tr>
<tr>
<td></td>
<td>Land clearing</td>
<td>Loss of agricultural land</td>
</tr>
</tbody>
</table>

(Source: Adapted from Sánchez and Hacking, 2002)

The ISO EMSs approach was conceived for, and has been mostly applied to, the improvement of operational (biophysical) environmental management. However, the approach can be used to enhance the ESIA of projects, including the assessment of social impacts. (It can be challenging to isolate cause-effect relationships when exploring human responses to change.)

The approach is further elaborated in the units that follow, which elaborate the key ESIA steps in Figure 1.3, below. You will learn, amongst other things, how the ESIA results can be summarised using matrices.

Figure 1.3 Key steps in Environmental and Social Impact Assessment

![Key steps in Environmental and Social Impact Assessment](image)
1.7 Success of ESIA

The benefits of ESIA were identified by a seminal study that examined the effectiveness of EIA worldwide. This study was initiated by the International Association for Impact Assessment (IAIA) – a professional association representing impact assessment practitioners. The list here is adapted from Sadler (1996):

- improved project design/siting
- more informed decision-making (with improved opportunities for public involvement in decision-making)
- more environmentally sensitive decisions
- increased accountability and transparency during the development process
- improved integration of projects into their environmental and social setting
- reduced environmental damage
- more effective projects in terms of meeting their financial and/or socio-economic objectives
- a positive contribution towards achieving sustainability.

Source: Adapted from Sadler (1996)

Despite widespread agreement on these benefits, it is recognised that they do not occur uniformly or consistently in all countries or organisations. A number of difficulties and constraints, generally although not universally applicable, prevent and hinder ESIA from consistently delivering these benefits. Hindrances to ESIA identified by the same study mentioned above are outlined here, these include:

- small-scale projects not included in most ESIA systems; although their cumulative impacts may be significant over time
- difficulties in ensuring adequate and useful public involvement (or participation)
- insufficient integration of ESIA work at key decision points in relation to feasibility and similar studies in the project life-cycle, with some major decisions being made even before ESIA are completed
- lack of consistency in selection of developments requiring specific ESIA studies
- weak procedures for obtaining early agreement on the scope of ESIA studies
• inadequate understanding of the relative roles of baseline description and impact prediction
• poor integration of biophysical impacts with social (including economic and health) impacts
• production of ESIA reports which are not easily understood by decision makers and the public because of their length and technical complexity
• lack of mechanisms to ensure that ESIA reports are considered in decision-making
• weak linkages between ESIA report recommendations on mitigation and monitoring and project implementation and operation
• limited technical and managerial capacities in many countries to implement ESIAs.

Source: Adapted from Sadler (1996)

Even though the study was published in 1996, it is still referenced widely and, somewhat disconcertingly, the findings are still considered to be relevant. As the ‘next generation’ of experts in the field, you may be well placed to rise to address some of these challenges!

Activity

Reflect on the strengths and weaknesses of the ESIA system within your country of birth or of residence. (If you do not yet have specific knowledge concerning the ESIA system, then consider the management of environmental and/or social issues more generally.)

- Are there cultural values/social structure, economic system/conditions, education, public attitudes, political structure, and/or institutional/technical capacity issues which prevent or constrain effective ESIA?
- What is the nature of the challenge(s), and what measures could be taken to improve the situation?

1.8 Social Impact Assessment

The International Association for Impact Assessment defines SIA as:

Social Impact Assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment. […] SIA is best understood as an umbrella or overarching framework that embodies the evaluation of all impacts on humans and on all the ways in which people and communities interact with their socio-cultural, economic and biophysical surroundings.

(IAIA, 2003)

The key motivations for including social concerns in ESIA include:

- the realisation that the biophysical environment will only be successfully managed by adopting a holistic view, i.e. it cannot be managed independently of social matters
• the desire to have non-biophysical areas of concern considered in decision-making
• the adoption of sustainable development as a development goal which, by definition, requires the adoption of a holistic perspective
• the need to integrate social performance requirements into business.

Social, economic and environmental interests may be intertwined. For example, a water resource development initiative causes changes in the hydrological regime of the river downstream of the project. The changes in the quality of water and the flow may significantly reduce an area of reeds used by local villagers to make baskets and other articles. Selling these products provides an important source of income. Without the resource of the reeds, the villagers have to find an alternative source of income. They do so by exploiting trees that they process into charcoal. By exploiting this resource they contribute to an already serious problem of deforestation and add to the attendant problems of soil depletion and erosion that accompany deforestation. This chain of events can be prevented if the socio-economic importance of downstream natural resources is investigated and the likely impacts predicted. It would be possible either to protect the reeds, through controlled discharges, or to provide an alternative economic resource that could be exploited without adding to existing environmental degradation.

SIA may be undertaken on its own, in parallel with EIA, or as part of an ‘integrated’ ESIA, and there is on-going debate regarding whether greater integration or separation is most desirable. In this course an integrated approach is favoured, since social and biophysical concerns are interconnected.

‘Social’ and ‘socio-economic’ are used interchangeably as umbrella terms to refer to non-biophysical impacts. Table 1.2 summarises the components that may be covered by these terms.

There is room for ambiguity with both ‘Social’ and ‘socio-economic’, since ‘social’ may be interpreted as excluding economic impacts and ‘socio-economic’ as excluding purely social (e.g. cultural) impacts. In this unit ‘social’ is used as the umbrella term.

Therefore, a social impact is a beneficial or adverse change to any of the components listed in Table 1.2 as a result of a project. It is important to note that social impacts may result from impacts on the biophysical environment, i.e. indirectly. Furthermore, it includes not only tangible impacts, such as loss of agricultural land, but also more subtle impacts, such as shifts in people’s expectations, demands, values and beliefs. In this unit all issues that may impinge on humans are considered pertinent to SIA.
Table 1.2 Meaning of terms: ‘social’, ‘economic’ and ‘socio-economic’

<table>
<thead>
<tr>
<th>Terms</th>
<th>Components</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macro-economic</td>
<td>National/ regional economic growth, employment levels, export earnings etc.</td>
<td></td>
</tr>
<tr>
<td>Micro-economic</td>
<td>Local employment, business activity, earnings and income.</td>
<td></td>
</tr>
<tr>
<td>Fiscal</td>
<td>Government costs and revenues.</td>
<td></td>
</tr>
<tr>
<td>Infrastructure and services</td>
<td>Demand for/ availability of infrastructure services and facilities.</td>
<td></td>
</tr>
<tr>
<td>Demographics</td>
<td>Population size, distribution and composition.</td>
<td></td>
</tr>
<tr>
<td>Livelihoods</td>
<td>Financial or subsistence means whereby people secure a living, i.e. the combination of resources used and activities undertaken to secure a living.</td>
<td></td>
</tr>
<tr>
<td>Cultural/ Heritage</td>
<td>Shared customs and value systems, which make a social or ethnic group distinct. Traditional knowledge, beliefs and practices. Language or dialect. Archaeological, historical and cultural artefacts. Structures/features with religious or spiritual significance. Aesthetics and sense of place.</td>
<td></td>
</tr>
<tr>
<td>Community/ Way of life</td>
<td>Social structures, organisations, patterns of interaction and relationships. The way people behave and relate to family, friends and cohorts on a daily basis.</td>
<td></td>
</tr>
<tr>
<td>Socio-psychological</td>
<td>Sense of place, wellbeing, security and/or belonging. Perceptions of amenity or safety. Fears and aspirations about the future.</td>
<td></td>
</tr>
<tr>
<td>Physical and mental health</td>
<td>Absence of communicable diseases, non-communicable diseases, malnutrition, injuries, and mental disorders. Quality of the air and water, availability and quality of food, level of exposure to hazards, and adequacy of sanitation.</td>
<td></td>
</tr>
<tr>
<td>Political/ governance systems</td>
<td>Ability to participate in decisions that affect their lives. Decree of equity and non-discrimination. Level of democratisation, absence of corruption, etc. Personal and property rights. Access to and control over resources. Respect for civil liberties.</td>
<td></td>
</tr>
<tr>
<td>Human rights</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Hacking, 2006

There are a number of key differences between the social and biophysical environments. The key differences include the following effects:

- social impacts can vary in desirability, ranging from positive to negative, whereas biophysical impacts are usually negative
- unlike the biophysical environment, the social environment reacts in anticipation of change
- besides disturbances that can affect other species (e.g. noise), humans are affected by changes in the distinctly human environment (e.g. political leadership).

Appendix I lists possible social impacts. The relevance of these impacts will be dependent on contextual factors. Many of these impacts are difficult to measure and their quantification will involve analysis of a number of
variables. It is therefore more practical to rely on basic dimensions of social change as a reference point for defining and mitigating impacts.

According to UNEP (2002) the key characteristics and variables that are often correlated with adverse social impacts of development proposals include:

- **demographic change**: e.g. size and composition of resident population, influx of temporary workforce or new recreational users (disrupts the cohesion of a small, stable community)
- **economic change**: e.g. new patterns of employment/income, real estate speculation (marginalises long-term, older residents);
- **environmental change**: e.g. alterations to land use, natural habitat and hydrological regime (loss of subsistence or livelihood in resource dependent community); and
- **institutional change**: e.g. in the structure of local government or traditional leadership, zoning by-laws or land tenure (reduced access or loss of control leads to disempowerment or impoverishment of the established population).

Furthermore, the main types of social impact that occur as a result of these project-related changes can be grouped into five overlapping categories:

- **lifestyle impacts** – on the way people behave and relate to family, friends and cohorts on a day-to-day basis
- **cultural impacts** – on shared customs, obligations, values, language, religious belief and other elements which make a social or ethnic group distinct
- **community impacts** – on infrastructure, services, voluntary organisations, activity networks and cohesion
- **amenity/quality of life impacts** – on sense of place, aesthetics and heritage, perception of belonging, security and livability, and aspirations for the future
- **health impacts** – on mental, physical and social well being, although these aspects are also the subject of health impact assessment (as you will see in Unit 7 ‘Other Assessment Techniques’).

The International Association of Impact Assessment (IAIA) has produced a document entitled ‘International Principles for Social Impact Assessment’, IAIA Special Publication Series No. 2. This can be found on the IAIA website, [www.iaia.org](http://www.iaia.org) (It also appears in *Impact Assessment and Project Appraisal*, volume 21, number 1, March 2003, pgs. 5–11.) The core values of SIA according to the above document are:

1. There are fundamental human rights that are shared equally across cultures, and by males and females alike.
2. There is a right to have those fundamental human rights protected by the rule of law, with justice applied equally and fairly to all, and available to all.
3. People have a right to live and work in an environment which is conducive to good health and to a good quality of life and which enables the development of human and social potential.
4. Social dimensions of the environment – specifically but not exclusively peace, the quality of social relationships, freedom from fear, and
belongingness – are important aspects of people’s health and quality of life.

5 People have a right to be involved in the decision-making about the planned interventions that will affect their lives.

6 Local knowledge and experience are valuable and can be used to enhance planned interventions.

The fundamental principles of development identified by the IAIA (2003) are:

1 Respect for human rights should underpin all actions.
2 Promoting equity and democratisation should be the major driver of development planning, and impacts on the worst-off members of society should be a major consideration in all assessment.
3 The existence of diversity between cultures, within cultures, and the diversity of stakeholder interests need to be recognised and valued.
4 Decision making should be just, fair and transparent, and decision-makers should be accountable for their decisions.
5 Development projects should be broadly acceptable to the members of those communities likely to benefit from, or be affected by, the planned intervention.
6 The opinions and views of experts should not be the sole consideration in decisions about planned interventions.
7 The primary focus of all development should be positive outcomes, such as capacity building, empowerment, and the realisation of human and social potential.
8 The term, ‘the environment’, should be defined broadly to include social and human dimensions, and in such inclusion, care must be taken to ensure that adequate attention is given to the realm of the social.

The principles specific to SIA practice identified by the IAIA (2003) are:

1 Equity considerations should be a fundamental element of impact assessment and of development planning.
2 Many of the social impacts of planned interventions can be predicted.
3 Planned interventions can be modified to reduce their negative social impacts and enhance their positive impacts.
4 SIA should be an integral part of the development process, involved in all stages from inception to follow-up audit.
5 There should be a focus on socially sustainable development, with SIA contributing to the determination of best development alternative(s) – SIA (and ESIA) have more to offer than just being an arbiter between economic benefit and social cost.
6 In all planned interventions and their assessments, avenues should be developed to build the social and human capital of local communities and to strengthen democratic processes.
7 In all planned interventions, but especially where there are unavoidable impacts, ways to turn impacted peoples into beneficiaries should be investigated.
8 The SIA must give due consideration to the alternatives of any planned intervention, but especially in cases when there are likely to be unavoidable impacts.
9 Full consideration should be given to the potential mitigation measures of social and environmental impacts, even where impacted communities may approve the planned intervention and where they may be regarded as beneficiaries.
10 Local knowledge and experience and acknowledgment of different local cultural values should be incorporated in any assessment.

11 There should be no use of violence, harassment, intimidation or undue force in connection with the assessment or implementation of a planned intervention.

12 Developmental processes that infringe the human rights of any section of society should not be accepted.

1.8.1 Reflection on social impact assessment

In his chapter on social impact assessment, Frank Vanclay (1999) addresses a number of complex, fundamental issues affecting SIA, which are as relevant today as when he first raised them. He explains that they are best expressed as questions to which definitive answers cannot be given. These questions are listed below, for you to reflect on, along with a brief summary of Vanclay’s discourse for the first two, so as to serve as a guide for how you should approach the others.

• Who has legitimate interests in the community?
• How is the ‘affected community’ to be defined and identified?

A stable community is one in which the rate of change of members is low. Yet projects often bring in newcomers, who may have different values and behaviours, and attitudes to the project. Are such newcomers to be considered part of the community? Rural rezoning, rural-urban fringe development, and tourism are examples. The new arrivals may be seasonal inhabitants. They may be in a more dominant position than the members of the original community. In the case of areas of natural beauty and ecological significance the broader community, of a nation and beyond, may be concerned for its protection, whereas the local people may wish for economic opportunities. There are also future communities to be considered. Thus ‘the community is not one community, but several publics’.

• What should be the role of community participation in the social impact assessment?

It is necessary to consider the extent and validity of the knowledge and opinion of local communities. There may be cases where the public is opposed to a project, yet independent assessment shows it to be beneficial. Or the community may favour a project that is considered by experts to have significant social and/or environmental problems. Public opinion may be manipulated by the media.

Also reflect on some of the other questions he poses, namely:

• What is the role of community participation in the social impact assessment?
• What is the role of compensation in social impact assessment?
• What impacts are to be considered?
• How should impacts be weighted?

By the end of the course you should be better placed to provide well-informed answers to the above. You may find it useful to write brief answers to the questions now, and compare them with your views at the end of your study.
Activity

Choose a local development that you have some familiarity with and identify its potential social impacts and their causes.

- How might these vary with the project life-cycle?
- Which are the most important impacts?
- Have you identified any benefits (positive impacts)?

1.9 Summary and Conclusions

ESIA is predicated on the notion that decision-makers should understand the consequences of their decisions before they act – in other words, it is a decision-aiding process. Before deciding whether or not to proceed with a proposal it is appropriate to not only consider technical, institutional and financial attributes, but also to predict its impacts on the natural environment, nearby communities and wider society. Impacts can be direct, indirect, induced, unplanned or cumulative.

The most widely used techniques to appraise projects’ environmental and social implications are EIA and SIA, or Environmental and Social Impact Assessment (ESIA). Many countries have enacted EIA legislation, usually for major projects, but the coverage varies with the definition of ‘environment’ that is used. In some countries it is defined broadly to include social impacts. Even when there is no specific requirement to consider social impacts, there may be a range of regulations that apply to social issues, and stakeholders may expect to be informed about these impacts.

ESIA’s use is driven by the requirements of regulators and/or the project’s financiers, pressure from communities and other lobbying groups, commitments to sustainable development and tangible benefits (e.g. costs and/or time savings).

References and Websites


Equator Principles: www.equator-principles.com


Appendix I: Social Impacts

Individual and household level

1. death, death of family member
2. arrest, imprisonment, detention, torture, intimidation or other abuse of human rights inflicted on individual
3. reduced availability of food and adequate nutrition
4. reduced control over fertility (availability of contraception, and empowerment)
5. reduced level of health and fertility (ability to conceive)
6. reduced mental health increased stress, anxiety, alienation, apathy, depression
7. uncertainty about impacts, development possibilities, and social change
8. actual personal safety, hazard exposure
9. experience of stigmatisation and deviance labelling
10. reduction in perceived quality of life
11. reduction in standard of living, level of affluence
12. worsening of economic situation, level of income property values
13. decreased autonomy, independence, security of livelihood
14. change in status or type of employment, or becoming unemployed
15. decrease in occupational opportunities, potential, diversity, flexibility in employment
16. moral outrage, blasphemy, religious affront, violation of sacred sites
17. upset (objection/opposition to the project), NIMBY (not in my back yard)
18. dissatisfaction due to failure of a project to achieve heightened expectations
19. annoyance (dust, noise, strangers, more people)
20. disruption to daily living, way of life (having to do things differently)
21. reduction in environmental amenity value
22. perception of community, community cohesion, integration
23. community identification and connection to place (do I belong here?)
24. changed attitude towards local community, level of satisfaction with the neighbourhood
25. disruption to social networks
26. alteration in family structure and stability (divorce)
27. family violence
28. gender relations within the household
29. changed cultural values
30. changed perceptions about personal health and safety, risk, fear of crime
31. changed leisure opportunities
32. quality of housing
33. homeliness
34. density and crowding
35. aesthetic quality, outlook, visual impacts
36. workload, amount of work needed to be undertaken to survive/live reasonably

**Community and institutional level**

1. death of people in the community
2. violation of human rights, freedom of speech
3. adequacy of physical infrastructure (water supply, sewerage, services and utilities)
4. adequacy of community social infrastructure, health, welfare, education, libraries, etc.
5. adequacy of housing in the community
6. workload of institutions, local government, regulatory bodies
7. cultural integrity (continuation of local culture, tradition, rites)
8. rights over, and access to, resources
9. influences on heritage and other sites of archaeological, cultural or historical significance
10. loss of local language or dialect
11. debasement of culture
12. equity (economic, social, cultural)
13. changed equity /social justice issues in relation to minority or indigenous groups
14. gender relations in the community
15. economic prosperity
16. dependency/autonomy/diversity/viability of the community
17. unemployment level in the community
18. opportunity costs (loss of other options)
19. actual crime
20. actual violence
21. social tensions, conflict or serious divisions within the community
22. corruption, credibility and integrity of government
23. level of community participation in decision making
24. social values about heritage and biodiversity

*Source: Adapted from F Vanclay (updated version) Summary of work on IAIA International Guidelines and Principles for Social Impact Assessment.*