# Environmental and Social Impact Assessment

# Unit 1   Introduction to ESIA

## Contents

# Unit Overview

Unit 1 provides an overview of the origins of Environmental and Social Impact Assessment (ESIA) and how its application varies between projects. The purpose and drivers of ESIA are discussed and the overall process described. This includes the functions of ESIAs, the structure and tools used to conduct ESIAs, and consideration of the effectiveness of ESIAs. The unit concludes with a section focusing on Social Impact Assessment (SIA).

## Learning outcomes

When you have completed this unit and its reading, you will be able to:

- critically discuss the origin, purpose and drivers of ESIA
- evaluate the functions, tools used, and procedures involved in conducting an ESIA
- critically discuss the role and scope of SIA in relation to ESIA
- synthesise key issues in SIA.

## 📖 Reading for Unit 1

John Glasson and Riki Therivel (2019) Chapter 1 'Introduction and principles', Chapter 8 'UK practice', Chapter 9 'EIA practice worldwide', Chapter 10 'EIA impact areas, current and emerging' and Chapter 11 'EIA next steps: The effectiveness and efficiency of the process'. In: *Introduction to Environmental Impact Assessment*. 5th Edition. pp. 3–31, 201–28, 229–56, 259–82, 283–311.

UNEP (2018) 'Executive summary' and sections that interest you. In: *South Sudan: First State of the Environment and Outlook Report 2018*. Nairobi, Kenya: United Nations Environment Programme. pp. 16–21.

### Case Studies

Please select two of the ESIAs from the options given in the Module Introduction and Overview.

## 1.1   Introduction

Primarily, Environmental Impact Assessment (EIA) is conducted on major development proposals such as roads, power stations, dams and industrial projects. Its purpose is to prevent or minimise any adverse effects, and maximise potential positive effects, of the relevant proposal. Limited forms of EIA can also be used to ensure small-scale projects conform to appropriate environmental standards, *eg* housing subdivisions or road upgrades. Sometimes policy implementation and large-scale developments have consequences which result in further developments; for example, the creation of new housing may entail extension or expansion of existing highways or transport infrastructure. EIA is therefore closely linked to Strategic Environmental Assessment (SEA) which concentrates on decision-making at the policy level, *ie* regional or governmental policies, programmes and plans (referred to in this module as PPPs). SEA is intended to ensure the environment is taken fully into account when considering high-level development alternatives and options. It is considered in detail in Unit 8.

Both EIA and SEA are structured approaches for acquiring and assessing information about the environment before making decisions regarding developments or policies. They provide a prognosis for environmental changes resulting from implementing alternative actions. They also give recommendations on the optimal management of such environmental changes for each alternative action.

The scope of EIA and SEA has increased over time to incorporate prediction and evaluation of social, economic and health impacts of developments, not just biophysical impacts. This increase in scope results from two main factors: first, the demands of those affected (stakeholders) and secondly, a recognition of social and economic impacts which themselves directly impact the environment. Thus, the scope of study, application, analytical and evaluative methods of EIA and SEA have developed towards the integration of a range of issues relevant to decision-making.

The extent of this integration depends partly on how the environment is defined in national legislation and policy. In some jurisdictions and organisations, it has a broad definition incorporating biophysical ('green') and social (including cultural and health) dimensions. Elsewhere, its definition may be restricted to the biophysical. EIA and SEA are important methodologies for promoting sustainable development by integrating environmental and social considerations into project planning. Their evolution into tools for *enhancing* environmental and social well-being as part of sustainability assessment is considered in Unit 8.

⌨ **Videos 1.1 and 1.2**

Please watch the Science Sauce (2017) and UNESCO-IHE Archive (2010) videos.

https://www.youtube.com/watch?v=H07CjSGsl94

https://www.youtube.com/watch?v=CJWUR2x_aGk

Science Sauce (2017) *Environmental Impact Assessments.*

UNESCO-IHE Archive (2010) *Environmental Impact Assessment: Useful Tool of Just Another Fashion?*

## 1.2  Origins and Variations in Application

Environmental Impact Assessment (EIA) is the most widely used and successful of many impact assessment techniques. It has been supported by governments and international funding agencies such as the African and Asian Development Banks and the World Bank, which have catalysed its evolution into a fundamental part of development project proposals and plans. For example, 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.'

Source: United Nations (1992)

EIA legislation originated in the USA (US Government, 1969) and has spread globally, in various formats, such that there are now at least 120 countries with EIA legislation.

### Development of EIA

The introduction of EIA has been most rapid in some developing countries (*eg* South Africa, Chile, Lebanon) compared with the USA and Western Europe (Wood, 2003; Khosravi, Jha-Thakur & Fischer, 2019). In order to incorporate impact assessment, existing planning procedures need to be examined, critiqued and restructured. International aid has often been offered with the proviso that states adopt EIA, but the adoption of such policies does not guarantee their implementation (Wood, 2003; Hasan *et al*, 2018).

The evolution of EIA can be divided into four overlapping phases. Its introduction and early development took place in the USA between 1970 and 1975, during which period the mandate and foundations of EIA were established. These were then adopted elsewhere, notably in Australia, Canada and New Zealand (Glasson & Therivel, 2019).

The second phase in the evolution of EIA (from the mid-70s to early 80s) saw an increase in scope and sophistication. More advanced techniques were developed, such as: risk assessment; guidance on process implementation; consideration of social impacts; public inquiries and reviews. These developments drove innova-

tions in leading countries. EIA uptake remained limited but included developing countries such as India, China, Thailand and the Philippines.

The third phase of process strengthening and integration took place between the early 1980s and the 1990s. EIA practice and experience were reviewed; scientific and institutional frameworks of EIA were updated; coordination of EIA with other processes (*eg* project appraisal, land use planning) was implemented. In this third phase of EIA development, ecosystem-level changes and cumulative effects began to be addressed, and monitoring and other follow-up mechanisms started to receive attention. Many more countries adopted EIA. The European Community (European Economic Community, 1985) and the World Bank (1999) respectively established supra-national and international lending requirements.

The fourth phase, strategic and sustainability orientation, extends from the early 1990s to the present day. 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 most countries.

It might be argued that an overlapping fifth phase is now underway, represented by mass expressions of concern about the impacts of human activities on environmental systems and, concurrently, the effect of these impacts on current and future generations. Examples include movements such as Extinction Rebellion (nd) or at a more local level, Parents for Future in the UK (nd) and SustyVibes (nd) in Nigeria, who demand that impacts be identified and prevented at the research funding and policy levels, rather than 'mitigated' or 'compensated' at the developer or business level.

The first four trends in EIA process development are identifiable within jurisdictions, but apart from the earliest adopters, countries often vary from their neighbours in terms of the phase and/or timescale of their EIA development. More strategic, sustainability-based approaches are still at a relatively early stage globally.

## Strategic Environmental Assessments (SEAs)

Strategic Environmental Assessment (SEA) emerged in the mid-1980s as it became clear that the application of EIA procedures was not consistently required for PPPs across national jurisdictions, and that their implementation PPPs could have significant environmental consequences. As a result, SEAs were implemented for PPPs, initially informally. Subsequently, administrative requirements for SEA have been introduced via amendments to EIA legislation, or new legislation focusing specifically on SEA.

## Social Impact Assessment (SIA)

SIA came into use alongside EIA within the US National Environmental Policy Act in 1969, which stipulated the requirement for 'actions significantly affecting the quality of the human environment' to be assessed (US Government, 1969). Its first application was in the early 1970s, with reference to the construction of the Trans-Alaska oil pipeline.

However, SIA has remained underfunded and neglected relative to EIA, and its status and influence have grown more slowly. This is partly because of continuing ambiguities about its legal status, but also because of a wide diversity of SIA methodologies, inadequate data availability (*ie* inadequate baseline knowledge) and lack of relevant expertise.

SIA has grown in importance in recent years, with a shift in focus from environmental conservation to sustainable development. Many organisations have developed SIA guidelines (*eg* the World Bank, the Asian Development Bank) and many countries have enacted EIA legislation whose inclusion of SIA depends on the definition of 'environment' used. In some jurisdictions, this is limited to biophysical (natural/green/non-human) issues; elsewhere, it is defined as broadly including social, cultural, economic and health issues. Narrow definitions are generally more common in developed countries and broader definitions in developing countries. There are also intermediate approaches whereby, besides biophysical impacts, the assessment of *indirect* or *adverse* social impacts is required; for example, where these are caused by biophysical impacts.

In countries where 'environment' is defined broadly, EIA = ESIA. (In Glasson and Therivel (2019), SIA is regarded as being integral to EIA, which is the most rigorous approach.) Because EIA and SIA share objectives and approaches, and there is often no sharp distinction between them, there is an increasing trend towards integration. However, critics of this approach argue that it may cause biophysical concerns to be diluted or overshadowed by social or economic considerations, encouraging the 'trading off' of environmental protection for economic development. To avoid confusion, hereafter 'ESIA' is used to refer to impact assessments covering both social and biophysical issues, unless referring to a narrower impact assessment within a jurisdiction which separates EIA and SIA.

## 📖 Reading 1.1

Please turn to Glasson and Therivel (2019) and read Chapter 10, Sections 10.4.1 to 10.6.3: 'Socio-economic impacts', pp. 262–79.

✎ Focus your reading on the following questions:

- Can adverse social impacts occur without environmental impacts?
- What problems can be avoided by including SIA in EIA?
- With reference to one of your chosen case studies, what social impacts can you identify? Are there potential social impacts which are not identified or addressed in the relevant assessment documents?

Make notes with reference to the questions above and establish the coverage of statutory ESIA in your country of birth or residence. Is it limited to biophysical EIA, is SIA included separately, or are they integrated (ESIA)?

Asking a government official or local practitioner of ESIA is one way to establish this. You can also look up the definition of 'environment' in local legislation as an indicator of the prevailing approach. For instance, in the UAE, Federal Law No. 27 (1999) 'On The Protection and Development of the Environment' contains the definition:

'Environment: The biosphere in which different forms of life are manifested. Such biosphere consists of two elements:

A Natural Element: comprises living beings, namely humans, animals and plants, as well as other living beings and natural resources, namely air, water, soil, organic and inorganic substances, in addition to natural systems.

An Artificial Element: comprises whatever humans have introduced to the natural environment, namely moveable and immoveable installations, roads, bridges, airports, transportation means, industries, inventions and technologies.'

In contrast, the Kingdom of Tonga Environmental Management Act (2010) defines 'environment' thus:

'"environment" includes all natural and physical resources, the ecology, people and culture of the Kingdom, and the social and economic relationships that exist between these elements …'

These examples suggest that both countries require protection of the biophysical environment, but that in Tonga this includes socioeconomic impacts, whereas the UAE does not at first glance state this, and in fact describes infrastructure as part of the 'artificial' environment to be protected. Another example is the Canadian Environmental Assessment Act (2012) in which 'environment' is defined as:

'The components of the Earth, including (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 the same definition, with the addition of:

'The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.'

Both the Canadian and South African definitions suggest that assessment of impacts on the biophysical environment is required, but the South African definition suggests that the assessment of adverse social impacts caused indirectly by biophysical impacts is also required.

More detailed analysis of the relevant documents and their interpretation could establish the extent to which direct and indirect social impacts must be assessed, according to ESIA regulations. At this stage, you are required just to gain some indication for your country of birth or residence, rather than to conduct an in-depth analysis of relevant legislation.

## 1.3    The Purpose of ESIA

The International Association for Impact Assessment (IAIA, 2009) defines ESIA as:

'The process of identifying the future consequences of a current or proposed action.'

ESIA is predicated on the notion that decision-makers should understand the consequences of their decisions before they act, *ie* that it is a decision-aiding process.

It provides information to project proponents, developers, local or regional authorities, communities and other stakeholders regarding a project's biophysical and social consequences, how best to maximise its benefits (positive impacts) and how to mitigate any adverse consequences (negative impacts). ESIA cannot, therefore, simply consist of preparing a report and obtaining approval (where local regulations exist).

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

**Table 1.1    Types of Impacts**

| Type | Definition | Examples |
| --- | --- | --- |
| **Direct/Primary** | 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. | Reduced unemployment due to the creation of new jobs. |

| Type | Definition | Examples |
|---|---|---|
| Indirect/ Secondary | Impacts that follow on from the direct impacts, *ie* '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. | Reduction in agricultural production due to soil erosion. |
| Induced | Impacts that result from other developments or activities that are encouraged to happen as a consequence of the project. | In-migration of people not directly connected to the project to the project area. |
| Unplanned/ Non-normal | Impacts that result from unintentional events within the project (*eg* breakdowns, failures) or in the external environment affecting the project (*eg* natural disaster). | Chemical spillage during transport to the site. |
| Cumulative | Impacts due to numerous separate developments which might be insignificant on their own, but which can interact or combine to cause significant impacts. | Contamination of a water source due to numerous effluent discharges. |

✎ **Exercise 1.1**

Consider a project you have worked on, been affected by, or find interesting – for example, new roads, developments or projects near your home. Write down some of the impacts that you believe may result from the project. Try to identify at least one biophysical and one social impact from the definitions in Table 1.1 Are there positive impacts (beneficial changes)? If not, why do you think the project was still approved?

While ESIAs are conducted to aid decision-making by providing information on the environmental and social consequences of proposed actions, they should also function to promote sustainable development, by identifying appropriate enhancement and mitigation measures. As a concept, sustainable development has gained increasing international traction in recent decades. The Brundtland Report (Brundtland Commission, 1987) describes sustainable development as:

'Development that meets the needs of today's generation without compromising those of future generations.'

This can be formally stated in terms of twin equity principles, intragenerational and intergenerational. In practice, these principles mean improving the welfare of the world's peoples and maintaining opportunities for the generations that follow by not undermining the earth's ecological systems. The concept of sustainable development is evolving and is continually redefined and reinterpreted. The United Nations Sustainable Development Goals Report (UN, 2018) summarises the interlinkages between sustainability and human well-being, highlighting challenges such as land use/degradation and poverty.

## Land use

'From 1999 to 2013, approximately one fifth of the Earth's land surface covered by vegetation showed persistent and declining trends in productivity, primarily due to land and water use and management. Up to 24 million square kilometres of land are affected (an area the size of China, India and the United States of America combined), including 19 per cent cropland, 16 per cent forest land, 19 per cent grassland and 28 per cent rangeland.'

## Poverty

'The latest global estimate suggests that 11 per cent of the world population, or 783 million people, lived below the extreme poverty threshold […] The proportion of undernourished people worldwide increased from 10.6% in 2015 to 11.0% in 2016.'

This means that 38 million more people became undernourished in a single year. If these trends continue without effective adjustments to policy and technology, the global community and environment are at risk. For development projects to be sustainable, adverse impacts must be minimised and beneficial impacts enhanced; hence the growing importance of ESIA. Consequently, there are short- and long-term goals for ESIA.

The short-term goal of any ESIA is to identify appropriate measures to mitigate actual or potential negative impacts of developments, enhance positive impacts, and inform decision-making around project approval (including setting environmental and social terms and conditions).

The long-term goal of an ESIA is the promotion of sustainable development by ensuring that development does not threaten critical resources, natural areas or ecosystem components, while benefiting communities or society. ESIA must also prevent developments compromising the safety, well-being, lifestyle or livelihood of any community or individual.

The priority issues of different locations vary, but they set the context for ESIA. However, serious damage has already been done in most parts of the world; for example, the highest health burden due to environmental problems falls on African countries, which have the world's most resource-dependent populations. Such environmental problems include soil degradation due to historic introduction of inappropriate land-management practices, low food security, and increasing water scarcity in southern Africa and the north and east of the continent.

In the Asian and Pacific regions, rapid economic growth, urbanisation and industrialisation have contributed to poverty alleviation, but simultaneously increased pressure on land and water resources, causing widespread environmental degradation. High population densities in southern and southeast Asia have brought mega-cities into particular focus in terms of environmental and health concerns.

There remains a legacy of industrial pollution and land contamination in Eastern Europe and Central Asia, despite environmental clean-ups and economic restructuring. Communities remain at risk of poor health related to high particulate emissions, *eg* sulfur dioxide and lead. The Balkans, in particular, bear heavy environmental and social tolls from historic regional conflict. The EU has introduced a range of policies to protect natural capital and environmental quality, but it could be argued that limited attention to the social benefits of developments and mitigation of social harms has contributed to political instability that threatens their continued implementation and improvement across Europe.

In Latin America and the Caribbean, approximately three-quarters of the population live in urban areas. Many cities remain poor, overcrowded, polluted and lacking in basic infrastructure. The destruction of tropical rainforest, with the consequent reduction in carbon sequestration and loss of biodiversity, remains the major environmental issue.

In the Middle East, land is vulnerable to deterioration from saline, alkaline and/or nutrient deposition. Groundwater resources are critically over-extracted, and surface waters have been depleted in quantity and quality by development projects upstream. Rapid urbanisation has caused air and water pollution in cities, and water resources are under severe pressure in the whole region.

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### 📖 Reading 1.2

Please now read the UNEP Case Study: *South Sudan: First State of Environment and Outlook Report 2018*. Ensure you read the Executive Summary and also browse sections of interest to you, reflecting on how this compares with your country of birth or residence.

✍ 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.

UNEP (2018) 'Executive summary' and sections that interest you in *South Sudan: First State of Environment and Outlook Report 2018*.

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## 1.4 Drivers for ESIA

The increasing use of ESIA has been driven by the following:

- **Legislative requirements:** Impact assessment in some form (*eg* EIA, SIA) may be legally required. Even where SIA is not required, a range of regulations may apply to social issues, such as the impact of development on employment conditions, ambient noise, protection of heritage sites, residential zoning and/or sanitation.
- **Financiers' requirements:** Much commercial project finance is provided by institutions that have adopted the Equator Principles (nd). These principles commit financiers to assessing potential investments in accordance with the International Finance Corporation's Performance Standards on Social and Environmental Sustainability, including ESIA (IFC, 2012).

- **Stakeholder pressure:** Communities, consumers, NGOs, employees, investors and lobbying groups apply increasing scrutiny to the conduct of businesses and government agencies. Developments must be shown to have positive benefits to local communities and wider society; it is no longer enough merely to demonstrate efforts to minimise negative impacts.
- **Commitments to sustainable development:** Governments and businesses nowadays have publicly-stated commitments to sustainable development. Under scrutiny from stakeholders, they have had to incorporate environmental and social considerations into their planning and decision-making processes.
- **Tangible benefits:** In helping proponents of development projects to understand the consequences of their activities, ESIA can contribute to cost and/or time savings. This is achieved by: 1) avoiding time spent on conflict resolution; 2) maintaining an informal 'licence to operate' from society by benefiting and not disadvantaging host communities; and 3) enhancing brand reputation, which can improve performance, for example through increased customer loyalty.

### ⌨ Video 1.3

Please watch the Exam Race (2017) video. https://www.youtube.com/watch?v=3fbEVytyJCk

### 📖 Reading 1.3

Please now turn to Glasson and Therivel (2019) and read Chapter 8.6: 'Costs and benefits of EIA' (based on the UK context) pp. 217–18. Make notes to help you understand the questions in Section 8.8, p. 226.

- If the benefits of an EIA cannot be quantified, how can one determine whether the costs outweigh the benefits?
- Do the benefits outweigh the costs, in your opinion? If they do not, is there a project or context in which you feel that they do?

## 1.5   The Overall ESIA Process

ESIA usually comprises the steps shown in Figure 1.1. They are presented sequentially, but in practice there tend to be many overlaps and iterations. In different jurisdictions, statutory ESIA processes have varying terminology, subdivisions, timing, and sequencing. The discrete steps involved are conducted alongside:

- project planning and design, encompassing technical and financial feasibility appraisal
- stakeholder engagement (explored in Unit 5)
- research and data gathering (Unit 5)

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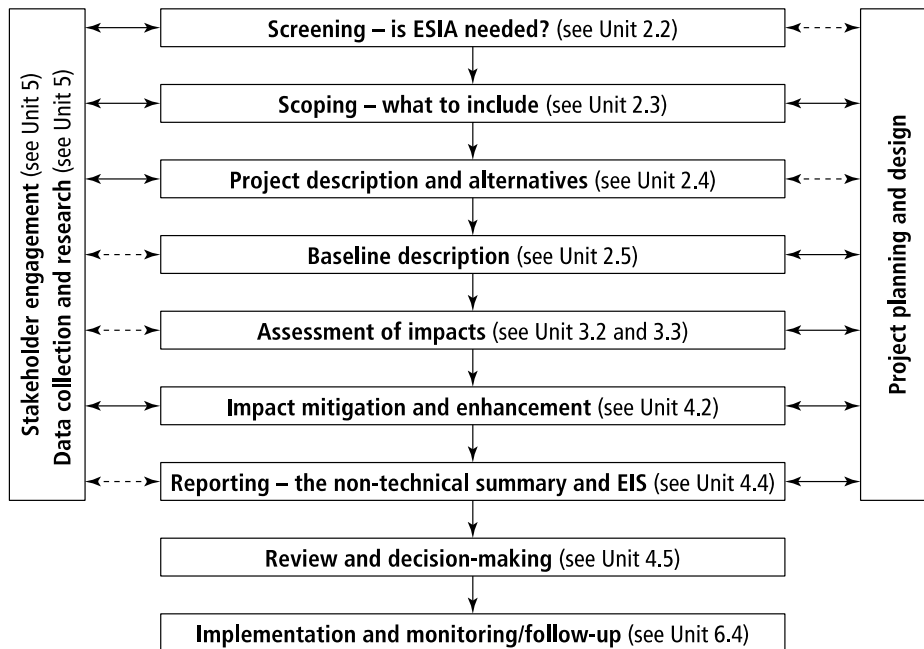


Source: Glasson and Therivel (2019)

📖 **Reading 1.4**

Please now turn to Glasson and Therivel (2019) and read Chapter 1.2.2 'EIA: A process' (pp. 4–5).

✎ Compare Figure 1.1 above with Glasson and Therivel (2019) Figure 1.1 (p. 4). Although the terminology and subdivisions differ, you can observe that the steps are essentially the same.
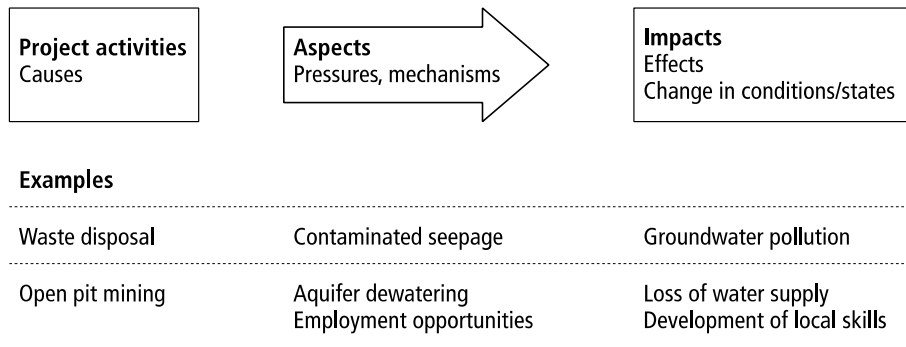
✎ Look at the example of Environmental Impact Statement (EIS) contents in Glasson and Therivel (2019), Table 1.1 (p. 6). Note how the outputs from the above steps are ultimately reported. This is revisited in Unit 4.

*Glasson & Therivel (2019) Chapter 1.2.2 'EIA: A process' in Introduction to Environmental Impact Assessment. pp. 4–5.*

## 1.6    Structuring ESIAs

ESIA links human activities to their likely impacts on the social and biophysical environment. Many environmental management models do not explicitly separate out causal mechanisms. However, in the International Standards Organisation (ISO) Environmental Management Systems standards ISO14001 and ISO14004 (EMSs), 'mechanisms' causing impacts are referred to as 'aspects', illustrated in Figure 1.2.

**Figure 1.2   Model of activity–aspect–impact linkages**

| Project activities<br>Causes | → | Aspects<br>Pressures, mechanisms | → | Impacts<br>Effects<br>Change in conditions/states |

**Examples**

| Waste disposal | Contaminated seepage | Groundwater pollution |
| Open pit mining | Aquifer dewatering<br>Employment opportunities | Loss of water supply<br>Development of local skills |

Source: adapted from Sánchez and Hacking (2002)

The ISO EMSs approach was conceived for the improvement of *operational* (biophysical) environmental management, and this is predominantly how it has been applied. It can be used to enhance project ESIAs, especially social impact assessment, yet cause–effect relationships can be difficult to isolate when exploring human responses to change.

The ISO EMSs approach is further explored in subsequent units which elaborate on the key ESIA steps illustrated in Figure 1.3. You will learn how ESIA results can be summarised by matrices.

**Figure 1.3   Key steps in Environmental and Social Impact Assessment**
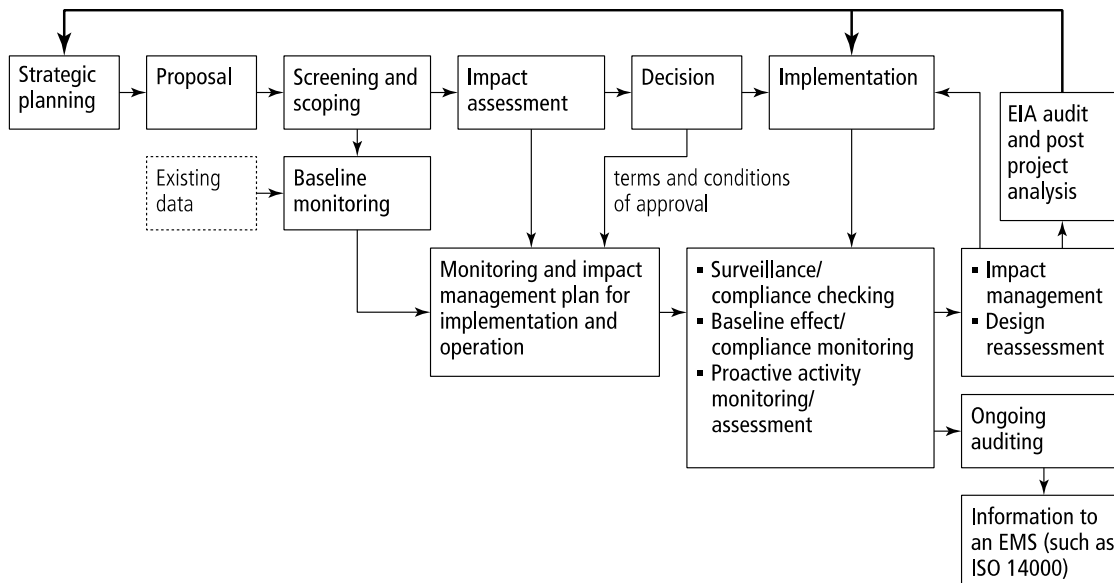
📖 **Reading 1.5**

Please now turn to Glasson and Therivel (2019) and read Section 11.6 'Links to project implementation and adaptive management via EMS and EMPs' (pp. 303–05)

✎ If you have had previous experience of EMSs, compare your experience with the description in Section 11.6; otherwise, try to assess the practicality of the process described in Chapter 11.

## 1.7   Success of ESIA

The benefits of ESIA were identified by a seminal early study which examined its effectiveness worldwide. The study was initiated by the International Association for Impact Assessment (IAIA) which is a professional association representing impact assessment practitioners. The list below, adapted from Sadler (1996), shows the benefits identified by the study:

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

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 general – but not universal – constraints prevent ESIA from consistently delivering these benefits. Examples of hindrances identified in the Sadler (1996) study include:

- small-scale projects are not included in most ESIAs but may have significant cumulative impacts over time
- difficulties ensuring adequate and useful public involvement
- insufficient integration of ESIA work in relation to feasibility and similar studies at key decision points in the project life cycle, with some major decisions being made even before ESIAs are completed
- inconsistent selection of developments requiring specific ESIA studies
- weak procedures for obtaining early agreement on ESIA study scope

- inadequate understanding of the relative roles of baseline description and impact prediction
- poor integration of biophysical impacts with social impacts (including economic and health impacts)
- ESIA reports which are difficult for decision-makers and the public to understand, because of their length and technical complexity
- lack of mechanisms to ensure decision-makers consider ESIA reports
- weak linkages between project implementation/operation and ESIA report recommendations on mitigation and monitoring
- limited technical and managerial capacity to implement ESIAs in many countries.

Although the study was published in 1996, it is still referenced widely; disappointingly, its findings are still considered relevant. As part of the 'next generation' of experts in the field, you may be well placed to address these challenges!

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### ✎ Exercise 1.2

Reflect on the strengths and weaknesses of the ESIA system within your country of birth or 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 structures, economic systems/conditions, education issues, public attitudes, political structures, 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?

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## 1.8  Social Impact Assessment

The International Association for Impact Assessment defines SIA as:

> 'the process of identifying and managing the social issues of project development, [it] includes the effective engagement of affected communities in participatory processes of identification, assessment and management of social impacts.'

> Source: Vanclay *et al* (2015)

This still includes analysing, monitoring and managing the social consequences of planned policies, programmes, plans and/or projects, and any social changes introduced by these interventions, whether intentional or not. However, the primary purpose of SIA is to promote and enhance equity and sustainability (both biophysical and human). SIA can be best understood as a grouping, within EIA, of the impacts on humans, including impacts on how people and communities interact with their sociocultural, economic and biophysical surroundings (IAIA, 2003).

The key motivations for including social concerns in ESIA include:

- the realisation that a holistic view is required for successful management of the biophysical environment, *ie* it cannot be managed independently of social concerns
- the objective of considering non-biophysical areas of concern in decision-making
- the adoption of sustainability as a development goal which, by definition, requires a holistic perspective
- the need to integrate social performance requirements into business.

Social, economic and environmental interests may be intertwined, *eg* a water resource development initiative which alters the downstream hydrological regime of a river. The resulting changes in water quality and flow may significantly reduce reedbed areas utilised for basket-making by local communities. Selling these products provides an important source of income and without this resource the community has to find an alternative income source, so they cut down nearby trees to process into charcoal. By exploiting this resource, they contribute to a serious deforestation problem and exacerbate the attendant problems of soil depletion and erosion. This chain of events can be prevented if the socioeconomic importance of downstream natural resources is investigated and the likely impacts predicted; either the reedbeds could be protected through controlled discharges, or an alternative economic activity could be facilitated that does not exacerbate environmental degradation.

SIA may be a stand-alone undertaking, may be conducted in parallel with EIA, or may be part of an 'integrated' ESIA; the debate continues as to whether greater integration or separation is most desirable. In this module, an integrated approach is favoured, because social and biophysical concerns are interconnected.

There may be ambiguity between the terms 'social' and 'socioeconomic'; 'social' may be interpreted to exclude economic impacts, while 'socioeconomic' may exclude purely cultural impacts. In this unit, 'social' is used as the umbrella term to refer to non-biophysical impacts but 'socioeconomic' is used interchangeably elsewhere. Table 1.2 summarises the components covered by these terms. A social impact is a beneficial or adverse change to any of the components listed in Figure 1.2 as a result of a project.

Note that social impacts may indirectly result from biophysical impacts. Furthermore, 'social' includes not only tangible impacts, such as loss of agricultural land, but also subtle impacts, such as shifts in people's expectations, demands, values and beliefs. In this unit, all issues impacting humans are considered pertinent to SIA.

**Table 1.2    Meanings of terms 'social', 'socio' and socioeconomic'**

| Terms | | | Components | Descriptions |
|---|---|---|---|---|
| Social/socio | Socioe conom | Social | Macroeconomic | National/regional economic growth, employment levels, export earnings *etc.* |

| Terms | | | Components | Descriptions |
|---|---|---|---|---|
| Social (cultural) | | | Microeconomic | Local employment, business activity, earnings and income. |
| | | | Fiscal | Government costs and revenues. |
| | | | Infrastructure and services | Demand for/availability of infrastructure services and facilities. |
| | | | Demographics | Population size, distribution and composition. |
| | | | Livelihoods | Financial or subsistence means whereby people secure a living, *ie* the combined resources used and activities undertaken. |
| | | | Culture/heritage | Shared customs and value systems distinguishing a social or ethnic group. Traditional knowledge, beliefs and practices. Language or dialect. Archaeological, historical and cultural artefacts. Structures/features with religious or spiritual significance. Aesthetics and sense of justice. |
| | | | Community/way of life | Social structures, organisations, interaction patterns and relationships. How people relate to family, friends and cohorts on a daily basis. |
| | | Health | Social/ psychological | Sense of place, well-being, security and/or belonging. Perceptions of amenity or safety. Fears and aspirations about the future. |
| | | | Physical and mental health | Absence of communicable and non-communicable diseases, malnutrition, injuries and mental ill-health. Air and water quality, food availability and quality, exposure to hazards and sanitation adequacy. |
| | | Political/governance systems<br><br>Human rights | | Ability to participate in decisions affecting their lives. Degree of equity and non-discrimination. Level of democratisation, absence of corruption *etc*. Personal and property rights. Access to and control of resources. Respect for civil liberties. |

Source: adapted from Hacking (2006)

There are a number of key differences between the social and biophysical environments, including the following:

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

Appendix A lists possible social impacts, the relevance of which depends on context. Many such impacts are difficult to measure and quantifying them involves analysis of numerous complex interacting 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 Sadler and McCabe (2002), the key characteristics often correlated with adverse social impacts of developments include:

- **demographic change:** *eg* size and composition of resident population, influx of temporary workforce or new recreational users, disrupting the cohesion of small, stable communities
- **economic change:** *eg* new patterns of employment/income or real estate speculation, marginalising long-term, older residents
- **environmental change:** *eg* land use alterations, natural habitat and hydrological regime change (loss of subsistence or livelihood in resource-dependent communities)
- **institutional change:** *eg* changes to the structure of local government or traditional leadership, zoning by-laws or land tenure with reduced access or loss of control, leading to disempowerment or impoverishment of the established population
- **social impacts** occurring as a result of the above 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 beliefs and other elements which distinguish a social or ethnic group
  - *community impacts* on infrastructure, services, voluntary organisations, activity networks and social cohesion
  - *amenity/quality of life impacts* on sense of place, aesthetics and heritage, perception of belonging, security and liveability, 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 (explored in Unit 7 'Other Assessment Techniques').

The IAIA has produced a document entitled 'International Principles for Social Impact Assessment' (IAIA Special Publication Series No 2), which can be found on its website (www.iaia.org) (Vanclay, 2003). This outlines the core values of SIA as follows:

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 Vanclay (2003) are:

1. Respect for human rights should underpin all actions.

2. Promoting equity and democratisation should be the major driver of development planning. 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 Vanclay (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 arbiters 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.

## 1.9 Reflection on SIA

Frank Vanclay (1999) writes about SIA in the *Oxford Handbook of Environmental Impact Assessment* (Volume 1), addressing the complex issues affecting SIA. These are best expressed as questions to be asked about a project or proposal, to which there are no definitive answers. By the end of the module, you will be better able to provide well-informed answers. Write brief answers to these questions now, and compare them with your views at the end of the module.

✎ **Exercise 1.3**

Reflect on the questions below, using the adapted discourse provided from Vanclay (1999) as a model for your approach.

- 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. However, projects often bring in newcomers, with different values and behaviours, and attitudes to the project. Should such newcomers to be considered part of the community? They may be seasonal inhabitants and may be in a dominant position relative to members of the original community. Examples of such projects include rural re-zoning, rural–urban fringe development, and tourism.

   Where projects of proposals impact on areas of natural beauty or those with cultural or ecological significance, the wider community – the nation and beyond – may be concerned with their protection, whereas local people may require economic opportunities. The needs and rights of future generations should also be considered. Thus, the "community" is not one group, but several potentially overlapping or clashing "publics".'

   Source: adapted from Vanclay (1999)

- What should be the role of community participation in the SIA?

   'The extent and validity of local communities' knowledge and opinions must be considered. There are cases where the public opposes a project, yet independent assessment shows it to be beneficial. Alternatively, a community may favour a project considered by experts to have significant social and/or environmental problems. Public opinion can be manipulated by the media.'

   Source: adapted from Vanclay (1999)

- What is the role of community participation in the SIA?
- What is the role of compensation in SIA?
- What impacts are to be considered?
- How should impacts be weighted?

✎ **Exercise 1.4**

Choose a local development with which you are familiar and identify its potential social impacts and their causes.

- How might the social impacts of the development vary with the project life cycle?
- Which of the social impacts you can identify are most important and why?
- Are there potential positive social impacts (benefits)?

## 1.10 Conclusion

The fundamental premise on which ESIA rests is that we should understand the consequences of decisions before acting – *ie* it is a decision-aiding process. Prior to deciding whether to proceed with a development proposal, it is appropriate to consider the technical, institutional and financial attributes of the planned development, but also to predict its impacts on the natural environment, local communities and wider society.

As well as the direct consequences, such impacts may be indirect, induced, unplanned and/or cumulative (all of which may apply to the goal of the development and its positive outcomes as well). EIA and SIA are the most commonly used techniques to evaluating the social and environmental impacts of projects, and although SIA is often argued to be inherently included in EIA, the two together are often termed ESIA, to make this requirement explicit (Morrison-Saunders, 2018) Even when legislation does not specifically demand that social impacts be appraised, the range of regulations in place may apply to social issues, and it is often expected that stakeholders are kept informed of development impacts.

EIA legislation has been introduced in many countries, most commonly for major projects, but in many jurisdictions the definition of 'environment' determines the coverage of such legislation in terms of project size. The use of ESIA is not only driven by regulators and legislative bodies; it is often a requirement of a project's financiers, who may have their own values to promote in terms of environmental and social impacts, may be motivated by commitments to sustainable development and/or tangible benefits of limiting their negative impacts (*eg* cost or time savings) and may also be under pressure from communities and other lobbying groups.

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# Appendix A: Social Impacts

## Individual and household-level impacts

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

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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 necessary to survive/live reasonably

## Community and institutional-level impacts

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 Vanclay (2015)