Environmental Impact Assessments

Introduction

One definition of ***Environmental Impact Assessment*** (EIA) is the assessment of the environmental effects likely to arise from a major project which significantly affect the environment.

- The ***environment*** can include both physical and social aspects. .
- What qualifies as a major project is open to interpretation.

Environmental Impact Assessment originated in the USA in 1969 with the 'National Environmental Protection Act'.

In the European Union, environmental control started with 'The First Environmental Action Programme' of 1973. After more than ten years, the 1985 EC Directive 85/337/EEC on '***the assessment of certain public and private projects in the environment***' was issued. This is now known as the ***EIA Directive***.

In the UK, the majority of the EIAs are undertaken under the following regulations, or later amendments :

- Town and Country Planning (Assessment of Environmental Effects) Regs 1988
- Environmental Assessment (Scotland) Regulations 1988
- Planning (Assessment of Environmental Effects) Regs (Northern Ireland) 1989
- Land Drainage Improvement Works (Assessment of Environmental Effects) Regulations 1988
- Highways (Assessment of Environmental Effects) Regulations 1988
- The Electricity and Pipeline Works (Assessment of Environmental Effects) Regulations 1990

It should be understood that Environmental Impact Assessment is not the answer to all environmental problems. However, as EIA occurs before a development is approved, it has an important role to play in environmental protection. This can be :

- by refusal of project development or
- by demanding mitigating measures that require changes to the initial proposal

In addition, performing an EIA does not mean that projects with adverse environmental impacts will always be refused. The potential environmental damage and any associated remedial measures will be considered together with the full range of social, environmental and economic consequences - both if the project goes ahead and if it does not.

The aim of the EIA process is to provide information about potential environmental impact to the developer, the general public and the planning officers so that better, more informed decisions can be made. Public participation should, therefore, be a central part in this process.

However, proper public participation is very difficult to achieve and requires considerable time and financial resources. Consultation with the public is often very limited and sometimes none existent.

The Environmental Impact Assessment Process

There are two main stages in Environmental Impact Assessment :

1. Preliminary Assessment

This is carried out in the early stages of planning

- **Consideration of alternatives**

  This includes consideration of both alternative sites and alternative techniques. This process should be genuine, well documented and carried out ***before*** choices are made.

- **Determining whether EIA is necessary (Screening)**

  This is used to decide whether an Environmental Assessment is required. This will depend on the size and nature of the project and the surrounding environment.

- **Deciding on the extent of the EIA (Scoping)**

  Scoping is used to identify the key issues at an early stage in the planning process. It should be used to aid site selection and identify any possible alternatives. It should involve all interested parties such as the developer, the planning or environmental agencies and members of the public.

2. Detailed Assessment:

This is carried out during project planning until the project plan is completed and are reported formally as an ***Environmental Statement*** .

- **Impact identification**

  Impact identification involves the analysis of the impacts of a project in order to identify the ***significant*** ones which require a detailed study.

- **Impact prediction**

  Once the site for development has been selected from the various alternatives, the nature of the scoping process changes. There will be a fewer issues to consider but there will be an increase in the amount of detail of the type and scale of impact.

  Scoping should continue throughout the detailed assessment of the project. The results of scoping will determine the scope, depth and terms of reference to be considered in the ***Environmental Statement***.

- **Assessment**

  Assessment involves comparing environmental losses and gains with economic costs and benefits to produce evidence for each project alternative.

- **Mitigation**

  Mitigation considers the actions to be taken to avoid, prevent or minimise the potential or actual adverse effects of the proposed project. These actions could include the abandoning or modifying of a proposed project or changing of construction materials or techniques.

The Town and Country Planning (EIA) (England and Wales) Regulations 1999

The Regulations apply to two separate lists of projects:

- **Schedule 1 projects**

  for which EIA is required in every case including:

  - Crude oil refineries above a certain size
  - Thermal power stations and other combustion installations above a certain size
  - Nuclear power stations and other nuclear reactors (with exceptions)
  - Reprocessing plants for irradiated nuclear fuel
  - Installations designed for the production, enrichment or disposal of nuclear fuel
  - Works for the initial smelting of cast-iron and steel
  - Installations for the production of non-ferrous crude metals from ore
  - Installations for the extraction and processing of asbestos / asbestos products
  - Chemical installations for the manufacture on an industrial scale of chemical substances, fertilisers, pharmaceuticals and explosives.
  - Construction of lines for long-distance railway traffic and of some airports
  - Construction of motorways and new roads of 4 or more lanes, or realigning and/or widening existing roads of 2 lanes or less so as to provide 4 or more lanes
  - Inland waterways and ports for inland waterway traffic
  - Piers for loading and unloading which can take vessels of over 1350 tonnes
  - Waste disposal installations for the incineration, chemical treatment of wastes
  - Groundwater abstraction or artificial groundwater recharge schemes
  - Works for the transfer of water resources, other than piped drinking water, between river basins above a certain size.
  - Extraction of petroleum and natural gas for commercial purposes.
  - Dams and other installations designed for the permanent storage of water.
  - Pipelines for the transport of gas, oil or chemicals above a certain size.
  - Installations for the intensive farming above a certain size.
  - Industrial plants for the production of pulp, paper and board from timber
  - Quarries and open cast mining where the surface area exceeds a certain size
  - Storage installations of petrochemical or chemical products above a certain size

The Town and Country Planning (EIA) (England and Wales) Regulations 1999

- **Schedule 2 projects**

  an EIA is required only if the proposed project is judged likely to produce significant environmental effects.

  - Agriculture and aquaculture, for example
    - irrigation and land drainage
    - intensive livestock or fish farming
  - Extractive industries
    - underground and open cast mining
    - dredging
  - Energy industry
    - power generation including hydroelectric and wind power
    - storage of gases and fossil fuels
  - Production and processing of metals
    - foundries and rolling mills
    - motor vehicle assembly plants and shipyards
  - Mineral industry
    - manufacture of cement, asbestos products
    - manufacture of ceramic products, glass fibre products
  - Chemical industry
    - production of chemicals, pesticides, pharmaceuticals
    - storage facilities for petrochemical and chemical products
  - Food industry
    - packing and canning of animal and vegetable products
    - manufacture of dairy products
  - Other industries
    - production and processing of textile, leather, wood, paper, rubber
  - Infrastructure projects
    - construction of shopping centres, car parks stadium, leisure centres etc.
    - construction of roads, railways, airfields, port facilities, dams and pipelines
    - construction of waste disposal and water treatment plants

The Town and Country Planning (EIA) (England and Wales) Regulations 1999

For the various types of project described in Schedule 2, the 1999 Regulations use a system of thresholds and criteria to identify developments which are not likely to have significant effects on the environment.

For developments where the relevant threshold or criteria are not exceeded or met, EIA is not usually required. However, even where the threshold or criteria are not exceeded or met, EIA may be required if the proposed development is in a ***sensitive area***.

Sensitive areas include Sites of Special Scientific Interest (SSSIs), National Parks, Areas of Outstanding Natural Beauty and World Heritage Sites.

After the EIA is completed, the findings are reported as an ***Environmental Statement*** .

The Environmental Statement

Developers and planning authorities should discuss the content of an environmental statement before its preparation is begun.

The Environmental Statement must include at least the following information:

- a description including information on the site, design and size of the development.
- a description of the measures proposed to mitigate significant adverse effects.
- the data needed to identify & assess the development's main environmental effects
- an outline of the main alternatives considered by the developer
- an explanation of the developer's choice, taking into account environmental effects.
- A non technical summary of the information provided

In addition, the developer may be required to provide any further information that can be ***reasonably required*** to assess the environmental effects of the development and which the applicant can **reasonably be required** to complete.

- the land use requirements during both the construction and operational phases
- a description of the main characteristics of the production processes
- an estimate of the anticipated water, air, soil and noise pollution and any other environmental effects resulting from the operation of the proposed development.
- a description of the likely environmental effects on fauna, flora, soil, water, air, architectural and archaeological heritage and landscape. (direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary)
- a description of the forecasting methods used to assess environmental impacts
- a description of the measures proposed to mitigate any significant adverse effects on the environment.
- a description of any difficulties encountered in compiling the information.
- a non technical summary of all the above

The Town and Country Planning (EIA) (England and Wales) Regulations 1999

Once submitted, the EIA Report and Environmental Statement will be considered by the relevant authorities. Decisions will be made deciding on levels of mitigation and / or whether the project should go ahead at all. If the project is given approval, the EIA process will be ongoing during and after the construction period. Actual environmental impacts will be monitored to check the accuracy of EIA and the application of mitigation measures.

Summary

The Town and Country Planning (EIA) (England and Wales) Regulations 1999 cover:

- **Schedule 1 projects** - for which EIA is required in every case
- **Schedule 2 projects** - for which an EIA is required only if the proposed project will produce significant environmental effects.

The purpose of the Environmental Impact Assessment (EIA) process is:

- to support the aims of environmental protection (EP) and sustainable development
- to integrate EP and economic decisions at an early stage of the planning process
- to predict the environmental, social, economic, and cultural consequences
- to assess plans to alleviate any adverse impacts resulting from the proposed activity
- to involve the public in the review of the proposed activities

There are two main stages in Environmental Impact Assessment :

1. **Preliminary Assessment** - carried out in the early stages of planning
   - Consideration of alternatives
   - Determining whether EIA is necessary (Screening) .
   - Deciding on the extent of the EIA (Scoping)
2. **Detailed Assessment -** carried out during project planning
   - Impact identification
   - Impact prediction
   - Assessment
   - Mitigation

After the detailed EIA is completed the findings are reported formally as an ***Environmental Statement*** .
If the project is given approval, the EIA process will continue during and after the construction period. Actual environmental impacts will be monitored to check the accuracy of EIA and the application of mitigation measures.

Assessment

Environmental Impact Assessments

Questions 1 to 5 - Select the correct response for the following questions :

1. What do the letters EIA stand for ?

   A Environmental Index Audit
   B Environmental Impact Audit
   C Environmental Impact Assessment
   D Environmental Index Assessment

2. In which year was the European Union EIA Directive 85/337/EEC issued ?

   A 1969
   B 1985
   C 1988
   D 1990

3. Which of the following would **not** be part of the preliminary assessment ?

   A consideration of alternatives
   B screening
   C scoping
   D mitigation

4. Which of the following would **not** be considered to be a sensitive area ?

   A Sites of Special Scientific Interest
   B Nuclear Power Stations
   C National Parks
   D Areas of Outstanding Natural Beauty

5. Which of the following is **not** a compulsory requirement of the Environmental Statement ?

   A a description of the site, design, size and nature of the development
   B an outline of the main alternatives considered by the developer
   C description of proposed measures to mitigate adverse environmental effects
   D an quantified estimate of the anticipated water, soil, air and noise pollution

Questions 6 to 10 - Decide whether each of these statements is True (T) or False (F).

6. i) Environmental Impact Assessment originated in the USA in 1969 with the 'National Environmental Protection Act'.
   ii) The aim of the EIA process is to provide information about potential environmental impact to the developer, general public and planning officers.

   Which option best describes the two statements?
   A i) T ii) T
   B i) T ii) F
   C ii) F ii) T
   D ii) F ii) F

7. i) Scoping is used to decide whether an Environmental Assessment is required.
   ii) Screening is used to identify key issues at an early stage in the planning process.

   Which option best describes the two statements?
   A i) T ii) T
   B i) T ii) F
   C i) F ii) T
   D i) F ii) F

8. i) Impact identification involves the analysis of the impacts of a project in order to identify the significant ones which require a detailed study.
   ii) Mitigation involves comparing environmental losses and gains with economic costs and benefits to produce evidence for each project alternative.

   Which option best describes the two statements?
   A i) T ii) T
   B i) T ii) F
   C i) F ii) T
   D i) F ii) F

9. i) After the detailed EIA is completed the findings are reported formally as the Mitigation Statement.
   ii) If the project is given approval, the EIA process will be ongoing during and after the construction period.

   Which option best describes the two statements?
   A i) T ii) T
   B i) T ii) F
   C i) F ii) T
   D i) F ii) F

10. i) Schedule 1 projects require an EIA in every case.
    ii) Schedule 2 projects require an EIA only if the proposed project is judged likely to produce significant environmental effects.

    Which option best describes the two statements?
    A i) T ii) T
    B i) T ii) F
    C i) F ii) T
    D i) F ii) F