
UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE
FINAL EXAMINATION



TITLE OF PAPER	ENVIRONMENTAL IMPACT ASSESSMENT
COURSE CODE	EHS448
DURATION	TWO HOURS
DATE	MAY 2019
TOTAL NUMBER OF MARKS	100
INSTRUCTIONS	<ol style="list-style-type: none">1. DO NOT OPEN THIS PAPER UNTIL YOU ARE INSTRUCTED TO DO SO.2. ANSWER QUESTION ONE AND ANY OTHER THREE QUESTIONS.3. BEGIN YOUR ANSWERS TO EACH QUESTION ON A FRESH PAGE.4. POOR HANDWRITING AND CARELESSNESS IN ENGLISH LANGUAGE GRAMMAR SHALL RESULT IN LOSS OF MARKS.5. ANY FORM OF MISCONDUCT DURING THE EXAMINATION IS PUNISHABLE IN LINE WITH RELEVANT ACADEMIC REGULATIONS.

QUESTION ONE [25 MARKS]

1. EIA is said to have been introduced about 40 years ago, first in;
 - (a) Unites States of America (USA)
 - (b) United Kingdom (UK)
 - (c) South Africa
 - (d) Germany
2. When EIA was first introduced in the UK, it was anticipated that the number of EISs produced per year would be about;
 - (a) 40
 - (b) 60
 - (c) 80
 - (d) 20
3. Compared with other mechanisms for environmental protection, the emphasis of EIA is on;
 - (a) Environmental clean-up of pollutants resulting from development
 - (b) Prevention
 - (c) Remediation of sites affected by projects
 - (d) Ensuring equal access to proceeds of development between developers and affected communities
4. One of the countries where the practice of EIA is now well established is the UK. With regard to post-decision monitoring;
 - (a) Current legislation mandates it; however, companies that do not implement it are not punished
 - (b) Current UK legislation demands that it should be done by major companies
 - (c) Current UK legislation does not mandate it
 - (d) It is part and parcel of current UK EIA laws
5. One of the definitions of EIA, which you have read in your book, was taken from;
 - (a) Munn 1979
 - (b) George 1999
 - (c) UNICEF 1991
 - (d) USA Department of Environment 2000
6. Ideally, EIA;
 - (a) Should be a process that adopts a top-down approach in all of its stages
 - (b) Should be a process that adopts a bottom-up approach in all of its stages
 - (c) Should be more concerned about economic and social benefits to affected communities
 - (d) Should be a cyclical process
7. In an EIA process, the introduction of measures to avoid, reduce, remedy or compensate for any significant adverse impacts is concerned with;
 - (a) Screening
 - (b) Mitigation
 - (c) Scoping
 - (d) Review

8. A proposed road construction project in a particular locality was found to have up to seven impacts on the environment. These were listed as A, B, C, D, E, F and G. In terms of the severity of impacts on environmental parameters, A, C, E, and F were potentially significant, while B, D and G were thought not significant. In deciding which impacts to deal with first, the developer Can rely on;
- (a) Review
 - (b) Auditing
 - (c) Scoping
 - (d) Public consultation and participation
9. One of the main stages of the EIA process begins with the identification of individuals, communities, local authorities and statutory consultees likely to be affected by the project. This stage is;
- (a) Scoping
 - (b) Project screening
 - (c) Decision-making
 - (d) Consideration of alternatives
10. The benefits of one of the stages of the EIA process include the following; saving time and money, shorten the length of EISs, etc. This stage is;
- (a) Project screening
 - (b) Auditing
 - (c) Description of the environmental baseline
 - (d) Scoping
11. The EIS documents the information and estimates of impacts derived from the various steps in the EIA process. Some of the major sections of the EIS are; Part 1: Introduction, methods and key issues; Part 2: Background to the proposed development; Non-technical summary; Part 3: EIA topic areas; and Part 4: Follow-up and management. Demonstrate your knowledge of the EIS by responding to the following questions;
- 11.1 Information about who the developer is, who has produced the EIS, who has been consulted and how, what methods have been used, etc., can be found in;
- (a) Part 2
 - (b) Part 1
 - (c) Part 3
 - (d) Part 4
- 11.2 Information about the early steps in the EIA process, including clear descriptions of the project, and baseline conditions (including relevant planning policies and plans) can be found I;
- (a) Part 1
 - (b) Part 3
 - (c) Part 2
 - (d) Part 4
- 11.3 Discussion of existing conditions, predicted impacts, scope for mitigation and residual impacts can be found in;
- (a) Part 3
 - (b) Part 1
 - (c) Part 2
 - (d) Part 4

- 11.4 Information to help improve communication with the various parties involved in the EIA process can be found in;
- (a) Part 1
 - (b) Part 3
 - (c) Part 2
 - (d) Non-technical summary
- 11.5 Information that deals with issues like: historic environment, air quality, climate change, land use, etc., can be found in;
- (a) Non-technical summary
 - (b) Part 3
 - (c) Part 4
 - (d) Part 1
12. Generally, planning and development lifecycle for major projects usually include the following stages: planning, conflict resolution, construction, operation, and close down. Demonstrate your knowledge of these stages by responding to the following questions;
- 12.1 Site acquisition and displacement of existing uses are part of;
- (a) Close down
 - (b) Planning
 - (c) Construction
 - (d) Operation
- 12.2 Demonstration of need for the project is part of;
- (a) Planning
 - (b) Operation
 - (c) Construction
 - (d) Conflict resolution
- 12.3 Assessment of alternatives is part of;
- (a) Operation
 - (b) Close down
 - (c) Conflict resolution
 - (d) Planning
- 12.4 In most projects, the longest stage is;
- (a) Close down
 - (b) Operation
 - (c) Construction
 - (d) Planning
13. Impact and effect are widely used in the literature and legislation on EIA, however it is not always clear whether they are interchangeable or should be used for specifically different meanings. In your text book, different authors have attempted to distinguish these terms. Demonstrate your understanding of the differing views in the following questions.
- 13.1 Effects and impacts are synonymous in;
- (a) Catlow and Thirlwall (1976)
 - (b) Australia (CEPA 1994)
 - (c) The United States (National Environmental Policy Act)
 - (d) Preston and Bedford (1988)

- 13.2 Effects are physical and natural changes resulting directly or indirectly from development, while impacts are consequences or end products of those effects represented by attributes of the environment on which we can place an objective or subjective value. This is the belief of;
- (a) Catlow and Thirlwall (1976)
 - (b) The United States (National Environmental Policy Act)
 - (c) CEPA (1994) (Australia)
 - (d) Preston and Bedford (1988)
- 13.3 There does seem to be greater logic in thinking of an impact resulting in an effect. This is the view of;
- (a) Stakhiv (1988)
 - (b) Preston and Bedford (1988)
 - (c) Catlow and Thirlwall (1976)
 - (d) CEPA (1994) (Australia)
- 13.4 The use of the term impact connotes a value judgement. This is according to;
- (a) The United States (National Environmental Policy Act)
 - (b) Preston and Bedford (1988)
 - (c) Catlow and Thirlwall (1976)
 - (d) CEPA (1994) (Australia)
- 13.5 Effects are scientific assessment of facts, while impacts refers to the evaluation of the relative importance of these effects by analysts and public. This is the view of;
- (a) CEPA (1994) (Australia)
 - (b) Preston and Bedford (1988)
 - (c) Stakhiv (1988)
 - (d) Catlow and Thirlwall (1976)
- 13.6 Your text book has adopted the definitions of impacts and effects in line with;
- (a) The United States (National Environmental Policy Act)
 - (b) Catlow and Thirlwall (1976)
 - (c) Australia (CEPA 1994)
 - (d) Preston and Bedford (1988)

QUESTION TWO [25 MARKS]

1. Choose and describe any five stages of the EIA process [10].
2. Although EIA now has over 40 years in history in some developed countries, elsewhere the development of concepts and practice is more recent. As a result one area that is still faced with problems is nature of methods of assessment. Describe any five problems associated with this area [10].
3. A French study (BIO 2006) suggested the types of projects that are often associated with high EIA costs. State any five examples of such projects [5].

QUESTION THREE [25 MARKS]

1. State any three activities in the EIA process, which are known to attract costs [3].
2. Crucial dimensions that must be clarified in the description of a proposed development include; purpose and rationale of a projects, life cycle of activities, location and physical presence, processes, associated policies, and planning policy context. Demonstrates your knowledge of these dimensions by matching them with the following scenarios [14].
 - (a) Special areas of conservation

- (b) Special protection areas
 - (c) The description of location must pay regard to land-use designations and development constraints that may be implicit in some of the designations.
 - (d) Shift-working will have implications for transport and noise that may be very significant for nearby residents.
 - (e) The use of a construction site hostel, camp or village can significantly internalize impacts on the local housing market and on the local community.
 - (f) A more detailed site layout of the proposed development, again on a large-scale base map, should illustrate the land area and the main disposition of the elements of the project.
 - (g) A minimum description would usually involve the identification of construction and operational stages and associated activities.
3. State any three ways or means by which projects are initiated [3].
 4. Although EIA now has over 40 years of history in many places, it has not been without problems. State any five broad problems associated with the practice of EIA currently [5].

QUESTION FOUR [25 MARKS]

1. Describe the two main approaches to screening [5].
2. For each of the approaches you have described in question 1 above, state any three advantages and two disadvantages [12].
3. State any eight specific aims of impact identification methods [8].

QUESTION FIVE [25 MARKS]

1. A road construction project that cuts through an unpolluted environment has been planned for a particular area. However, according to Figure 1, whether the project goes ahead or not, there will be changes (called effects of no action) to this area in the future. Describe some of the factors that could cause these changes even when the project does not proceed [5].

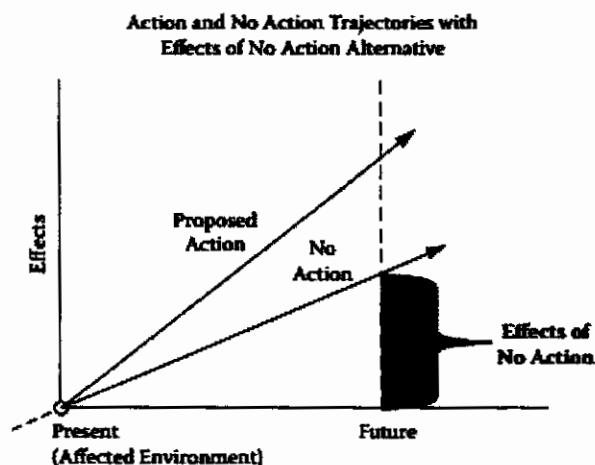


Figure 1: No action alternative

2. There are many definitions of sustainable development, however, there are characteristics common to all definitions. List any five such characteristics? [5]
3. What are weak sustainability position and strong sustainability position? [8]
4. State the four main purposes of EIA [4].
5. Define sustainable development according to the Brundtland Report [3].