

**A PROPONENT'S GUIDE
TO
ENVIRONMENTAL IMPACT ASSESSMENT
(EIA)**

Department of Environment

Ministry of Environment

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This is not a legal document. It serves as a general guideline. Sectoral guidelines are available at the Department of Environment

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1.0 BACKGROUND INFORMATION

What is an Environment Impact Assessment (EIA)?

EIA is a study that predicts the environmental consequences of a proposed development. It evaluates the expected effects on the natural environment, human health and on property. The study requires a multi-disciplinary approach.

The EIA compares various alternatives by which the project could be realized and seeks to identify the one which represents the best combination of economic and environmental costs and benefits. Alternatives include location as well as methods, process technology and construction methods.

Why do we need an EIA?

EIA is one of the most important tools for sound decision making and for achieving sustainable development. Mauritius first adopted formal procedures for EIA in June 1993 following the amendment of the Environment Protection Act (EPA) 1991. In order to further consolidate and reinforce the institutional and legal framework for the protection of the environmental assets of Mauritius and a sustainable development, a new Environment Protection Act is in force as from 5 September 2002. The EPA 2002 provides for environmental stewardship, greater transparency and public participation in the EIA mechanism as well as a streamlining of the EIA procedures. The EPA 2002 also specifies the contents of the EIA. The requirement for an EIA according to EPA 2002 is at Appendix 1.

Which activities are subject to EIA?

Undertakings requiring an EIA licence are listed in Part B of the First Schedule of the EPA 2002 (Appendix 2). The EPA 2002 also empowers the Minister to request an EIA for any non- listed activity, which, by reason of its nature, scope, scale and sensitive location could have an impact on the environment.

The processing of an EIA application involves consultation with several Ministries/ Authorities and the report is also sent for public comments to the Local Authorities. Thus, a proponent applying for an EIA Licence shall submit in **electronic form, and in 18 printed copies** of his EIA report to the Department of Environment and also indicate the tentative date of commencement of work. Guideline for the electronic version of an EIA report is at Appendix 3.

2.0 OBJECTIVE

The objective of this guide is to supplement and elaborate on the contents of an EIA report as spelt out in EPA 2002, as well as provide a general insight in what is an EIA.

3.0 THE ENVIRONMENT IMPACT ASSESSMENT PROCESS

The EIA process involves the following steps:

- **Screening:** it is an important process that assists in deciding whether the project requires an EIA or not.
- **Scoping:** the aim of scoping is to ensure that the study addresses all the issues important for decision making. It involves setting terms of reference for the EIA, selecting consultant and review of existing legislation.
- **The EIA study including the following:**
 - Collection of baseline data and information
 - Public involvement/participation
 - Identification of impacts in terms of magnitude and significance
 - Socio- economic analysis of project effects/impact
 - Mitigating measures for each impact identified
 - Analysis of alternatives of the project
 - Development of a monitoring programme and environment management plan

The above study should be documented in the form of an EIA report and submitted at the time of application.

4.0 GUIDELINE ON THE CONTENT OF AN EIA REPORT

The proponent/consultant preparing an EIA report shall ensure that all socio-economical and environmental parameters are addressed and their impacts are identified and taken into account in the project design. The EIA report shall provide substantive and indicative information on the proposed measures to mitigate all adverse environmental effects as well as the opportunities for environmental enhancement to enable a proper assessment.

Prior to embarking on a project, a proponent shall ensure that the proposed development is compatible with the zoning of the site and that relevant clearances such as zoning certificate, land conversion permit or lease agreement (if applicable) have been obtained.

- **In case of inappropriate zoning and the absence of proof of land ownership or authorisation, the EIA application will not be considered.**
- **No permit for development shall be granted in respect of an undertaking unless there is in relation to it an approval of preliminary environment report or an EIA licence.**

An EIA report shall be duly signed and dated by the proponent of the undertaking and all principal consultants involved in the preparation of the EIA report.

An EIA report shall be prepared in the format as proposed below:

4.1 TITLE PAGE

This should contain details of:

- the full title under which the EIA has been prepared
- the team responsible for the EIA or name of the consultancy if applicable
- the proponent
- date

4.2 NON-TECHNICAL SUMMARY

- This should be concise.
- The language should be simple and non-technical.
- It should give an outline of both the project and location.
- It should focus primarily upon key impacts identified in the EIA and measures taken to avoid and reduce them.

iv.3 INTRODUCTION

This should provide background information on the project, the promoters, any experience in similar projects, project costs, benefits, employment opportunities, benefit to local communities, associated problems etc.

4.4 SITE AND PROJECT DESCRIPTION

This should describe the project and indicate the justification and rationale underlying the project, including:

4.4.1 Site Description

A description should be given in general terms to indicate the nature and broad character of the local environment.

- Ownership of land and proof thereof, or lease agreement clearly indicating the owner's consent is agreeable to the project
- Present Zoning of site as per approved Outline Scheme (obtainable from the Town & Country Planning Board or the local authorities)
- Plans and policies with which the project conforms
- Site characteristics in terms of site location, landform; present and past land use (*if known*), accessibility to site, flora and fauna, etc.
- Certified and comprehensive site and location plans drawn to scale and duly certified by a Sworn Land Surveyor with known landmarks as reference points and showing waterbodies, wetlands, boreholes, aquifer, stone crushing plants etc within a 1000m radius

- Surrounding environment indicating adjacent residential areas/built-up environment, environmentally sensitive areas, watercourses, designated sites of interest.
- Other attributes of the area e.g. amenities, recreational and agricultural values.
- Indication of other similar projects in the surroundings

Existing infrastructure and availability of public utilities

4.4.2 Project Description

- Project initiator
- Type of project and associated activities to be carried out.
- Need and justification of project.
- The design, size and scale of the project.
- Detailed site/layout plan drawn to scale of 1:500 indicating site boundaries (as per title deeds) and showing all structures proposed to be put up on site with setbacks from boundaries.
- Detailed plans including elevations, plot coverage and gross Floor Area.
- Description of project in terms of raw materials, processes, mass balance, equipment, work force, products, type and amount of wastes/effluent produced and its disposal etc.
- Training requirements of the project.
- The technical, economic and environmental features essential to the project.
- Diagrams, sketches or landscape architect's impression of the project in the receiving environment.
- Proposed schedule for implementation.

4.5 METHOD OF ASSESSMENT

This should contain details of the EIA procedure including:

4.5.1 Baseline Data

- Data collection methodology (E.g. survey, matrix or checklist), source of information
- What information the EIA was based upon? (World Bank Report, White Paper, etc)
- Are there any uncertainties or omissions in this data? e.g. if it was collected out of season or is out of date.
- Are any further surveys to be carried out to remedy this?
- A geotechnical report including subsurface strata, maximum level of water table and results of a soil percolation test. The geotechnical report to be certified by an Engineer registered by the council of Registered Professional Engineers or a specialist in soil mechanics.

4.5.2 Consultations

This section should indicate who has been contacted about the project. It should include:

- Statutory bodies, environmental and amenity groups and local residents likely to be affected by the proposals.
- Means for contacting them and for providing publicity about the project (leaflets, public display, questionnaires, letters, etc.).
- A brief summary of their responses detailing the areas of concern highlighted and their contribution to the EIA.
- For all development projects viz construction of hotels, golf courses, jetties, etc in the coastal zone, the proponent shall have consultation with fishers of the area explaining to them their projects. The consultation shall be done under the aegis of Ministry of fisheries

4.6 PREDICTED ENVIRONMENTAL IMPACTS

This section should indicate what effects the proposed development is likely to have upon the environment. The EIA should emphasize the key issues identified during the scoping phase and indicate why these are felt to be crucial. Lesser impacts should be mentioned but the amount of space devoted to them should be proportional to their perceived importance. Although direct impacts will be more obvious, indirect and cumulative effects should not be overlooked. For clarity, impacts may be identified for construction and operational phase, and where possible quantified and an indication given of their magnitude and significance. Any uncertainty in prediction should also be made explicit. A matrix may serve to indicate whether the impacts are:

- long/short term
- strategic/local/ regional/ national
- direct/indirect
- irreversible/reversible

4.7 MITIGATION MEASURES

For each impact the EIA should state:

1. steps to be taken to avoid / reduce and / or eliminate the impacts
2. the likely effectiveness and adequacy of mitigation
3. Technologies proposal in achieving (1).

The following impacts and mitigative measures should be included:

- In terms of noise, odour, emissions, smoke, flies, rodents, traffic implications including a brief traffic impact analysis, etc.
- Source, type, generation, collection and disposal of solid waste.
- The maximum population(on daily basis), source, type and volume of wastewater generated. Physical, chemical and biological characteristics, method of collection, treatment and disposal (with appropriate design calculations and drawings) of wastewater.

- Amount of dangerous/toxic material used, storage methods, threshold levels of dangerous/toxic material stored/handled together with identification system and a register of hazardous installation.
- Major accident policies (on site emergency plans, safety measures and information to the public).

4.8 RESIDUAL IMPACTS

The EIA should indicate all unavoidable impacts. These should be justified in terms of benefits of the project and enhancements

4.9 SOCIO CULTURAL AND SOCIO ECONOMIC IMPACTS

Including impacts on adjacent residential areas; local community; current activities carried out by different stakeholders, including recreational activities

4.10 MONITORING AND MAINTENANCE

This should indicate:

- provisions made for on-site monitoring during site preparation, construction and operation phase
- future maintenance requirements
- provision for audit during the operation of the scheme
- preparation of monitoring programme to be submitted to Department of Environment and should indicate the specific responsibilities during various phase

4.11 ENHANCEMENT OPPORTUNITIES

A brief outline should be given of any enhancement work which is planned its maintenance and upkeep. This should be distinguished from mitigation measures which are integral to the project and form part of the proposal.

4.12 ALTERNATIVES

This section should give an outline of:

- the alternatives to the project
- the “Do Nothing” option – what will be the outcome of not undertaking the project, for instance on future land use?
- the alternative considered to be the “most environmentally friendly” even if this is not the project
- the criteria for rejecting the alternatives
- the stage in the planning process when they were rejected

4.13 CONCLUSIONS AND SUMMARY OF ENVIRONMENTAL OUTCOMES

Include any irreversible residual impacts, which cannot be mitigated.

4.14 SUPPORTING DOCUMENTATION AND REFERENCES

4.15 APPENDICES

These should include information which would cluster the main body of the text, such as:

- plans and maps
- species lists
- press releases
- written responses to the project

5.0 PROCESSING OF EIA APPLICATION

Proponents applying for an EIA licence are required to submit 18 copies of the EIA report to the Director of Environment. Figure 1 depicts an outline of the EIA procedure.

After a preliminary scoping, to ensure that the document is as accurate and exhaustive as possible, the EIA is open for public inspection and comments by publication in the government gazette and two dailies. A copy of the EIA report is circulated to the authorities concerned with a request to submit their views in writing within a prescribed time limit. Concurrently, the Environment Assessment (EA) Division of the DoE organizes a joint inter-ministerial site visit for an on-site assessment of the environmental implications of the proposed development, together with the proponent and / or contact person and his consultant(s). The proponent may be requested to carry out further studies or to submit additional information. The Director may also set up a Technical Advisory Committee to advise him on the EIA or on any aspects of the undertaking.

The EA Division processes the application taking into consideration the views of the authorities concerned as well as any public comments received. The Director's review is referred to the EIA committee for examination. The EIA committee makes recommendations to the Minister for a decision which is thereafter communicated to the proponent by the Director.

6.0 APPEAL

Any person who is not satisfied with the decision of the Minister on an EIA may appeal within 30 days of the decision to the Environment Appeal Tribunal.

Any party who is dissatisfied with the Tribunal's Determination on a point of law can still appeal to the Supreme Court.

Note:

Further information on the provisions of the EPA 2002 and the EIA procedures can be downloaded from Ministry's Website (<http://environment.gov.mu>)

EA Division
01.07.2004

Appendix 1**REQUIREMENTS FOR AN EIA ACCORDING TO EPA 2002**

- **APPLICATION FOR EIA LICENCE**

On applying for an EIA licence, a proponent shall submit to the Director of Environment an EIA report:

- (a) in electronic form, and in 15 printed copies, and such additional copies as may reasonably be required by the Director;
- (b) signed by the proponent or his duly appointed legal representative and countersigned by the consultant who prepared the report

- **OUTLINE OF PROPOSED UNDERTAKING**

The EPA 2002 also requires a proponent applying for an EIA licence to provide the Director of Environment with an outline of his proposed undertaking, including its location, nature and scope, at least 3 months before submitting his application.

The Director may on the basis of the outline, impose the terms of reference for the EIA report, the fields of study that are required to be covered, and the levels of expertise and the qualifications of the consultants signing the report.

- **CONTENTS OF AN EIA**

According to Section 18 of the Act, the EIA report shall contain a true and fair statement and description of the undertaking as proposed to be carried out by the proponent, and shall include:

- (a) the name and address of the proponent;
- (b) the ownership of the undertaking and of the land on which it is being conducted;
- (c) the name, address and qualifications of the consultant who prepared the EIA;
- (d) the precise location and surroundings of the undertaking, the zoning of the site and the number of similar undertakings in the area;
- (e) the principle, concept and purpose of the undertaking;
- (f) the direct or indirect effects that the undertaking is likely to have on the environment;
- (g) an assessment of the social, economic and cultural effects which the undertaking is likely to have on the people and society;
- (h) any actions or measures which the proponent proposes to take to avoid, prevent, change, mitigate or remedy, as far as possible, the likely effects of the undertaking on the environment;
- (i) an assessment of the inevitable adverse environmental effects that the undertaking is likely to have on the environment, people and society, where it is implemented in the manner proposed by the proponent;
- (j) an accurate assessment of the irreversible and irretrievable commitment of resources which will be involved in the undertaking, where it is implemented in the manner proposed by the proponent;
- (k) any alternative manner or process in which the undertaking may be carried out so as to cause less harm to the environment;
- (l) an environmental monitoring plan;

- (m) information pertaining to the decommissioning of the project at the end of its life cycle and associated impacts, proposed measures to return the sites as far as possible to its former state, or rehabilitation measures;
- (n) in the case of a new infrastructure proposal, an environmental management plan to be implemented during the construction phase; and
- (o) such other information as may be necessary for a proper assessment and review of the potential impact of the undertaking on the environment, people and society.

Furthermore Section 19 states that, the EIA shall

- (a) be signed by the proponent and all principal consultants who prepared or assisted in the preparation of the EIA;
- (b) contain particulars of the schedule of works undertaken by the proponent and his consultants in the preparation of the EIA, including particulars of any consultation held with the public in the area where the undertaking is to be located.

Section 18 also provides for the EIA to be accompanied by:

- (i) satisfactory proof of ownership of the undertaking;
- (ii) a site plan prepared and signed by a land surveyor;
- (iii) a non-technical summary of the report;
- (iv) a certificate issued by a notary expressing his opinion as to the ownership of the land on which the undertaking is to be executed, or where the proponent is not the owner of the land, by a written evidence of the permission of the owner, and a certificate issued by a notary expressing his opinion as to the owner's title.

• **SUBMISSION OF FRESH EIA**

1. The Minister may, at any time after the issue of an EIA licence, issue a direction to the licensee requiring him to submit a fresh EIA in respect of his undertaking within such time as may be specified.
2. A direction under subsection (1) may be issued where, in the opinion of the Minister:
 - (a) the undertaking is, or is likely to be, a source of pollution to the environment;
 - (b) there is a substantial change or modification in the undertaking, or in the manner in which the undertaking is being operated;
 - (c) the undertaking poses a threat to the environment; or
 - (d) the circumstances of the undertaking with regard to its surrounding environment so require.
3. Where a licensee fails to comply with a direction issued under subsection (1):
 - (a) he shall commit an offence;

(b) his EIA licence shall be cancelled.

3. NON-LISTED ACTIVITY

1. Notwithstanding section 15, where in his opinion a project or an activity not specified as an undertaking under the First Schedule is likely, by reason of its nature, scope, scale and sensitive location, to have an impact on the environment or on the zoning of an area, the Minister may request the person carrying out or proposing to carry out the project or activity to submit a preliminary environmental report or an application for an EIA licence.
2. Where a request for submission of a preliminary environmental report or an application for an EIA licence is made, the project or activity shall be deemed to be an undertaking specified under the First Schedule in respect of which a preliminary environmental report or an EIA licence is required, as the case may be.

• REVOCATION OF EIA LICENCE

The Minister as and when necessary revoke an EIA licence or amend the conditions of the EIA licence or give the proponent on directives on the method of execution and phasing of undertaking, mitigative measures to be incorporated, further research investigation and monitoring to be undertaken or required the proponent to submit at such interval as he may determine, report on the impacts of the undertaking on the environment.

• STOP ORDER/OFFENCES

Any proponent who gives false or misleading information, or fails to disclose any material fact or information in EIA report, shall commit an offence, and shall on a first conviction be liable to a fine not exceeding 50,000 rupees and to imprisonment for a term not exceeding 2 years

Any proponent who contravenes section 15 (2) of EPA 2002 shall –

- (a) on a first conviction, be liable to a fine which shall be not less than 50,000 rupees and not more than 100,000 rupees and to imprisonment for a term not exceeding 4 years;
- (b) on a second or subsequent conviction, be liable to a fine which shall not be less than 100,000 rupees and to imprisonment for a term not less than 6 years and not exceeding 12 years.

The EPA 2002 provides for the Director of Environment to serve a **stop order** so as to prohibit any development or activity being undertaken without the relevant permit or licence or in contravention of any environmental law.

Appendix 2

List of undertakings requiring an Environment Impact Assessment

1. Asphalt plant
2. Block making plant manufacturing above 10,000 blocks per day.
3. Brewery.
4. Bulk processing, storage and handling of petroleum, petroleum products, liquid gas, coal and petro-chemical products.
5. Clinic and hospital
6. Construction of air field and airport
7. Construction of breakwaters, groins, jetties, revetments and seawalls
8. Construction of dam and dyke
9. Construction of marinas

10. Conversion of forest land to other land use
11. Desalination plant
12. Development, production, release use, marketing and application of Generically Modified Organisms
13. Distillery
14. Dye house
15. Fishing port
16. Foundry, smelting plant or metallurgical work
17. Galvanising industry
18. Golf course
19. Harbour dredging operation, construction and development
20. Highway and mass transit system
21. Hotel(coastal), including extension
22. Housing project and apartments above 50 units
23. Lagoon dredging and reprofiling of sea beds including creation of bathing areas
24. Land clearing and development in environmentally sensitive areas such as water catchment areas, waterlogged areas, mountain slopes and islets
25. Landfill
26. Lime manufacture
27. Manufacture of battery
28. Manufacture or packing of cement
29. Manufacture of chemical fertiliser
30. Manufacture of pharmaceutical products
31. Manufacture, handling and storage of dangerous chemicals and pesticides
32. Manufacture of paint, pigment & varnish
33. Manufacture of photographic films
34. Manufacture of polyurethane foam
35. Manufacture of soap detergents
36. Modification of existing coastline such as beach reprofiling, coastal protection works and removal of basaltic and beach rock
37. Offshore sand mining
38. Parcelling out of land above 3 ha-
 - (a) otherwise than by way of division in kind among heirs;
 - (b) to be allocated to persons other than such persons as may be approved by the Minister responsible for the subject of agriculture and who are-
 - (i) bona fide occupiers of housing units forming part of sugar camps owned by sugar millers or sugarcane planters;
 - (ii) bona fide occupiers of housing units forming part of tea estate camps;
 - (iii) workers affected by the closure of a sugar factory; or
 - (iv) workers opting for the Voluntary Retirement Scheme.
39. Petroleum refinery
40. Power station
41. Pulp and paper manufacture
42. Ready-mix concrete plant
43. Rearing of introduced species, such as crocodiles and monkeys
44. Refining and processing of edible oils and fats

45. Rendering plant
46. Retreading of tyres
47. Rock quarrying
48. Sawmill
49. Sewage treatment plant
50. Sea outfall
51. Shipyard and dry dock
52. Stone crushing plant
53. Sugar factory or refinery
54. Tannery and leather finishing
55. Timber treatment plant
56. Timber warehousing
57. Transfer station for solid waste
58. Undersea walk
59. Waste incinerator
60. Wetland development
61. Wine industry

Appendix 3

Guidelines for submission of EIA reports in soft copy version

1.0 INTRODUCTION

According to Section 18(1)(a) of the EPA, proponents applying for an EIA licence are required to submit EIA reports in both hard and soft copy versions. The objective for the posting of the soft copy version of EIA reports on the website is to enable users to access the EIA reports in a more user friendly format.

2.0 SPECIFICATIONS OF SOFT COPY VERSION

2.1 The soft copy version of the report, which should be identical to the hard copy version, should be submitted in electronic file preferably on a CD or in WinZip format in floppy disks.

(a) The document should be broken into its different chapters with each chapter in a separate file. The executive summary also should be treated as a chapter and submitted in a separate file. If a chapter exceeds 50MB, then it should be further broken down into files of less than 50 MB.

(b) The table of contents also should be submitted in one separate file.

All the chapters/headings/appendices listed under the table of contents should have proper naming. This is important to allow the user to know which file he/she is accessing.

e.g Chapter 10 - Mitigative measures

(c) The table of contents should provide links to the different chapters including the executive summary and appendices.

(d) All filenames must

(i) be less than 8 characters

(ii) be in small letters

(iii) start with a letter

2.2 The soft copy version should be page numbered, in the same order as the hard copy and should be submitted in **any one** of the following 2 formats:

- Html format.
- PDF format

with security measures so that the document cannot be edited or printed.

2.3 All html files must be in the htm extensions file format. All image files must be in the gif/jpg extension file format.

2.4 The EA section will open the electronic file in the presence of the applicants in order to ensure that the hard and soft copy versions are absolutely the same. In case the soft copy version does not contain documents, which are present in the hard copy version, the applicants would be called upon to fill in the form as per Annex 1. Decision to accept or reject the soft copy version would be taken by the EA Division and the applicants would be informed at a later stage.

3.0 The Ministry encourages applicants to submit their soft copy version reports at the time of submission of the EIA reports (hard copy versions) in order to allow timely processing.

Ministry of Environment & SD
09 May 2011

ANNEX I

Please indicate which documents are missing from the soft copy version of the EIA report

TITLE OF REPORT:

.....

1.

2.

3.

4.

5.

6.

- 7.
- 8.
- 9.

FULL NAME:

DESIGNATION:

PHONE: FAX: EMAIL:

SIGNATURE:

DATE:

FOR OFFICE USE

Verified by:

Signature:

Date: