

Environmental Impact Assessment (EIA)

1. Introduction

Environmental Impact Assessment (EIA) in mine action is a process that aims to improve the environmental management of mine action projects including considering environmental requirements in design of a mine action projects. EIA also provides the Sudan mine action programme with sufficient information about the environmental effects of mine action activities and operations.

2. Use of EIA

The conduct of EIA is important in understanding of potential environmental impacts of certain mine action activities and operations and making informed decisions about protection and mitigation measures. EIA facilitates engagement of mine action personnel with local communities and other stakeholders regarding protection of environment and collecting information about significant environmental aspects.

EIA is a comprehensive, formal process providing stakeholders with confidence that relevant environmental aspects have been fully identified, properly assessed and that effective mitigation measures have been determined. While a detailed EIA may only be used in occasions when the scale, value, duration or proximity of mine action operations to locations of known environmental sensitivity, justifies it, the same core principles are valid at every mine action worksite. Mine action organizations should familiarize themselves with the EIA requirements and adopt appropriate principles whenever it is appropriate to conduct it in any mine action worksite.

3. Stages Involved in Conduct of EIA

This section briefly presents an overview of the stages involved in EIA to help place them in the context of mine action.

3.1. Screening

The EIA process should begin from the very start of mine action project identification. When priority mine action hazards have been selected to be implemented, two important questions shall be asked:

- 1) What will be the effects of the mine action intervention on the environment?
- 2) Are those effects significant?

If the answer to the second question is 'yes', an EIA is required. Answering this question is a process known as **screening** and can be an essential first step into a formal EIA.

3.2. Scoping

When it is decided that a formal EIA is required to be undertaken, the next stage is to define the environmental aspects of mine action activities and operations that need to be addressed, which can have significant impacts on the environment. This stage is known as **scoping** and is essential for focusing the available resources on addressing relevant environmental aspects.

3.3. Baseline Study

Pursuing to scoping, it is essential to collect all relevant information on the current status of the environment of the mine action project sites. This study is referred to as a **baseline study** as it provides a baseline against which change due to implementation of mine action activities can be measured.

3.4. Impact Prediction

Upon completion of baseline study and preparing information, the important task of **impact prediction** should commence. Impact prediction involves forecasting the likely changes in the environment that will occur as a result of the implementation of mine action projects and operations. All the likely changes should be listed and used in next stage.

3.5. Impact Assessment

The impact assessment stage involves the assessment and evaluation of the identified impacts. Impact assessment requires interpretation of the importance or **significance** of the impacts of mine action operations and activities on the environment.

This is the important stage which can provide a conclusion that should be used by the mine action managers and decision-makers to take decision on project implementation, and selection and application of appropriate mitigation measures.

3.6. Mitigation

The assessment of impacts will reveal the effects of mine action activities on environment which shall be alleviated by **mitigation** measures. Mitigation involves taking appropriate measures to reduce or remove environmental impacts of mine action operations, and it can be seen that the iterative nature of the EIA process is well demonstrated. Proper design of mine action projects and inclusion of mitigation measures within project proposal and plan could possibly result in the removal of all significant impacts, therefore, a new screening exercise would reveal that there might have been no need to carry out a formal EIA had the mitigation measures been included from the start.

3.7. Environmental Impact Statement

The output of an EIA is usually a formal document, known as **Environmental Impact Statement (EIS)** which sets out factual information relating to the mine action activities' impact on environment, and cover all the information relating to screening, scoping, baseline study, impact prediction and assessment, mitigation, and monitoring measures. It is important that a requirement of an EIS is a non-technical summary of facts. This is very important, as EIS is crucial document intended to inform NMAC and UNMAS of the nature and likely consequences of mine action activities and operations to be considered during the proposal review process.

3.8. EIS Review

Once the EIA is completed by the mine action organization, the EIS of the project shall be developed and submitted to UNMAS for review and NMAC for endorsement or disapproval of the mine action project due to inadequate measures proposed and planned. UNMAS should play advising and consultative role in this particular aspect.

Basically, the review process will enable NMAC to decide whether the EIS is adequate, legally compliant and the information is correct without bias, based on which the EIS should be used as essential information in determining whether the project should receive consent or the implementing organization should come up with additional measures to further mitigate the environmental impact.

3.9. Follow up

Follow up relates to the post approval phase of EIA and encompasses monitoring of environmental impacts, the continued environmental management of a project, and impact auditing. Without any form of follow up, EIA may not be effective and may not add any value.

Follow up provides opportunities of assessing environmental effects and also to learn from the process and apply the knowledge in future mine action projects. Practically, the data generated by monitoring and other aspects of follow up, should be compared with the original predictions and mitigation measures in the EIS; to determine:

- a) The accuracy of the original predictions;

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- b) The degree of the deviation from the predictions;
- c) The possible reasons for any deviation; and
- d) Whether mitigation measures have achieved their objective of reducing or eliminating impacts on environment.

Information generated by this process can contribute to the improvement of future EIA practices and enabling more accurate predictions to be made.