BACKGROUND AND PROBLEM STATEMENT
Changes in the landscape result from infrastructure, housing or industrial developments cause impacts on the natural environment with fragmentation and habitat loss being some of the main threats in Nile Basin countries. Environmental Impact Assessment (EIA) is an essential tool for minimizing the impact of physical and landscape plans and has a strong legislative basis. Despite its importance, the scientific knowledge of EIA in Nile basin countries is scarce and even the existing one is not well coordinated. In addition Nile basin countries lack unified tools for such assessment. There is need to conduct an inventory of existing tools and their integrative nature for all other environmental factors and suggest improvements of methods (techniques).

The descriptive and qualitative nature of many tools suggests a need to develop and implement quantitative and predictive methods to assess problems such as fragmentation and impacts on biodiversity. Such tools, from basic GIS applications to more advanced ecological models, already exist and have reached a level of development that allows practical implementation outside the research sphere. Although data requirements and the complexity of ecological models are limitations to their reproducibility and application range, the integration of landscape-ecology concepts in ecological assessment through the use of ecological models and GIS tools would contribute to the sustainable management of landscapes and their ecological resources.

OBJECTIVES
The main aims of this research includes among others:

*Long Term*: To enhance Sustainable Environmental Management

*Short Term Objectives*
- To identify relevant environmental quality indicators/parameters
- To identify & develop tools for evaluating/comprehensive analysis the environmental quality parameters
- To develop knowledge and methods for integrated environmental risk analysis leading to
- Objective/Optimal Assessment of Environmental Impacts for decision-making

SIGNIFICANCE AND JUSTIFICATION
This development and research will increase the ability to present accurate and precise descriptions & predictions of EIA that will contribute tremendously towards improved EIA assessment in the River Nile Basin.
PROPOSAL OUTLINE
This proposal focuses on adequacy of methods and tools of impact analysis used in EIA for River Engineering projects. Detailed outline of the proposed activities is here below;

1. *EIA Guidelines*;
   - Completing Unified EIA Guidelines.

2. *Inventory of EIA Tools*;
   - Comprehensive survey of existing tools and models for environmental assessment.
   - Assessment of applicability of the models and tools required for a comprehensive impact assessment in early stages of the planning process.

3. *Decision Support Systems*;
   - Establish a (spatial and temporal) DSS for aiding professionals in the Nile Basin to carry out environmental impact assessment.

EXPECTED OUTPUTS

- Methods/Methodology for Environmental Impact Analysis/Assessment with the application of the latest updates of Information Technology in EIA.
- Methodology for Environmental Risk Assessment
- An Environmental DSS/Expert System for use in the Nile Basin Countries

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