



**THE REPUBLIC OF UGANDA**

## INDICATORS FOR ENVIRONMENTAL ASSESSMENT IN UGANDA



**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY**

## Executive Summary

There are several types of environmental monitoring indicators applied by various institutions in Uganda. They fall under four broad categories, namely: Sector performance indicators, Cross-cutting issues indicators, and macro-economic indicators.

Environmental monitoring indicators are measurements/statistical parameters that help to present a meaningful picture of what is happening with the environment. They are generally referred to as systems variables that express and communicate the quality of the environment and trends around it to a particular audience. They summarize some aspects of the state of environment, natural resources assets and related human activities. To be useful to the sustainable development context, environmental monitoring indicators should relate environmental aspects to socio-economic factors. Therefore such indicators are able to track environmental changes over time (i.e., identifying trends). They vary depending on the audience and the geographical, political or social context within which they are presented. They are based on several parameters including physical, chemical or biological measures associated with environmental quality or natural resources, processes, outcomes of particular interventions, and, activities or interventions themselves.

Environmental monitoring indicators in place in Uganda to-date do not adequately cover environmental monitoring needs of the Country. They do not measure the environmental quality as a whole; proactively trigger response and actions to environment changes; measure the linkage between Uganda's sustainable development and the environment (tracing links between environmental conditions and quality with Millennium Development Goals (MDG's), Poverty Eradication Action Plan (PEAP), Livelihoods, etc.). Consequently, the National Environment Management Authority (NEMA) has developed environmental monitoring indicators for Uganda that will measure environmental trends and quality and how they relate to sustainable development in Uganda. These indicators are intended to assist the country analyze environmental quality and trends by focusing on the following:

- a) **Performance evaluation:** evaluating Uganda's performance towards meeting environmental targets with respect to environmental quality. These targets are broadly stated in the Constitution of the Republic of Uganda, in the Vision 2025 and in the National Environment Action Plan (NEAP).
- b) **Sustainability of our environment and development:** analyzing the relationship between the development actions in Uganda and environmental sustainability.
- c) **Causal loops:** analyzing the link between causes and effects of environmental conditions.
- d) **Prediction:** analyzing current environment situations, predicting trends and future scenarios.
- e) **Reporting and compliance:** providing quality and timely information and ensuring fulfillment of institutional obligations to reporting and compliance.
- f) **Prioritizing parameters:** measurements providing representative features of Uganda's environmental quality.

Systems and procedures for applying these indicators have been elaborated alongside a monitoring framework. Measurement of these indicators and the resultant information will form the basis for environmental reporting by NEMA to inform the public, decision makers and environmental managers. Therefore, these indicators shall be applied to:

- a) Collect information that accurately reports on the state of the environment;
- b) Harmonize measurements so that monitoring results can be shared and compared;
- c) Improve communication between sub-sectors and the lead environmental agency (NEMA);
- d) Minimize uncertainties regarding unconfirmed or contradictory assessments; and
- e) Measure sustainable development by linking environmental parameters to socio-economic aspects of development.

Indicators presented in this report were developed through a participatory process that involved:

The process of developing environmental monitoring indicators for Uganda had six distinct steps, namely:

- a) Review of existing literature within NEMA, sectoral institutions, academic institutions, the United Nations system, relevant private sector institutions and Civil Society Organizations;
- b) Consultations with national level lead institutions and sectors responsible for the management of various components of the environment;
- c) Consultations with selected District institutions responsible for the management of various components of the environment;
- d) Consultations with relevant academic institutions;
- e) Discussions with key scientists and other individuals whose technical input was aimed at strengthening the technical presentation of indicators; and
- f) Continuous exchange of ideas and information with NEMA staff.

The report is set in two parts. Part 1 present background information, indicators in place and being applied by various government institutions, analysis of the indicators for the Millennium development Goals and how they relate to indicators in Uganda and the outcomes of the consultations process. Part 2 presents information on the process undertaken to develop the recommend indicators, considerations taken into account while developing these indicators, indicators matrix as well as the mechanism for reporting on these indicators and the compliance. The recommended indicators fall the following categories:

- a) Sector or Thematic performance indicators (land/soil, forestry, water, wetlands, rangeland/wildlife, climate/weather, fisheries);
- b) Cross cutting issues indicators (biodiversity, population, pollution, poverty, land use/cover); and
- c) Macro-economic level indicators that measure impact of development policies and strategies.

All lead institutions shall be required to report on the trends of environmental components under their mandate or those impacted by the management decisions of such institutions.

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## Acronyms

ACODE	Advocates Coalition for Development and Environment
AEO	African Environment Outlook
AWF	African Wildlife Foundation
BMU	Beach Management Unit
CAO	Chief Administrative Officer
CBO	Community Based Organization
CFM	Collaborative Forest Management
CPAI	Community Protected Area Initiative
CPI	Community Park Initiative
DDP	District Development Plan
DEAP	District Environment Action Plan
DFS	District Forest Service
DRC	Democratic Republic of Congo
DSOER	District State of Environment Report
DWD	Directorate of Water Development
EMCBP	Environmental Management Capacity Building Project
EIA	Environment Impact Assessment
ENR	Environment and Natural Resources
EO	Environment Officer
FID	Forestry Inspection Division
FIRRI	Fisheries Resources Research Institute
FORRI	Forestry Resources Research Institute
FR	Forest Reserve
FRS	Forest Reserves
FSSP	Fisheries Sector Strategic Plan
GDP	Gross Domestic Product
IDP	Internally Displaced People
IUCN	International Union for Conservation of Nature and Natural Resources
JLOS	Justice, Law and Order Sector
LCs	Local Councils
LFR	Local Forest Reserve
LGB	Local Government Budget
LGS	Local Governments
LSSP	Land Sector Strategic Plan
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDGs	Millennium Development Goals
MEAs	Multi-lateral Environment Agreements
MEMD	Ministry of Energy and Mineral Development
MOFPED	Ministry of Finance, Planning and Economic Development
MTCS	Medium-Term Competitive Strategy
MTEF	Mid-term Expenditure Framework
MTTI	Ministry of Tourism, Trade and Industry
MUIENR	Makerere University Institute of Environment and Natural Resources
MUK	Makerere University, Kampala
MWLE	Ministry of Water, Lands and Environment
NAADS	National Agricultural Advisory Services
NARO	National Agricultural Research Organization
NARS	National Agricultural Research Services
NBS	National Biomass Study
NEAP	National Environment Action Plan
NEMA	National Environment Management Authority
NFA	National Forest Authority
NFP	National Forest Plan
NGO	Non-governmental Organization
NPA	National Planning Authority
NWSC	National Water and Sewerage Corporation
PEAP	Poverty Eradication Action Plan
PMA	Plan for Modernizing Agriculture

QENP	Queen Elizabeth National Park
SER	Sector Environment Report
SOER	State of Environments Report
UBOS	Uganda Bureau of Statistics
UIA	Uganda Investment Authority
UNCSD	United Nations Commission for Sustainable Development
UNFCCC	United Nations Framework for Climate Change Convention
UNHCR	United Nations High Commission for Refugees
UPE	Universal Primary Education
URA	Uganda Revenue Authority
UWA	Uganda Wildlife Authority
UWEC	Uganda Wildlife Education Centre
UWS	Uganda Wildlife Society
WAP	Wetlands Action Plan
WID	Wetlands Inspection Division
WMC	Wetlands Management Committees
WO	Wetlands Officer
WRMD	Water Resources Management Department
WSSP	Wetlands Sector Strategic Plan
WWF	World Wide Fund for Nature

## PART ONE: THE ENVIRONMENTAL MONITORING INDICATORS

### 1. INTRODUCTION

#### 1.1 General

In order to enhance its coordination, supervision and monitoring role, NEMA has developed indicators for monitoring environmental trends in Uganda. Development of environmental monitoring indicators for Uganda is an important undertaking because of the magnitude of the pressures on the environment and natural resources

Uganda's development and people's livelihoods are for now and in the foreseeable future dependant on the natural resources base. Therefore, the country's social and economic development depends on sound environmental management and sustainable utilization of her natural resources. This dependence cannot be guaranteed in the long term because of increasing pressures on the environment and natural resources exerted by a highly natural resource-dependant population and development.

Consequently, NEMA has developed environmental monitoring indicators purposely to:

- a) Reduce the number of measurements required to give a representative and meaningful picture of what is happening in the environment; including reporting on Millennium Development Goals (MDGs) and Multi-Lateral Environmental Agreements (MEAs).
- b) Simplify the communication process of transmitting information to the user.

By undertaking this process, Uganda now has:

- a) Environmental monitoring indicators;
- b) Systems and procedures for applying these indicators;
- c) A monitoring framework for assessing environmental trends; and,
- d) Environmental reporting procedure to inform the public, decision makers and environmental managers.

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