

SOUND ENVIRONMENTAL MANAGEMENT OF ECOSYSTEMS IN UGANDA

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- An **ecosystem** (or **ecological system**) consists of all the organisms and the physical environment with which they interact. These biotic and abiotic components are linked together through nutrient cycles and energy flows.
- Ecosystems are controlled by external and internal factors. External factors such as Climate, Parent material which forms the soil and topography; Internal factors are controlled, for example, by decomposition, root competition, shading, disturbance, succession, and the types of species present.
- The main ecosystems in Uganda include: forests, wetlands, rangelands, water (Rivers, lakes) and mountains/hilly areas.
- Dependence on natural resources and ecosystems: rain-fed agriculture, tourism, fishing, forestry e.g. contributions to GDP: tourism 9%; forestry (5.2%)

- Over the past decades, there are drastic changes in these ecosystems due to the growing human activities such as cultivation, industrialization, and settlements
- Land cover:** Agriculture 38%; Grassland 22%, Open water 15%, Forest 11%, Bush land 10%, built up are 2%, and wetland 2%.

LAND COVER	% CHANGE	Type of Change	PERIOD
Grassland	4	Increased	1990 - 2010
water bodies	1	Reduced	1990 - 2010
Agriculture land	12.4	Increased	1990 - 2000
	8.6	Increased	2005 - 2010
Forest cover	28.5	Reduced	2005 - 2010
Wetlands	11	Reduced	1994 - 2010.
Built-up area	>10	Increased	2005 - 2010

- Ecosystems remain intact only in protected area and natural forest reserves

- ❑ Ecosystems are **dynamic** entities – they are subject to periodic disturbances and are always in the process of recovering from some past disturbance.
- ❑ Human disturbances include; **Encroachment on wetlands, Riverbanks, and Lakeshores; Air, Soil and Water pollution; Loss of biodiversity; Poor Waste Management practices, poor land management** among others
- ❑ The tendency of an ecosystem to remain close to its equilibrium state, despite that disturbance, is termed its **Resistance**.
- ❑ The capacity of a system to absorb disturbance and reorganize while undergoing change so as to retain essentially the same function, structure, identity, and feedbacks is termed its **Ecological Resilience**.
- ❑ In order to promote ecological resilience, we need sound environmental management practices

Sound Environment Management

- ❑ Environment management in Uganda is a **national priority and important for all people in Uganda**.
- ❑ It is both a **constitutional duty and a fundamental right** to all Ugandans (Article 245).
- ❑ Globally, Uganda is **signatory** to various MEAs clustered under land, water, atmosphere, chemicals and hazardous waste for environment management
- ❑ **Sound Environmental management** is concerned with the description and monitoring of environmental changes, with predicting future changes and with attempts to maximize human benefit and to minimize environmental degradation due to human activities.

- NEMA together with other regulatory bodies including NFA, MWE, MAAIF have developed a number of environmental policies, laws, regulations, standards and guidelines to promote sound environmental management in Uganda.
- These are mainly to address the broad categories of managing “natural resources” and “environmental quality” including areas like land, air and water pollution, forests and wildlife, hazardous waste, agricultural practices, wetlands, plants and other biodiversity, mineral resources, soil, land use planning and other environments.
- The goal is to protect human health, manage natural resources and sustain the biosphere.

Sound Environmental Practices

- ❖ Environmental Planning
- ❖ Environmental Monitoring and Impact Assessment
- ❖ Environmental Audit
- ❖ Environment Standard Setting and Licensing
- ❖ Public Awareness and Participation
- ❖ Environmental Easements
- ❖ The Use of Economic and Social Incentives
- ❖ Environmental Improvement Notice
- ❖ Environmental Restoration Orders
- ❖ The Use of Criminal Law & Community Service Orders

Environmental Laws and Standards

➤ The **Constitution of Uganda, 1995**:

Article 39, - **the right** to a clean and healthy environment

Article 245 - parliament to provide for measures intended to protect and preserve the environment from abuse, pollution and degradation and to promote environmental awareness

➤ **National Environment Management Act No.5 of 2019** provides for

measures to address **climate change**, the management of hazardous chemicals, Management of Waste, Special conservation areas (**Protection of ecosystem and conservation of biodiversity**); Environmental Easement;

It provides for Environmental and Social Impact Assessment (ESIA) and **Strategic Environmental Assessment (SEA)**;

It establishes the **Environmental protection force**;

It provides **enhanced penalties** for offences under the act;

It provides for procedural; administrative; and other related matters.

- Uganda Wildlife Act, 2019
- Mining Act, 2003
- Water Act Cap. 152
- The National Forestry and Tree Planting Act, 8/2003
- National Environment (Audit) Regulation, 2020
- National Environment (Management of Ozone Depleting Substances & Products) Regulations S.I. No. 48 of 2020
- National Environment (Waste Management) Regulations S.I. No. 49 of 2020, 153-2
- Petroleum (Waste Management) Regulations S.I. No. 3 of 2019
- National Environment (Mountainous and Hilly Areas Management) Regulations 152-6
- Minimum Standards for Management of Soil

- National Environment (Noise Standards and Control) Regulations
- National Environment (Wetlands, Riverbanks and Lake shores Management) Regulations 153-5
- National Environment (Standards for Discharge of Effluent into Water or Land) Regulations 2020
- National Environment (Oil Spill Prevention, Preparedness and Response) Regulations, 2020
- National Environment (Environmental and Social Assessment) Regulations S.I. No. 143 of 2020
- Guidelines for the Management of Landfills in Uganda December 2020
- Strategic Environmental Assessment (SEA) Guidelines 2020

KEY ENVIRONMENTAL CONSIDERATIONS DURING PROJECT IMPLEMENTATION

1. Ecological considerations:

- ❑ Biological diversity (species richness, diversity, breeding habits of wild animals and vegetation; gene pool of domesticated plants and animals)
- ❑ Sustainable use and management, including impacts of proposed project on **soil productivity; populations of fish** and other animals; **aquatic and wetland resources; natural regeneration of vegetation**; livelihoods of local communities and indigenous peoples dependent on living natural resources.
- ❑ Ecosystem sustenance, including impacts of proposed project on **interactions in nutrient cycles**; (ii) **ecosystem functions and services**; and **Surface and ground water hydrology**

Physical environment considerations:

- Landscape:** Easements, including views, visual impact and right to natural air passage; compatibility with surrounding area; amenity opened up or closed, including recreation possibilities.
- Water:** water sources, including water quantity and quality; rivers and streams, including drainage patterns and drainage systems;
- Lakes;** including natural and man-made lakes;
- Springs, aquifers and water flow regimes.**
- Air quality:** type and amount of possible emissions and pollutants; effects on air quality of the area.
- Resource efficiency and pollution management:** use of circulative resources, including resource effectiveness and efficiency; pollution prevention and management, including chemical and waste management;
- Climate change and climate variability:** practices and activities likely to contribute climate benefits, including use of clean energy and carbon sequestration; products and processes using greenhouse gases, and potential level of carbon footprints; measures proposed for adaptation and mitigation.

Social considerations

- Land acquisition and land use:** re-settlement and compensation, including impacts on displaced persons and host communities; restrictions on land-use
- Impacts on economic activities and property rights, particularly where persons are or are likely to be affected economically or may experience personal disadvantage which may result in a violation of their human rights;
- Opportunities for employment and wealth creation;
- Occupational health and safety, including fair treatment of workers and provision of equal opportunities;
- Impacts on human health and wellbeing, including physical, mental, social and spiritual wellbeing;

- ❑ **Impacts on culture and heritage;** including the culture of the people, especially indigenous peoples and local communities, in respect of their shared beliefs, identity, aspirations, customs, values, language or dialect;
- ❑ **Impacts related to way of life, social interactions, cohesion or disruption;**
- ❑ The fears and aspirations of the project-affected communities about their safety or the future of their community;
- ❑ **Impacts on population size and structure,** including gender, age and vulnerable groups;
- ❑ **Social services and amenities;**
- ❑ **Level of stakeholder engagement,** including an understanding of the extent to which people are interested in and support the project, and are able to participate in decisions that affect their lives, and the likely resource needs for this purpose.



THANK YOU FOR LISTENING