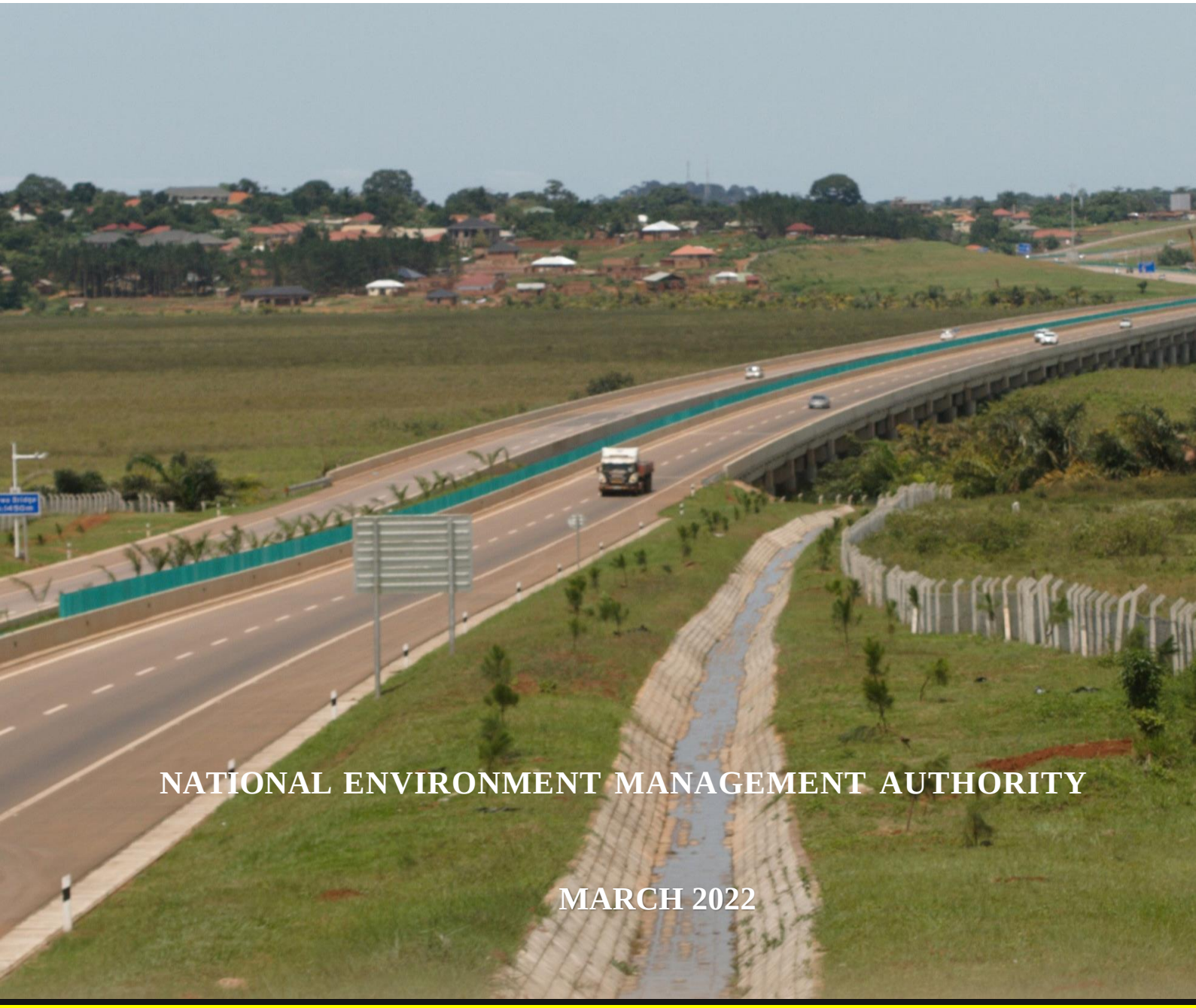
REPUBLIC OF UGANDA

NATIONAL GUIDELINES FOR BIODIVERSITY AND SOCIAL OFFSETS



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

MARCH 2022

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Acronyms/Abbreviations

AFD	Agence Française de Développement
ARCOS	Albertine Rift Conservation Society
BAT	Best Available Technique
BBOP	Business and Biodiversity Offsets Programme
BES	Biodiversity and Ecosystem Services
BIOFIN	Biodiversity Finance Initiative
BOMP	Biodiversity Offset Management Plan
BOR	Biodiversity Offset Report
BTF	Bwindi Trust Fund
CBD	Convention on Biological Diversity
CFRs	Central Forest Reserves
CHA	Critical Habitat Analysis
CIF	Climate Investment Fund
CITES	Convention on International Trade in Endangered Species
CSBI	Cross-Sector Biodiversity Initiative
DESS	Department of Environment Support Services
ECOTRUST	Environment Conservation Trust of Uganda
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESRC	Economic and Social Research Council
FFEM	Fonds Française pour l'Environnement Mondial
FSSD	Forest Sector Support Department
GCF	Green Climate Fund
GEF	Global Environment Facility
GDP	Gross Domestic Product
IBAs	Important Bird Areas
IFC	International Finance Corporation
IPLC	Indigenous People and Local Communities
IUCN	International Union for the Conservation of Nature
KBAs	Key Biodiversity Areas
LFRs	Local Forest Reserves

MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MFPED	Ministry of Finance, Planning and Economic Development
MEA	Multilateral Environmental Agreements
MEMD	Ministry of Energy and Mineral Development
MGLSD	Ministry of Gender, Labour and Social Development
MLGA	Ministries, Local Governments and Agencies
MWE	Ministry of Water and Environment
MWLE	Ministry of Water, Lands and Environment
MTWA	Ministry of Tourism, Wildlife and Antiquities
NBSAP	National Biodiversity Strategy and Action Plan
NBSOS	National Biodiversity and Social Offset Strategy
NEA	National Environment Act, 2019
NFA	National Forestry Authority
NNL/NG	No Net Loss / Net Gain
PA	Protected Area
PBO	Public Beneficiary Organization
PES	Payment for Ecosystem Services
REDD+	Reducing emissions from deforestation and forest degradation
SDGs	Sustainable Development Goals
TEEB	The Economics of Ecosystems and Biodiversity
UBOS	Uganda Bureau of Statistics
UBTF	Uganda Biodiversity Trust Fund
UNCBD	United Nations Convention for Conservation of Biodiversity
UNFCCC	United Nations Framework Convention to Combat Climate Change
UNCCD	United Nations Convention to Combat Desertification
UWA	Uganda Wildlife Authority
WB	World Bank
WCS	Wildlife Conservation Society
WG	Working Group
WMD	Wetlands Management Department
WQMD	Water Quality Management Department
WWF	World Wildlife Fund for Nature

Glossary of terms

Additionality: (or additional conservation gain): A property of a biodiversity offset, where the conservation outcomes it delivers are demonstrably new and additional and would not have resulted without the offset.

Averted risk or loss: It is risk to biodiversity harm prevented through biodiversity offset interventions which prevent future risks of harm to biodiversity from occurring.

Biodiversity: The variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; and includes diversity within species, between species, and of ecosystems.

Biodiversity corridors: Core areas and interlinking ecological corridors contributing to ecological connectivity for sustainable biodiversity conservation within a landscape.

Biodiversity offsets: Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development and persisting after appropriate prevention and mitigation measures have been implemented

Biodiversity Offset Management Plan: This is a plan with a set of activities that a developer should prepare as part of the environmental management plan to implement the mitigation measures identified in the environment and social impact assessment (ESIA). It is sometimes called a Biodiversity Action Plan and its aim is to ensure that the mitigation measures are implemented.

Compensation: in terms of biodiversity, compensation involves measures to recompense, make good or pay damages for any loss of biodiversity caused by a project. Regarding people, compensation covers measures to make up for losses incurred because of the loss of biodiversity benefits and values caused by a project.

Critical habitats: Areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species, (ii) habitat of significant importance to endemic and/or restricted range species, (iii) habitat supporting globally significant concentrations of migratory species and congregatory species, (iv) highly threatened and/or unique ecosystems, and/or (v) areas associated with key evolutionary processes.

Ecosystem services: The benefits people obtain from functioning of ecosystems. These include provisioning services such as food, water, timber, and fiber; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits;and supporting services such as soil formation, photosynthesis, and nutrient cycling. Provisioning and regulating services are collectively referred to as 'use values', cultural services as 'cultural values' of biodiversity; together they make up the principal social values associated with biodiversity.

Free, prior and informed consent: Is a process that guarantees the equal consideration of the various perspectives held within affected communities, through inclusive decision making processes. This principle recognizes that indigenous peoples and local communities have a right to self-determination, allows them to give or withhold consent to a project that may affect them or their territories and must give their free and informed consent prior to any development oruse of resources on ancestral land. This term also applies to use of traditional knowledge.

In kind offset: Biodiversity losses are compensated with gains elsewhere for exactly the same biodiversity as that affected by development (for example species and habitats) at the project site.

Irreplaceability: Is where an alternative habitat cannot be found to replace the ecological functions of where the development is to take place both in species composition and ecological services provided. For a habitat, irreplaceability can occur in two major ways: first, the habitat is spatially restricted and cannot be found elsewhere and second the habitat provides a resource (food, fuel, water etc.) to local communities that cannot be replaced from elsewhere.

Lead Agency: a ministry, department, agency, local government or public officer in which or in whom the functions of control or management of any segment of the environment are vested.

Leakage: The displacement of activities that harm biodiversity from one location to another location.

Equivalence: Species that occupy similarniches in different geographical regions. In the context of biodiversity offsets, the term is synonymous with the concept of 'like for like' and refers to areas with highly comparable biodiversity components.

Like-for-like or better: This pertains to an action or situation in which one habitat is replaced with another of the same type or even better in species diversity and function in support of biodiversity conservation. A "like" offset conserves components of biodiversity that are similar; while a "better" offset conserves components of biodiversity that are higher conservation priority (for example because they are more threatened) than those affected by the development project for which the offset is envisaged. A "better" offset is also known as 'trading up'. Offsets should never involve 'trading down' where the biodiversity of the offset is of a lower value or priority than the biodiversity lost to the development. For offsetting the use or cultural values associated with biodiversity, either an ecologically equivalent or better compensation or acceptable, accessible and/ or affordable substitute must be provided.

Livelihoods: A person's or community means of subsisting and/or earning a living. Aspects of biodiversity important from a livelihood perspective may include plants and animals (e.g. consumed, sold for cash or exchanged for other goods); ecosystem services (e.g. provision of clean water) and non-use values (e.g. support of ecotourism or cultural tourism activities).

Mitigation hierarchy: Is a decision-making framework designed to address impacts on biodiversity and ecosystem services by first seeking to avoid impacts where possible, then minimizing them, then restoring project-affected biodiversity, and finally offsetting of any residual impacts.

Multipliers: An increase by a factor in the size of an offset or scale of activities to deliver No Net Loss,to take into account risks, uncertainties or time lags in achieving the offset.

No Net Loss principle: Is a goal for a development project or activity in which the impacts on biodiversity it causes are balanced or outweighed by measures taken to avoid and minimize the impacts, to restore affected areas and finally to offset the residual impacts, so that no overall loss remains. No net loss is thus achieved when losses of biodiversity and the associated use and cultural values are balanced by the gains. It therefore describes the goal of offsetting and aims at full compensation for all ecological damage.

Net Gain principle: Is where development leaves biodiversity in a better state than before. Net Gain is achieved when the gains from implementing an offset progamme exceed the losses and therefore it is better than no net loss, whether in-kind or out-of-kind.

Non-offsetable impacts: This is where the impacts on biodiversity cannot be mitigated through offsetting. For example, it is not possible to offset the global extinction of a species. Levels of irreplaceability and vulnerability of the biodiversity components to be affected by the project, and the degree of uncertainty with respect to severity of impacts and the probability of success of a biodiversity offset, are all likely to be material factors in determining whether impacts on biodiversity can be offset or not. In cases where the impacts cannot be offset the project should be a "no-go" and alternatives should then be sought.

Precautionary approach: An approach that recognizes that where there is a threat of significant reduction or loss of biodiversity, lack of full scientific certainty should not be used as a reason to postpone measures to avoid or minimize such a threat.

Residual Impacts: Impacts that remain after the proponent has made all reasonable and practicable changes to the location, siting, scale, layout, technology and design of the proposed development to avoid, minimize, and/or restore negative impacts on, amongst others, biodiversity. That is, after consideration has been given to the first three measures in the mitigation hierarchy.

Significant impact: A negative impact that is outside the limit of acceptance, may result from non-compliance with laws or accepted environmental quality standards, may transgress safe thresholds, or undermine conservation targets, and/ or may aggravate poverty levels or vulnerability of affected parties. Social values related to, or associated with, biodiversity: The use and cultural values of biodiversity, comprising primarily provisioning,regulating and cultural ecosystem services.

Social offsetting: In the context of these guidelines, social offsets means ensuring benefits from biodiversity, in terms of ecosystem services that sustain livelihoods, are maintained. It thus includes ensuring that impacts from development, as well as impacts from biodiversity offsets, do not negatively impact on livelihoods. Such impacts must be fully mitigated (e.g. through engagement regarding choice of offset sites, collaboration with communities regarding management and maintenance of benefits) and leakage must be prevented.

Stewardship: An approach to conservation by entering into agreements with private or communal landowners (e.g. with customary rights) to protect biodiversity, and manage land and natural resources for conservation. It recognizes landowners or occupiers (in the case of communal land) as the custodians of biodiversity on their land; they remain on the land and can continue to use its resources sustainably, while conserving biodiversity.

Trading up: Offset which conserves components of biodiversity that are of higher conservation priority (for example because they are more irreplaceable and vulnerable) than those affected by the development.

Vulnerability: The risk of imminent or impending loss of a biodiversity component (e.g. ecosystem, species), reflecting its irreplaceability over time. Threat status or red listing of ecosystems and species (e.g. IUCN) indicate their vulnerability.

Foreword

Uganda is committed to the management and conservation of biodiversity as provided for in the legal framework, polices and plans. The government of Uganda has demonstrated commitment to fulfil its biodiversity conservation goals and objectives in ways that promotes sustainable national socio-economic development by including in the National Environment Act No. 5 of 2019 provisions on application of the mitigation hierarchy and biodiversity offset. Regulations 43, 44 and 45 of the National Environment (Environmental and Social Impact Assessment) No. 143 of 2020 describes in detail mitigation hierarchy, consideration for an offset by the National Environment Management Authority (NEMA) and implementation of offsets.

Uganda has a National Biodiversity Strategy and Action Plan (NBSAP) and National Biodiversity and Social Offset Strategy (NBSOS) which set out roles of different stakeholders, including the roles of private sector in investing in sustainable and environmentally sound technologies, innovative instruments such as biodiversity offsets, and, payment for ecosystem services, which are also articulated in the National Environment Act No. 5 of 2019. In the Vision 2040, the government of Uganda aspires to attain a green and clean environment, is committed to restoration of all degraded areas and to ensure effective conservation of all flora and fauna.

The National Environment Act empowers NEMA to issue guidelines for biodiversity offsets and compensation based on best practice. NEMA in partnership with Wildlife Conservation Society (WCS), has developed the National Guidelines for Biodiversity and Social Offsets based on established principles, adopted best practice and through consultations with various stakeholders.

The National Guidelines for Biodiversity and Social Offsets have been developed with the aim of providing guidance to developers and regulatory agencies to design and implementation of offsets as the final step in the mitigation hierarchy to address residual impacts and to achieve measurable conservation outcomes to result in no net loss and preferably a net gain of biodiversity.

These Guidelines are also intended to promote socio-economic development and support the achievement of national targets in the National Vision 2040, National Development Plans, the Uganda Green Growth Development Strategy, NBSAP and relevant sectoral strategies for better conservation of biodiversity in Uganda. It is expected that the application of these Guidelines in environment practice will enhance the management and conservation of biodiversity in Uganda.

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EXECUTIVE SUMMARY

In a bid to ensure that development projects do not adversely affect biodiversity which is critical for peoples' wellbeing and livelihoods, the Government of Uganda has put in place policies and legal frameworks aimed at adopting and implementing international best practices and standards that ensure No Net Loss (NNL) and preferably a net gain of biodiversity and related social benefits. To this end, the National Environment Act 2019 requires developers of projects for which Environmental and Social Impact Assessment (ESIA) or environmental risk assessment is required, to apply the mitigation hierarchy principles including biodiversity offsets as appropriate. The Act also mandates the National Environment Management Authority (NEMA) to issue guidelines for biodiversity or other offsets, based on best practices. It is in this context that these Guidelines have been developed. They provide guidance to project developers, regulatory agencies and other stakeholders on different aspects concerning biodiversity offsets to ensure mitigation of residual impacts and achieve measurable conservation outcomes.

The Guidelines define what a biodiversity offset is and what it is not, and provide principles that govern biodiversity offsets based on international best practice. It is emphasized that offsets are the 'last resort' form of mitigation, only to be implemented after considering avoidance, minimizing and restoration of the impacts of development projects on biodiversity and the related social benefits. The Guidelines also provide a snapshot of the international and national legal and policy framework governing biodiversity offsets, and the different obligations it engenders on different actors and stakeholders. Recognizing the Environmental and Social Impact Assessment (ESIA) as the most important tool for integration of biodiversity and related social concerns, the guidelines provide guidance on how biodiversity offsets can be integrated in the ESIA and subsequent processes. The most important starting point is to ensure that the scoping report and Terms of Reference (ToRs) for carrying out the ESIA are explicit and comprehensive with respect to identifying whether or not biodiversity offsetting will be required for the project to enable integration of biodiversity offsets during the ESIA process. It is also important that the ESIA practitioners who undertake an ESIA includes professionals and expertise in biodiversity and social aspects.

The Guidelines recognize that there are different actors involved in planning, designing, implementing, monitoring and reporting on biodiversity offsets. To this end, the Guidelines provide the roles and responsibilities of the key actors and stakeholders involved in a biodiversity offset system at the different stages of planning, designing, implementing, managing, monitoring and evaluation, auditing, and reporting. Guidance is also provided on the mechanisms for delivering offsets, including how to analyze the different options in terms of their funding and other resource requirements. Of critical importance, the guidelines provide decision makers with information that is necessary to inform their decision-making processes with respect to different aspects of a biodiversity offset that are important for ensuring successful implementation of biodiversity offsets in Uganda.

These Guidelines should be read and followed in conjunction with the applicable legislation, regulations including National Environment (Environmental and Social Impact Assessment) No. 143 of 2020 and other procedural guidelines to ensure that the mandatory requirements are met. They should also be read or used while taking into consideration the particular context and circumstances within which a particular project is conceived and developed.

PART I: BACKGROUND

1 INTRODUCTION

1.1 Context

Uganda is exceptionally rich in biodiversity with surveys reporting occurrence of over 18,783 species of known flora and fauna. The biodiversity is distributed across both terrestrial and aquatic habitats in diverse landscapes: mostly in natural forests, but also in other natural ecosystems such as mountains, savannahs, wetlands, lakes and rivers. It has been estimated that Uganda lost about half of its overall biodiversity value between 1975 and 1995. Biodiversity is important for the healthy functioning of ecosystems and delivery of ecosystem services, on which people depend for health, livelihoods, safety and wellbeing; and resilience, especially to the effects of climate change. The rich biodiversity resources are under great threats mainly arising from growing population pressure that triggers a greater needfor use of spatial resources. The major threats to biodiversity include unsustainable use and habitat loss due toconversion of habitats for commercial land uses or habitat degradation due to agriculture, industry and infra- structure development projects. Loss of biodiversity is affecting ecosystem services and impacting negativelyon social and economic wellbeing.

The Government of Uganda has demonstrated a clear commitment to fulfil her biodiversity conservation mandate in ways that promote national socio-economic development goals. This is evidenced by the legal and policy instruments it has put in place to promote the conservation and sustainable use of biodiversity. Key among them include the National Environment Management Policy for Uganda; the National Environment Act; the Environment Impact Assessment (EIA) regulations, national and sectoral EIA guidelines, the National Biodiversity Strategy and Action Plans (NBSAPs) and the National Biodiversity and Social Offset Strategy (NBSOS).

The NBSAPII provides a framework for implementing Uganda's international obligations in terms of the Convention on Biological Diversity (CBD), and setting conservation priorities to channel investments and build the necessary capacity for conservation and sustainable use of biodiversity in the country. It also makes reference to encouraging project developers to use biodiversity offsets as part of mitigation measures. The 2019 National Environment Act requires developers to apply the mitigation hierarchy, including offsets. It mandates the National Environment Management Authority (NEMA) to issue guidelines for biodiversity or other offsets or compensation mechanisms.

Although there have been some attempts to establish offsets in Uganda (e.g., the Kalagala offset for counter balancing or making up for" some of the negative effects caused by the Bujagali Hydropower Project) this was done at a time when biodiversity offsetting was voluntary in Uganda and there were no guidelines on biodiversity offsets.The National Environment Act No. 5 of 2019 and National Environment (Environmental and Social Impact Assessment) No. 143/2020 have provisions on biodiversity offsets and hence biodiversity offsets are now a legal requirement. These Guidelines support operationalization of the provision of the EnvironmentAct.

1.2 Uganda's Biodiversity and its Importance

Uganda is one of Africa's richest countries for biodiversity, ranking eighth of the 54 countries on the continent (Plumptre *et.al*, 2018)[1]. The country is exceptionally rich in biodiversity with surveys reporting occurrence of

[1] Andrew J. Plumptre, Sam Ayebare, Mathias Behangana, Tom G. Forrest, Paul Hatanga, Christine Kabuye, Ben Kirunda, Robert Kityo, Hamlet Mugabe, Mary

over 18,783 species of known flora and fauna. Knowledge of the species present is confined to the more known taxa such as birds, mammals, butterflies, higher plants, reptiles, amphibians and fish. This is because of their relative conspicuousness and economic importance. Little is known about the less conspicuous ones including important forms such as below ground biodiversity.

Uganda's rich biodiversity is distributed across both terrestrial and aquatic habitats. Most of the biodiversity can be found in natural forests, but a considerable number is also found in other natural ecosystems such as mountains, savannahs, wetlands, lakes and rivers. Agricultural biodiversity on altered man-made ecosystems is also abundant; however great interest is given to biodiversity confined to natural ecosystems because of harboring most of the un common or rare species in their more preferred original states.

An assessment undertaken in 2018 noted that 45 sites meet Key Biodiversity Area (KBA) status composed of 23 Important Bird Areas (IBAs) that qualify as KBAs under the Global Standard, 13 new KBAs and nine freshwater KBAs. It is likely more KBAs will be identified with time as more taxa are assessed, and as new species are discovered for the country. Existing protected areas cover 34,286 km2 (14.2% of Uganda) but are not necessarily best located to capture all the species of conservation concern in Uganda. Terrestrial KBAs formed 16,880 km2 (7.0% of Uganda) of which 15,551 km2 are already within existing protected areas and 1,329 km2 is unprotected. Irreplaceable areas identified outside KBAs totaled 19,145 km2 (7.9% of Uganda), of which 4,334 km2 is protected[2].

The sites that are known to be irreplaceable in Uganda include areas such as Rwenzori Mountains and Mt. Elgon National Parks, where there are species endemic to those mountains. Sites such as Budongo and Bugoma forests as well as Bwindi NP are sites of conservation importance on the basis of their terrestrial vertebrate or plant species and it would be important that any development in those sites is only undertaken after detailed assessments to demonstrate that there would be no loss of valued biodiversity. There are areas of special conservation status such as Mabamba swamp (which has the shoebill) that are also irreplaceable sites or no-go areas for development. East Madi Wildlife Reserve is also identified as an irreplaceable site because of *Millettia lacus-alberti* as well as being important for shoebill and a nationally threatened habitat. In applying these guidelines therefore, it would be useful to assess the area proposed for development in terms of whether it is a KBA, IBA, irreplaceable or an area of special conservation status early in the ESIA process to enable avoidance or prevention of negative impacts to these values and consideration of alternative development sites.

The National Biodiversity Strategy and Action Plan (NBSAP) provides in great detail the numbers of species in Uganda of mainly the most conspicuous ones namely higher plants, birds, butterflies, mammals, fish, amphibians and reptiles to guide stakeholders. The National Biodiversity data bank provides information on the details of conservation status of most species in the country including information on IBAs, KBAs, areas of conservation importance and irreplaceable sites and should be a center of reference while assessments are undertaken.

In terms of values, biodiversity is the most precious gift of nature mankind is blessed with. As all the organisms in an ecosystem are interlinked and interdependent, the value of biodiversity in the life of all the organisms including humans is enormous. First, biodiversity is directly used as a source of food, fibre, fuel and other extractable resources. Secondly, biodiversity plays an important role in ecosystem processes providing the regulating, cultural and supporting services[3].

Biodiversity has a fundamental value to humans because we are so dependent on it for our cultural, economic,

Namaganda, Simon Nampindo, Grace Nangendo, David N. Nkuutu, Derek Pomeroy, Herbert Tushabe and Sarah Prinsloo (2018): Conservation of vertebrates and plants in Uganda: Identifying Key Biodiversity Areas and other sites of national importance. Conservation Science and Practice. 2019; 1: e7. A journal of the Society of Conservation Biology, Wiley online Library.

[2] Andrew J. Plumptre, Sam Ayebare, Mathias Behangana, Tom G. Forrest, Paul Hatanga, Christine Kabuye, Ben Kirunda, Robert Kityo, Hamlet Mugabe, Mary Namaganda, Simon Nampindo, Grace Nangendo, David N. Nkuutu, Derek Pomeroy, Herbert Tushabe and Sarah Prinsloo (2018): Conservation of vertebrates and plants in Uganda: Identifying Key Biodiversity Areas and other sites of national importance. Conservation Science and Practice. 2019;1:e7. A journal of the Society of Conservation Biology, Wiley online Library.

[3] Values of biodiversity provided here are adopted from various sources including Uganda's NBSAP, and from http://www.yourarticlelibrary.com/biodiversity/8-main-values-of-biodiversity-explained/30156 ; https://www.nap.edu/read/9589/chapter/5; and; http://www.globalissues.org/article/170/why-is-biodiversity-important-who-cares

and environmental well-being. Elements of biodiversity can contribute to cultural identity, and many ecosystem characteristics are frequently incorporated into cultural traditions. Health, economic and political security, can influence the value of biodiversity. Many arguments to increase efforts to conserve biodiversity often emphasize the value of the "un-mined riches" that has yet to be discovered. These include potential sources of new foods, medicines, and energy which can further fuel economic activity, as well as a healthier population. Biodiversity has proven to hold enormous value when adapted for use in health, agricultural, or industrial applications. In the field of medicine alone, approximately 50% of current prescription medicines are derived from or modelled on natural substances. The health and diversity of ecosystems can have a significant effect on the overall stability of nearby communities. Biodiversity values thus range from environmental, social, economic and non-use values:

Environmental Value: The environmental value of biodiversity can be found by examining each ecosystem process and identifying the ecosystem services that result. For instance, in wetlands the vegetation captures water- carried sediments and the soil organisms break down a range of nutrients and pollutants washed into the area. These processes provide the ecosystem service of purifying water. Forests regulate the amount of carbon dioxide in the air by releasing oxygen as a by-product during photosynthesis, and control rainfall and soil erosion. Ecosystem services support human needs and activities such as:

a) The production of oxygen by land-based plants and water algae;
b) Maintenance of freshwater quality by vegetation slowing run off, trapping sediment and removing nutrients and by soil organisms breaking down pollutants;
c) The production and maintenance of fertile soil as a result of many interacting processes including decomposition of wastes and recycling of nutrients;
d) The provision of foods such as fish, pastures for livestock timber, fire wood and harvested wildlife such as authorized hunting for bush meat and harvesting of native plants;
e) The provision of native species and genes used in industry research and development,
f) Pollination of agricultural crops, forest and fruit trees and native flowering plants by native insects, birds, bats and other creatures;
g) Pest control in agricultural land by beneficial native predators;
h) Flood mitigation by vegetation slowing run off;
i) Breakdown of pollutants by micro-organisms in soil and aquatic ecosystems and sequestration of heavy metals in marine and fresh water sediments;
j) Greenhouse gas reduction by, for instance, sequestering atmospheric carbon in wood and marine calcium carbonate deposits;
k) Maintenance of habitats for native plants and animals; and
l) Maintenance of habitats that are attractive to humans for recreation, tourism and cultural activities and that has spiritual importance.

Social Value: The social value of biodiversity includes aesthetic, recreational, cultural and spiritual values. To this can be added health benefits resulting from recreational and other activities.

Economic Value: The economic potential of biodiversity is immense in terms of food, fodder, medicinal, ethical and social values. Biodiversity forms the major resource for different industries, which govern the world economy. The salient features regarding the economic potential of biodiversity are:
(i) The major fuel sources of the world including wood and fossil fuels have their origin from biodiversity.
(ii) It is the source of food for all animals and humans.
(iii) Many important chemicals have their origin from the diverse flora and fauna, used in various industries.
(iv) Diverse group of animals are used for medical research during the testing of new drugs.

Consumptive use value: This is related to natural products that are used directly for food, fodder, timber, fuel wood etc. Humans use at least 40,000 species of plants and animals on a daily basis.

Productive Use Value: This is assigned to products that are commercially harvested and marketed. Almost all the present date agricultural crops have originated from wild varieties.

Ethical and Moral Value: This is based on the principle of 'live and let others live'. Ethical values related to biodiversity conservation are based on the importance of protecting and respecting all forms of life. All forms of life have the right to exist on earth. Man is only a small part of the Earth's great family of species.

Aesthetic Value: The beauty of our planet is because of biodiversity, which otherwise would have resembled other barren planets dotted around the universe. Biological diversity adds to the quality of life and provides some of the most beautiful aspects of our existence. Biodiversity is responsible for the beauty of a landscape.

Development projects worldwide are increasingly required to quantify and fully mitigate their impacts on biodiversity, with an objective of achieving 'no net loss' or a 'net gain' (NNL/NG) of biodiversity overall. Seeking NNL/NG outcomes can affect people because society relies on, uses and values biodiversity. 'Social impacts from biodiversity NNL/NG' refers to the impacts on people that arise from all losses and gains in biodiversity from a development project and from its NNL/ NG activities. These social impacts often arise from change in ecosystem service provision, and can be positive or negative[4]. They may include:

a) material assets needed for a good life (e.g. access to products essential to the livelihoods of poor and vulnerable people),
b) health (including feeling well),
c) good social relations, security, and
d) freedom of choice and action.

People expect the components of their wellbeing affected by biodiversity losses and gains to be at least as good as a result of the development project and associated biodiversity NNL/NG activities, than if the development had not been implemented. This applies to people affected both by the development project and its biodiversity NNL/NG activities, including offsets, appropriately aggregated into groups. People's perceptions of being no worse off should last for the lifespan of the project and the duration of associated mitigation measures.

Option value: An option value of a species, habitat or ecosystem is its potential to provide an economic benefit to human society in the near future. For instance, in case of species, there are several plant species which are edible and superior to those which are currently in use.

1.3 Justification: The need for the Guidelines

The need for these guidelines is premised on the current high level of competing demands for changes to land use. The rate of biodiversity loss in Uganda is high and was calculated in 2004 to be between 10-11% per decade (MWLE, 2003; NBSAP 2016) and it is now possibly higher because of the increased population pressure on the natural resources. Over-all, there is concern over the downward trend of Uganda's biodiversity on global scale, threatening the sustainability of the biodiversity values to community. These guidelines underpin Uganda's commitment to implementing goals and targets under the post2020 Global Biodiversity Framework.

The major threats to biodiversity include, among others, declining species abundance largely due to over-harvesting and exploitation of biological resources including trees and woody biomass as well as shrinking habitats especially wetlands and forests. These loses are largely attributed to unsustainable use of biodiversity resources or habitat loss due to ***conversion of habitats into other commercial land uses*** or habitat degradation.

Additional concerns include local species extinctions, invasive species, human-wildlife conflicts, encroachment on protected areas, agricultural expansion, climate change and variability, illegal wildlife trade and pollution. There are also socio-economic pressures in the country including human population increase, gender inequality and poverty.
While government continues to make every effort to address the concerns through strengthening of policy, legal and institutional frameworks, such as the new NEA, 2019 and the NBSAP, there have also been emerging

[4] Bull, J.W.1, Baker, J.2, Griffiths, V.F3, Jones, J.P.G.4, and Milner-Gulland, E.J.5, (2018). Ensuring No Net Loss for people and biodiversity: good practice principles. Oxford, UK. DOI: 10.31235/osf.io/4ygh

challenges such as the recent discovery of oil and gas in the Albertine Graben, the increasing use of biofuels, and the various developments taking place all over the country. The pressure on biodiversity resources is therefore immense. Mitigation of and compensation for biodiversity loss is therefore not only necessary but urgent and these guidelines provide a framework for addressing residual impacts of project developments.

1.4 Purpose and objectives of the Guidelines

The overall objective of these Guidelines is to provide a framework to guide the developers, regulatory agencies and other stakeholders on how to design, implement and monitor implementation of biodiversity offsets to mitigate residual impacts of developments.

Specific objectives are to provide guidance on:

a) Policy, legal and planning frameworks governing biodiversity offsets;
b) Key principles governing biodiversity offsets;
c) How to incorporate biodiversity offsets within the ESIA and related decision-making processes;
d) How to determine the need for and acceptability of biodiversity offsets;
e) How to measure/quantify residual impacts or biodiversity losses and the potential biodiversity gains;
f) Mechanisms for delivering offsets and how to evaluate and compare different options; and
g) How to ensure effective implementation and monitoring of biodiversity offsets including clarifying the roles and responsibilities of key actors.

1.5 Scope of the Guidelines

These Guidelines apply to development projects for biodiversity offset is need to mitigate the residual adverse impact on biodiversity. They apply to both terrestrial and aquatic ecosystems and to all phases of the ESIA process.

1.6 The target audience

The major target audience for these Guidelines are regulators, government ministries, departments and agencies, public and private sector developers, EIA/ESIA practitioners, biodiversity and ecosystem services specialists, as well as social services specialists, civil society organizations and the communities affected by the project.

1.7 The Guidelines development process

The Guidelines were prepared through a consultation process, targeting various stakeholders from Government (relevant Ministries, Departments, Agencies and some representatives of Local Governments), Civil Society, Academia and the private sector. The process of developing these Guidelines also benefited from input by Ms. Susie Brownlie from South Africa, who shared her experiences on offset guidelines and provided presentations at an inaugural Working Group meeting. Susie also reviewed and strengthened the social aspects of the guidelines.

A technical working group was constituted to provide a platform for in-depth discussions facilitated by a team of consultants with two sets of expertise namely a legal expertise and expertise in environment and natural resources management. The members to the technical working group were from lead agencies and are indicated in Appendix VII. The various versions of the draft were thus subjected to review by key stakeholders to ensure the quality control of the guidelines, including the accuracy and validity of content. The guidelines were presented to a stakeholders' validation workshop in April 2020 to further inform the drafting process and enlist ownership by stakeholders. The technical committee on biodiversity conservation (Appendix VIII) reviewed and provided input. Lastly the technical committee of NEMA Board of Directors further reviewed and provided technical guidance to improve the quality of the Guidelines before production of the Guidelines.

2 POLICY AND LEGAL CONTEXT

Uganda is party to a number of international agreements that require it to put in place legal, policy, administrative and other measures that ensure the conservation and sustainable use of biodiversity. In fulfilment of its international obligations, the Government of Uganda has put in place various development, environment and natural resources policies, laws, strategies and planning frameworks that either require or support implementation of the mitigation hierarchy (including biodiversity offsets) in addressing the negative impacts of development projects on biodiversity and associated social values. The following section summarizes the key international and national legal and policy instruments that have informed the development of these Guidelines.

2.1 Overall National Development Planning Frameworks

Vision 2040: Vision 2040 upholds Uganda's commitment to the principle of sustainable development and promotes conservation of flora and fauna. It states that "Uganda will take urgent measures to protect the environment and natural resources and ensure their future sustainability". It also states that "efforts will be made to restore and add value to the ecosystems", targeting wetlands, forests, rangelands and catchment areas. These policy statements support application of conservation measures based on the Mitigation Hierarchy including offsets.

The National Development Plan 2020/21 – 2024/25 (NDP III): To enhance the conservation of the environment and natural resources (including biodiversity) and ensure that the environment and natural resources sustainably provide household incomes and improve the quality of life for persons that depend on them, NDP III sets out to achieve 7 key objectives. These include to: ensure availability of adequate and reliable quality fresh water resources for all uses; increase forest, tree and wetland coverage, restore bare hills and protect mountainous areas and rangelands; maintain and/or restore a clean, healthy, and productive environment; and increase incomes and employment through sustainable use and value addition to water, forests and other natural resources. Among the key priority interventions provided under para. 238 is for the Ministry of Water and Environment to "Promote payment for ecosystem services, biodiversity offsets and benefit sharing arising from use of biological resource".

2.2 The National Legal Framework

In fulfillment of its international and national obligations, Uganda has put in place many laws aimed at ensuring the conservation and sustainable use of biodiversity. Many of these laws either support or require implementation of the mitigation hierarchy including biodiversity offsets to ensure no net loss of biodiversity and its associated social benefits. Key among these laws include the 1995 Constitution of the Republic of Uganda, Investment Code Act 2019, the Fish Act 1951, the Land Act 1998, the Mining Act 2003, the National Forestry and Tree Planting Act 2003, the Uganda Wildlife Act 2019 and the National Environment Act, 2019. The summary below provides the most relevant provisions in the Constitution and in the National Environment Act 2019 which are the major laws governing the environment and issues of biodiversity in Uganda.

Table 1: Key Provisions in the Constitution and the 2019 National Environment Act Governing Biodiversity Offsets

The Constitution of the Republic of Uganda 1995	Objective XIII requires the State to protect important natural resources, including land, water, wetlands, minerals, oils, fauna, and flora on behalf of the people of Uganda. Article 245 (a) and (b) require Parliament to enact laws that provide measures intended to protect and preserve the environment from abuse, pollution and degradation as well as for managing the environment for sustainable development.
National Environment Act 2019	In its long title, it is stated (among others) that the National Environment Act was enacted "to provide for the management of the environment for sustainable development" and "to provide for emerging environmental issues including climate change, the management of hazardous chemicals and *biodiversity offsets*" Section 4 provides for "Rights of nature." According to Section 4 (1), "Nature has the right to exist, persist, maintain and regenerate its vital cycles, structure, functions and its processes in evolution". Under Section 4 (3), Government is required to "apply precaution and restriction measures in all activities that can lead to the extinction of species, the destruction of the ecosystems or the permanent alteration of the natural cycles." The precautionary and restrictive measures require application of the mitigation hierarchy. Section 5 provides for environmental principles. The most relevant for purposes of biodiversity offsets include: • Section 5 (2) (c) maintaining stable functioning relations between the living and non-living parts of the environment through conserving biological diversity and by use of prudent environment management measures; • Section 5 (2) (f) restoring lost or damaged ecosystems where possible and reversing the degradation of the environment and natural resources; • Section 5 (2) (i) requiring prior environmental and social impact assessments of proposed projects which may significantly affect the environment or use of natural resources; • Section 5 (2) (j) requiring the application of the mitigation hierarchy in environmental and social impact assessments including: to avoid and minimize impacts, achieve restoration targets and for residual impacts, deliver biodiversity offsets; • Section 5 (2) (l) requiring the cost of pollution to be borne by the polluter, and • Section 5(2) (m) ensuring that environmental costs connected with the actual or potential deterioration of natural assets are factored into economic activities Section 113 (1) provides for projects for which a developer must undertake an environmental and social impact study**.** These are the projects set out in Schedule 5 of the Act. According to Section 113 (2) a developer of a project proposed to be located in or near the environmentally sensitive areas listed in Schedule 10 of the Act may also be required to undertake an environmental and social impact study. Section 115 (1) requires a developer, when designing a project for which ESIA or environmental risk assessment is required, to apply the mitigation hierarchy principles. This includes offsets as a mechanism of last resort after avoidance, minimization and on-site rehabilitation or restoration. Section 115 (4), provides that "where a biodiversity offset, other offsets and compensation is considered, the developer shall design and implement it to address residual impacts and to achieve measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity or other benefits." Subject to Section 115 (4) of the National Environment Act, Section 115 (5) demands that NEMA must require a net gain in respect of projects in critical habitats or projects that may impact species of concern. According to Section 115 (6), the responsibility to design and fund biodiversity or other offsets or compensation mechanisms rests with the developer, as long as impacts exist. Section 115 (7) requires the design of biodiversity or other offsets or compensation mechanisms to adhere to the "like-for-like" principle and to be undertaken in accordance with best available information. • Section 115 (8) gives power to NEMA to issue guidelines for biodiversity or other offsets or compensation mechanisms based on best practice.

2.3 Key International Agreements and Guidelines Governing Biodiversity Offsets

There are a number of international agreements governing issues of biodiversity including biodiversity offsets to which Uganda is a party. Key among these include the Convention on Biological Diversity (CBD), the Ramsar Convention and the Convention on International Trade in Endangered Species (CITES). Concerning issues of biodiversity offsets, the CBD is the most important in providing guidance. As a party to the CBD, Uganda also subscribes to the CBD's Voluntary Guidelines on Biodiversity Inclusive Impact Assessment of 2006. The objectives of the CBD as stated in Article 1 are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. Article 14 (a) of the CBD calls for introduction of appropriate procedures requiring environmental impact assessment of proposed projects that are likely to have significant adverse effects on biodiversity, with a view to avoiding or minimizing such effects.

The CBD's Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment provide guidance on consideration of biodiversity in both project- and strategic-level impact assessments. Section 23 provides that remedial action to negative impacts on biodiversity can take several forms, "i.e. avoidance (or prevention), mitigation (by considering changes to the scale, design, location, siting, process, sequencing, phasing, management and/or monitoring of the proposed activity, as well as restoration or rehabilitation of sites), and compensation (often associated with residual impacts after prevention and mitigation)." It is further stated that "avoidance" should always take priority and compensation (which includes offsets) should be used as a last resort measure. This section also indicates that it is important to acknowledge that compensation will not always be possible and as such, there are cases where it is appropriate to reject a development proposal on grounds of irreversible damage to, or irreplaceable loss of, biodiversity. Section 24 guides that the potential mitigation or compensation measures for the negative impacts on biodiversity are best identified during the scoping stage.

The post-2020 global biodiversity framework[5] offers additional guidance to partners ensuring that by 2050 the shared vision of 'living in harmony with nature' is achieved. Uganda is committed to follow guidance provided in the framework particularly these guidelines are particularly aligned with the first goal - "Goal A" of the framework: "*The integrity of all ecosystems is enhanced, with an increase of at least 15 per cent in the area, connectivity and integrity of natural ecosystems, supporting healthy and resilient populations of all species, the rate of extinctions has been reduced at least tenfold, and the risk of species extinctions across all taxonomic and functional groups, is halved, and genetic diversity of wild and domesticated species is safeguarded, with at least 90 per cent of genetic diversity within all species maintained*". The Guidelines are one of the strides to ensuring that Ugandan's live in harmony with nature.

[5] https://www.cbd.int/article/draft-1-global-biodiversity-framework website accessed on 14th December 2021

3 OVERVIEW AND PRINCIPLES OF OFFSETS

3.1 What are Biodiversity offsets?

Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity and related social impacts arising from project development after appropriate prevention or avoidance measures, minimization measures, and restoration on site have been considered.

Offsets are the 'last resort' form of mitigation, only to be implemented if nothing else can mitigate the impacts. An offset provides a remedy for residual negative impacts in the mitigation hierarchy; that is, for significant impacts which remain after measures to avoid/ prevent and minimise impacts, and restore damage, are exhausted. They are used to balance impacts on biodiversity and social wellbeing in one location (i.e. the project's area of influence) with measurable gains either within or outside the development site. It is important to note that there are often time lags in building up gains from an offset, and a period of time when biodiversity and ecosystem services losses will be apparent. For this reason, offsets should be considered as a "**last resort**".

Offsets are intended to achieve No Net Loss and preferably a Net Gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function, and people's use and cultural values associated with biodiversity. Simply stated, offsets in biodiversity and social wellbeing should balance impacts on biodiversity and associated values to people.

However, it is of the utmost importance to note that, unless an ecosystem or habitat for particular species can be fully restored, certain development projects will incrementally reduce the spatial extent of remaining natural biodiversity, even when offsets are used. The main ways to deliver an offset are by avoidance of predicted biodiversity losses, restoring degraded areas and protecting existing natural areas. It is also important to bear in mind that, while the loss of biodiversity and people's values attached to that biodiversity through some development projects is certain, the planned gains through offsets are less certain and focus on remaining natural or degraded areas.

'Compensation' is not the same thing as an 'offset'. Compensation typically involves giving something in recognition of harm or loss, but is not expressly intended to deliver No Net Loss. An offset is a specific subset of 'compensation' which requires actions to deliver No Net Loss outcomes at least, and for residual negative impacts and offset gains to be measured, in order to demonstrate that gains would balance losses.

3.2 When are biodiversity offsets appropriate and when are they not?

Offsets are appropriate where the first three levels in the mitigation hierarchy, namely avoidance, minimization and restoration, have failed to or will not deliver a No Net Loss of biodiversity. Offsets are thus appropriate only when the options to avoid and minimize impacts, as well as restore affected biodiversity, have been considered and confirmed that they will not address the resultant loss. The significance rating of the residual negative impacts; i.e. whether medium, Medium high or high is a trigger for requiring an offset. If the residual negative impacts are high, an offset is definitely an option. Offsets should be considered as a last resort, after the first three steps of the mitigation hierarchy have been applied to the fullest extent possible.

They are not appropriate in the following circumstances, namely:

a) Where impacts cannot be offset because either the biodiversity is highly vulnerable or at risk of extinction, or irreplaceable, and/ or the values of biodiversity to people are without substitute (i.e. No Net Loss cannot be achieved).

b) Where the risks of failure of the offset are very high because of technical, ecological, financial, legal or land tenure, or institutional or governance constraints; i.e. the success of the offset is not assured.
c) Where it is obvious that the offset itself will displace impacts on biodiversity to other areas of comparable high conservation value, thereby failing to achieve No Net Loss.
d) Where it would generate significant negative social impacts to the communities living or depending on the natural ecosystems of the area which cannot be compensated and/or would be un acceptable.

In these circumstances, a proposed development would need to be re-located or re-designed, and lower impact alternatives considered.

3.3 What form can biodiversity offsets take?

There are three main ways to offset:

(i) Averted Loss Offset, which provides protection against predicted future biodiversity losses: This action preventsand protects against on-going loss of biodiversity. It includes guarding against future threats and risks by increased protection of biodiversity; sometimes also through preventing further harm to biodiversity by tackling the drivers or sources of biodiversity loss. When considering this type of offset, it is important to demonstrate that, in the absence of the protection provided by the offset, the compensatory habitat would likely be lost in the foreseeable future.

(ii) Restoration Offset, involving positive management actions: These actions restore or enhance management to improve the biodiversity conditions in a particular site.

(iii) Additional Conservation Actions (ACAs): These include compensation packages and community interventions to support conservation. They are not biodiversity offsets themselves, but assist those stakeholders whose socioeconomic and cultural uses of biodiversity have been affected.

3.4 Principles of Biodiversity offsets

The principles of offsets arise from internationally agreed best practices and they include:

1. No Net Loss (NNL): to ensure measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a Net Gain (NG) of biodiversity. NNL and NG should ideally be framed to contribute to meeting the overarching biodiversity targets for the country.

2. Adherence to the Mitigation Hierarchy: -Offsets are designed to address residual impacts and may only be considered after taking into account appropriate avoidance, minimization and on-site rehabilitation or restoration.

3. Non-offsetable principle, or limits to what can be offset: There are situations where residual impacts cannot be fully compensated for by an offset because of the irreplaceability or vulnerability of affected biodiversity, or in cases where there is a high risk of failure of the offset.

4. Equivalence: A biodiversity offset should deliver the same or better biodiversity (and people's values associated with biodiversity) as that residually impacted by development.

5. Landscape context: Offsets should be designed and implemented within the wider landscape, taking into account natural linkages and corridors, and conservation priorities; spatial allocation of offsets is an important consideration in relation to impacts.

6. Additionality: An offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place.

7. Stakeholder participation: Participation of stakeholders should be ensured in decision-making processes involving offsets.

8. Equity: Offsets should be designed and implemented to ensure the fair sharing among stakeholders of therights and responsibilities, risks and rewards. The social outcomes from biodiversity No Net Loss should be equitable at the level of each aggregated group of affected people. These groups should perceive the outcomesto be equitable.

9. Collaboration between specialists: No Net Loss should be designed, implemented and monitored by suitably qualified and experienced specialists in social impact evaluation, in collaboration with the biodiversity specialists, to ensure that livelihood and ecosystem services considerations are addressed.

10. Long-term outcomes: Offsets should secure long-term outcomes that last at least as long as the project's impacts and preferably in perpetuity.

11. Transparency: The design, implementation and monitoring of a biodiversity offset should be undertaken in a transparent and timely manner.

12. Science and traditional knowledge: The design and implementation of a biodiversity offset should be a documented process informed by sound science, including an appropriate consideration of traditional knowledge.

13. Precautionary approach: The use, design and implementation of a biodiversity offset should apply a risk-averse and cautious approach, particularly where activities could lead to the extinction of species, destruction of ecosystems or permanent alteration of natural cycles.

14. Compliance: existing regulations should be followed in the design, implementation and monitoring of biodiversity offsets. In particular, the issues raised during monitoring events should be addressed.

PART II: DESIGNING AND INTEGRATING OFFSETS INTO ESIA

4 INTEGRATING OFFSETS INTO THE ESIA PROCESS

The biodiversity offsets are triggered by the development projects and activities that meet certain thresholds for significant negative impacts on biodiversity and people. Uganda already has a system of mitigating environmental impacts that arise from development projects. This system is outlined in the National EnvironmentAct and the EIA/ESIA Regulations and Guidelines. This step-by-step process is known as an Environment and Social Impact Assessment. Biodiversity offsets are not a replacement of the ESIA; rather, they are an integral component of the mitigation hierarchy at the core of ESIA that enables residual negative impacts on biodiversity to be addressed to ensure No Net Loss for both biodiversity and the affected people.

4.1 Linkage between biodiversity offsets and the ESIA process

The ESIA process consists of three distinct steps that include:

(i) **Screening -** where a project is subjected to an initial environmental assessment to examine whether it would require an EIA or not,

(ii) **The ESIA Study** – when the screening step determines that the project would require an ESIA to inform better planning. This step includes scoping, development of the TORs, review of the TORs, information collection and analysis by the study team, and preparation of the ESIA Report; and,

(iii) **Decision making** - review and approval (or not) of the ESIA and the consequently the project.

The entry point for ensuring effective integration of biodiversity and social offsetting is at the scoping stage. The requirements are progressively identified at subsequent stages as described in the diagram in Figure 1.

4.2 Screening

At screening, the assessment is about whether or not the proposed project requires an ESIA. It is thus not critical to involve all expertise for a possible ESIA at this stage. If the project requires an ESIA, Terms of Reference should be developed for a scoping study.

4.3 Scoping

The starting point is the development of a scoping report and Terms of Reference (ToRs) to identify biodiversity issues and the related social aspects (See Annex I for sample Terms of Reference). The report generated during the scoping exercise should describe the biodiversity and associated social aspects of the project; including setting out reasonable and feasible alternatives, particularly spatial / location/ siting options to meet the need and purpose of development.

Based on the identified biodiversity and related social issues, the ToRs should be developed and should be explicit about addressing the full range of mitigation options, with the emphasis on avoiding/ preventing and minimizing impacts, and including as a ‘last resort’ the potential for biodiversity offsetting.

The ToRs for the ESIA should also clearly describe the proposed methods that shall be used to evaluate the biodiversity and associated social impacts, and the proposed mitigation measures. Where there is a high risk that impacts on biodiversity and people would result in irreplaceable loss or be irreversible, it would be likely that offsetting would be risky and therefore the project may have to be re-designed or an alternative site be

sought. This fact should be stated clearly in the scoping report to alert both the project developer and the authorities to the importance of investigating alternatives.

Professionals or specialists with expertise on biodiversity and social offsets should be part of the team that undertakes an ESIA. Experience in biodiversity and social impacts is important for the ESIA given that both the intrinsic biodiversity values, as well as the social values associated with impacts on biodiversity(e.g. livelihoods, health and safety) need to be assessed and evaluated, and appropriate mitigation identified. In addition, where offsets are used, the expected biodiversity and associated social gains at potential offset sites, as well as any negative social impacts at these sites (e.g. if there are constraints on resource use) will need to be carefully assessed. It is essential when drawing up ToRs for specialist studies to integrate the work of the biodiversity specialist and social specialist. Duplication should be avoided and responsibility for this offset work must be clearly allocated, with collaboration between specialists.

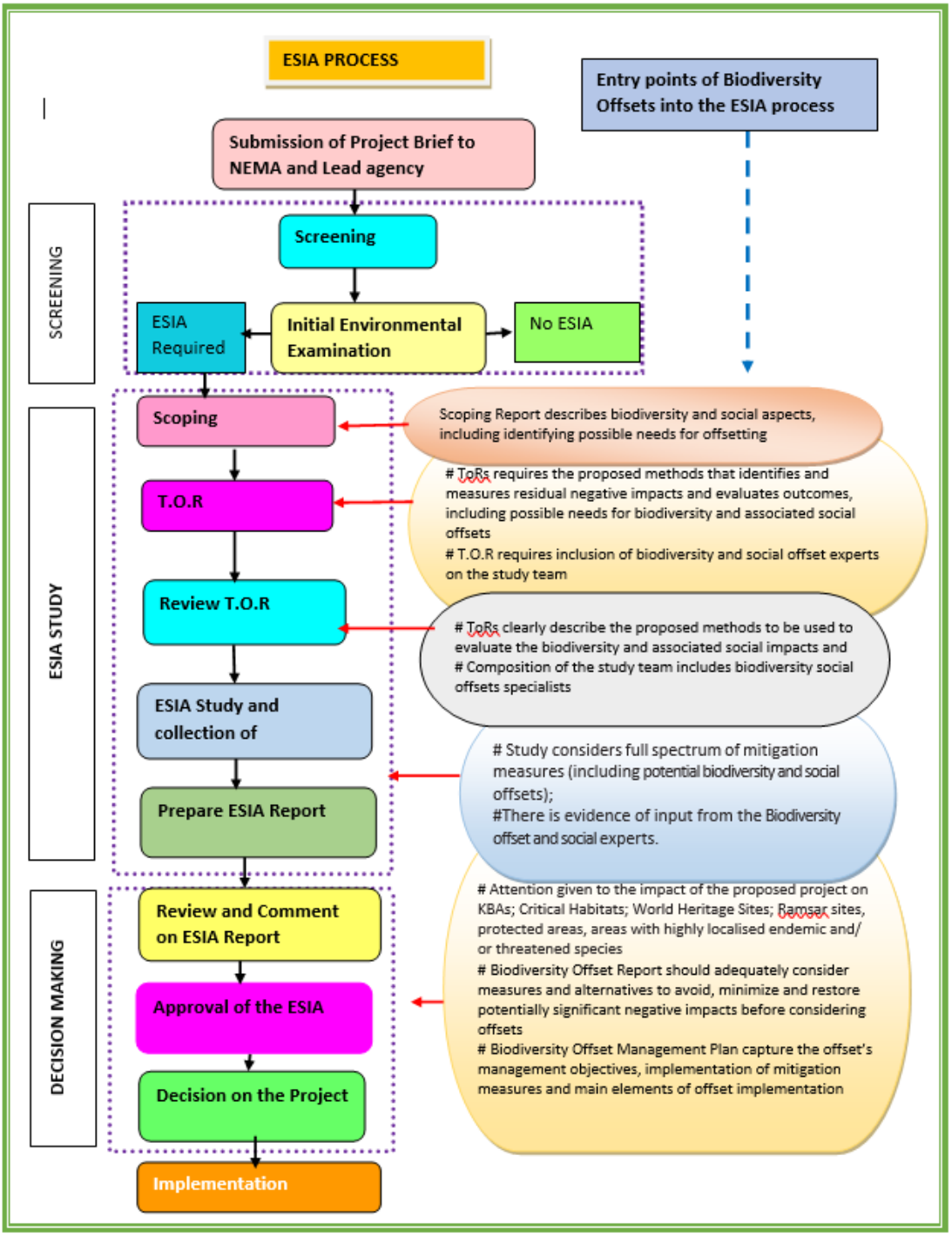

Figure 1: Linkage between the ESIA and Biodiversity &social offsetting (*Adapted from NEMA 1997 EIA guidelines*[6]*)*

[6] Guidelines for Environment Impact Assessment in Uganda

4.4 Decision on the Scoping Report and the ToRs for ESIA: Biodiversity and Social Offset

In making a decision on whether or not to approve the scoping report and ToRs for the ESIA, the following will be taken into account by NEMA namely: (i) The potential for irreversible loss and/ or loss of irreplaceable biodiversity or ecosystem services as a result of the proposed development (ii) The likely significance of negative impacts and the due consideration of feasible and reasonable alternatives (iii) the need to assess biodiversity and social impacts; (iv) the need to consider the full spectrum of mitigation measures (including offsets); (v) the methods to be used; and (vi) the required expertise.The methods described in the ToRs should be able to measure the residual negative impacts and evaluate their outcomes.

Nothing in these Guidelines stops NEMA, when reviewing the scoping report and ToRs for ESIA, to require the developer from the onset to consider biodiversity offsets as the appropriate mitigation measure where in its opinion the first three measures in the mitigation hierarchy would not effectively mitigate the residual negative impacts to ensure a No Net Loss to people and biodiversity.

In the course of reviewing the scoping report and TORs particular attention will be given to the impact of the proposed project on important/key biodiversity areas (KBAs); Critical Habitats; World Heritage Sites; Ramsar sites, protected areas, areas with highly localised endemic and/ or threatened species, and/ or known important cultural sites; levels of dependence of affected communities on biodiversity and ecosystem services for livelihoods and wellbeing; and, accordingly determine whether or not an offset would be an effective strategy, or if the developer needs to identify an alternative project site or design.

4.5 The Environment and Social Impact Assessment

i) The study should evaluate the biodiversity and related social impacts of a proposed project within its areaof influence (i.e. taking into account direct, indirect, induced and cumulative impacts) in line with the approved ToRs.
ii) The ESIA practitioners involved should propose, assess and document the sequential measures for avoidance, minimization, rehabilitation or restoration, and/or offsetting negative impacts as a last resort.

iii) In order to ensure that the biodiversity and related social impacts are adequately taken into consideration, stakeholder mapping should include communities likely to be affected by the project, both at the projectsite and, where an offset is required, at the offset site.

iv) During stakeholder engagement, the values, priorities and options of interested and affected parties or persons must be considered. Particular attention must be paid to the potential offset site(s) and potential displacement of livelihoods and associated impacts on biodiversity to other areas,where the offset involves constraints on resource use. Approaches to remedy anticipated displacement impacts must be clearly set out, to prevent leakage.

v) Specialists involved in the ESIA should work with the project proponent to strive to find the project alternative site with the least negative impacts on biodiversity and people, addressing concerns and issues raised during scoping.

vi) During the ESIA process, the practitioner(s) should clearly describe the nature of the proposed project site forexample important/KBAs, Critical Habitats, World Heritage or Ramsar Sites, national or sub-national protected areas and areas with highly localized endemic and/ or threatened species; situations where the residual impacts would lead to irreplaceable loss or irreversible consequences; where the risks of an offset failing are deemed to be very high for ecological, technical, financial, legal, land tenure or other reasons; and/ or situationswhere offsets may lead to further loss of biodiversity and/ or aggravate rather than mitigate social

impacts.

Where the application of the mitigation hierarchy in the ESIA process establishes the need for an offset, the ESIA statement should clearly present:

a) the specific components of biodiversity and people's values which would be impacted by the project and for which residual impacts are likely to exist after previous mitigation steps;

b) a statement confirming that the affected biodiversity can be offset or compensated;

c) the residual negative impacts on biodiversity and related social aspects, and their magnitude (i.e. a reliable measure of these impacts which need to be offset);

d) the nature and kind of offset required to balance the identified residual impacts, as set out in the Biodiversity Offset Report (BOR); The minimum contents of the BOR is provided in Annex V;

e) the financial cost of the offset, including its implementation, should be defined, including a specified time period, as given in the Biodiversity Offset Management Plan (BOMP), with assurances of being metby the developer. The minimum contents of the BOMP is provided in Annex VI. The preferred way of valuation of a biodiversity offset is the cost approach method in which costs of identified management activities (costs of establishment, protection, restoration, management and compensation package) are elaborated in the BOMP and used to determine the funding requirements for the biodiversity offset.

4.6 Consideration of the ESIA by NEMA and the relevant Lead Agencies

NEMA and the lead agencies will review the ESIA to establish whether the first steps in the mitigation hierarchy (i.e. avoidance, minimization and restoration) have been adequately considered before advancing to the offsettingmechanism. Where NEMA and lead agencies have reviewed the offset proposals contained in the BOR and is satisfied that the mitigation hierarchy has been effectively applied; and the offset is appropriate (i.e. that it could and would achieve No Net Loss for people and biodiversity), incorporate conditions for the offset in the approval of the ESIA.

4.7 Designing the offset and preparing the Biodiversity Offset Report and Management Plan

Where an ESIA process leads to a recommendation for a biodiversity offset, the offset needs to be designed to deliver sufficient gains for those same biodiversity components (genetic, species and ecosystems) affected by the development project to balance the residual negative impacts on biodiversity and associated ecosystem services. Planning for implementation requires that the optimum offset option be established, protected, managed and funded for at least as long as the impacts last, and preferably in the longer term (e.g. in perpetuity).

Given the tasks involved, the design of an offset and planning for its implementation requires a certain set of skills. It is thus advisable to use an offset specialist for these tasks. Using a specialist is also important because the developer must prepare a Biodiversity Offset Report (BOR) as well as an associated Biodiversity Offset Management Plan (BOMP) with detailed costing to ensure that it is implementable. These documents must be submitted as part of the ESIA documentation, to inform a decision on the proposed project.

4.8 Implementing offsets

Implementing and reporting on biodiversity offsets will be the responsibility of the proponent/developer and should involve suitably qualified specialists as appropriate. NEMA and the lead agencies will be responsible for monitoring and ensuring compliance.

5 ROLES AND RESPONSIBILITIES OF KEY ACTORS IN BIODIVERSITY OFFSETS

This section defines and summarizes the roles and responsibilities of the key actors involved in biodiversity and social offset system at the different stages i.e. planning, project development and ESIA processes, and off set implementation. The key actors can be categorized in four groups, i.e., i) the developer (who may include a lead agency), ii) NEMA, the regulator, (iii) lead agencies; and iv) biodiversity specialist acting on behalf of biodiversity conservation and related social benefits. Biodiversity specialists may include Environmental Practitioners (EPs), members of the technical community on biodiversity conservation; individuals with expertise on biodiversity offset; and other specialists involved in the ESIA process.

In general, NEMA is responsible for issuance of rules and guidelines for the biodiversity offset system. It has the legal mandate to approve development projects and stipulate conditions which may include offsets. Where a developer's project is approved by NEMA, subject to establishing a biodiversity offset, the developer should abide by the rules, guidelines and conditions given by NEMA and other relevant authorities. The lead agencies will carry out their functions according to their mandates and the provisions of the National Environment Act No.5 of 2019.

It is the responsibility of the developer to design, fund and implement a biodiversity offset. The developer may engage EPs and other specialists in the exercise of his/her responsibilities.

Biodiversity specialists may be called upon to assist NEMA in evaluating the impacts of a development project on biodiversity and related social benefits. They can also be called upon to assist NEMA in reviewing the feasibility of a proposed biodiversity offset, with the exception of EPs. NEMA will have the discretion on how to incorporate the comments provided in accordance with the mandate of NEMA.

Table 1: Roles and Responsibilities of Key Actors in Biodiversity Offsets

		ROLES AND RESPONSIBILITIES		
PROCESS	**OFFSET TASK**	**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY**	**DEVELOPER (This includes a lead agency intending to undertake a project that falls under Schedule 5 or Schedule 10 of National Environment Act)**	**BIODIVERSITY REPRESENTATIVES**
STRATEGIC PLANNING LEVEL				
Policies and procedures	Issue biodiversity offset rules, guidelines and procedures	This is the legal mandate of NEMA under the National Environment Act	Take into consideration the biodiversity offset rules, guidelines and procedures when planning a project that has biodiversity and related social impacts	Lead agencies including Local Governments may be consulted in the development of the biodiversity offset rules, guidelines and procedures.
	Maintaining a register for biodiversity offsets in Uganda	This is a mandate for NEMA as a coordinating agency. NEMA should develop procedures for managing the register including accessibility.		
Scoping	Conduct baseline study to identify key biodiversity and related social issues and risks for purposes of informing project planning to avoid and minimize negative impacts on biodiversity.	Identification and flagging of key areas of biodiversity and social concern and ensuring that offsets are included in the ToRs	This is the responsibility of the developer but he/she may choose to source opinion from qualified Environmental Practitioner(s)	Environmental Practitioner(s) identify biodiversity and related social risks that may signal the need to find lower-impact alternatives or consider offsets at a later stage of the ESIA process
	Obtain specialist and public input on potential biodiversity and related social issues and risks, project alternatives		Developer should appoint qualified Environmental Practitioner(s) including biodiversity & social specialists as relevant	The Environmental Practitioner(s) appointed should engage project-affected communities and other concerned stakeholders including Local Governments for their inputs, concerns and issues
	Scoping Report		This is the responsibility of the developer but he/she may choose to source opinion from qualified Environmental Practitioner(s)	Lead agencies and project-affected communities, and other interested and affected parties, should provide input to the ToRs when consulted by NEMA. In the scoping report, the Environmental Practitioner(s) should clearly identify biodiversity and related social risks (if any) that may signal the need to find lower-impact alternatives or consider offsets at a later stage of

		ROLES AND RESPONSIBILITIES		
PROCESS	**OFFSET TASK**	**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY**	**DEVELOPER (This includes a lead agency intending to undertake a project that falls under Schedule 5 or Schedule 10 of National Environment Act)**	**BIODIVERSITY REPRESENTATIVES**
				the ESIA process
	ToRs for conducting ESIA	NEMA considers and where satisfied, approves the ToRs for ESIA. It should ensure that the ToRs require application of the full mitigation hierarchy, including offsets, and that the proposed team of environmental practitioners has requisite qualifications, experience and skills to undertake biodiversity and social impact study, and (as necessary) to design and plan implementation of a biodiversity offset. NEMA should consult the Lead agencies before approving the ToRs.	This is the responsibility of the developer. ToRs should require the experts who will conduct ESIA to apply the full mitigation hierarchy including biodiversity offsets	Lead agencies (including local governments) should participate in the review of the ToRs.
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT				
Biodiversity and social impact study	Assess project impacts on biodiversity and related social issues, including consideration of alternatives.			Environmental Practitioners are responsible for this process. They should assess and evaluate the significance of impacts of reasonable and feasible project alternatives and, having taken planned avoidance, minimization and restoration measures into account, provide a recommendation on the need for an offset where, residual impacts of medium, 'medium-high' and 'high' significance remain. Where residual impacts are of very high significance, they should not recommend an offset since it cannot adequately compensate for biodiversity loss and related social benefits. Where an offset is needed, an offset study must be undertaken leading to an offsets report and management plan with costing.
Offset design process (where residual impacts are assessed to be of 'medium', 'medium – high' or 'high'	Develop feasible offset project and develop offset management plan which defines the objectives of the offset, value and type of offset proposed, responsibilities		Under Section 115 (4) of NEA, the developer is responsible for designing of a biodiversity offset. This should be done with support of biodiversity and social specialists, among other experts. The design of a biodiversity offset	The biodiversity &social specialists must measure biodiversity and related social impacts, and design an adequate offset to achieve measurable conservation outcomes that are be expected to result in No Net Loss and preferably a Net Gain of biodiversity and related social benefits (Section 115 (4) of

		ROLES AND RESPONSIBILITIES		
PROCESS	**OFFSET TASK**	**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY**	**DEVELOPER (This includes a lead agency intending to undertake a project that falls under Schedule 5 or Schedule 10 of National Environment Act)**	**BIODIVERSITY REPRESENTATIVES**
significance)	and monitoring programme.		should adhere to the "like-for-like or better" principle (Section 115 (7) of NEA)	NEA), explaining offset options. The impacts on affected people of using a particular offset site must also be addressed. The specialist(s) must prepare a BOR and BOMP, describing the offset, how it will be secured, managed, monitored, audited and funded.
	Selection of a biodiversity offset site and offset interventions			There is need for relevant Local Governments, and local communities potentially affected by the use of an area as an offset site, to be consulted in site selection and planned interventions. These parties should preferably share in, and benefit from, the management and monitoring of performance of an offset site.
The Environmental and Social Impact Statement (ESIS)	Biodiversity and related social impact assessment and offset management plan integrated into the ESIS.	NEMA **evaluates the** application of the mitigation hierarchy of avoidance, minimization and restoration, **and** evaluates whether an offset is required. NEMA sets out further conditions if needed	The developer is responsible for preparing ESIS statement and submitting it to NEMA. The developer should do this with support of the Environmental Practitioner(s)	Environmental Practitioner(s) integrates biodiversity and social specialist study findings into the statement, including the BOR and BOMP if an offset is required)
Decision by Authority	The ESIS is considered by decision-making authority, including consideration of the proposed biodiversity offset. Authorization can be granted or rejected. Conditions attached to the authorization may include specific requirements related to the biodiversity offset.	This is the legal mandate of NEMA		NEMA may call upon the lead agency, other independent biodiversity and social experts if required and affected and interested stakeholders to review the biodiversity and related social assessment and proposed offset, with BOR and BOMP, in the ESIS.
Implementation of biodiversity offsets			Where a biodiversity offset was deemed necessary, it is the responsibility of the developer to implement it to address residual impacts. The offset should be implemented and funded by the developer as long as the impacts exist or preferably in perpetuity (Section 115 of NEA).	

		ROLES AND RESPONSIBILITIES		
PROCESS	**OFFSET TASK**	**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY**	**DEVELOPER (This includes a lead agency intending to undertake a project that falls under Schedule 5 or Schedule 10 of National Environment Act)**	**BIODIVERSITY REPRESENTATIVES**
Monitoring and audit of biodiversity offset	Independent monitoring and audit of an offset to ensure it complies with conditions of authorisation related to the offset, and the BOMP.	NEMA can provide guidance on good practice in monitoring biodiversity offsets NEMA can commission an environmental enforcement audit if deemed necessary, and can require an environmental compliance audit of the developer (Section 126 of the NEA).	The developer is responsible for submitting annual monitoring reports in terms of the BOMP, and periodic independent compliance audits on request, to authorities. Periodic independent performance audits should be undertaken and made publicly available	An independent specialist will be needed for periodic audits of the offset's compliance or performance. The management authority or independent specialist must monitor the offset in terms of the BOMP requirements. Local governments and local community leaders at the offset site may play a role in monitoring the offset.

6 DESIGNING AN OFFSET

The design of a biodiversity offset should be undertaken by an appropriate professional with prior experience in biodiversity offsets. That person will need to work with other specialists in i) measuring/quantifying the residual negative impactson biodiversity, as well as the associated negative impacts on the use and cultural values of affected biodiversity (e.g. health, cultural heritage, water, grazing and livelihood materials among others) as relevant, and ii) finding suitable offset site(s) and/ or activities to deliver No Net Loss at least, for both biodiversity and people.

Designing an offset involves a number of actions, some of which may be iterative rather than strictly sequential. However, Figure 1 shows the key considerations in the design process that are subsequently described in sections 6.1 to 6.7.

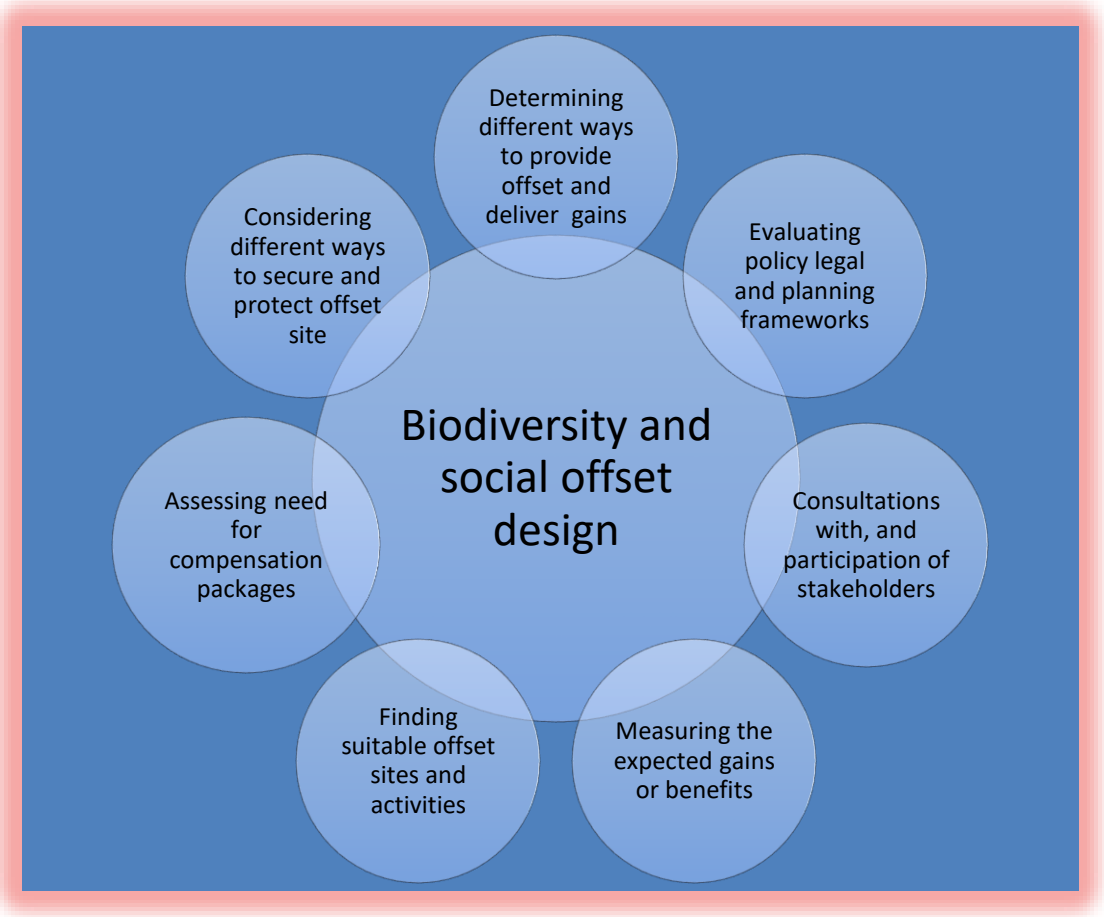

Figure 1: Processes in the design of offsets

6.1 Determining the different ways to provide an offset and deliver the required gains

The offset design process should identify the potential offset sites and the ways that could be used to deliver the required biodiversity and social outcomes, focusing on priority areas for conservation in the landscape. The measurable gains in biodiversity and associated social values through an offset can be delivered through one or a combination of the following ways:

a) Averted loss and/or degradation of biodiversity, and improving protection status – aimed at preventing on- going and future harm to biodiversity and related social values through:

i) Creating protected areas for the offset to curb threats like encroachment, poaching, illegal timber ex-

traction or removal of species. Depending on the biodiversity and social value, management objectives and location, the offset may be demarcated, mapped and protected as part of the protected area network in form of a national park, wildlife reserve, wildlife sanctuary, community wildlife management area, central forest reserve, local forest reserve, protected wetland.

ii) Strengthening the protection status of the protected area by addressing known threats, e.g. by stopping encroachment, eliminating illegal extraction of produce, and stopping livestock grazing in an area to prevent damage to sensitive ecosystems, and undertaking any other option that reduces the risk of biodiversity loss and enhances the protection of the offset.

b) Positive management actions (restoration, enhancement) that improve biodiversity condition consisting of a wide variety of management activities that seek to improve the quality of biodiversity on sites with varying levels of degradation. Such activities can be:

i) Restoration activities, which aim to return an area to its original (pre-disturbance) ecological condition prior to some anthropogenic impact such as reducing predators, removing invasive and alien species of plant or animal, optimum use of fire / burning to regenerate diversity of habitats among others.

ii) Enhancement activities aimed at improving desirable ecological features or states; it differs from restoration in that the goal is not necessarily to return a system to a specific 'prior' state.

c) Compensation packages used where stakeholders whose use and cultural values of biodiversity, including livelihood assets, and/ or their access to natural resources (e.g. water, grazing or cropping land, forests) have been or will be negatively affected by either the development or the offset, and cannot be remedied at the proposed offset site. Compensation packages should replace lost resources or assets at minimum, to ensure that no one is left worse off and preferably would be better off with the offset.

6.2 Evaluating the policy, legal and planning framework context for offsets

Biodiversity offsets are enshrined in the policy, legal and planning framework, which provides the enabling ground to buttress the entire process of offset establishment and management.

6.2.1 Considering policy and legal matters

Different laws apply to different resources. By referring to the legal framework during the design of the biodiversity offsets ensures that the relevant policies and laws are identified and the correct legal provisions are applied. The purpose of the referring to the legal framework is to clarify the legal requirements to undertake an offset and to understand the policy context within which a biodiversity offset would be designed and implemented. The policy context would include government policies, financial and lending institutions' policies, as well as internal company policies.

Associated with the polices and laws is the need to check the specialist studies done for the ESIA for adequacy in terms of having exhausted earlier steps in the mitigation hierarchy and considered feasible, lower-impact alternatives. In addition, it is necessary to ensure that the specialist studies have provided a reliable measure of the significant residual impacts on biodiversity components and related social aspects (priority ecosystem services) to be offset.

6.2.2 Considering Non-offsetable impacts

The design of offsets should take into account areas where development is likely to result in 'non- offsetable'

impacts. 'Non-offsetable impacts' refers to a level of severity of residual negative impacts at and beyond which a development project would not be able to offset. For example, it may not be possible to offset the extinction of a species, loss of a unique ecosystem, or permanently alter natural cycles.

The degree of uncertainty with respect to severity of predicted impacts and the probability of success of a biodiversity offset should also be analysed to determine whether impacts on biodiversity and the related social values of affected biodiversity could be successfully offset. In particular, offsets may not adequately compensate for the project-induced loss or degradation of the following types of areas or situations:

a) Areas with high biodiversity conservation values, with localised endemic and threatened species; CriticalHabitats; Consideration must be made of the Alliance for Zero Extinction (AZE) sites and they must be included as they are essential 'not offsetable' sites[7]. AZEs are included under the 'umbrella' classification of Key Biodiversity Areas (KBAs) and in Uganda they are currently 36 including some outside protected areas.

b) Man and the Biosphere (MAB) areas for which any negative impacts are considered not to be offsetable given their value for biodiversity conservation and/ or people including World Heritage Sites, Ramsar Sites, KBAs[8], protected areas and existing offset areas[9].

c) Areas with high cultural value as natural heritage sites, or highly valued by local communities or indigenouspeople, generally have no substitute (i.e. are regarded as non-offsetable cultural assets for current and future generations).

d) Areas with biodiversity on which there is extremely high dependence by local communities for subsistence or livelihoods, and for which there are unlikely to be substitutes or adequate compensation.

e) Cases where there are very high risks of failure to implement the offset successfully (i.e. there are ecological, technical, socio-cultural, institutional, financial and/or legal or land tenure factors that influence the practical feasibility of achieving No Net Loss, including lack of adequate assurances or guarantees that the requirements for a successful offset outcome can and will be met.

6.3 Consultation with, and participation of stakeholders

Stakeholder engagement is an essential requirement at all stages of offset design and implementation, including managing and monitoring the offset performance. In particular, the participation of stakeholders at the offset design phase sets a strong foundation for the successful implementation of an offset: it creates awareness about the project; provides opportunity for the various actors to contribute their views and voice their needs, issues and concerns; clarifies the roles of key stakeholders in formulating and implementing the offset; and fosters acceptability and ownership of the project.

The offset stakeholders are many and various, depending on the residual negative impacts of the project, and the nature and location of the offset. The stakeholders are likely to have different interests and levels of influence, hence understanding the type of stakeholders at the early stages of the offset design is important to guidethe selection of priority stakeholders to be engaged and the methods of engagement to be applied. The engagement of all constituencies of stakeholders is important and should be guided by proper stakeholder mapping and analysis. Table 3 shows the categories of stakeholders, their areas of interest and influence, and the possible methods of engagement that can be applied.

[7] https://www.biodiversitya-z.org/content/alliance-for-zero-extinction-sites-aze

[8] A total of 36 KBA sites, which include terrestrial, wetland and freshwater sites have been identified for Uganda. Ten of these sites lie outside protected areas, e.g. Tororo Rock, Lake Bisina, Lake Nakuwa and Lake Napeta (BSOS 2019).

[9] The IUCN Red List, the National Red List for Uganda, Uganda's protected area list and KBAs, are important sources of information.

Table 3: Stakeholder mapping

Stakeholder category	Interest	Influence	Method of stakeholder engagement
Ministry of Water and Environment	Oversight of the natural resources (water, environment, forestry, wetlands, meteorology and climate change); policy and laws; technical guidance	Oversight over the use and evaluation of the performance of offsets	Face-to-face meetings; online meetings; workshops and field assessments
National Environment Management Authority	Regulation of environmental management	Approval of ESIA; licensing activities; compliance monitoring; supervising lead agencies	Face to face meetings; workshops and field assessments
Lead agencies (e.g. NFA, UWA, MOWT, UNRA, MAAIF	Sustainable biodiversity management	Regulating the use and management of biodiversity (per-mitting and licensing)	Face to face meetings; online meetings; workshops and field assessments
Biodiversity impacting sectors / the private sector, e.g. energy, roads, land development, water, dams, agriculture, minerals, oil and gas, public infrastructure	Natural resource utilization; extractive industry construction of infrastructure	Development proponents with projects affecting bio-diversity	Face to face meetings; online meetings; workshops and field assessments
Local governments (Districts and lower local Governments)	Management and regulation of resource use as well as land administration and management	Community mobilization, decision making and technical guidance on the establishment and implementation of offsets, including land matters.	Face-to-face meetings, workshops
Civil society organizations (CSOs)	Advocacy and lobbying for community development	Influence decision making and the success, failure or outcome of development and offset	Face-to-face meetings; focused group discussion meetings, dialogue platforms/workshops and via electronic communications
Non-government or public benefit organizations (NGOs or PBOs)	Supporting biodiversity or wildlife conservation	Influence decision making and the success, failure or outcome of development and offset	Face-to-face meetings; focused group discussion meetings, dialogue platforms/workshops and via electronic communications
Institutions of traditional or cultural leaders	Management of areas cultural heritage and interest in peoples' livelihoods (food, income, shelter cultural heritage, among others)	Influence decision making and the success, failure or outcome of development and offsets	Face to face meetings
Affected local communities at both the development (impact) and offset sites - Indigenous People and Local Community	Livelihood security (food, income, shelter, health, cultural heritage, religion, among others)	Influence decision making and the success, failure or outcome of development and offset	Face-to-face meetings; focused group discussion meetings, dialogue platforms/workshops and via electronic communications

Interested communities	A range of interests spanning the environment and social aspects, e.g. research and education, tourism,	Influence decision making and the success, failure or outcome of development and offset	dialogue platforms/workshops and via electronic communications

In the case of a single project, the key stakeholders may include government agencies, CSOs, NGOs/ PBOs and indigenous peoples and local communities (IPLCs). For the landscape projects (also referred to as multiple projects)and the multi-tier (or phased projects), the range of stakeholders is wider and more complex. For example, the hydro- power projects are done as phased developments, which cover a number of phases, (e.g. power production, transmission, distribution, and power regulation); each phase commands a range of stakeholders.The design phase of an offset should therefore aim at identifying all the relevant stakeholders, including their interests in capacity and information needs necessary for effective offset design.

Stakeholders should be engaged at both the development site and potential offset sites to determine optimum and acceptable forms of offset. The stakeholders at the development site should be engaged in the offset design process early, for the purpose of establishing an engagement plan for their participation during the design and implementation of the biodiversity offset. Where offsets are feasible, stakeholder engagement is essential in helping to identify suitable or acceptable offsets or compensation for residual negative impacts, and potential offset sites. The participation of local communities, including the poor and vulnerable groups, women, youth, children and disabled people (People Abled Differently) is crucial for identifying the kind of offset or compensation mechanisms which are appropriate and acceptable.

Engagement with stakeholders at potential offset sites is of equal importance, to gauge the likely support for using these sites as an offset, to identify possible roles and benefits for local communities in offset implementation, and to identify potential impacts of planned interventions on people currently using or dependent on them. These impacts would need to be fully remedied to avoid leakage or offset failure.

The approaches to stakeholder engagement include, among others; face to face meetings, focused group discussion meetings, dialogue platforms/workshops and electronic communication (e.g. through telephone, television, radio and social media). Different approaches will be applied for purpose of:

a) Information sharing for effective participation in consultative and dialogue sessions of the offset design process. This approach aims to ensure that stakeholders are prepared for participation and are provided opportunity to participate, share issues and concerns, provide knowledge and/ or ideas and receive feedback. The principle of free, prior and informed consent (FPIC) will be applied especially in the engagement of IPLCs.
b) Analysis of issues through dialogue platforms (workshops, meetings) or through providing comments and inputs into various reports.
c) Collaboratively exploring options for designing and selecting an offset site and offset activities that balance the predicted residual negative impacts of the project, and would be acceptable to affected parties at boththe project and offset sites. Options could include protecting a site(s) or curbing the causes of biodiversity loss,improving management of an area for conservation, and/ or providing compensation packages.
d) Testing and securing stakeholder commitments to support and implement the biodiversity offset and related social actions through negotiations and platforms aiming at ensuring that the offset activities reflect institutional/stakeholder interests and informed consent.
e) Providing technical and policy oversight and monitoring role during the offset design process.

6.4 Measuring the expected gains or benefits

6.4.1 Determining residual negative impacts on biodiversity and people

The residual negative impact is that which remains after avoidance, minimization and restoration measures for project-related impacts have been taken into account. Reliable measures should be used during the project design phase of offsets todetermine the anticipated residual negative impacts on both biodiversity and related social benefits.

The design phase starts once the need for an offset has been decided by NEMA in approval of the scoping report and TORs for undertaking ESIA, based on the understanding of the magnitude, duration or extent of the loss of biodiversity and related social benefits caused by a development initiative, and the sensitivity, vulnerability and irreplaceability of the impacted biodiversity or ecosystem services. These variables inform the type, nature and size of the offset needed to achieve a No Net Loss or preferably a Net Gain for biodiversity outcomes and related social values.

A consistent approach to deciding what would constitute an appropriate offset is essential for developers and the competent authority, so that it is clear what would be expected of them. In the past, residual negative impacts and offset requirements – particularly the costs to deliver an adequate offset - have been underestimated,contributing to offset failure. These guidelines are intended to standardise approaches to measuring residual losses of biodiversity and associated social values, and guide parties to design offsets which deliver compensation commensurate with those losses. The following approaches are useful in estimating the loss of biodiversity and/or loss or deterioration of
ecosystem services that must be offset:

i) Use of ecological proxies or surrogates for biodiversity pattern, process and ecosystem services (e.g. vegetation, ecosystem or habitat type and its condition);
ii) The proportion of a population of the affected species or number of individuals or breeding pairs affected;
iii) A proxy measure of affected use or cultural values of biodiversity (e.g. loss of grazing area, loss of area as source of fuel wood, among others)

Generally, a useful approach should consider measuring and balancing losses and gains of key components of biodiversity and related social aspects, including establishing whether additional forms of compensation or offset activities are needed where a proposed offset site/s cannot providesubstitute use or cultural values to affected parties.

6.4.2 Choosing reliable measures and metrics to use in offset design

The achievement of No Net Loss or preferably a net gain requires the use of metrics in the design phase of an offset to quantify the residual loss of biodiversity and related social values which must be balanced by gains. The aim is to ensure that the approaches to the metrics and currency are appropriate and acceptable for determining No Net Loss or preferably a net gain of biodiversity outcomes. The following are key considerations.

a) In deciding the methods and metrics to be used in determining the residual negative impacts and offset requirement, the following should be considered:

(i) The type of ecosystem affected (e.g. terrestrial ecosystem or vegetation type, aquatic ecosystem, wetland) and its conservation, threat or Red List status;
(ii) The different biodiversity components which make up the ‘type’: e.g. habitat types, communities, structural characteristics, ecological process areas, climate change or ecological corridors, threatened, local endemic or Red List species, unique features;
(iii) Key ecosystem services (use and cultural values) provided to the local and possibly the wider communities.

a) Where ecosystems, vegetation or habitat types need to be offset, measures linked to area and condition/ quality ('habitat hectares' or 'quality hectares'), and key components represented, can be used.
b) Key habitat components (e.g. density/ presence of mature trees, vegetation height or canopycover) which characterize the structure, condition or quality of habitat can be used as additional measures.
c) Where species of plant including their genetic diversity that need to be offset, specialist input on flora must be obtained, given the complexity of balancing impacts with gains.
d) Where species of animal including their genetic diversity that need to be offset, population size, breeding pairs and/ or number of individuals of the species affected can be used. Specialist input must be obtained from experts knowledgeable about the affected species, given the complexity (in particular where mobile or migratory species are affected), of balancing impacts with gains.
e) Specialists use a range of different methods (e.g. Units of Global Distribution), depending on the characteristics of the affected species, their vulnerability and likely rates of recovery. Exchange rules may be neededto ensure that limits are set on what can be risked through biodiversity loss.
f) Biodiversity-based measures should be used where possible for social impacts (e.g. amount of fuelwood or pasture lost), or other quantitative measures (e.g. income lost) or qualitative measures (loss of cultural heritage).
g) Importantly, area alone is not an adequate measure of biodiversity; at least habitat condition or quality relative to a natural state must be taken into account.

6.4.3 Considering likely uncertainties, risks and time lags in delivering the offset

The delivery of an offset is likely to encounter a number of challenges, uncertainties and risks, which need to be considered critically during the design phase. Some of the important aspects to consider include, among others, the levels of confidence in restoration timeframes and success, limitations of available data on biodiversity which may underestimate offset requirements, any capacity constraints that might affect implementation, among others) and the application of multipliers as appropriate to reduce the risks of offset failure. There may be other delays in offset implementation (i.e. not only time lags in restoration) that could require attention during project implementation and should be assessed by the developer and the regulating agencies and mitigated.

6.5 Finding suitable offset sites and activities

The offset design process should identify the potential offset sites and activities and the ways that could be used to deliver the required biodiversity and social outcomes, focusing on priority areas for conservation in the landscape. Offsets should provide 'in kind' and 'equivalent' biodiversity ('like for like') to that impacted by a development project. In some circumstances, it could be appropriate in an offset to target 'better' biodiversity than that impacted; namely biodiversity which is of a higher conservation priority as it is more vulnerable or considered to be irreplaceable. Only in particular circumstances should offset sites and activities involve 'trading up' and 'out of kind' approaches, as there is no reliable way of comparing loss and gain between different types of biodiversity. However, where losses are of relatively low importance or value, and gains in a different type of biodiversity could deliver considerable benefits to conservation and the affected people, then 'trading up' could be considered.

Offsets should preferably be located close to the impact area to benefit project affected people and the same ecosystem. The activities that address the impacts on local communities' socio-economic and cultural aspects of biodiversity should be undertaken as close to the development site as possible. However, other activities, such as restoring and protecting habitats of affected threatened species, may be undertaken in the wider landscape.

It is also important to consider the likely timing of delivering the offset at a possible offset site, in particular whether there would be delays in implementing the gains to biodiversity and people. Time lags should be avoided since they could have severe effects on the affected people and biodiversity recovery. Ideally the offset should be in place before the impacts. A timeframe in which to deliver No Net Loss or preferably a Net Gain of biodiversity and social outcomes may therefore be imposed and should be shorter where affected biodiversity is threatened and risks of severe effects are high. Appropriate compensation for loss of ecosystem services during the time lag between impacts and restoration of ecosystem services should be provided by the developer.

Offsets must deliver conservation outcomes over and above what would happen without the project and the offset. This means offset activities must not comprise of actions that are already being taken by lead agencies and would have achieved without the offset. For example existing protected areas, if reasonably well protected, are not likely to be suitable as offset sites. Only where it can be clearly demonstrated that budgets for these areas now and in the foreseeable future are insufficient for restoration purposes, to avert specific foreseen losses, or to achieve other specific conservation outcomes, should they be targeted byan offset. In these cases, it will be necessary to show how the additionality principle is met.

A landscape approach is important to use in looking for possible offset sites. Offset sites close to the impact site are more likely to contain similar biodiversity (e.g. in the same catchment, or other natural boundary) and ecosystem services are more likely to be accessible to affected people. Where the offset site is located some distance from the impact site, it is likely that additional activities and/ or compensation packages will be needed to offset social impacts.

The following approach should be taken:

a) Identify candidate offset sites in the landscape which could balance residual negative impacts on biodiversity through averted loss or improved management interventions, and on people.

b) Focus on known priority sites for conservation or planned protected area expansion areas which currently lack adequate protection or effective management. The long-term viability of biodiversity at any place depends on its interaction and links with other components of the wider landscape.

c) Look for offset sites which would be viable in terms of their size, could contribute to protecting priority biodiversity areas, ecological or climate change corridors and/ or buffer zones, or consolidating or connecting protected areas.

d) Check that the potential sites are compatible with spatial plans and that they are not likely to be vulnerable to external pressures (e.g. from surrounding land uses or possible planned investments).

e) Compare possible offset sites using appropriate biodiversity and social criteria, considering whether they are likely to be feasible in terms of their availability, and social and political support, and in terms of the possible contribution each site could make in terms of gains for biodiversity and people, and meeting offset requirements.

f) Engage stakeholders at candidate offset sites, to check that use of the candidate offset site would not displace harmful activities to other areas and would have support of local communities. Where the proposed offset is likely to displace human activities and pressure on biodiversity at the offset site to another location to satisfy their livelihood or wellbeing needs, other activities, measures or compensation must be provided to remedy these additional impacts (i.e. to make sure that biodiversity and people are not left worse off).

g) Where it appears unlikely that potential sites that could satisfy the biodiversity requirements of the offset would also deliver gains to affected people, consideration should be given to providing substitute resources which would be accessible to them (e.g. alternative resources which would satisfy affected use or cultural

values, and could be sustained in the long term). The identification of suitable resources would need to be done through engagement with affected parties.

6.6 Assessing need for compensation packages

Where a development has significant biodiversity impacts and associated impacts on use and cultural values, including livelihood assets and assets to important natural resources, and where the proposed offset site is unable to provide adequate services for project-affected people, compensation packages or substitute resources may need to be provided.

In some cases, the offset site (particularly if it is part of or close to the developmentsite) may be able to provide the needed ecosystem services after a period of restoration or investment (e.g. if a wetland is to be restored to provide a source of clean water, or additional boreholes are to be drilled to this end, or a nursery is to plant trees as sources of fuel wood), in which case the compensation packages would be a bridging mechanism in the short term. In other cases, compensation would need to deliver benefits whichcould reasonably be sustained over the life of the project and offset.

In addition, depending on the characteristics of the proposed offset site and levels of dependence by local communities on its resources, constraints introduced by the offset on the use of biodiversity may result in adverse impacts which will also need to be compensated to ensure that no-one is left worse off – and preferably wouldbe better off - with the offset; compensation packages should replace lost resources or assets at minimum, and could be a short-term or long-term requirement as appropriate.

6.7 Considering different ways to secure and protect the offset site

The legal protection of the offset is important to avoid abuse, misuse or encroachment, all of which undermine the intent for the establishment of the offset. To ensure the security of the site, care must be taken to acquire, or otherwise secure the availability of the land through the prescribed legal processes. It is also essential to accord the land the needed protection status that will provide for its perpetual existence. Depending on the site and its use, the protection status may include forest reserve, protected wetland, national park, wildlife reserve, strict nature reserve, Ramsar site and special conservation areas, among others. To ensure validity for delivering on targets under the Global Biodiversity Framework, consideration will also be given to "Other effective area-based conservation measures" (OECMs)[10] that are increasingly proposed to meeting international biodiversity conservation obligations.

[10] https://www.iucn.org/commissions/world-commission-protected-areas/our-work/oecms

PART III: DECISION MAKING, IMPLEMENTION AND MONITORING

7 DECISION-MAKING AND SETTING OFFSET CONDITIONS

The National Environment Management Authority (NEMA) is responsible for making the final decision concerning establishment of an offset as well as setting appropriate conditions. In doing this, NEMA collaborates with the relevant lead agencies and licensing authorities. Annex II provides guidance on appropriate circumstances in which an offset could be required as acondition of license, permit or certificate of approval.

NEMA and other lead agencies should always ensure that offsets are proposed as a last resort form of mitigation in the mitigation hierarchy. Strong evidence-based and scientific information needs to be providedto confirm that the proposed option will not result in irreversible ecological impacts or irreplaceable loss of biodiversity or ecosystem services. In addition, the BOR and BOMP should provide sufficient assurance and guarantees that the suggested option can be implemented successfully by the developer. Decision making must be consistent with the NEA which requires that precaution and restriction measures must be applied where activities could lead to the extinction of species, the destruction of ecosystems or permanent alteration of natural cycles.

Decision makers must be confident in taking a decision and setting appropriate offset conditions that:

a) The offset could be expected to deliver No Net Loss or preferably a Net Gain and the project's residual negative impacts would not be non-offsetable.

b) The offset conditions and specified biodiversity and social outcomes are attainable, measurable, auditable and enforceable.

c) The biodiversity and social performance targets presented in the BOMP are attainable, measurable and achievable within the stipulated time frames.

d) There are clear timelines for achieving biodiversity and social targets and the institutional and management arrangements are clear.

e) The funding requirements and proposed arrangements are adequate, and include the need for financial guarantees or performance bonds when applicable.

f) The duration of responsibility for the offset, and the corresponding liability and penalties for failure of the offset or to meet conditions of licence/ permit/ authorization, are adequately covered. Other issues that must be taken into account include possibilities for change of land ownership, and the need to ensure that the offsetconditions are binding on any successors in title. Where the proposed offset is complex or controversial, and/or involves unprecedented impacts, NEMA may request for an independent peer review by a specialist with experience in biodiversity offsets, at the developer's cost.

There is frequently a need for binding agreements between the developer and various implementing agents to ensure delivery of the offset. Where the implementation of an offset involves stakeholders, NGOs, CBOs, local community representatives and other agencies/entities or expert(s) in biodiversity offsets, agreements have to be made, setting out the formal requirements and conditions of implementation. While the developer remains wholly responsible and liable for implementing the offset, such agreements provide a level of assurance of implementation by agents acting on the developer's behalf

7.1 Taking the Decision

a) In consultation with the relevant lead agencies, and taking into consideration the views of affected communities and other stakeholders (if any), NEMA shall review the findings of the Environmental and Social Impact Assessment (ESIA). In doing this, particular attention will be given to the identified impacts on biodiversity and associated social values and the application of the mitigation hierarchy in addressing those impacts.

b) Where NEMA is convinced by the ESIA findings that, after applying the full mitigation hierarchy, residual impacts of 'medium', 'medium-high' and 'high' significance remain, and that these impacts would not be irreversible or lead to irreplaceable loss, due consideration would be given to the offset proposals in the BOR and BOMP. Where NEMA is not satisfied about the requirements for addressing issues that would otherwise require an offset as a mitigation measure, the developer will be informed in writing, pointing out specific areas to be addressed before approval of the project.

c) Where NEMA is convinced that there is assurance of a No Net Loss or Net Gain outcome of the proposed biodiversity offset, it may approve offset subject to appropriate conditions.

d) Where NEMA is convinced that after the application of the full mitigation hierarchy, residual impacts are of very high significance, would be irreversible or lead to irreplaceable loss, the proposed project with its accompanying biodiversity offset would not qualify for approval. In such situations, the proposed offset cannot adequatelycompensate for the biodiversity loss and related social values that would be occasioned by the development project.

7.2 Conditions

In providing approval for the development, NEMA will, among others, consider the following:

a) Where NEMA, and in collaboration with the relevant lead agencies, finds the proposed biodiversity offset to be acceptable, an appropriate decision will be made to approve the offset for implementation, with, where appropriate, conditions that require the developer to successfully implement the offset as one of the conditions of the approval of the project. The conditions for biodiversity offsets will be integrated in the EIA certificate of approval.

b) The developer is required to implement the biodiversity offset and be responsible for its effective management in accordance with the BOMP, the requirements of the National Environment Act of 2019, the National Environment (Environmental and Social Impact Assessment) Regulation No.143/2020 for at minimum the duration of residual negative impacts caused by the project.

c) In approving the biodiversity offset, NEMA will ensure that the BOMP has:
   i) Measurable targets in terms of the conservation outcomes aimed at ensuring No Net Loss
   ii) Clear timelines for achieving these targets
   iii) Effective management arrangements, with clear roles and responsibilities
   iv) Provision for annual monitoring and periodic independent auditing of performance, to enable correctiveor adaptive management.

d) NEMA shall normally require the developer to submit detailed annual performance reports of the offset as part of the annual reports in indicated in the EIA certificate of approval.These reports should be based on monitoring in relation to the intended measurable conservation outcomes and targets in the BOMP. The reports should clearly state the biodiversity gains, any leakage, and social gainsand/ or benefits (i.e. whether the people whose biodiversity values were affected by the development project and/ or offset have been fully compensated and/ or are benefiting from the offset).

7.3 Financing offsets

The developer is required to finance implementation (including management) of the biodiversity offset for, at minimum, the duration of residual negative impacts caused by the project. NEMA and lead agencies will meet the cost of their regulatory functions including monitoring implementation of the offset and enforcement.

8 PLANNING FOR OFFSET IMPLEMENTATION

The successful implementation of a biodiversity offset largely depends on sufficient technical capacity and experience of the implementers, adequate financial provision and guarantees, and effective supervision, monitoring and independent auditing. It also requires buy-in, commitment and resources from the authorities, andsupport from local stakeholders. All of these aspects should be adequately addressed in the BOMP.

In planning for offset implementation, the following questions need to be answered:

i. For how long should the developer bear responsibility for the offset, and how long should the offset last?
ii. How will the offset site be protected to ensure long-term conservation of biodiversity and ecosystem services?
iii. What specific offset activities need to be undertaken in order to achieve the required biodiversity and social outcomes? How, when and by whom will they be undertaken?
iv. What financial and other resources will be required to implement the offset successfully?
v. How will the performance of the offset be monitored in terms of conservation outcomes and compliance with conditions of permit/ license/ authorization?
vi. How will the offset targets be evaluated?
vii. Are the different roles and responsibilities of the developer, regulatory agencies and other stakeholders in implementing the offset clear?
viii. Source and terms of offset funding.
ix. How and by whom will the management plan be implemented?
x. What role will the local community and stakeholders play in monitoring the performance of the offset, and how will they benefit from the offset?
xi. What will be the reporting process for the offset performance?

8.1 Duration of the offset

Biodiversity offsets are designed to last for as long as the development impacts on biodiversity exist, and preferably in perpetuity. The actual period for which the developer remains responsible for the offset should at minimum be the design life of the project, and longer where adverse impacts will endure beyond that period.

8.2 Securing and protecting the offset in the long term

Under circumstances that the offset involves acquiring control of land to manage it for an offset and to ensure the security of the site, care must be taken to acquire the land through the prescribed legal processes. In addition, the offset must be accorded the right protection status that provides perpetual existence, averts loss and/or degradation of biodiversity and ensures long term delivery of conservation outcomes and benefits to affected people.

8.3 Reviewing the Biodiversity Offset Management Plan

The Biodiversity Offset Management Plan (BOMP) is the main tool for implementing an offset. The first BOMP is prepared during the ESIA process and, together with the BOR, are submitted as an integral part of the general ESIA report and the Environment and Social Management Plan. This report will capture answers to the questions posed during offset design (refer to Section 6 of these guidelines and Annex V), present a candidate offset/s and set out key information regarding the implementation of the offset (i.e. how the offset site/s will be secured, protected, restored and managed, who will implement the offset, the finances required and how they will be provided, and any compensation packages to supplement activities at the offset site/s).

At the implementation phase, the BOMP must be reviewed to take into consideration the detailed information related to the offset, which was either missing during the ESIA phase, or emerging during the offset design and implementation phases. A BOMP must be prepared with stakeholder engagement, especially with input from local communities. It must set out the management objectives of the offset, all the different offset activities to be undertaken, the targets to be achieved and the indicators to be used to track performance.

The BOMP should also specify the period over which the activities must be undertaken, the responsibilities for their implementation, monitoring and evaluation requirements and independent auditing schedules, reporting requirements and grievance/ complaint mechanisms. It must include financial requirements to implementthe offset, as well as institutional arrangements (refer to Section 8.5 of these guidelines and Annex VI). The establishment of a local 'offsets liaison committee' involving local stakeholders, NGOs, local authorities and representatives of both project-affected parties and indigenous peoples and local communities in the vicinity of the offset site, can be advantageous to help monitor the offset's performance, provide feedback to the developer, an independent auditor, and relevant government agencies, and ensure that the offset stays 'on track'.

Clear responsibility for implementing the offset and its activities must be allocated in the BOMP. While the developer is ultimately the responsible party for implementing the offset, s/he can appoint a third party to undertake various required actions. For example, the developer may appoint a suitable NGO, CBO, IPLC representative, landowner(s), an expert on biodiversity offset or other party to carry out specific activities (e.g. monitoring, reporting and evaluation among others).

In all cases, it will be essential to assess the capacity of the parties to whom management responsibilities are allocated. Where there are capacity constraints (i.e. in terms of staff, technical experience, equipment and re-sources), the developer must provide capacity building or training as required.

Monitoring is a crucial component of management of the offset site and offset activities. Annual monitoring reports should be prepared by the developer or appointed implementing/ management agent, and submitted to the responsible government agency by the developer, together with independent performance audits undertaken every two years, to report back on biodiversity and related social gains, and progress towards the management targets set in the BOMP.

8.4 Implementing the Biodiversity Offset Management Plan

The developer will be responsible for the implementation of an offset, including the effective management of an offset site(s) and undertaking offset activities for the agreed time period. Based on the BOMP, the developer will develop operational plans that enable actual implementation of the planned activities on the ground. It should be noted that while the developer is the principal responsible, they could get and contract a third party to do the on the ground implementation.

The Offset implementation and management aim at delivering no net loss and preferably gain for biodiversity and the people. It typically involves among others:

a) Establishing, securing and protecting the offset site e.g. boundary marking
b) Implementing the offset activities;
c) Annual monitoring and reporting on the performance of the offset, to inform revision of the BOMP as necessary; and
d) Independent auditing every three years for legal compliance and/ or public accountability purposes

For effective management and to measure gains in biodiversity and/ or ecosystem services (i.e. gains for people) against targeted outcomes, it is essential to have good baseline data at the offset site(s). Where these data are inadequate, additional baseline surveys will need to be undertaken.

It is the responsibility of the relevant Government agency to monitor and assess the implementation process to ensure that the promised biodiversity and social outcomes are being delivered, and to take enforcement action where needed.

8.5 Estimating the financial requirements and funding for an offset

It is essential that the financial requirements to deliver an offset are calculated by the developer during the ESIA and offset design process. It is therefore important for the necessary financial provision to be arranged as an integral part of a development project's budget, together with other required mitigation measures to conform with the environmental management principles in the National Environment Act 2019 and the National Environment (Environmental and Social Impact Assessment) Regulations No. 143/2020 and to give assurance to decision makers that the offset can and will be successfully implemented.

The determination of financial resources needed for achieving the required biodiversity and social outcomes at the offset site will be determined based on the cost approach, which takes into consideration the actual remedial measures and activities needed to offset the residual impacts on biodiversity and the people and applies actual management cost estimates based on best available information.

Essentially the developer is expected to meet all the offset costs, for at least as long as the impacts persist on the ground but preferably in the longer term. Whether for a public or private investment project, the cost of implementing the offset for both biodiversity and people should be calculated, and budgeted for as part of the overallproject cost (i.e. as one of a range of mitigation expenses). The BOMP should provide a clear framework for estimating the costs associated with each and every activity required to deliver the offset. Broadly, financial requirements relate to the offset site and to compensation packages if required, as described below.

a) The offset site(s)

Financial resources are required to acquire, establish, protect and manage an offset site in accordance with the offset activities, and monitor and audit an offset's performance and activities. Implementing an offset is likely to require staff, infrastructureor equipment, legal input, surveys, and specialist advice, amongst others. It is necessary to appoint specialists to undertake baseline ecological and social surveys at the impact and offset site(s) to provide a robust basis for establishing equivalence and calculating biodiversity gains.

In order to estimate the financial resources needed to implement an offset, a breakdown of the activities needed to secure, establish, restore any degraded areas, enhance biodiversity, and manage an area for conservation is needed. Management includes the need to monitor implementation of actions and their biodiversity and social outcomes, and report back on performance. Provision for periodic independent audits about every two years should also be made.

A reliable indication of the probable costs to implement management of an offset site in a particular ecosystem may be obtained by looking at the expenditures incurred annually by UWA or NFA to manage a national park or central forest reserve in a comparable ecosystem for conservation, in line with the relevant resource management plan or by consultation with third parties who have implemented projects in the targeted region to deliver specific conservation outcomes.

b) Additional Conservation Actions

Additional Conservation Actions (ACAs) such as compensation packages or substitute resources may need to be provided where the offset site cannot provide adequate services for project-affected people and/ or compensation is needed for people at the offset site whowill be adversely affected by the offset or for improved management of the affected protected area as determined by a professional valuer at the prevailing rates. Where compensation packages are needed to offset residual negative impacts on people's use values of affected biodiversity, additional financial provision will need to be made.

Where a financial guarantee or performance bond is required of a developer, they must be placed in an accessible escrow account at a registered financial institution, in case the management authority needs to exercise the guarantee should the developer default in periodic payments.

8.6 Financing the Offset

As mentioned above, the developer is expected to meet all the offset costs, for at least as long as the impacts persist on the ground but preferably in the longer term, which often means in perpetuity. Also in section 7, the guidance calls for ensuring that the funding requirements and proposed arrangements are adequate, and include the need for financial guarantees or performance bonds when applicable. This is important in recognition that the cost of the offset is a core part of the cost of investing in and implementing the project. At the same time, an offset involves risk of uncertain gains to balance certain impacts on the environment, which isa public good to be conserved for current and future generations in Uganda. For this reason, it is considered best practice to require funds for an offset, and/ or guarantees or performance bonds up front, to provide assurance that the offset will be funded so that it is implemented successfully

Early funding of offsets is often necessary to ensure that continued biodiversity losses are avoided during project implementation. Ideally offsets would be funded prior to the impacts, but that is often not possible. However, securing funding at the time of project approval allows for offset implementation to begin immediatelyand assures all stakeholders that adequate financing will be available. The following options are available for developers in financing their offsets. Offset costs are calculated based on the estimated cost of delivering the offset following the cost approach method and taking into account risk and uncertainty, administrative and monitoring costs to demonstrate the success of the offset. Funds for biodiversity offset required for a government development project will be provided by government. Funds for biodiversity offset for private sector projects will be calculated and included in the project investment cost.

8.7 Reporting on the need for an offset and its Implementation

Reporting on the need for a biodiversity offset is done during the ESIA process. Once the impact analysis and a comprehensive investigation of earlier steps in the mitigation hierarchy (i.e. primarily to avoid and minimise impacts through investigating alternatives) establishes the need for an offset, and following a study to identify and design an appropriate offset, the issues related to the offset must be documented in a BOR. This report will capture answers to the questions posed during offset design (refer to Section 6 of these guidelines and Annex V), present a candidate offset/s and set out key information regarding the implementation of the offset (i.e. how the offset site/s will be secured, protected, restored and managed, who will implement the offset, the finances required and how they will be provided, and any compensation packages to supplement activities at the offset site/s).

Together with the BOR, a BOMP must be prepared, providing detail of the activities and measures needed to implement the offset effectively, including restoration, management (including monitoring, independent auditing and reporting), financial requirements and provision, and institutional arrangements (refer to Section 8.3 of these guidelines and Annex VI).

Both the BOR and BOMP must be submitted as an integral part of the general ESIA report and the Environment and Social Management Plan.

The developer is required to submit annual reports to NEMA under section 177 of the NEA and NEMA may use the annual reports submitted for monitoring purposes and as a basis for the preparation of the state of the environment report required under the Act. The report indicates the progress of implementation of the BOMP.

9 OVERSIGHT AND COMPLIANCE

Oversight to ensure compliance for all offsets in Uganda will be NEMA in collaboration with lead agencies and with support from the Technical Committee of Biodiversity established in accordance with the National Environment Act (2019).

Offsets are interventions with long-term implications and guidance in this section is intended to help ensure adherence to the planned activities even when there are changes in the developer's personnel, offset implementers and/ or government officials which could lead to a break in continuity with regard to implementation responsibilities and intended outcomes.

Keeping track of offset requirements and performance, including verifying that an offset has achieved the No Net Loss or Net Gain outcome for which a developer is responsible, is critical. Oversight will be regular but specific annual progress reports will be made to the committee to update on progress. Field visits may be under taken on an annual basis or as deemed appropriate by the committee.

9.1 Registry for Offsets and Record Keeping

NEMA will establish and maintain a register of all biodiversity offsets in Uganda. NEMA will establish a unit or department with the necessary capacity to effectively coordinate the design, monitor and enforce implementation of biodiversity offsets. In line with the law governing access to information in Uganda, the records and information in the registry should be accessible to public in accordance with applicable laws.

Baseline data for both biodiversity and related social aspects of all offsets will be collected by NEMA, in collaboration with the relevant lead agencies. The information collected will be kept at a central repository at NEMA. The developer will collect data annually and submit to NEMA monitoring reports to show performance during implementation. The lead agencies responsible for the offset will periodically check on the implementation progress and provide technical guidance to the developer as appropriate. In addition, the developer will undertake and submit audits every two years. NEMA will then undertake field surveys to validate the monitoring and audit findings.

In preparing the State of Environment Report, NEMA in collaboration with the lead agencies, will include a State of Biodiversity Report, the NBSAP and the CBD national reports in which the status of all biodiversity offsets will be reported. The developers monitoring and audit reports, as well as feedback from any local offset committees set up to help monitor an offset's performance, would provide valuable input in this regard.

9.2 Compliance monitoring and enforcement

This will be undertaken by NEMA in collaboration with lead agencies

9.3 Environmental audits

The developer will be responsible for undertaking the environmental audits as stipulated in the EIA Certificate of approval from NEMA and in accordance with in accordance with the National Environment Act, 2019, National Environment (Audits) regulations, No. 47 of 2020, and the Environmental and Social Impact Assessment Regulations, S.I No. 153-1. The environmental audits will include on biodiversity offsets if the approval conditions for the project includes biodiversity offsets.

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PART IV: ANNEXES

Annex I: Sample Terms of Reference for the ESIA (to provide for offset assessment)

1 Introduction

1.1 Background to the project
1.2 Planned project activities
1.3 The need for an Environment and Social Impact Assessment (ESIA)
- Objectives for the ESIA
- Specific objectives for the ESIA

1.4 On-going studies in the area

2.0 Scope of the ESIA Study

Generally, the ESIA study has a wide scope both thematically and geographically covering the extent to which the development project may impact the environment in socio-economic and ecological aspects. The study focus includes consideration of the entire mitigation hierarchy, with offsets as a 'last resort' form of mitigation.

2.1 Reporting requirements

In all, the ESIA process and reporting is to be guided by the provisions in EIA Guidelines for Uganda of 1997; the National Environment Act of 2019 as well as the National Environment (Environmental and Social Impact Assessment) Regulations, 2020. The process includes preparation ofa Scoping Report which is followed by detailed ESIA study. In addition, a public hearing may be organized to discuss the ESIA Report. Public Hearing is the decision of Executive Director of NEMA during the review of the ESIA and based on the comments on the ESIA from thereview process.

2.2 Duration of the Assignment and Timing for the ESIA

The assignment shall always be given sufficient and completed within, for example 4 12 man-months from the time of signing the Contract Agreement.

3.0 Personnel Specifications for the ESIA study

The ESIA Consultant should field a Team of experts with specialization that includes, among others:

3.1 ESIA Team Leader - The ESIA Team leader should be a holder of postgraduate studies (Minimum of a Masters' degree) in the relevant field in disciplines such as environmental sciences, civil or environmental engineering with other trainings in Environmental Impact Assessment. He or she must have over 15 years' in environmental management or in conducting ESIA studies for large scale infrastructure development projects. In addition, he/she must be a registered Environment Practitioner with theNational Environment Management Authority as provided in the National Environment (Conduct and Certification of Practitioners) Regulations of 2003. Experience working with various government and donor funded projects is an advantage.

3.2 Biodiversity Specialist/ Ecologist - The ESIA Team should include a biodiversity specialist with over 5 years of related experience in biodiversity assessments, surveys and management related to both terrestrial and water/ wetland development projects. He/she must possess a post graduate degree in natural resources/ environmentissues and should have matching experience in conducting ESIA for large projects. He/she may be a registeredEnvironmental Practitioner with NEMA or an independent specialist who is well versed with Uganda's legal, policy and institutional framework as well as Uganda's environment. Experience in biodiversity offsetting, ecosystem services work and associated mitigation of impacts, and conducting similar studies in Sub- Saharan Africa should be an added advantage.

3.3 Sociologist - must be a holder of at–least a postgraduate degree in any of the following fields; sociology, social work and social administration and anthropology. Must have at-least 5 years related experience resettlement/ mitigation or social impact assessment studies. In addition, he/she must be a registered EnvironmentPractitioner with the National Environment Management Authority as provided in the National Environment (Conduct and Certification of Practitioners) Regulations of 2003. Experience working with government or donor funded projects is an advantage.

3.4 Ornithologist (or specialist in other fauna) and Plant Specialist/Taxonomist -The Ornithologist should be at least a holder of Bachelor's degree in zoological sciences with specialization in birds. He/she should have at least 5 years' experience in conducting ESIA studies. If the project-affected species of greatest conservation concern arenot birds but rather other animals (mammals, reptiles, fish, etc.) or plants, then the zoologist(s) or botanist(s) selected should have the corresponding expertise.

3.5 Wetland or other Ecosystem Management Specialist - The Specialist should have a degree in natural resources management, environmental management, engineering, or environmental management with specialization in wetland management. He/she must have at least 5 years' experience of working in wetland management and sustainable development. Evidence of registration as an environment practitioner with NEMAis an added advantage. If the development project and associated offset would not affect wetlands but rather other natural ecosystems (such as upland forests or savannas), then the selected specialist should have the corresponding expertise.

3.6 Water Resources Management Specialist (Management of aquatic resources)- The Specialist should have a degree in water and aquatic resources management, environmental management, engineering or environmental management with specialization in water resources management. He/she must have at least 5 years' experience of working in aquatic resources management and sustainable development. Evidence of registration as an environment practitioner with NEMA is an added advantage.

3.7 Ecological or Natural Resource Economist - The specialist must possess at least a postgraduate degree in ecological economics or environmental economics. He/ she should have at least 5 years' experience in ecological or natural resource valuation studies focusing on valuation of ecosystem services, particularly provisioning and regulating services.

3.8 GIS Specialist - The specialist must have a degree in Geographical Information Systems (GIS) or land use planning or mapping or Surveying. He/she should have experience of at least 5 years in using applications such as ArcView and associated packages for production of maps using appropriate technologies such as GPS. Experience in conducting ESIA is an added advantage.

1.0 Services and Facilities provided by the client and consultant

4.1 Client: The client will: a) Designate staff to serve as coordinator for the project; b) Provide documentation of previous studies conducted related to the assignment including sectoral environmental management tools and policy documents; c) Establish contacts with the relevant stakeholders for purposes facilitating thestudy process, d) Provide a venue and meeting costs for consultative workshops on the study outcomes or asagreed with the consultant; e) Liaison and assistance to obtain any other information and documents requiredfrom Government of Uganda (GOU) agencies and which the client considers essential for the proper conductof the assignment.

4.2 Consultant: The consultant is usually responsible for providing the following facilities for use: a) Office and residential accommodation; b) Computer hardware, software, communication, office supplies etc.; c) All necessary vehicular transport; and d) All other support facilities.

Annex II: Appropriate circumstances in which to use biodiversity offsets

Uganda developed a National and Social Offsets Strategy for the country in 2019. The strategy provides a framework for operationalizing biodiversity offsetting inthe country[11]. Developed through a consultative process, the document notes the consensus by stakeholders who agreed that biodiversity offsets can contribute to positive conservation outcomes.

However, it is of the utmost importance to note that, unless an ecosystem or habitat for particular species can be fully restored, certain development projects will incrementally reduce the overall spatial extent of remaining natural biodiversity in Uganda, even when offsets are used. While the loss of biodiversity and people's values attached to that biodiversity through some development projects is certain, the planned gains throughoffsets are less uncertain and focus on remaining natural or degraded areas. It is thus essential that projects consider rigorous application of the full set of alternatives in the mitigation hierarchy: avoidance, minimization, and restoration/rehabilitation before considering offsets.

Developers and regulators should therefore ensure adherence to the following criteria of good practice:

1. Offsets should only occur after all previous steps in the mitigation hierarchy have been considered. Avoidance or prevention is the first and most important step in the mitigation hierarchy, followed by minimization and restoration/rehabilitation. Only after applying the earlier steps in the mitigation hierarchy should biodiversity and social offsets be employed to address the residual impact in order to achieve No Net Loss or Net-Gain at the project level. Note that the mitigation hierarchy applies to people's wellbeing and social values associated with biodiversity, as well as the biodiversity itself.

2. Apply the ecosystem approach in all stages of the ESIA, considering the full range of ecological, social, economic and cultural values of biodiversity when applying the mitigation hierarchy.

3. Ensure determination of similarity or equivalence of the impacted ecosystem, communities and species, and ecosystem interactions in the offset site. For example, where a water body, natural forest, wetland, etc. is being destroyed or modified for development, a corresponding site should be identified with comparable components to satisfy the 'like for like' principle.

4. Use approaches that are science-based (and thus evidence-based), transparent and participatory, and address the effects of the project and the offsets on livelihoods. Proper assessment of the habitats, ecosystems, ecosystem services and social-cultural values of biodiversity, and reliable measures of residual negative impacts, shall aim at determining full and fair compensation for what is foregone, for both biodiversity and affected communities.

5. Design offsets to achieve at least No Net Loss and preferably a Net Gain of biodiversity; while ensuring that affected people's wellbeing is at least as good as before the development and its offset (i.e. taking into account affected people at both the development site and at the offset site).

6. Some values that people attach to biodiversity cannot be compensated for if that biodiversity is lost to a development, for example irreplaceable cultural and traditional sites, and natural resources on which the health, safety and livelihoods of local communities depend which may not be substituted or replaced.

7. Biodiversity offsets may not be sufficient where there are components of biodiversity for which impacts could theoretically be offset, but with a high risk of failure. Examples include areas with threatened species (critically endangered, endangered and vulnerable); species which are narrowly endemic to specific areas,(e.g.

[11] National Biodiversity and Social Offset strategy for Uganda. Ministry of Water and Environment, 2019. Kampala, Uganda.

Albertine Rift endemic, Mt. Elgon endemic, Sango Bay Minziro endemic), species which have highly restricted ranges or other species of Conservation Concern). The IUCN Red List and the National Red List for Uganda (WCS, 2017)[12] are important references for guiding decision making, which must apply precaution, in line with the NEA, where activities couldlead to the extinction of species, the destruction of ecosystems or permanent alteration of natural cycles.

8. Offsets should generally be located near the development or in another site taking into account like-for-like concept ensure that ecological and social-cultural values are not seriously disrupted or lost butpreferably enhanced.

9. In areas affected by both the development project and by the biodiversity offset (which might be two different locations), stakeholders should participate in decision-making at all phases of the offset project, including the evaluation, selection, design, implementation, and monitoring of the offset. Stakeholder participation (especially with the poor and vulnerable) shall promote transparency and equitable sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset.

10. In accordance with the laws of Uganda, biodiversity offsets should be designed and funded by the developer for as long as the development impacts on biodiversity exist or preferably in perpetuity. The commitmentwill be documented in a BOMP which shall be developed in a participatory manner especially with local communities, and provide details of the activities, responsibilities, costs, checks and adaptive measures to ensure that the offset will achieve No Net Loss or Net Gain for biodiversity and people.

11. Offsets shall be subject to performance monitoring and auditing by the developer, and compliance monitoring and evaluation by the relevant government agency to ensure that the promised biodiversity and social outcomes are being delivered. Any requirement for additional measures to meet the promised biodiversity andsocial outcomes shall be funded by the developer (from contingency funds set aside from the start to allow forthis).

[12] WCS (2017): National Red List for Uganda for the following Taxa: Mammals, Birds, Reptiles, Amphibians, Butterflies, Dragonflies and Vascular Plants.

Biodiversity offsets themselves may contribute to the conservation of biological resources. However, biodiversity offsets are often controversial because of the adverse impacts from the original development project. In addition, in some cases the offset itself can cause negative impacts on the livelihoods of people depending on the resources at the offset site. There are therefore a minimum set of conditions for biodiversity offsets in Uganda, and they include conservation related concerns such as:

Adequacy of the offset: The proposed offset site should be adequate in size, legally certain, financially sustainable, so that it is adequate as compensation for the expected biodiversity damage from the original development project. If inadequate, it should be solved by scaling-up the size of the offset investment, or taking themeasures needed to ensure a greater likelihood of success—such as stricter legal protection, strengthening of the organization responsible for offset area management, or better long-term funding of protection and management costs.

Damages that cannot be offset: Another key concern is whether the biodiversity damage from the development project might be so great that it simply cannot be offset. Certain adverse residual impacts cannot be offset, particularly if the affected area is unique or irreplaceable from a biodiversity standpoint. In such cases, the only effective way to avoid severe biodiversity loss would be not to proceed with the project (as designed). Even if a proposed offset site is outstanding in its own right and merits conservation, protecting the site as an offset would not compensate for the loss of a particularly unique and irreplaceable area caused by development, which could aggravate the risk of species extinction, destruction of ecosystems or permanent alteration of natural cycles, contrary to the spirit of NEA.

Project Acceptability: The environment and biodiversity are held in the public trust for the good of current and future generations. The question of whether a project is or is not acceptable because of the extent of adverse residual impacts on biodiversity or associated ecosystem services is ultimately one for governments and the public citizens to address. This is one of the reasons that there should be public hearing for ESIA reports. International financing organizations have environmental standards that can help to guide this decision making. For example, the IFC's Performance Standard 6 allows projects to affect areas defined as Critical Habitat (CH) only to the extent that they do not lead to measurable adverse impacts on those biodiversity values for which the Critical Habitat was designated, nor to a net reduction in the population of any endangered species, among other criteria. Determining exactly when the residual damage to biodiversity from a proposed development project would be too severe to be feasibly offset requires careful interpretation of laws, policies, and treaties; analysis of (often highly incomplete) scientific data; application of precaution; and a dose of good judgment that also takes stakeholder concerns into account. If the residual adverse impacts from a proposed project are found to be unacceptably large and could not adequately be offset or otherwise compensated, then the logical decision would be to substantially redesign or shelve the project.

Issues of concern to note for high-risk situations

Certain situations pose a high risk that the proposed biodiversity offset will not succeed in achieving No Net Loss, let alone more modest conservation targets, for a range of ecological, technical, legal, institutional and/or financial reasons. In such circumstances, biodiversity offsets need to be assessed very carefully before being planned and implemented. In some cases, the low probability of a successful biodiversity offset, coupled with high adverse residual impacts, would argue for not proceeding with the original project. In other cases, the prospects for a successful offset (in terms of No Net Loss or Net Gain) might be reasonably good, but the overall project (including the offset) might remain highly controversial.

Issue 1: Original development project would affect an area that is known or likely (i) to contain highly threatened or unique ecosystems or habitat for highly threatened species; (ii) to be important to the survival of endemic or restricted range species; or (iii) to provide habitat for nationally or globally significant numbers of migratory or congregatory species and/or (iv) areas associated with key evolutionary processes. High irreplaceability or high vulnerability means a very high risk for offsetting because (i) finding suitable offset sites of adequate size and quality might prove impossible; (ii) adverse impacts on threatened ecosystems or species could result in further declines or even extinction; and (iii) lack of information, such as on the distribution or population size of certain species, might make it difficult to understand the significance of project impact or todesign an adequate offset. In these cases, there is a presumption that offsetting is not feasible and changes mustbe made to the project as proposed.

Issue 2: Original development project would affect a legally protected area (existing or proposed) or an internationally or nationally recognized important site. Protected Areas (PAs) that are designated at a national or subnational level are particularly important. That also applies to internationally recognized sites such as Key Biodiversity Areas (KBAs), World Heritage Sites and Ramsar Wetlands which often support important biodiversity features that are often difficult to find elsewhere. Designation of these sites by governments and/or the international community reflects the great significance of the sites for biodiversity conservation and for thepeople. The promise of an offset should not be inappropriately used to justify development projects that wouldsignificantly damage these special sites. At the same time, if certain development (such as oil extraction) within a protected area is considered inevitable for political reasons, well-funded offset designed to deliver Net Gain,which leads to expanded protected area networks and greatly improved on-the-ground protection of biodiversity, might serve to reduce concurrent threats (such as agricultural encroachment) to the same protected area orarea recognized as being of national or international importance. However, in some instances, where such development would lead to irreplaceable loss or irreversible ecological impacts, No Net Loss or Net Gain wouldnot be possible and these measures would constitute ‘compensatory conservation’ rather than a strict offset.

Issue 3: Proposed offset area has poor prospects for long-term conservation. Even if adequate natural habitats, similar to those that would be lost to the original project, seem to be available as offset areas, closer examination might find that establishing a viable protected area of suitable size which could deliver the required conservation outcomes might not be feasible due to land tenure, socio-economic, political, financial or security constraints. An offset should only be accepted when it is demonstrated to be feasible, and can be managed to deliver gains for affected biodiversity and people in a sustainable manner. In these cases, alternative offset areas and activities would need to be sought.

Annex III: Minimum set of approval conditions for offsets in permits/licenses / certificates)

Authorizations for development projects should include explicit conditions for biodiversity offsets where they are required as part of the projects' mitigation measures.

These conditions must be clear, measurable, can be audited by an independent auditor, and enforceable by the relevant authority where there is non-compliance.

- State explicit and measurable conservation outcomes to be achieved in terms of the required gains in biodiversity (i.e.how much of which specific components of biodiversity, e.g. particular ecosystem, habitat for species and in what condition) must be protected, restored and/ or managed for improvement in accordance with the BOR and BOMP).
- State explicitly the time frame permitted to deliver No Net Loss or Net Gain, and for verifying that this outcome has been achieved.
- State clearly that the developer is responsible for protecting, restoring *[if relevant]*, managing and maintaining the biodiversity on the offset site for *[a specified time period, which must be the same or longer than the attainment of No Net Loss or Net Gain]* from the start of the development project.
- State clearly that the developer is responsible for financing all costs related to the offset site and offsetactivities, including compensation packages if required [as set out in the BOR and BOMP].
- State clearly whether any proof of sufficient financial provision - or some other guarantee of other resources is required *[including the need for financial guarantees or performance bonds where full financial provision is not made prior to commencing the development project]* before the development project may commence.
- State clearly that the developer must monitor the offset's performance on *[an annual basis]* to review the effectiveness of its ecological management to achieve the required offset outcomes, as well as the adequacy of financial provision, and undertake independent compliance and performance audits [about every two years]. These monitoring reports and auditsmust be submitted to the authority.
- State clearly when the development project can start in relation to satisfying *[specific suspensive offset conditions e.g. arrangements for financial provision, financial guarantees, submission of offset agreements with implementers or managers of an offset site, notice of protection of the offset site]*.
- Specify, explicitly, the consequences of non-compliance with any of these conditions, including the suspension of the license, permit or certificate of approval.
- Specify that offset agreement(s) between the developer and implementing/ management agent(s) must be concluded before the project can commence and submitted to the relevant management authority.

Annex IV: Description of an offset agreement

The developer is responsible for ensuring effective management of the offset site according to the BOMP, to deliver the necessary gains for biodiversity and affected people. However, because it is unlikely that the developerwould have the requisite capacity to manage an offset or interest in so doing, competent agents to implement and manage the site on the developer's behalf are often appointed. Accordingly, therefore, the developer commits to implementing the offset (either an on-site or off-site offset) through an agreement entered into with the responsible management authority (NEMA and any other responsible sectoral responsible lead agency). The developer may then opt to contract one or more implementing agents to secure and protect the selected offset site, and undertake its management. Binding agreements would be signed between the developer and the selected implementing agent(s), and submitted to NEMA before commencing the development project. Importantly,the developer, being the permit/ licence/ certificate of approval holder, would ultimately remain responsible and liable for implementing the offset.

A robust offset agreement (between developer and a third party appointed to manage the offset) is important to ensure sustainable management of the offset. By the time that agreement is developed it means that consensus has already been achieved on locating a suitable offset site and securing the tenure of the site, and that the responsible management authority/ lead agencies have 'signed off' on the proposed offset site. (Where the developer intends to purchase or lease appropriate land for an off-site offset, for example, it would be necessary to reach agreement with the land-owner(s) before developing a BOMP and offset management agreements. The agreement with the landowner could include issues on ownership, access, possible title deed restriction, management, monitoring and evaluation, and auditing of the proposed offset's performance.)

Once agreement to purchase or lease land has been finalised with the landowner, additional agreements with different implementing agents can be developed. The BOMP would form an annex to any such agreements because it provides the frame of reference – and in cases where one manager is appointed to implement and manage the offset site, the Terms of Reference - for implementing the required management activities.

An adequately resourced fund for the offset site would have to be set up, directly related to the costs of protecting, establishing, managing, monitoring and auditing the offset, as well as obtaining specialist advice where appropriate. The offset implementer or management entity would then undertake management activities and thesewould have to be funded from the offset fund according to an agreed schedule at specified rates. The financialprovision and payments from the fund must be stipulated in a schedule/annex to the BOMP and annexed to theagreement.

Offset agreements must set out the respective roles, responsibilities, funding arrangements and timeframes for the primary actions needed to deliver the required biodiversity offset by the contracting parties. The possible Table of Contents for an offset agreement with an implementing or managing agent could thus include, as relevant, the aspects described below:

Part A. Execution
Part B. Parties to the Agreement and their respective rights, roles and responsibilities/ obligations
Part C. Preamble
Part D. Consents required under the NEA,
2019Part E. Schedule of Terms Part

F. Conditions

1. *Definitions and interpretation, including identification and description of subject offset site*
2. *Duration and Commencement*
3. *Objectives*
4. *General restrictions on use of biodiversity offset site and the land*
5. *Specific implementation, management and monitoring activities*
6. *Exceptions*
7. *Reporting, record keeping and notification requirements*
8. *Owner's obligations where Land is used by third parties*
9. *Change of Owner or Occupant of Land*
10. *Owner to permit access for Research and Monitoring*
11. *Management payments and annual contributions*
12. *Acknowledgment of Support*
13. *Publicity*
15. *Biodiversity credits*
16 *Developer's guarantees as to ownership and tenure security of Biodiversity*
17 *Developer to obtain all necessary consents and comply with all Laws*
18. *Land Titles Registration*
19. *Right to caveat*
20. *Reviews*
21. *Indemnity and release*
22. *Variation and termination*
23. *Force majeure*
24. *Dispute resolution*
25. *Disclosure of information*
26. *Costs*
27. *Delegation of Minister's powers*
28. *Discretion*
29. *Default and Minister's rectification rights*
30. *Notices*
31. *General Issues*
32. *Attachment 1: Biodiversity offset agreement site boundary map*
33. *Attachment 2: Biodiversity credits*
34. *Attachment 3: Description and Biodiversity offset Agreement number: [*] Property Name: [*]*
35. *Attachment 4: Reporting Obligations*
36. *Attachment 5: Biodiversity Offset Management Plan – (BOMP)*
37. *Attachment 6: Glossary – Explanation of Terms*

Annex V: Minimum contents of a Biodiversity Offset Report

The BOR arises out of the ESIA process and is therefore basically part of the overall ESIA report. It aims at providing information regarding key considerations in deciding on the acceptability and adequacy of a proposed offset. At minimum, it should include the following information:

Executive summary
Introduction and purpose of the BOR Concise statement of legal requirements

1. A statement on the adequacy of consideration of measures and alternatives to avoid, minimize and restore potentially significant negative impacts on biodiversity before considering offsets.
2. A statement on the appropriateness of considering biodiversity offsets, with due consideration of potentialrisks of non-offsetable residual negative impacts.
3. A description and reliable measure of all direct, indirect, induced and cumulative residual negative impactson significant biodiversity (ecosystems, species, ecological processes) and ecosystem services (i.e. use and cultural values of affected biodiversity) requiring offsetting.
4. Description of methodology used to determine the offset requirements for impacted biodiversity (ecosystems, species, ecological processes) and people's values attached to biodiversity loss, and justification forthe required size of the biodiversity offset to compensate for the residual negative impacts within specified timeframes to deliver the offset. This analysis must explicitly cover the need for multipliers to address risks, uncertainties and time lags.
5. A description of offset options considered, giving reasons for choosing the proposed offset site/s and/ or activities.
6. Where the proposed offset comprises a 'trading up' exchange, motivation and justification for this exchange, with explanation of how the size of required offset was calculated.
7. Where the proposed offset comprises 'like for like' or 'trading up' habitat:
   - 7.1 Description of stakeholder engagement process in identifying and evaluating the adequacy and acceptability of the proposed offset site.
   - 7.2 Description of any impacts on biodiversity, ecosystem services and/or associated socioeconomic and/ orcultural factors associated with securing the proposed offset site.
   - 7.3 Description of potential offset sites that would adequately compensate for residual impacts on a) biodiversity pattern and ecological processes (threatened ecosystems, threatened species and special habitats, and ecological connectivity and corridors), and b) on ecosystem services, to achieve a No Net Loss or preferably a Net Gain of outcome. (Evaluation of adequacy of proposed offset site by a biodiversity specialist and, whererelevant, an environmental resource economist and social specialist). This should include:

- Location of potential offset sites (i.e. Preferably located in a recognized priority area for conservation);
- The extent to which the offset site/s contain equivalent biodiversity components as that impacted at the development site (to satisfy the equivalence principle of offsetting);
- Whether the size of the offset site/s is sufficient to deliver No Net Loss for biodiversity within the specifiedtimeframes, through averted loss, restoration/ improved management, taking into account risks, uncertaintiesand time lags;
- Whether the offset site/s will also compensate fully for residual negative impacts on people's use and cultural values of affected biodiversity, and/ or whether compensation packages will be required;
- Whether the proposed offset activities will deliver outcomes over and above results that would have happened without the offset and/ or are already a legal requirement (to satisfy the additionality principle of offsets);
- Description of type of protection to be given to the offset site;
- Statement of functional viability of the proposed offset site in the long term;
- Probable costs of establishing, protecting, managing (including restoring), monitoring, auditing, and obtaining specialist input where necessary on managing, the offset site/s, including escalation (management coststo be drawn from the BOMP);

- Responsibility for establishing, protecting, managing (including restoring), monitoring and auditing the offset;
- Evaluation of the probable security of the offset site in the long term, in terms of both tenure and threats toeffective management;
- Statement regarding the adequacy of capacity of the institution, organization or other party to meet obligations in terms of above responsibilities, and any need for capacity strengthening.

7.4 Proposed arrangements and agreement/s between the developer and different parties/ stakeholders to effect implementation and management of the offset (including, e.g., local community stakeholder benefits interms of payment for ecosystem services programs).

7.5 The distributional or equity effects of the offset: the probable positive and negative impacts of the offset on stakeholders, and a description of who would benefit from, and who would bear the costs of the offset.

7.6 Administrative costs of the offset.

7.7 Proposed arrangement for financial provision for the offset (including provision for administration and financial management costs and advice), and for financial guarantees where full upfront payment will not be made.

It should be noted that the key factors that need to be considered in selecting a best practicable offset are informed by lessons on compensation mechanisms world-wide, coupled by country level experiences and socio-economic conditions. The BOR should thus provide a systematic evaluation of the proposed offset to ensure that society as a whole, and affected communities in particular, would not beleft more vulnerable or less resilient as a consequence of the proposed development. It should thus describe the probable positive and negative impacts of the offset on interested and affected parties anda description of who would benefit from, and who would bear the costs of the offset. In addition, the report should provide assurance that where offsets are to compensate for loss of biodiversity under- pinning valued ecosystem services (i.e. use and/ or cultural values), the proposed offset site/s would deliver affordable, accessible and acceptable substitutes to the main affected stakeholders. If these site/s are unable to compensate fully for these losses, the report must describe how the outstanding negative impacts would be prevented and/ or compensated; these additional actions/ compensationpackages must leave affected people at least as well off as before the project and/ or offset impacts, and prevent leakage (which would jeopardize the gains required from the offset). The report should also describe the land and resource uses that would be compatible with biodiversity conservation objectives, and controls on those uses. In particular, where an offset for residual negative impacts on biodiversity also pro- vides offsets for residual impacts on ecosystem services, assurance should be provided that the latter would not compromise the biodiversity value of that offset (e.g. if the biodiversity is to be a direct-useresource, then use could lead to degradation of that biodiversity/ ecosystem).

Annex VI: Minimum contents of a Biodiversity Offset Management Plan (BOMP)

The Biodiversity Offset Management Plan document provides information focused on the project sites (managing impacts on the development site) as well as on the offset areas. The Biodiversity Offset Management Plan is supposed to capture the offset's management objectives and the essence of biodiversity offset design. The document must address the full set of issues involved in design and implementation of mitigation measures, including application of the mitigation hierarchy, checking that residual impacts have been offset, calculating loss and gain, landscape level planning and offset site selection, definition of the planned biodiversity conservation and social outcomes of the offset, identification of the corresponding offset activities, assumptions and rationale for choices made. The plan document should also describe the main elements of offset implementation (including a description of roles and responsibilities for implementation; the long-termlegal, institutional and financial arrangements for offset implementation; monitoring, evaluation and adaptivemanagement; independent auditing; and reporting).

This template applies to offset site(s) which have been secured by a developer. In some cases, compensation packages would form part of the offset, and their delivery and auditing their effects relative to intended outcomes would need to be checked separately; where these packages are inadequate, additional measures wouldneed to be negotiated.

1.0 Introduction
1.1 Purpose of the BOMP
1.2 The Development Project that led to the offset
2.0 The Project's residual impacts on biodiversity and people's associated values
2.1 Measurable residual negative impacts on biodiversity:
- Ecosystems Habitats/
- Species
- Ecological processes (connectivity, corridors)

2.2 Measurable residual negative impacts on people's use and cultural values of affected biodiversity
3.0 Complying with Approval Conditions (offset relevant)
4.0 Offset Property Description
4.1 Overview of approach to delivering gains for biodiversity
4.2 Offset property/ies, location and boundaries
4.3 Baseline biodiversity survey of the offset site
4.4 Managing the offset site to deliver biodiversity gains
4.5 Management arrangements, roles and responsibilities, rights and obligations
4.6 Management objectives and required measurable outcomes
4.7 External risks and threats to the success of the offset
4.8 Management actions to improve baseline condition, indicating target areas for these actions on site/smaps
- Restoration or rehabilitation
- Removal of invasive, alien or pest species
- Introduction of local indigenous species
- Improved fire management
- Control of poaching or illegal removal of plants or animals
- Management of external threats/ risks
- Other

4.9 Zonation plan for the area showing areas for permissible different land and resource uses compatible with management objectives

4.10 Implementation schedules for management actions, and timelines for achieving outcomes

4.11 Monitoring progress to achieving outcomes

- Selecting sensitive indicators to measure changes relative to baseline
- Monitoring schedule to check implementation of management actions and compliance with approval conditions
- Engagement with project-affected parties to assess adequacy of offset/ compensation measures
- Checking for displacement of livelihood activities, physical displacement and leakage
- Evaluation of performance, and revision of BOMP where required to ensure that outcomes will be achievedtimeously

5.0 Involvement of local community in the offset site/s:

- permissible use of the offset site by local community members
- involvement of local community in implementing management actions and/ or monitoring of the site
- provision for stakeholder engagement and communication, and addressing/ resolving grievances

6.0 Assessment of capacity to implement management effectively, and identification of need for capacity building and/or skills training of implementers

7.0 Schedule of costs for all activities in this BOMP over the specified period of developer's responsibility, and for which provision must be made by the developer, adjusted for escalation

8.0 Independent audits, monitoring and reporting on offset performance

- Annual monitoring reports with recommendations for BOMP adjustment
- Periodic independent audits to check compliance, performance and progress towards required outcomes, tobe made publicly available
- Reports to be submitted to management authority and other lead agencies

9.0 Conclusion

10.0 Annex 1 – Detailed aspects of the BOMP and baseline information as appropriate.

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