NATIONAL BIODIVERSITY AND SOCIAL OFFSET STRATEGY




MINISTRY OF WATER AND ENVIRONMENT

MAY, 2019

AFD

FONDS FRANÇAIS POUR L'ENVIRONNEMENT MONDIAL

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Glossary of terms

***Biodiversity corridors**:* Core areas and interlinking ecological corridors contributing to a biodiversity plan within a landscape.

Biodiversity offsets: are conservation measures designed to remedy the residual negative impacts of development on biodiversity and ecological infrastructure, once the first three groups of measures in the mitigation hierarchy have been adequately and explicitly considered (i.e. to avoid, minimize and rehabilitate/ restore impacts). Offsets are the 'last resort' form of mitigation, only to be implemented if nothing else can mitigate the impact. Offsets are essentially when losses of biodiversity in one location are offset with measurable gains elsewhere, and can be within the development site or outside of the site.

Biodiversity and Social Offset Management Plan: This is a plan of a set of activities that a developer should develop as part of the environmental management plan to address the mitigation measures identified in the environment and social impact assessment (ESIA). It is sometimes called a Biodiversity and Social Action Plan and its aim is to ensure that the mitigation measures are implemented. This document provides information focused on the project sites (managing impacts on the development site) as well as on the offset areas. The Biodiversity and Social Offset Management Plan is supposed to capture the offset's management objectives and the essence of biodiversity and social 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-term legal, institutional and financial arrangements for offset implementation, monitoring, evaluation and adaptive management).

Compensation: in terms of biodiversity, compensation involves measures to recompense, make good or pay damages for loss of biodiversity caused by a project. Regarding people, compensation are measures to make up for losses incurred because of the loss of biodiversity caused by a project. A difference between 'compensations' and 'offsets' is that offsets require the outcomes to be measured.

Collaborative natural resource management: shared decision-making over natural resources by the State and resource users (or communities). Collaborative management includes: management arrangements negotiated by multiple stakeholders, consisting of a set of rights and privileges (tenure) that are recognized by the government; the process among resource users (or other interest groups or stakeholders) for sharing power to make decisions and exercise control over resource use (FAO, 2005). In Uganda, collaborative forest management (CFM) is applied in forest reserves, while community conservation program is applied in wildlife conservation areas.

Cumulative Impact: Past, current and reasonably foreseeable future impacts of an activity, considered together with the impact of the proposed activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

Development project: Any undertaking for economic gain; development projects often lead to a modification of the natural environment such as building a road; mine; house; expanding agricultural operations; oil and gas exploration, production, refining, transportation and marketing; electric power production, transmission and regulation; urban development, etc.

Ecological integrity: The state or condition of an ecosystem that displays the biodiversity characteristic of the reference impacted area, such as species composition and community structure, and is fully capable of sustaining normal ecosystem functioning.

Ecosystem: A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit. It is an ecological system with particular defining characteristics. In Uganda, ecosystems tend to be broadly grouped in terms of freshwater ecosystems, terrestrial ecosystems and wetland ecosystems.

Ecosystem services: Are the direct and indirect economic, social and environmental benefits obtained from the correct functioning of ecosystems, including watershed regulations, maintenance of biodiversity and carbon sequestration, for human wellbeing (National Environment Act, No. 5 of 2019). The Millennium Ecosystem Assessment 2003 classifies the services that ecosystems can provide into four broad categories: provisioning services, regulating services, supporting services and cultural services. Provisioning services are the products directly obtained from ecosystems (e.g., food, fiber, timber), regulating services are the benefits obtained from the regulation of ecosystem processes (e.g., climate regulation, water regulation, pest and disease regulation), supporting services are indirect services, as they are necessary for the production of provisioning, regulating or cultural services (e.g., soil formation, nutrient cycling, photosynthesis), and cultural services are nonmaterial benefits people obtain from ecosystems (e.g., aesthetic values, recreation and ecotourism, cultural diversity).

Ecosystem status: Indicates the condition of an ecosystem relative to thresholds for its continued existence (or persistence), both in terms of the ecological processes to maintain ecosystem function and the conservation of the species and habitats characteristic of that ecosystem. Threatened ecosystems comprise: Critically Endangered, Endangered and Vulnerable ecosystems.

Key Biodiversity Areas (KBAs): Sites selected to be the most efficient configuration in the landscape for meeting biodiversity targets of representativeness and persistence. KBAs are irreplaceable or 'important and necessary' in terms of meeting targets for biodiversity pattern and process, and large enough and connected enough to be functional and persist in the long term. A total of 36 terrestrial/wetland KBA sites and nine freshwater sites are identified for Uganda. Out of these, ten (10) are outside the protected areas (Plumptre *et. al.,* 2017)

"like-for-like or better" principle: A common approach to biodiversity offsets is to require conservation (through the biodiversity offset) of the same type of biodiversity as that affected by the project. This is known as 'like-for-like'. This is sometimes modified to 'like-for-like or better', in which the offset conserves components of biodiversity that are a higher conservation priority (for example because they are rare or vulnerable) than those affected by the development project for which the offset is envisaged. This 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.

Mitigation: Measures which aim to reduce impacts to the point where they have no adverse effects. Examples of mitigation measures include planning work outside of sensitive times for wildlife (e.g. not within breeding seasons), translocation of species to temporary or permanent alternative sites, post-project site restoration and recolonization / stocking.

Mitigation hierarchy: A sequence of measures to first avoid, minimize, rehabilitate and/or then remedy negative impacts or offset. Anticipation and prevention of negative impacts and risks, then minimization, rehabilitation/restoration or 'repair' (NEA, 2019: section 115).

No Net Loss or Net Gain of Biodiversity: targets for a development project that are achieved by applying the mitigation hierarchy, whereby after all possibilities to avoid impacts on biodiversity have been undertaken, then impacts on biodiversity caused by the project are outweighed by measures taken to minimize the project's impacts, to undertake on-site restoration and finally to offset the residual impacts. No Net Loss is achieved when losses of biodiversity are balanced by the gains. Net Gain is achieved when the gains exceed the losses. Essentially both targets are the management of biodiversity resources ensuring that biodiversity losses in one habitat are balanced by a gain elsewhere. The whole of the mitigation hierarchy is a core instrument in the context of No Net Loss and Net Gain.

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, in consultation with the environmental assessment practitioner and specialists (including a biodiversity specialist), in order 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.

Restoration (of an ecosystem or a species' habitat): Returning a disturbed, degraded or destroyed ecosystem or species' habitat to productive use, with the emphasis on repairing ecosystem processes and services (i.e. need not involve re-establishing species composition and community structure, or associated ecological integrity). It is an intentional activity that initiates or accelerates the recovery of a particular damaged, degraded or destroyed ecosystem with respect to its health, integrity and sustainability. An ecosystem has recovered - and is restored - when it contains sufficient biotic and abiotic resources to continue its development without further assistance.

Revenue sharing: the distribution of income generated by the sale of goods or services among the stakeholders or contributors. For natural resources, this is to stakeholders involved in the management of the natural resource in question.

Sustainable use: the use of components of biological diversity in a way and at a rate that does not lead to its long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

Foreword

Uganda is endowed with natural resources including water, wetlands, land, aquatic and terrestrial biodiversity as well as below ground biodiversity. The state of these natural resources are under threat from unsustainable human activities resulting in rapid deterioration of their quantity and quality, degradation and loss of habitats and species as well as loss of ecosystem services. In the Vision 2040, the government of Uganda aspires to attain a green and clean environment with no water and air pollution, and also committed to restoration of all degraded areas and to ensure effective conservation of all flora and fauna. The government of Uganda has demonstrated commitment to fulfill its biodiversity conservation goals and objectives in ways that promote sustainable national socio-economic development by including in the National Environment Act No. 5 of 2019 provisions on mitigation hierarchy for ensuring No Net Loss of biodiversity.

The current National Biodiversity Strategic Action Plan (NBSAP II) for Uganda is themed to support transition to a middle income status and delivery of sustainable development goals which is in tandem to the achievement of Uganda's Vision 2040 and successful implementation of NDPII. The NBSAP sets 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.

Uganda joined the countries that are committed to ensure No Net Loss (NNL)/Net Gain (NG) by adapting the international best practices and standards such as the International Finance Cooperation (IFC) performance standards specifically PS6 on Biodiversity Conservation and Sustainable Management of Living Natural Resource of 2012, Equator principles, International Petroleum Industry Environmental Conservation Association (IPIECA), Business and Biodiversity Offsets Programme (BBOP) as well as environmental safeguards being championed by the World Bank; and specifically developed a National Biodiversity Strategy and Action Plan (NBSAP) which incorporates them.

The NBSAP II sets out clear objectives and aspirations of the country in the efforts to conserve biodiversity. The Plan provides for enhancing payment for ecosystem services and implementation of the biodiversity mitigation hierarchy including biodiversity offsets. The development of this National Biodiversity and Social offset strategy and subsequent development of guidelines for biodiversity offsets provide mechanisms for the design and implementation of mitigation measures to address risks associated with proposed developments that may have adverse impacts on biodiversity.

The Ministry of Water and Environment (MWE) in partnership with Wildlife Conservation Society (WCS) has developed this National Biodiversity and Social offset Strategy for Uganda with the aim of providing guidance on the national policies and institutional arrangements that are necessary to design and implement the mitigation hierarchy for ensuring No Net Loss of biodiversity and therefore reconcile economic development with specific national targets in the NBSAP for conservation of biodiversity in Uganda.

Hon. Sam Cheptoris
MINISTER OF WATER AND ENVIRONMENT

Acknowledgements

This National Biodiversity and Social Offset Strategy has been developed with inputs, contributions and participation of a number of stakeholders in public and private sector, academia, partners in development and civil society organizations. Ministry of Water and Environment gratefully acknowledges the roles played and support received from various stakeholders during the preparation of this strategy. In particular, the Government of Uganda deeply appreciates the Agence Française de Développement (AFD), the Fonds Française pour l'Environnement Mondial (FEEM) and MAVA - Fondation pour la Nature for the financial support for the implementation of the "No Net Loss" (NNL) project, and the Wildlife Conservation Society (WCS), Biotope and Forest Trends for the invaluable guidance throughout the preparation of the document.

We are indebted to the Consultant; Dr. Robert Nabanyumya and his associate, Mr. Stephen Khaukha whose efforts in stakeholder consultation and drafting of the document helped to focus, enrich and strengthen the preparation of the Strategy. Participants in the various stakeholder consultative meetings provided inputs that have made this strategy a home-grown document that addresses national priority conservation needs of the citizens. We thank the Government Ministries, local governments and agencies (MLGAs) for their commitment, time and knowledge contributed during the development of this Strategy.

We are indebted to the Technical Committee (composed of Mr. Issa Katwesige, Ms. Justine Namara, Ms. Maureen Anino, Mr. Kabi Maxwell, Mr. Mununuzi Nathan, Ms. Monique Akullo, Ms. Beatrice Kyasiimire, Mr. George Wamunga and Mr. Opolot Francis) which was extremely helpful in reviewing and guiding the preparation of the Strategy. This strategy benefited from inputs by the COMBO global team that reviewed the document; and special thanks thus to Dr. Kerry ten Kate, Dr. Hugo Rainey and Mr. Ray Victurine for time and expertise offered. The Ministry is also grateful for the Technical review by Dr. Julia Baker of Balfour Beatty, for reviewing and strengthening the social aspects of the Strategy through support from the ESRC Impact Accelerator Award to Bangor University. Similarly, great appreciation to Mr. Francis Ogwal, the National Focal Point for the Convention on Biological Diversity; for reviewing and providing additional technical input.

We highly appreciate the Commissioner for the Department of Environment Support Services, Mr. Stephen David Mugabi, the Principal Environment Officer, Ms. Maureen Anino and Dr. Simon Nampindo and Ms. Beatrice Kyasiimire both of WCS for their effective coordination and steering the process to a logical conclusion.

Mr. Alfred Okot Okidi
Permanent Secretary
Ministry of Water and Environment
May, 2019

Acronyms

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
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 Services
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
IBAs	Important Bird Areas
IFS	International Finance Corporation
IPIECA	International Petroleum Industry Environmental Conservation Association
ITPGFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for the Conservation of Nature
KBAs	Key Biodiversity Areas
LFRs	Local Forest Reserves
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MEA	Multilateral Environmental Agreements
MEMD	Ministry of Energy and Mineral Development
MFPED	Ministry of Finance, Planning and Economic Development
MGLSD	Ministry of Gender Labour and Social Development
MLGA	Ministries, Local Governments and Agencies
MTWA	Ministry of Tourism, Wildlife and Antiquities
MWE	Ministry of Water and Environment
MWLE	Ministry of Water, Lands and Environment
NBSAP	National Biodiversity Strategy and Action Plan
NEA	National Environment Act, 2019.
NFA	National Forestry Authority
NNL/NG	No Net Loss / Net Gain (of biodiversity conservation outcomes)
PA	Protected Area
PES	Payment for Ecosystem Services
REDD+	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest

	carbon stocks in developing countries.
SDGs	Sustainable Development Goals
SEEA- EEA	System of Environmental Economic Accounting – Experimental Ecosystem Accounting
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
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention to Combat Climate Change
UWA	Uganda Wildlife Authority
WAVES	Wealth Accounting and Valuation of Environmental Services
WB	World Bank
WCA	Wildlife Conservation Area
WCMC	World Conservation Monitoring Center
WCS	Wildlife Conservation Society
WMD	Wetlands Management Department
WQMD	Water Quality Management Department
WWF	World Wildlife Fund for Nature

Executive Summary

Uganda is one of Africa's richest countries for biodiversity, ranking eighth of the 54 countries on the continent (Mongabay, 2016). The country is exceptionally rich in biodiversity with surveys reporting occurrence of over 18,783 species of flora and fauna.

Unfortunately, this biodiversity is under tremendous pressure; arising out of continuous infrastructure development. The rate of biodiversity loss in Uganda is high and was calculated in 2004 to be between 10-11% per decade (MWLE, 2003; NEMA 2016[1]). Overall, there is concern over the downward trend of Uganda's biodiversity on a global scale. Fortunately, the Government of Uganda has demonstrated a clear commitment to promote national socio-economic development goals while at the same time protecting its natural capital; the biodiversity resources of the country. The country has already revised the legal framework to cater for No Net Loss of biodiversity by large developments. The Government through the Ministry of Water and Environment has now developed this National Biodiversity and Social Offset Strategy to provide for guidance on ensuring no net loss arising from developments. The goal of the Strategy is to suggest approaches, institutional arrangements and provide for developing the technical capacity that are necessary to implement the mitigation hierarchy and reconcile economic development with specific national targets for conservation of biodiversity in Uganda. This mitigation and offset strategy has considered various components of national and local government and other sectors of society, including impacting sectors, industry and civil society to propose approaches that will ensure a no net loss of biodiversity in the country.

This document provides an overview of Uganda's readiness for biodiversity and social offsetting through an analysis of strengths, weaknesses, opportunities and threats to maintaining sustainable management to biodiversity. From this analysis, the document then proposes seven strategy components for biodiversity and social offsetting in the country. These are:

- raising public awareness on biodiversity and social offsetting;
- improving the enabling policy and legislative framework;
- implementing a system for identifying priority offset sites for biodiversity and ecosystem services that should be protected from development impacts;
- ensuring sustainable social community well-being and livelihoods from losses and gains in biodiversity;
- providing for enabling institutional arrangements for management of offsets;
- developing effective funding mechanisms for biodiversity offsetting that ensure that offset programs deliver expected conservation and social outcomes; and
- building a framework for monitoring and evaluation to support sustainable management of the offsets.

This strategy gives an overview of the timeline and cost implications in implementing the suggested components over a ten year period. The cost of implementing this strategy is estimated at USD **1,750,000** and the benefits are the improved protection of biodiversity by ensuring a no-net loss from economic developments. This ten year strategy would include a mid-term review conducted after the first five years.

[1] NEMA (2016), National Biodiversity Strategy and Action Plan II (2015-2025), ISBN : 978-9970-881-09-3.

1 INTRODUCTION

1.1 Biodiversity

Uganda is one of Africa's richest countries for biodiversity, ranking eighth of the 54 countries on the continent (Mongabay, 2016). The country is exceptionally rich in biodiversity with surveys reporting occurrence of over 18,783 species of 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.

Biodiversity is a fundamental element of the earth's life support system. It is the basis for all ecosystem services and thus plays a fundamental role in maintaining and enhancing the world's population as it supports many basic natural services for humans for example fresh water, fertile soils and clean air. Biodiversity includes diversity at the genetic level, the diversity of species, and the diversity of ecosystems.

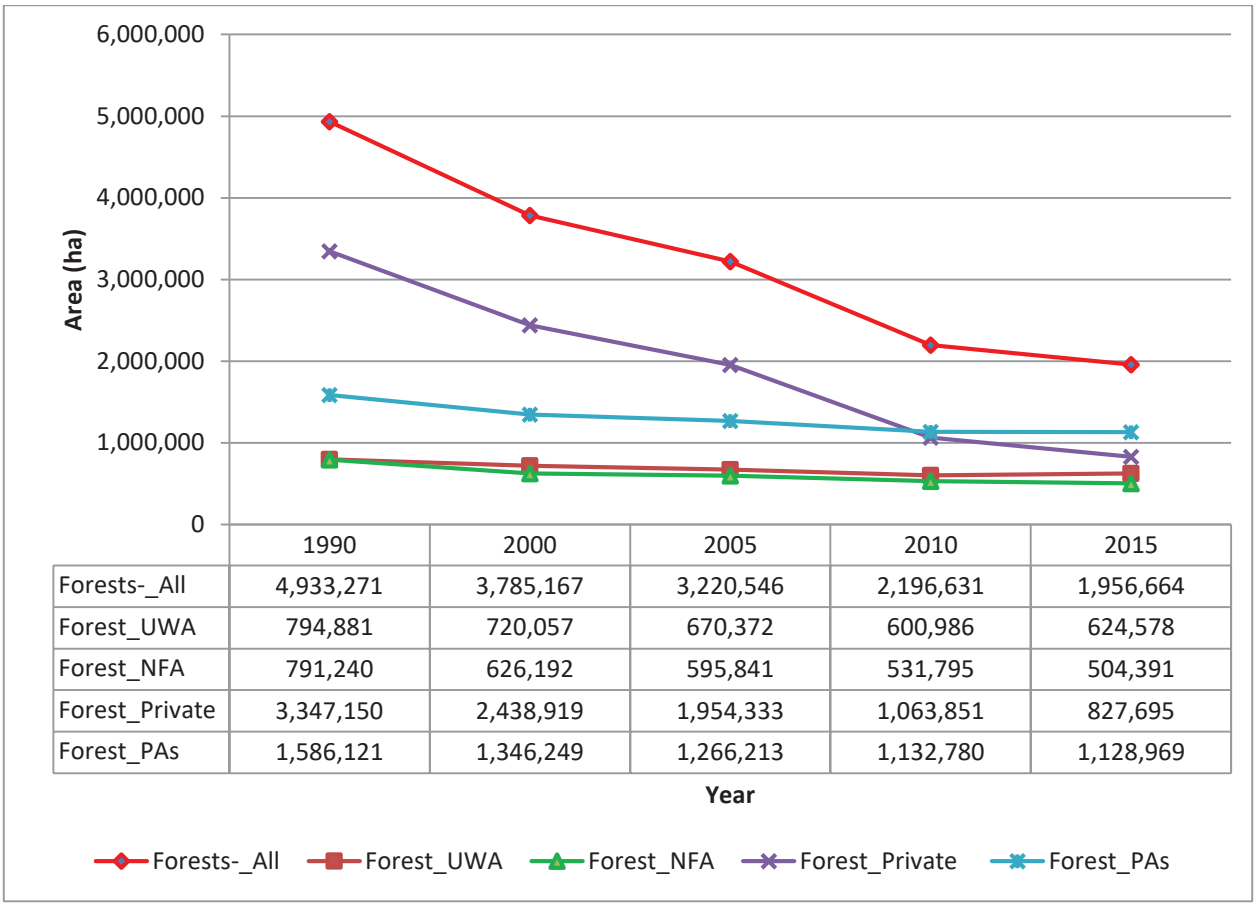
Uganda's rich biodiversity is distributed across both terrestrial and aquatic habitats in diverse landscapes. Most of the biodiversity can be found in natural forests, but a considerable number is also found in other natural ecosystems such as mountains, savannahs, wetlands, lakes and rivers. Agricultural biodiversity on altered man-made ecosystems is also abundant; however great interest is given to biodiversity confined to natural ecosystems because of harbouring most of the uncommon or rare species in their more preferred original states. The National Biodiversity Strategy and Action Plan (NBSAP) developed in 2016 provides in great detail the numbers of species in Uganda, in particular, the most high profile species, namely higher plants, birds, butterflies, mammals, fish, amphibians and reptiles.

1.2 Trends, threats, challenges

It has been estimated that Uganda lost about half of its overall biodiversity value between 1975 and 1995. Since then the losses have generally stabilized, although they remain high in some sectors, notably forests, woodlands and wetlands (Pomeroy, et al 2017). The rate of biodiversity loss in Uganda was calculated in 2004 to be between 10-11% per decade, which is considered to be high (MWLE, 2003; NEMA 2016). Overall, there is concern over the downward trend of Uganda's biodiversity on a global scale.

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 losses 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. Agriculture is one of the key drivers of biodiversity loss, land degradation, deforestation and wetland reclamation (NEMA, 2017)[2]. The area of wetlands has declined from 13 per cent of the total land area in 1990 to 8.6 per cent in 2015, with an estimated annual loss of 846 km^2 (NEMA, 2017). At this rate of loss, it is likely that there may be no wetlands left by 2040. The forest cover has also been declining, especially between 1990 and 2015. **Figure 1** shows the trends in forest cover, categorized under the Uganda Wildlife Authority (UWA), National Forest Authority (NFA) and forests on private land.

[2] NEMA (2017). National State of the Environment Report 2016/17



	1990	2000	2005	2010	2015
Forests-_All	4,933,271	3,785,167	3,220,546	2,196,631	1,956,664
Forest_UWA	794,881	720,057	670,372	600,986	624,578
Forest_NFA	791,240	626,192	595,841	531,795	504,391
Forest_Private	3,347,150	2,438,919	1,954,333	1,063,851	827,695
Forest_PAs	1,586,121	1,346,249	1,266,213	1,132,780	1,128,969

Figure 1: Trends in the forest cover from 1990 – 2015 (Adapted from NFA, 2016)

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. There are emerging challenges arising from development projects which will result in further destruction of fragile ecosystems and disturbance and loss of biodiversity. These developments include the recent discovery of oil and gas in the Albertine Graben, the increasing use of biofuels and the development of the East Africa Oil Export Pipeline (EACOP) from Kabaale (Hoima) to Tanzania. Other developments include hydropower generation, gravity water supply developments, new and upgraded roads, mining, transmission lines, etc. and these are likely to affect biodiversity-rich sites. The pressure on biodiversity is therefore immense. Hence, mitigation of biodiversity loss is not only necessary but urgent.

Government has made strides to address the concerns through strengthening of policy, legal and institutional frameworks, such as the National Environment Act (No.5 of 2019) and the NBSAP II. A number of tools have also been developed aimed at avoiding and minimizing the negative impacts of developments on biodiversity-rich areas. These tools include the Environmental and Social Impact Assessment (ESIA), critical habitat analysis (CHA), the

Environmental Sensitivity Atlas for the Albertine Graben (NEMA, 2010)[3], the Uganda Wetlands Atlas (GoU, 2016)[4], operational guidelines for oil and gas and monitoring checklists, etc. Despite all these efforts, still some development projects have residual impacts that cannot be adequately addressed through regular interventions. The application of biodiversity and social offsets is aimed at managing such residual impacts.

1.3 The Mitigation Hierarchy

The mitigation hierarchy is defined by the Cross-Sector Biodiversity Initiative (CSBI)[5] as a framework for managing risks and potential impacts related to biodiversity and ecosystem services (BES). Thus, this framework applies to both biodiversity and to people's values and uses of biodiversity. The mitigation hierarchy is used when planning and implementing development projects, to provide a logical and effective approach to protecting and conserving biodiversity and maintaining important ecosystem services. It is a tool to aid in the sustainable management of living natural resources, which provides a mechanism for making explicit decisions that balance conservation needs with development priorities. The mitigation hierarchy is, *' the sequence of actions to anticipate and avoid impacts on biodiversity and ecosystem services; and where avoidance is not possible, minimize; and, when impacts occur, rehabilitate or restore; and where significant residual impacts remain, offset.'*

The mitigation hierarchy is not a standard or a goal, but an approach to mitigation planning and implementation. It can be used in its own right or as an implementation framework for BES conservation goals such as no net loss (NNL) or net gain/net positive impact (NPI), regulatory requirements and/or internal company standards.

Avoidance is the most important component of the mitigation hierarchy. Biodiversity and social offsetting is the last option in the hierarchy which is applied when other mitigation actions have not reduced residual impacts. As development pressure on natural resources increases, it is becoming necessary to improve planning to avoid impacts and to consider the wider application of the mitigation hierarchy from avoidance through to offsets.

CSBI highlights that the mitigation hierarchy can be viewed as a set of prioritized, sequential components that are applied to reduce the potential negative impacts of project activities on the natural environment (see Figure 2). It is not a one-way linear process but usually involves iteration of its steps. It can be applied to both biodiversity and related ecosystem services to ensure that both biodiversity, and the social aspects of biodiversity, are considered throughout a lifecycle of a development project. There are two preventive components, avoid and minimize, and two remediative components, restore (or rehabilitate) and offset. As a rule, preventive measures are always the priority over remediative measures — from ecological, social and financial perspectives.

[3] National Environment Management Authority (2010). Environmental Sensitivity Atlas for the Albertine Graben. Second Edition 2010.

[4] Government of Uganda (2016). Uganda Wetlands Atlas Volume Two. Popular Version.

[5] CSBI 2015. A cross sector guide for implementing the mitigation hierarchy. Cross-sector Biodiversity Initiative, London.

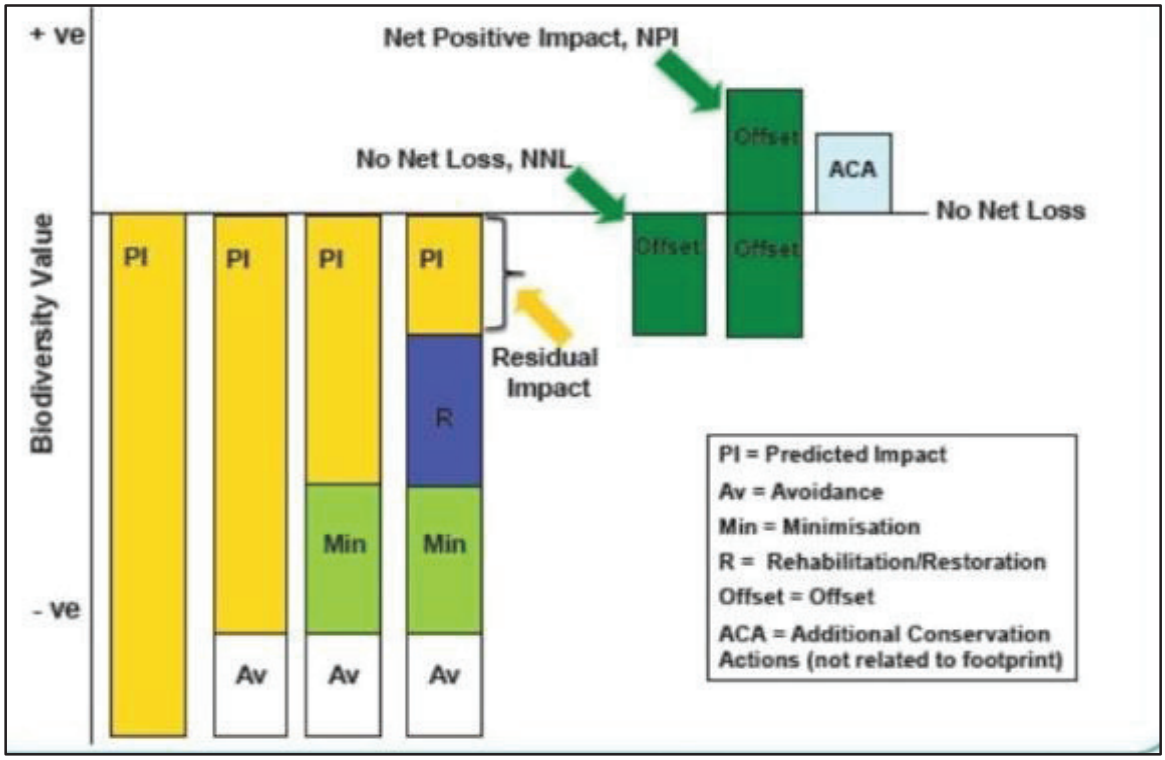


Figure 2: The Mitigation Hierarchy (Source: Internet image Adopted from Rio Tinto and Government of Australia)

Avoidance, the first component of the mitigation hierarchy, is defined by CSBI as '*Measures taken to anticipate and prevent adverse impacts on biodiversity before actions or decisions are taken that could lead to such impacts.*' Avoidance is the most effective way for development projects to address potential negative impacts. Its proper implementation requires biodiversity and ecosystem services to be considered in the pre-planning stages of a project. When avoidance is considered too late, after key project planning decisions have been taken, cost-effective options can easily be missed.

Minimization, the second component of the mitigation hierarchy, is defined by CSBI as '*Measures taken to reduce the duration, intensity, significance and/or extent of impacts (including direct, indirect and cumulative impacts, as appropriate) that cannot be completely avoided, as far as is practically feasible*'. Well-planned minimization can be effective in reducing impacts to below significance thresholds.

Restoration is used to repair BES features of concern that have been degraded by project activity. It involves measures taken to repair degradation or damage to specific BES features of concern—which might include species, ecosystems/habitats or priority ecosystem services—following project impacts that cannot be completely avoided and/or minimized.

Offsetting forms the final component of the mitigation hierarchy. Offsets are defined by CSBI as '*Measurable conservation outcomes, resulting from actions applied to areas not impacted by the project, that compensate for significant, adverse project impacts that cannot be avoided, minimized and/or rehabilitated/restored*'. Offsets should have a specific and quantitative goal that relates directly to residual project impacts. Often this is to achieve no net loss or a net gain for biodiversity and for people. Offsetting is a measure of last resort after all other components of the mitigation hierarchy have been applied.

The mitigation hierarchy is a hierarchy in terms of priorities. The first components of the mitigation hierarchy, particularly avoidance, are the most useful and effective and therefore the earlier components need special emphasis. While all components of the mitigation hierarchy are important, rigorous efforts to avoid and minimize as far as feasible are likely to achieve significant reductions in potential impacts. Actions to avoid and minimize impacts from development are therefore prioritized in this strategy.

Although offsets may be viewed as a high profile approach, offsets must only occur after avoidance and the other preceding steps in the mitigation hierarchy have been considered and no alternatives are available. Biodiversity and social offsets must never be used to circumvent responsibilities to avoid and minimise damage to biodiversity, or to justify projects that would otherwise not happen.

The aim of offsets is to achieve No Net Loss (NNL) and preferably a Net Gain (NG) goal for biodiversity and for people when development projects take place. Measures that are not designed to result in NNL and preferably NG are not biodiversity offsets. Biodiversity and social offsetting is guided by several principles and they are conservation activities intended to compensate for the residual, unavoidable harm to biodiversity caused by development projects, and the related impacts on people from biodiversity loss.

Biodiversity and social 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 and mitigation actions have been taken. The goal of biodiversity and social sets is to compensate for any residual impacts outstanding after application of actions to avoid, minimize and restore impacts on biodiversity. Application of all of these components is necessary 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[6].

The application of the mitigation hierarchy and the development of biodiversity and social offsets have been triggered by the new international good practice principles for people on biodiversity net gain projects. For example, BBOP has developed Principles, Criteria and Indicators (PCIs) of best practice on biodiversity practice (Forest Trends, 2009). **Box1** is a summary of the Principles for the biodiversity aspects of offsetting under BBOP. Regarding aspects of social offsetting, Bull J*. et al* (2018) describe the good practice principles related to social outcomes, which should be considered during the design, implementation, maintenance and monitoring of biodiversity NNL/NG for a development project. In general, the principles serve to reinforce the achievement of the following desired NNL/NG of social outcomes:

- **People:** The approach should cover all people (individually or collectively) significantly affected, directly or indirectly, by losses and gains in biodiversity from a development project and its NNL/NG activities (i.e. people at both the development and biodiversity offset site).
- **Wellbeing:** Social outcomes should be measured in terms of changes to people's wellbeing that are caused by losses and gains in biodiversity from a development project and its NNL/NG activities.

- **Appropriately aggregated:** Assessment of change in wellbeing can be undertaken at various scales, e.g. at the level of individuals, households, villages, specific interest groups (such as people with similar livelihood activities or gender), or a region
- **Throughout the project's lifespan**: The desired social outcome from biodiversity NNL/NG projects should be achieved continuously throughout the lifespan of a project and for as long as the biodiversity impacts from the development and associated mitigation measures endure;
- **Compared to no development being implemented:** The desired social outcome from biodiversity NNL/NG projects should be demonstrated by comparing the social outcomes from the development plus NNL/NG measures against a fixed baseline of current wellbeing. The comparison would ensure that the people are no worse off or potentially better off with respect to biodiversity.

Box 1: Guiding Principles for biodiversity offset design and Implementation

Based on international best practice, the guiding principles for the biodiversity aspects of an offset design, as promoted in this national strategy for biodiversity and social offsets, are as follows:

1. Adherence to the Mitigation Hierarchy: A biodiversity offset is a commitment to compensate for significant adverse *residual impacts* on biodiversity, identified after appropriate avoidance, minimization and on-site rehabilitation measures have been taken according to the mitigation hierarchy;
2. Limits to what can be offset: There are situations where residual impacts cannot be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected;
3. Landscape context (aggregate offsets): A biodiversity offset should be designed and implemented in an aggregated manner within a national or other large landscape. This would enable it to achieve the expected verifiable conservation outcomes while (i) taking into account available information on the full range of biological, social and cultural values of biodiversity and (ii) supporting an ecosystem approach;
4. No Net Loss: A biodiversity offset should be designed and implemented to achieve verifiable and measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity;
5. Additionality: A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place;
6. Stakeholder participation: In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making, for achieving no-net loss including the evaluation, selection, design, implementation, and monitoring of the offset;
7. Equity: A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognized rights of indigenous peoples and local communities;
8. Long-term outcomes: The design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing long-term outcomes that last at least as long as the project's impacts and preferably in perpetuity;
9. Transparency: The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner;
10. 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.

1.4 Values of Biodiversity

Biodiversity includes diversity at the genetic level, the diversity of species, and the diversity of ecosystems and is the most precious gift of nature with which mankind is blessed. 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[7].

Biodiversity has a fundamental value to humans because humans are dependent on it for cultural, economic, 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 diversity often emphasize the value of the "un-mined riches" that are 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 direct to indirect uses including 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 fresh water 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;
d) The provision of foods such as fish, pastures for cattle and sheep, timber, fire wood and harvested wildlife such as kangaroos and native cut flowers;
e) The provision of native species and genes used in industry research and development,
f) Pollination of agricultural crops, forest trees and native flowering plants by native insects, birds and other creatures;
g) Pest control in agricultural land by beneficial native predators;
h) Flood mitigation by vegetation slowing run off and trapping sediment;
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

[7] 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

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. Aesthetic value embraces 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. To this can be added health benefits resulting from recreational and other activities. In Uganda, a classic example of social benefits of biodiversity shade trees for meetings, prayer thickets and watering points. Some communities in Uganda such as the Karamojong have particular areas that have been set aside as meeting areas under specific trees. Considering the aesthetic of biodiversity, one needs to note that 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.

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 consume 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: It is based on the principle of 'live and let others live'. Ethical values related to biodiversity conservation are based on the importance of protecting 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.

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

1.5 Drivers for No Net Loss Behaviour

Multilateral Environmental Agreements (MEAs) provide a framework and have influenced efforts for NNL/NG in the country. The following agreements and conventions are particularly important:

- The Government of Uganda is a signatory to a number of Conventions such as:
  - -Ramsar Convention on Wetlands (1971)
  - Convention for the Protection of World Cultural and Natural Heritage (1972)

- Convention on International Trade in Endangered Species, (1973)
- Bonn Convention on Migratory Species (1979)
- Convention on Biological Diversity (1992)
- United Nations Framework Convention on Climate Change (1992)
- Convention to Combat Desertification (1994)

As a result, the Government has committed to conserve the biodiversity of this nation for the people of Uganda and the International Community. Uganda is therefore committed to reducing and eventually reversing the rate of loss, whilst at the same time managing the biodiversity for the benefit of all Ugandans, including the sustainable use of natural resources.

- Uganda has embraced the Sustainable Development Goals (SDGs) into the national development agenda and the NDPII as well as Vision 2040 are clearly consistent with them; and they thus guide efforts towards achievement of sustainable development in the country.
- Uganda is committed to implementing the Aichi targets, which compels countries to establish national targets for biodiversity conservation.
- The NBSAP II and the National Environment Act No. 5 of 2019 have provisions on biodiversity offsets and mitigation hierarchy for ensuring No Net Loss.

The International Finance Corporation Performance Standard 6 on Biodiversity Conservation and Sustainable Management of Living Natural Resources (IFC PS 6) also provides safeguards and guidelines for environment management. It requires clients seeking project financing from IFC and other banks to apply the IFC's Performance Standard that is related to the mitigation hierarchy. The Standard recognizes that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development. It promotes sustainable management and mitigation of impacts on biodiversity and ecosystem services throughout the project's lifecycle. The following are some examples of the safeguards:

a) The risks and impacts identification should consider direct and indirect project-related impacts on biodiversity and ecosystem services and identify any significant residual impacts.
b) As a matter of priority, developers should seek to avoid impacts on biodiversity and ecosystem services. When avoidance of impacts is not possible, measures to minimize impacts and restore biodiversity and ecosystem services should be implemented.
c) Biodiversity offsets may be considered only after appropriate avoidance, minimization, and restoration measures have been applied.
d) The design of a biodiversity offset must adhere to the "like-for-like or better" principle and must be carried out in alignment with best available information and current practices
e) Restrictions in the implementation of projects in critical habitats. Critical habitats are 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/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes. Where development is permitted in critical habitat, the project should be designed to achieve net gains of the biodiversity values for which the critical habitat was designated

The mitigation hierarchy is also adopted by the Equator Principles Financial Institutions (EPFIs)[8]. Clients are to develop projects that are socially responsible and reflect sound environmental management practices that avoid negative impacts on ecosystems and communities where possible, and if these impacts are unavoidable, they should be reduced, mitigated and/or compensated for appropriately. Other initiatives that promote best practice include World Bank Environmental and Social Framework[9] and the International Petroleum Industry Environmental Conservation Association (IPIECA).

With the globally increasing recognition of the importance of biodiversity resources, the drive for integrating the natural capital in the national accounting systems through the UN System of Environmental Economic Assessment (UNSEEA) is maturing and fast increasing.

With the domestication of the Multilateral Environment Agreements (MEAs), and based on international best practice, Uganda has now developed the National Biodiversity Strategy and Action Plan (NBSAP) to guide the management of biodiversity resources. The first biodiversity strategy; NBSAP I was developed in 2002. The second; NBSAP II, the National Biodiversity Strategy and Action Plan 2015-2025 builds on the first strategy and aims at addressing the key concerns regarding biodiversity management. The NBSAP II Annex 5 mainstreams the NBSAP in various policies, strategies, plans and programmes; and thus provides some level of assurance that article 6(b) of the Convention on Biological Diversity (CBD) on mainstreaming biodiversity into economic sectors is domesticated through the NBSAP. The National Environment Act (No. 5 of 2019) provides the legal backing for the implementation of biodiversity management, including the application of the mitigation hierarchy.

1.6 Impacts of Developments on Biodiversity

Impacts on biodiversity can occur as a result of the direct, indirect (or induced) and cumulative impacts of industry or any development activities. The drivers of impacts from development projects fall into two main categories: (i) planned direct impacts (e.g. project footprint and pollution or disturbance) which are a result of the project's activities; and (ii) unplanned but predictable indirect impacts as a result of the project's actions which increase demand and off take for species and habitats. Typical indirect impacts include increased access to formerly remote habitats as a result of new linear infrastructure; and increased resource demand and off take of wildlife due to induced population growth and increased purchasing power from employment. Cumulative impacts are the successive, incremental and combined direct and indirect impacts of project development (TBC 2013). They arise from compounding additional activities of a project or projects.

Direct impacts are under the direct control of the project developer as they are the direct result of project activities. Therefore, they can be addressed by the developer through improved project design which includes actions during project design for the EIA/ESIA and during construction and operations following licensing.

Indirect impacts result from interactions of the project with social, economic, political and environmental factors and also with actors such as local communities, migrants, government and project personnel. They are therefore much harder to control than direct impacts. They are therefore best addressed by avoiding them at an early stage in the project life cycle. This may

[8] EPFI (2013): The Equator Principles, June 2013. A financial industry benchmark for determining, assessing and managing social and environmental risk in project financing; http://www.equator-principles.com

[9] World Bank (2017): Environmental and Social Framework. https://www.worldbank.org/en/projects-operations/environmental-and-social-framework

require the project developer and government to screen for indirect impacts before a project has been designed, that is, before EIA/ESIA.

Cumulative impacts arise from the interactions between development projects, for example across different sectors such as extractive industry and infrastructure. It is therefore the Government and planning authorities which have the mandate to review potential cumulative impacts and to identify opportunities to prevent these impacts occurring. Government may wish to address cumulative impacts by convening all relevant sectoral planning authorities to identify solutions.

1.7 Purpose of the National Biodiversity and Social Offset Strategy

This National Biodiversity and Social Offset Strategy (NBSOS) was developed in a participatory manner and is a framework for managing impacts of developments on biodiversity, determined through the EIA/ESIA process. The purpose of the Strategy is to ensure achievement of NNL/NG of biodiversity and associated social outcomes from development projects, thereby securing future economic growth, reconciling competing demands for land use, and enhancing the environment and its benefits for people for the long term. The Strategy intention is to ensure that residual impacts of developments are remedied, as required by the National Environment Act, No 5 of 2019 (NEA), as well as stem and to some extent reverse the loss of biodiversity in the country. The Strategy contributes to building biodiversity and ecosystem services protection into the national development framework and decision making process, thereby ensuring that sustainable development takes place in line with the Constitutional Right to an environment that is not harmful to the health and well-being of all the people. It considers a combination of various components of national and local government; including the biodiversity managing sectors, biodiversity impacting sectors such as agriculture and industry; private sector investors and civil society. The strategy provides an overview of key stakeholders, the national policies, institutional arrangements and technical capacity that are necessary for implementation of the mitigation hierarchy and reconcile economic development with conservation of biodiversity in Uganda. The strategy:

(i) Documents Uganda's readiness for biodiversity and social offsetting
(ii) Proposes components for improvement of ***avoidance of impacts on priority biodiversity***, including natural habitats and threatened species, and biodiversity that is highly valued by people e.g. cultural sites, *through improved identification of priority sites for biodiversity and ecosystem services and incorporation of these data into national and sectoral planning.*
(iii) Provides an additional framework for strengthening the protection of ecosystems for sustainable provision of goods and services that support national and local community well-being and livelihoods. *This will be in consideration of their importance through improved planning and mitigation of impacts from developments.*
(iv) Documents relevant guidelines, standards, data sources, financial arrangements, monitoring needs and approaches necessary for effective implementation of biodiversity and social offsets.
(v) Identifies institutional arrangements necessary for effective implementation of the mitigation hierarchy; including biodiversity and social offsets.

It should be noted that aspects of biodiversity offsetting have been implemented in Uganda as negotiated conditions of development acceptance around particular areas in the country since at least 2006, for example during the construction of Bujagali dam. However, the application of an offset requirement has been ad hoc, focused on biodiversity without due regard for the social aspects, and the methodology for determining an appropriate offset has

been inconsistent in the absence of clear guidance. Consequently, the offset design and subsequent agreements did not lead to the creation of any permanence, one of the key requirements for an offset, and other development initiatives were allowed to impact the established offset site. The adoption of this strategy and the corresponding guidelines to be developed under the NEA, would serve to standardize the requirements for biodiversity and social offsets in Uganda, and ensure consistency in approaches and implementation. This biodiversity and social offset strategy gives effect to the NEA guidance, including the requirement to 'minimize and remedy' impacts on biodiversity where they cannot be avoided, to protect ecological and ecosystem service integrity. Currently, most of the costs of residual and cumulative impacts on biodiversity and ecosystem services are being borne by society as 'externalities', especially on the poor and vulnerable who rely on natural resources for subsistence, rather than by those responsible for these impacts.

1.8 How the Strategy was developed

The development of this National Biodiversity and Social Offset Strategy was achieved through wide stakeholder consultations, including discussions with Ministries, Agencies and Local Governments to ensure ownership and smooth implementation. It also included consideration of provisions of Multilateral Environmental Conventions to enhance synergies and leverage additional funding from these Agreements. The following were particularly of importance during the formulation of the Strategy:

- *The participatory process*: Consultations were undertaken with both impactors and managers of biodiversity at national and district levels. Many of the stakeholders are repository of important policies, laws, sectoral strategic plans and other relevant documents. Their participation generated information as well as their interest and ownership regarding the concepts of biodiversity offsets and the entire mitigation hierarchy.
- Technical oversight and quality assurance were entrenched throughout the development of the strategy; including in-house discussions at MWE and peer review of the draft with stakeholders culminating into a stakeholders' validation workshop. A technical team offered guidance to ensure the technical aspects of the strategy are well addressed.
- Information for the strategy development was from literature review, key informant interviews and focus group discussions.

2 COUNTRY CONTEXT

2.1 Government Commitment to Biodiversity Conservation

Sustainable management of natural resources is enhanced through implementation of government commitments by enacting national laws, development of policies, strategies and plans that are also aligned to Multilateral Environment Agreements (MEAs) and conventions.

Since 1992, the Government of Uganda has developed a number of policies, laws and strategic plans to address the management of the biological diversity, in support of local and national socio-economic development and international obligations. Relevant sectoral investment plans / strategic action plans have been developed, and these prescribe relevant actions for sustainable management of biological diversity. The Forest Nature Conservation Master Plan (2002) and the National Biodiversity Strategy and Action Plan (2002) provide guidance to mainstreaming conservation and sustainable use of biodiversity into national planning frameworks. The National Environment Action Plan (1994), the Wetland Sector Strategic Plan (2001 – 2010), National Forest Plan (revised 2011), the Uganda Strategic Investment Framework for Sustainable Land Management, 2010 – 2020; the Agriculture Sector Development Strategy and Investment Plan (DSIP), 2010/11 – 2014/15 and revised 2015/16 – 2019/20 are among the key strategies focusing on the management of biological resources.

Sustainable management of biodiversity resources was integrated into the National Development Plan, 2010/11 – 2014/15 (revised 2015/16 – 2019/20). The management of protected areas and the restoration of degraded forest, wetlands, rangelands and fisheries ecosystems are among the important interventions to promote biodiversity management. The collaborative management of the protected areas and wetland resources provides for regulated access to some of the resources as an incentive for sustainable management, makes the resources more valuable to the communities, and contributes to conflict resolution and sustainable livelihoods.
The legal framework, including the Constitution of the Republic of Uganda and sectoral legislation, provide an enabling environment for sustainable management of biodiversity through establishment of protected areas and promoting stakeholder participation in the management and sustainable use of the biological resources.

Biodiversity offsets have also become popular since 2012, and, Uganda has taken on the initiative and, here with this strategy, is now articulating the principles and practices underpinning both the biodiversity and social aspects of NNL/NG. The following sections provide an indication of Government's commitment and how interventions have a basis in the legal and policy framework as well as in the strategies and programmes.

2.1.1 National Guidance

Government commitment to conservation of biodiversity starts with a clear articulation in **The Constitution of the Republic of Uganda, 1995.** Under article XXVII; the State commits to promote ***sustainable development*** and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the present and future generations.

The next level of commitment is provided by **Vision 2040;** which notes that the transformation of Uganda will be achieved through harnessing the various components of biodiversity (water resources and wetlands, biodiversity and ecosystem health, land resources, fisheries resources, forests) to maximize returns to the economy. The Vision upholds Uganda's commitment to the

principle of sustainable development and promotes conservation of flora and fauna. It is stated that, "*Uganda will take urgent measures to protect the environment and natural resources and ensure their future sustainability*". Paragraphs 295 - 298 of Vision 2040 states that: "*efforts will be made to restore and add value to the ecosystems*", targeting wetlands, forests, rangelands and catchment areas.

The National Development Plan processes; and currently **NDP II** that builds on the achievements attained under NDP I, mitigates the challenges encountered during its implementation, and seeks to take advantage of regional and global development opportunities to ensure sustainable development. NDP notes that Uganda's economy is largely dependent on the living natural resources.

2.1.2 Enabling Policy and Policy Framework

Uganda has developed many policies and laws that regulate the environment. While biodiversity conservation is variously addressed, there had been no provision that explicitly deals with implementing the biodiversity mitigation hierarchy or requiring development projects to achieve NNL/NG of biodiversity until recently. In most cases, what the policies and laws emphasize are biodiversity restoration activities in the mitigation hierarchy, especially through recommendations from Environment Impact Assessments (EIAs). The Wildlife Policy (2014)[10] was a pioneer policy specifically requiring developers to adhere to the mitigation hierarchy (avoid, minimize, restore and offset/compensate) as provided for under Principle 1 of the Standard on Biodiversity Offsets (BBOP, 2012). The National Environment Act, (No.5 of 2019) has also provided for the mitigation hierarchy and biodiversity offsets. Section 115 of the NEA requires the developer to apply the mitigation hierarchy and address residual impacts that shall be either offset or otherwise compensated, but only for biodiversity and without consideration of the social aspects of biodiversity. However, Section 5(2) (j) requires that while applying the mitigation hierarchy, the developer is to ensure that appropriate avoidance, minimization and on-site rehabilitation or restoration measures are implemented before considering the application of biodiversity offsets or other offset and compensation mechanisms. Biodiversity offsets, other offsets and compensation mechanisms are considered as mechanisms of last resort after avoidance, minimization and on-site rehabilitation or restoration. NEMA is to ensure that the developer complies with the process.

Section 115 of the NEA stipulates that the mitigation hierarchy principles should be applied and that, "*Where a biodiversity offset, other offset or compensation mechanism 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, provided that a net gain shall in all events be required in respect of projects in critical habitats or projects that may impact species of concern*". The achievement of a "no net loss" of biodiversity with respect to species composition, habitat structure, ecosystem functions and people's use and cultural values is associated with Principle 4 (No-Net Loss) of the Biodiversity Standard (BBOP, 2012). Also, "The design of a biodiversity or other offset or compensation mechanism shall adhere to the "like-for-like or better" principle and shall be undertaken in accordance with best available information".

The NEA is important for applying the mitigation hierarchy and addressing biodiversity offsets in many other sectoral laws. The Act is also important in guiding different sectors to develop their sector-specific guidelines for environmental impact assessments and clarify on the application

[10] Wildlife Policy (2014), Section 2.5 (f)

of the mitigation hierarchy and ensuring the delivery of NNL/NG outcomes of biodiversity, although it does not make explicit reference to the social aspects of NNL/NG.

Section 41 of the National Forestry and Tree Planting Act (2003) provides for issuance of a license by a responsible body to an interested person to utilize and sustainably manage a forest reserve or a community forest. The terms, conditions, rights and fees under which the license is granted are to be prescribed by the responsible body. This section has been applied with previous development in CFRs, such as the Kalagala Offset for the Bujagali hydropower generation project.

Under the policy framework, a number of policies are supportive of a NNL/NG for biodiversity and provide additional basis for implementation of this National Biodiversity and Social offset strategy and they include:

a) *The National Environment Management Policy for Uganda, 1994*

The overall policy goal of the National Environment Management Policy for Uganda (NEMPU) is "sustainable social and economic development which maintains or enhances environmental quality and resource productivity on a long-term basis that meets the needs of the present generations without compromising the ability of future generations to meet their own needs".
Section 3.4 deals with the conservation of biological diversity. This is very important for the MH and ensuring NNL/NG – details of the provisions that support NNL/NG are in the policy under sections; 3.6 and 3.8 (although it focuses on biodiversity without due regard for the social aspects of NNL/NG).

b) *Uganda Forestry Policy, 2001*

Section 2.2 under the guiding principles of Uganda Forestry Policy requires forests to be managed in such a way as to "meet the needs of this generation without compromising the rights of future generations", (MWLE, 2001). This concept is emphasized by another Guiding Principle on Biodiversity and Environmental Services (section 2.4), which aims at safeguarding the nation's forest biodiversity and environmental services through effective conservation strategies. These Guiding Principles embrace the concept of sustainable development, with emphasis to biodiversity and the related forest ecosystem services for people. Among the policy statements that are supportive to NNL/NG of biodiversity include: Policy Statement 1 on *maintaining and sustaining a Permanent Forest Estate on government land*; Policy Statement 2 on *promoting development and sustainable management of natural forests on private land*; Policy statement 7 on the *conservation of forest biodiversity*; and Policy statement 8 on *watershed management and soil conservation*, all of which provide a clear demonstration of Government commitment to promoting forest protection and rehabilitation of degraded forests.

c) *National Policy for the Conservation and Management of Wetland Resources, 1995*

The policy recognizes the importance of wetlands as habitats for a variety of biological resources, some of which depend on wetlands for their survival. To this end, the Policy statement under Section 7.4 aims at the Conservation of Wetlands through establishing "Protected Wetland Areas" of important biological diversity, as well as wetlands where partial exploitation (such as research) is permitted. The Policy requires the application of EIA as a management tool, upon which all proposed modifications and restorations on wetlands and planned new wetland developments are subject. The EIA facilitates the identification of the appropriate mitigation measures along the mitigation hierarchy and the required environmental management plans and controls.

d) *The National Water Policy, 1995*

The National Water Policy 1995 underscores the role of the water sector in the country's overall development efforts, including agriculture, hydro-power supply, sewage and sanitary services, fishing industry, mining industry, manufacturing industry and tourism, among others. The Policy provides for EIA as a planning tool and provides for the protection of the environment as a key principle of water management.

e) *The National Fisheries Policy, 2004*

The national vision for Uganda's fisheries sector is "…an ensured sustainable exploitation and culture of the fishery resources at the highest possible levels, thereby maintaining fish availability for both present and future generations without degrading the environment…". Under this policy, objective 2 is "To protect the biological diversity of fisheries and the life support system that defines major fisheries assets". To achieve the objective there is a strategy (b) that requires to "subject sector policies and plans, as well as consents for developments that may have adverse impacts on fisheries to environmental impact assessment (EIA) in accordance with the ESIA Guidelines and regulations, and ensure that potential adverse impacts on fisheries and aquatic ecosystems are specifically considered".

f) *The Uganda National Land Policy, 2013*

The vision for Uganda's National Land Policy is "a transformed Ugandan society through optimal use and management of land resources; and, Objective (vi) of the Policy 2013 is "to ensure sustainable utilization, protection and management of environmental, natural and cultural resources on land for national socio-economic development".

In paragraph 142, among the strategies provided include "…design appropriate environmental standards for all production sectors…"; and "…provide special protection for fragile ecosystems, including unique and sensitive biodiversity colonies, like hill tops, wetlands, water catchment areas, lake-shores and river banks…". Although there is no specific requirement for the achievement of NNL/NG outcomes of biodiversity, these provisions in general facilitate the application of the mitigation hierarchy through the environmental standards.

g) *The National Land Use Policy, 2007*

The overall goal for the national land use policy is "To achieve sustainable and equitable socio-economic development through optimal land management and utilization". Specific goal (3) of the National Land Use Policy is "To reverse and alleviate adverse environmental effects at local, national, regional and global levels". Under Policy Statement 19, the Policy aims "To control forest degradation resulting from infrastructure development". The strategies to implement this policy statement support NNL/NG and the mitigation hierarchy. They include: (i) subjecting all infrastructure developments to EIA; (ii) including the cost of environmental restoration measures in all infrastructure development budgets; (iii) ensuring the implementation of environmental mitigation measures during and after infrastructure development projects; and (iv) encouraging infrastructure alignments that minimize forest degradation. Under Policy Statement 20, the Policy aims "To halt loss of, maintain and restore biodiversity". Again all of this is focused on biodiversity without due regard for the social aspects of NNL/NG.

h) *The Uganda National Housing Policy, 2016*

The key environmental issues identified by the Policy include "Lack of clarity on boundaries of gazetted sensitive ecosystems and protected areas leading to encroachment and environmental degradation", and, "Lack of security of tenure in slums and informal settlements". However, guiding Principle (viii) of the Policy provides that housing development must take into account issues of environment. In addition, under Policy Statement 20, Government commits to ensure

effective implementation of the environmental policies, laws and regulations with regard to housing development, and mainstreaming environmental issues in housing. The application of these general provisions relies heavily on the guidance of the NEA, the regulations thereof and the guidelines, especially the aspects related to ESIA.

i) *The National Oil and Gas Policy for Uganda 2008*

The National Oil and Gas Policy (NOGP) provides for the protection of the environment and conservation of biodiversity as one of its guiding principles. To this end, it calls for balancing the environment, human development and biodiversity to ensure sustainable development. It explicitly provides that it is the responsibility of licensed oil companies to protect the environment where they work or any areas in the country impacted by their operations. Specific objective 9 of NOGP is "To ensure that oil and gas activities are undertaken in a manner that conserves the environment and biodiversity". Among the strategies provided to achieve this objective include requiring oil companies and their contractors to use self-regulation and best practices in ensuring environmental protection and biodiversity conservation. Arguably, the requirement of NNL/NG and the mitigation hierarchy is one such best practices that oil companies should be required to implement. The other important strategy provided for is the requirement for oil companies and other operators to make necessary efforts to return all sites on which oil and gas activities are undertaken to their original condition as an environmental obligation. These are important provisions that can contribute to implementing aspects of the mitigation hierarchy.

j) *The National Industrial Policy, 2008*

One of the Guiding Principles of the National Industrial Policy (2008) is to promote environmentally sustainable industrialization. Section 4.2.10 provides for sustainable industrial development. Under this, Government commits that "*Industrial transformation shall be pursued in a manner that ensures efficient resource utilization and environmental sustainability*".

k) *The Energy Policy for Uganda, 2002*

The policy goal of the Energy Policy for Uganda (2002) is to meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner. Specific Objective 5 of the Policy is "To manage energy-related environmental Impacts". Under Part 6, the Policy provides for integrating the objective of environmental sustainability into all energy initiatives. To the extent that this provision can be operationalized to protect the living natural resources, then it can be used to enhance biodiversity management and reduce biodiversity loss.

l) *The Mineral Policy of Uganda, 2001*

A specific Objective 4 of the Mineral Policy of Uganda (2001) is "To minimize and mitigate the adverse social and environmental impacts of mineral exploitation". Among the strategies provided to achieve this objective, Government commits to undertake responsibility for the clean-up operations of past negative mining environmental impacts.

m) *National Policy for Disaster Preparedness and Management, 2010*

The Policy provides for environmental degradation as one of the human induced disasters (See Section 2.2.10). Among the policy actions to address this disaster include formulation of strict laws against environmental degradation and conducting EIAs.

n) *The National Agricultural Policy, 2013*

One of the Guiding Principles is that Government shall ensure that key agricultural resources including soils and water for agricultural production are sustainably used and managed to

support adequate production for the current and future generations. Specific objective 5 is to "Ensure sustainable use and management of agricultural resources". Among the strategies provided include regulation of the exploitation of agricultural resources to ecologically sustainable levels.

Error! Reference source not found. provides a list of policies, laws and guidelines that were r eviewed.

2.1.3 The National Biodiversity Strategy and Action Plan (NBSAP)

The National Biodiversity Strategy and Action Plan (NBSAP) is a national framework for managing biodiversity, hosted by the National Environment Management Authority as the focal point for the Convention on Biological Diversity (CBD). The first National Biodiversity Strategy and Action Plan (NBSAP I) was developed in 2002.

During the tenth meeting of the Conference of the Parties to the CBD, the new Strategic Plan for Biodiversity 2011-2020 with 20 Aichi Biodiversity Targets was adopted. Aichi Target 11 requires that Parties conserve at least 17% of terrestrial and freshwater areas that are conserved through effectively and equitably managed ecologically representative and well-connected systems of protected areas. Parties then committed themselves to revising their NBSAPs and adopting them as policy instruments by 2015. The revision of the NBSAP enabled Uganda to demonstrate its commitment to the achievement of the Strategic Plan for Biodiversity 2011-2020 with its Aichi Biodiversity Targets, while having its own national targets. The second National Biodiversity Strategy and Action Plan, **NBSAP II,** was therefore developed to guide biodiversity conservation and management in the country. The goal of NBSAP II is, "to enhance biodiversity conservation, management and sustainable utilization and fair sharing of its benefits by 2025", and provides a good framework to address biodiversity issues. It is the main instrument for implementing the Convention on Biological Diversity (CBD) at country level and provides Government with a framework for implementing its obligations under the CBD as well as the setting of conservation priorities, channelling of investments and building of the necessary capacity for the conservation and sustainable use of biodiversity in the country. However, implementation of NBSAP II depends on backing of the relevant policy and legal provisions in the country.

The NBSAP II provides for enhancement of payment for ecosystem services as well as biodiversity offsets. Annex 5 of the Plan gives guidance on mainstreaming biodiversity management in various policies, strategies, plans and programmes; and thus provides some level of ensuring that article 6(b) of the CBD on mainstreaming biodiversity into economic sectors is domesticated through the NBSAP. Biodiversity has been mainstreamed into the NDP II – mainly on ecosystems restoration of wetlands and forests.

Other sectors (outside forestry, wetlands and wildlife) in which biodiversity conservation is mainstreamed most is the energy sector – hydropower development, oil and gas sub sectors. Significant impacts on biodiversity is among the key issues assessed during the EIA process for proposed energy projects (note that only 'significant' impacts are assessed i.e. there is no provision to achieve no net loss or a net gain). The energy policy has provisions on environment which includes biodiversity. Additionally, collaborative natural resource management and revenue sharing are embedded in legislation on environment and some aspects of offsetting are being taken on board in energy projects and especially hydropower projects although these focus on biodiversity without due regard for the social aspects of offsetting.

The NBSAP II specifically notes the contribution of CSOs/NGOs to mainstreaming biodiversity in development activities as well as that biodiversity conservation is an integral part of the REDD initiatives in the country.

There is, however, still a lot of effort needed to ensure that both biodiversity and its importance to people's wellbeing is given a greater value by society; including a need to continuously provide evidence of its intrinsic value, both to the economy and wider development. Evidence on the number of biodiversity-related jobs created; the values of various ecosystem services; biodiversity-based income generating activities; and the contribution of biodiversity to poverty reduction needs to be continuously measured and communicated to decision-makers to mobilize resources and enlist political will.

There is also a need to integrate the social aspects of biodiversity NNL/NG into the design and implementation of NNL/NG developments. As is evident above, often focus is only given to the biodiversity aspects of offsetting, and yet losses and gains in biodiversity from a development project can significantly affect people – especially in Uganda where the rural population depends on natural resources for subsistence.

2.1.4 The REDD+ Strategy

The development of the **REDD+ Strategy** as a long-term measure for tackling deforestation and forest degradation, ensuring sustainable forest management, and enhancing carbon stocks and forest biodiversity conservation, whilst meeting the demands for energy, and other forest products is another aspect of government commitment towards biodiversity conservation. REDD+ implementation has focused on those aspects of climate change that support development of a framework aimed at optimisation of mitigation, adaptation and sustainable development potentials of the forestry sector. There is a significant scope for improving quality of forest cover by addressing drivers of degradation as a significant part of the country's forest cover falls in the open to medium categories owning to various drivers of degradation.

Through the Restoration Opportunities Assessment Methodology (ROAM) on **Forest Landscape Restoration**, the Government has also committed 2.5million hectares of degraded landscapes to the Bonn Challenge to be restored by 2030.

The commitment to biodiversity conservation is further reflected in the Green Growth strategy.

2.2 Representativeness of Uganda's Protected Area Network

Uganda's Protected Areas (PAs) are in the form of Wildlife Conservation Areas (WCAs), Central Forest Reserves (CFRs) and Local Forest Reserves (LFRs). The WCAs (National Parks, Wildlife Reserves, Wildlife Sanctuaries and Community Wildlife Areas) form about 14% of land surface and forests are now only 8% of the country. These PAs are only partially representative of all the key ecosystems in Uganda. The country developed the Forest Nature Conservation Master Plan for Uganda in 1999, (Forest Department, 2002), but this was unfortunately not implemented although it had provided for a minimum set of sites that would be representative of the country's ecosystems. It is worthwhile to establish a PA system that represents all key ecosystems including aquatic resources, wetlands and montane ecosystems. However, progress on assessing gaps in the PA network has been gradual. The country now has identified a set of Key Biodiversity Areas (KBAs), building on an earlier initiative that identified Important Bird Areas (IBAs), and the efforts are towards ensuring their protection. This is based on the Global Standard for KBAs (IUCN 2016a). This provides a basis upon which planning should be undertaken to ensure NNL/NG of biodiversity as developments are undertaken. This should consider avoidance of impacts inside KBAs, the most important sites for biodiversity

nationally. The KBAs are critical habitats of highest biodiversity, where development is very difficult to implement without causing great biodiversity loss, and, offsets are generally not possible except in exceptional circumstances where gains can be achieved (The Biodiversity Consultancy, 2012). In addition to these, MWE is in the process of characterizing the water resources based on water quality objectives, e.g. water for drinking, water for tourism, water for production, etc. Such characterization will further guide developers in identifying areas available for development purposes.

2.3 The Protected Area Network and Additionality

Uganda is a country that has been better surveyed for its biodiversity than many African countries, but despite this, until recently there had not been a comprehensive analysis of the critical sites that contribute to biodiversity conservation at a global, as well as at a national level. An assessment was however recently made (by Plumptre *et. al.* 2019) using mammals, birds, reptiles, amphibians, and plants as surrogate taxa for all biodiversity. Thirty-six terrestrial sites were identified using the Global KBA Standard (IUCN 2016a) that are of sufficient global importance to qualify as KBAs, which complement an additional nine freshwater sites. National red listing of species and ecosystems was used to identify sites of national importance for conservation. A conservation planning approach was employed to identify the minimum set of sites needed to conserve all the globally and nationally threatened species and nationally threatened habitats in Uganda. The findings show that most of the remaining natural habitat in Uganda is important for the conservation of globally and nationally threatened species and threatened habitat. Large areas of irreplaceable habitat occur outside protected areas, although more extensive surveys of these areas would likely reduce the area that is irreplaceable. Irreplaceable areas in the country include areas such as Bwindi, where the mountain gorillas are found. Such areas are not found elsewhere.

Protected areas (wildlife conservation areas, forest reserves) should be considered to be a No Go Areas for development projects. They maintain the most important biological resources of Uganda, and these should not be subjected to offsetting, if they are already adequately protected. Protected areas should also not be the site for offsets, except when such offsets can demonstrate clear additionality. Such offsets should aim at addressing specific threats to biodiversity loss or they are deliberate restoration /rehabilitation interventions which would result in additionality of biodiversity and social outcomes. In principle and practice, any offset activity within the PAs must demonstrate additionality in terms of conservation outcomes and budget. To ensure a No Net Loss therefore, the set of KBAs must all be protected and development avoided at these sites.

2.4 Planning for Avoidance

Avoidance of impacts on biodiversity, and on biodiversity that is highly valued by people, is the first and most important stage of the mitigation hierarchy. The ESIA is an important, legally known tool in Uganda that is used to manage the impact of development projects through assessing, planning and implementing the mitigation hierarchy. The 1998 EIA regulations however do not explicitly provide for development projects to achieve NNL/NG of biodiversity or to do so at any stage of the mitigation hierarchy (i.e. not just at the final stage of offsetting). The current National Environment Act (2019) is an opportunity for the review of the ESIA regulations and guidelines to emphasize avoidance of impacts on biodiversity, to stipulate the requirement for development projects to achieve NNL/NG for both biodiversity and for people, and to ensure provisions for biodiversity offsets are the last stage of the mitigation hierarchy. Similarly the ESIA guidelines for the various sectors such as forestry, wetlands, works and transport, agriculture, health, oil and gas etc., will be revised in line with the current environmental law. It is important that avoidance is anchored in the over-arching planning policies to demand the

developers to undertake an ESIA, to guide the achievement of NNL/NG, and provide compelling guidance for adoption in all sectors and local governments. However, the ESIA process has been centralized in NEMA and this needs to be addressed as this does not effectively cover other sectors, including agriculture, energy and transport. A number of other mechanisms have been developed to provide guidance to planners in order to enhance avoidance of impacts on biodiversity. These include, among others:

- The National Forest Nature Conservation Master Plan (Forest Department, 2002).
- Managing Central Forest Reserves for the People of Uganda: Volume 1 - A strategic Action Plan for the Period 2008/09 to 2012/13 (NFA, 2008 a).
- Managing Central Forest Reserves for the People of Uganda: Volume 2 – Functions of Central Forest Reserves in Uganda (NFA, 2008 b).
- Environmental Sensitivity Atlas for the Albertine Graben (NEMA, 2010).
- The Strategic Environment Assessment (SEA) of Oil and Gas Activities in the Albertine Graben, Uganda.
- The Uganda Wetlands Atlas (GoU, 2016),
- Key Biodiversity Areas (see ANNEX 4).
- Important Bird Areas in Uganda.
- The National Biodiversity Strategy and Action Plan II (NEMA, 2016).
- The AICHI targets as domesticated in the NBSAP II.

Uganda is moving towards developing integrated national accounts, and is committed to this process via the Gaborone Declaration for Sustainability in Africa. This is a crucial step towards a Green Economy and will aid measurement and delivery of the SDGs and the Aichi biodiversity targets to which Uganda is already committed.

In this context, biodiversity is an important part of a country's natural capital stock. It is the biotic element of ecosystems which has an important role in how ecosystems function and deliver ecosystem services that support human well-being and economies. Studies, such as The Millennium Ecosystem Assessment (2005) and The Economics of Ecosystems and Biodiversity (TEEB 2010), demonstrate that the sustainable use of ecosystems and biodiversity is fundamental to maintaining economic progress and human well-being over the long term.

Ecosystem accounting is an emerging field of Natural Capital Accounting that aims to capture these relationships between the environment and people (SEEA-EEA, 2019). To this end, the System of Environmental Economic Accounting – Experimental Ecosystem Accounting (SEEA-EEA, 2019) provides an integrated statistical framework for organizing information on ecosystems and linking this to economic and other human activity. Within the SEEA-EEA framework, ecosystems are characterized on the basis of their type, extent and a range of condition characteristics (including species-level biodiversity) relevant to processes and functioning of the ecosystem. Ecosystems are then linked to the economy and human well-being via the basket of services they supply. Biodiversity accounting is one of several accounting themes within the SEEA-EEA framework that can feed into ecosystem accounts and also be used as standalone accounts in their own right to answer policy questions of interest.

Biodiversity accounting within the SEEA-EEA currently utilizes information at the level of ecosystems (diversity, extent and condition) and species (diversity and abundance). Accounts of ecosystem and species-level biodiversity can improve policy and decision making by organizing information the stocks of ecosystems and species in a format that is consistent with other statistical frameworks (e.g. the System of National Accounts), which are already utilized regularly in policy and decision making. This will give ecosystem and species-level biodiversity

more visibility in the context of national (and sub-national) accounting frameworks. The integration of ecosystem and species-level biodiversity information into accounting structures, will aid understanding of the linkages to ecosystem condition, service provision and the wider economy. This can be a key tool to inform planning, policy, decision making and actions regarding sustainable development and the achievement of economic and conservation targets. Currently, the Government of Uganda is implementing the Wealth Accounting and Valuation of Environmental Services (WAVES) project to build capacity for environmental accounting in the country. When complete, the accounting system will guide planning for sustainable biodiversity management, including the establishment of biodiversity and social offsets arising from development interventions. This is mainly because costs and values of biodiversity will be part of the accounts and thus help make informed decisions on cost benefit analysis.

2.5 Rationale for biodiversity and social offsets

Biodiversity resources in forests, wetlands, rangelands and water support development in Uganda. The growth sectors such as agriculture, forestry, fisheries and tourism are all dependent on biodiversity resources in their contribution to economic growth and human well-being. Biodiversity is considered as part of the natural capital that produces goods and services consumed across economies and societies, although its value is not reflected in markets and market prices not captured in traditional assessments of economic progress such as GDP (UNEP-WCMC, 2016). Biodiversity plays an important role in the resilience of ecosystems and therefore the maintenance of ecosystem functioning and service delivery over time. Aspects of biodiversity also contribute directly to human well-being (e.g. via the provision of food, medicinal plants and nature based recreation).

The scale and scope of the infrastructure and other development projects being planned in Uganda is vast. This includes among others, the development of road networks, hydro power infrastructure, oil and gas exploration, production, storage, transport and marketing, urban expansion, etc. The development needs of the country are increasingly putting pressure on the natural resources and the environment and hence threatening the existence of ecosystems and the very raw materials needed for development. Some of the developments have resulted in conversion of land into aquatic ecosystems or aquatic ecosystems into land, or complete annihilation of an aquatic ecosystem. In such cases, appropriate offsetting needs to be identified. The Bukasa landing site on Lake Victoria is a case in point for water conversion into land; and, the excavations of water channels provide clear examples for land turned to aquatic ecosystems. Economic growth is however not incompatible with biodiversity. It is only that to many actors in development, biodiversity is intangible and poorly understood. The ecosystem services and the natural capital existent in biological resources is rarely related to development decision making, and any conservation measures are perceived as tools used to frustrate development. Biodiversity and social offsetting is a proactive approach to making sure that both development and biodiversity conservation (and its importance to people's wellbeing) can thrive together, by ensuring achievement of NNL/NG of both biodiversity and its associated social outcomes from development. This thereby secures future economic growth, reconciling competing demands for land use, and enhancing the environment for the long term.

2.6 Ensuring No Net Loss for the people as well as biodiversity

Local, national and international communities derive various ecosystem services from Uganda's natural resources such as forests, wetlands, rangelands, including:

- material assets needed for a good life (e.g. access to products essential to the livelihoods of poor and vulnerable people),
- health (including feeling well),

- good social relations, security, and
- freedom of choice and action

Development projects can cause losses and gains in biodiversity which can greatly affect people's wellbeing – this can be positive, such as enhancing wellbeing through greater access to nature under a biodiversity offset. However, it can also be negative, such as when developments and/or the rules for their biodiversity offsets prevent rural communities from gathering resources that they depend on for subsistence, like firewood, medicine and food. These social impacts from NNL/NG (especially offsets) can have devastating consequences for the rural poor and vulnerable groups (especially women, the elderly and marginalized people). Subsequently, it is critical that developments in Uganda seeking NNL/NG of biodiversity identify potential associated social impacts, and apply the mitigation hierarchy to avoid and then minimize negative impacts as far as possible, following which they fully address any residual social impacts. This might be through providing 'social offsets' but as for biodiversity, these offsets are a last resort and only permitted after all efforts to first avoid and then minimize negative social impacts have been made. Ultimately, developments seeking NNL/NG of biodiversity are to ensure that the affected people's wellbeing is at least as good as before the development. Linked to this is the importance of Stakeholder engagement through Free and Prior Informed Consent (FPIC), including local communities and indigenous peoples, which is important for ensuring that the needs of people are addressed for the achievement of NNL/NG of social outcomes of the project interventions. To do so, this strategy is founded on international good practice principles for the social aspects of biodiversity NNL/NG. Note that social impacts from biodiversity NNL/NG refers to the impacts on people that arise from all losses and gains in biodiversity as a result of a development project.

2.7 Current Initiatives for financing biodiversity conservation

The full NNL/NG measures including offsets require consideration of funding mechanisms that take into consideration the establishment and maintenance costs over the long term, as well as supporting monitoring and evaluation activities throughout the life of the offset. The existing financial arrangements and agreements that are useful for effective implementation of biodiversity and social offsets in Uganda include:

- Government subventions
- Contribution from the developers
- Non-tax revenues from the lead agencies
- The National Environmental Funds (NEF) which is established under the law.
- The Uganda Biodiversity Trust Fund (UBF)
- Environmental Conservation Trust Fund (ECO-TRUST),
- The Tree Fund - Although this is not yet operationalized since 2003, it in the Forestry Act and is thus a possible financing mechanism as by law established, and
- Partners in Development.

2.7.1 Government subvention

The Biodiversity Expenditure Review report (NEMA, 2017) revealed that the budgetary allocation for environment and biodiversity conservation was estimated at about UGX 91 billion in real terms per fiscal year (equivalent to about 1.2% of the annual budget). The specific allocation for the protection and restoration of biodiversity was about UGX 14.6 billion (or about 0.15% of the national budget. In general, this observation confirms insufficient funding for biodiversity conservation to have an impact on the already degraded environment and ecosystems. Therefore, funding offsets cannot reliably depend on the national budget.

2.7.2 Contribution from the Developers

Project developers are obliged to fund the offsets created as a result of their development interventions. This is therefore the main source of funding for offsets and should not be a burden on developers if included in their project budget at the start of a project. The negotiations for the funds should take into consideration the cost of biodiversity loss as well as the cost for monitoring and evaluation of implementation of NNL/NG over the long-term. The Ministry of Finance is part and parcel of the negotiations for the compensation and identifying sources of funding for the offsets and the appropriate modalities for payments. In practice, the price offered by developers is generally low. There is a need to draw up a formal, standardized mechanism for delivering NNL/NG which is fair and commensurate to the loss of biodiversity and the associated social impacts. The experience so far with Kalagala Offset and other initiatives under UWA indicates the limited application of economic valuation standards during the negotiation. However, contribution of financial resources by the developers was aimed at facilitating the management agencies to enhance the protection and management of the targeted areas.

2.7.3 Non-tax revenues from the lead agencies

Some of the lead agencies such as UWA and NFA are semi-autonomous entities and generate their own revenues and finances their activities.

2.7.4 The National Environmental Fund (NEF)

The National Environment Fund is a statutory financing mechanism, established under the National Environment Act, and the collected funds are used for:

- management of sensitive and fragile ecosystems;
- critical environmental restoration activities; and
- support to review and follow up of compliance with environment assessments and environmental audits

2.7.5 The Uganda Biodiversity Trust Fund

The Uganda Biodiversity Fund (UBF) is a registered, private and independently managed charitable trust fund established in 2016 with a mission to “Serve as a catalyst for mobilizing, managing and channelling financial resources for biodiversity conservation and sustainable use of natural resources in Uganda for the benefit of current and future generations”. The Fund can be utilized to finance projects that promote implementation of the mitigation hierarchy and biodiversity and social offsets.

2.7.6 The Tree Fund

The Tree Fund is established under the National Forestry and Tree Planting Act (2003). The monies under this fund are to be used:

- To promote tree planting and growing at national and local level;
- To support tree planting and growing efforts of non-commercial nature that is of benefit to the general public.

However, the Fund and the resource mobilization mechanisms have not yet been made operational and this is often mentioned as a contributory factor constraining sustainable financing and management of Uganda’s forest sector.

2.7.7 Establishing a separate dedicated offset fund

One of the actions under the NBSAP II is to set up a Biodiversity Offset Trust Fund to ensure no net loss biodiversity due to petroleum activities.

2.7.8 Partners in Development

Partners in Development have been in the forefront of supporting biodiversity conservation in Uganda covering forestry, wetlands, water, fisheries, agriculture, etc. The key partners include World Bank (WB), United Nations Development Programme (UNDP), European Union (EU), Food and Agricultural Organization of the United Nations (FAO), etc. The main financing mechanisms have been, among others, Global Environment Facility (GEF); Green Climate Fund (GCF); Climate Investment Fund (CIF).

3 UGANDA'S READINESS FOR BIODIVERSITY & SOCIAL OFFSETTING

Uganda's readiness for biodiversity and social offsetting has been evaluated by assessment of the strengths, weaknesses, opportunities and threats for a successful offset programme in the country. This section provides a summary. While the summary provides only few cases of strengths and many weaknesses, the opportunity is that the weaknesses now make up a strong case for ensuring that this strategy is developed along a specific set of strategic options. The SWOT process was based specifically on the readiness of the country in terms of availability of an enabling environment especially the policy and legislative framework, the institutional arrangements and capacity needs, data and information availability, the existing operational environment as well as a reflection on lessons from the pilot offsetting activities currently being implemented. Uganda is a signatory to many MEAs and these have influenced a dynamic approach for developments to take into account environment issues and thus most of the issues are operational rather than a lack of guidance from the policies.

3.1 Strengths

1. The public has a general awareness about the importance of a healthy and functioning environment for society and the economy.
2. Existence of a legal framework that supports biodiversity and social offsets. The National Environmental Act (No. 5 of 2019), Section 115 has provisions for the application of biodiversity offsets under the mitigation hierarchy. Using the mitigation hierarchy (MH) allows Uganda to support sustainable development while ensuring protection of biodiversity. This is important especially as the country is a signatory to international obligations such as UNCBD, UNCCCD, UNCCC, CITES, ITPGFA and the SDGs which require developing national strategies for sustainable management of biological resources. NEMA is revising the EIA regulations and the guidelines. There are also on-going processes to revise old policies and laws or developing new ones, where biodiversity and social offsets can be integrated (e.g. The National Wetlands Policy, the Wetlands Bill, the Water Act, the Uganda Forestry Policy and National Forest and Tree Planting Act, etc.).
3. NEMA in collaboration with TBC and Oxford University has trained NEMA technical officers on the mitigation hierarchy targeting the ESIA review process for proposed developments that may have adverse impacts on biodiversity and the associated social aspects.
4. NEMA as the institution that coordinates implementation of the CBD has spearheaded a number of activities on biodiversity offsetting and has in-house capacity to integrate issues of biodiversity offsets in proposed developments. Furthermore, there is an established and functional technical committee on biodiversity conservation with its Secretariat in NEMA. This Committee will support NEMA in the implementation of activities on offsets.
5. Available data / information on NBDB, KBAs, IBA, IUCN Red List and the National Red List for Uganda to guide planning for offsets.
6. There are existing institutions with mandated functions, under which the establishment and management of biodiversity and social offsets can be mainstreamed and guided. Such institutions have standards of good practice which can be improved by integrating the MH and management of offsets. The existence of the Environmental Fund, the

Uganda Biodiversity Fund and Payment for Ecosystems Services (PES), which could be avenues for financing biodiversity and social offsets.

7. Professional bodies are organized in associations such as; Uganda Association for Impact Assessment (UAIA) and the National Association of Professional Environmentalists (NAPE). These provide good platforms for effective implementation of the Mitigation Hierarchy.
8. There are functional data centres which collect, store and disseminate information on biodiversity. These include NEMA's Clearing House for Environment Information network (CHEIN), NBDB, NARO, UNCST, WCS.

3.2 Weaknesses

1. There is low awareness of the concept and practice of offsets and NNL/NG, and weak appreciation of the importance and values of biodiversity conservation among the general public. It is generally a new concept and it is not yet clear or popular to the public as well as some institutions mandated to manage biodiversity.
2. Currently offsets are not grounded in the ESIA regulations and in most sectoral policies, laws and regulations.
3. The heavy degradation of natural resources both within, and especially outside the protected areas makes it very difficult to achieve "like-for-like" options for establishing offsets. There is heavy encroachment of some of the KBAs.
4. For some ecosystems, offsetting is not possible given their rarity and irreplaceable nature. For instance, in the KBAs, some of which have high endemism – it is not possible to get "like-for-like".
5. Limited application of scientific information to guide the establishment of the offsets. There is inadequate involvement of institutions that hold relevant biodiversity data to guide the selection, design and feasibility testing of offsets. There is no central repository for data, which makes access tedious.
6. Lack of the national land use plan and national infrastructure plans to guide decision making.
7. Inadequate development and application of sectoral of Guidelines for domesticating the mitigation hierarchy, including biodiversity and social offsets, in policies, plans and projects for sectors and local governments.
8. Inadequate participation / consultation of stakeholders when designing and implementing offsets, especially the poor and vulnerable who can suffer the greatest costs.
9. Limited consideration of social aspects during the design, selection and implementation of biodiversity offsets.
10. There is weak linkage between the concept of biodiversity offsets and the actual needs of people (especially in terms of their wellbeing) affected by biodiversity impacts at both the development and offset site.
11. Assessing impacts of NNL/NG (especially offsets) on people's wellbeing is not fully mainstreamed within the ESIA process.
12. The mandated agencies and ESIA consultants have inadequate human and financial resources to implement their roles and responsibilities effectively. Designing and implementing biodiversity offsets requires elaborate quantification of the potential losses arising from the development. It requires appropriate equipment and specialized skills.
13. Increasing impunity, conflict of interest; and, weak inter-sectoral and inter-ministerial coordination, collaboration and cooperation resulting in poor or inexistent planning and

ad hoc decisions. Biodiversity conservation and management is scattered in different institutions with overlapping mandates and coordination mechanisms are weak.

14. Environment is not fully integrated in national accounting systems to guide resource allocation. There is limited information to enable integration of natural resources in the national accounts system to guide formulation of economic and development policies that foster sustainable use of natural capital.
15. Increasing poverty levels and population growth in the country.

3.3 Opportunities

1. Existence of international best practices such as the IFC Performance Standard 6 on biodiversity conservation, and the 2018 international good practice principles on the social aspects of NNL/NG which serve as good benchmarks.
2. Many investors have established biodiversity management desks / offices that oversee the management of biodiversity including the generation of necessary data to guide decision making.
3. Existence in the country of companies working to apply the MH to achieve a net gain in biodiversity – this provides opportunities for learning and experiences/expertise that can be shared.
4. Experience in developing strategic environmental assessments that can be used to promote better coordination among institutions in the country
5. Availability of data to identify areas of high conservation value that should be avoided when projects are developed.
6. With the on-coming development of NDP III, biodiversity and social offsets and other emerging issues would be integrated in the national strategic planning frameworks, since government is in the process of preparing Natural Capital Accounts for land; forest resources; forest and wetland ecosystems accounts, among others.
7. Availability of social scientists who can be engaged in social-economic assessments of NNL/NG activities.
8. The Ministry of Finance, Planning and Economic Development issues annual Budget Call Circulars which provides key policy and administrative guidelines for the preparation of the budget framework papers. Possible incorporation of funding options for offsets.
9. Enabling environment to build skills and capacity with industry, government and NGOs for mainstreaming wellbeing assessments into ESIA, not just to improve biodiversity offset practice but to improve ESIAs overall.

3.4 Threats / Risks

1. Conflicting Government policies which promote biodiversity loss.
2. Lack of capacity; and so over-dependence on “investors” leads to compromise of the national policies and laws.
3. Lack of systems that check the political actors
4. Some investors have weak performance standards and tend to pay little attention to biodiversity conservation
5. Natural resources on private land belong to the land owners who can independently make decisions on how to utilize them
6. Many development projects planned across the country (oil and gas, mining, transport, energy development, etc.) will affect key biodiversity areas in terms of the biodiversity itself and the resources it provides for the poor and vulnerable.

7. Uganda's population growth around the KBAs is high, and puts pressure on the biodiversity resources. Although there have been some initiatives to improve management of these KBAs, the threats are increasing.
8. Some developers are capable of influencing decision makers so as to establish offsets as a priority and circumventing avoidance, minimization and restoration as the first requirements of the MH. Such developers who jump to the end-tail of the MH are not focused on addressing residual impacts and delivering NNL/NG of outcomes from biodiversity and social offsets.
9. Inadequate motivation or commitment to drive change for developments to achieve NNL/NG for biodiversity and for people.

3.5 Key issues emerging from the SWOT Analysis

a) Policy and legislative framework which support mitigation and offsets need to be strengthened to complement the recently promulgated National Environment Act No 5 of 2019.
b) There is a greater need for improving awareness for all stakeholders about the need for implementing the mitigation hierarchy to achieve national targets for biodiversity and people's wellbeing; and thus contribute to a NG/NNL or other target.
c) Stakeholder involvement in identifying potential sites for biodiversity and social offsets, especially ensuring that the voices of the poor and vulnerable are incorporated into decisions.
d) Improved planning to support national development and the wellbeing and livelihoods of local communities and indigenous peoples is necessary, including use of scientific information for decision making.
e) There is need to offer guidance on possible financial arrangements and agreements that are necessary for effective implementation of biodiversity and social offsets.
f) Capacity building needs have to be addressed and a clear proposal made for institutional arrangements that are necessary for effective mitigation and offsetting.

These issues therefore provide the framework for this national biodiversity and social offset strategy for Uganda.

4 BIODIVERSITY & SOCIAL OFFSETS FOR NO NET LOSS — STRATEGIC COMPONENTS

This National Biodiversity and Social Offset strategy comprises seven strategic components to ensure No Net Loss for biodiversity and for people (with net gains where possible). The strategic components provide direction and foundation for effective management of biodiversity and social offsets in the face of development initiatives in Uganda. The strategic options aim at building on the strengths and opportunities and addressing the challenges, associated with biodiversity management in general, and biodiversity offsets in particular for the achievement of NNL/NG of biodiversity and social outcomes.

4.1 Goal of Biodiversity and Social Offsets

The goal of biodiversity and social offsets is to ensure that residual impacts on biodiversity from development projects are mitigated, so as to achieve No Net Loss or preferably a Net Gain of biodiversity and social outcomes on the ground with respect to species composition, habitat structure, ecosystem function and people's wellbeing associated with biodiversity.

4.2 Guiding criteria of good practice for biodiversity and social offsetting

Biodiversity offsets can contribute to positive conservation outcomes. However, it is important that projects consider rigorous application of the full set of alternatives in the mitigation hierarchy: avoidance, minimization, and restoration/rehabilitation (IUCN, 2016b) before any consideration of offsets. Developers and regulators should therefore ensure adherence to the following criteria of good practice:

1. Offsets must only occur after all previous steps in the mitigation hierarchy have been considered. Avoidance 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 a NNL/NG at the project level. Biodiversity and social offsets must never be used to circumvent responsibilities to avoid and minimize damage to biodiversity, or to justify projects that would otherwise not happen. Note that the mitigation hierarchy applies to people's wellbeing associated with biodiversity, as well as the biodiversity itself.

2. Apply the ecosystem approach in all stages of the mitigation hierarchy to ensure determination of similarity of like-for-like of an ecosystem and maintain species-ecosystem interactions. For example, where a water body, natural forest, wetland, etc. is being destroyed or modified for development, a corresponding site should be identified to maintain like for like principle. This will ensure a NNL/NG of biodiversity and for people.

3. Use approaches that are science-based, (and thus evidence-based), transparent, participatory, and address the effects of the project and mitigation actions on livelihoods. Proper assessment of the habitats, ecosystems, ecosystem services and social-cultural measures shall aim at determining fair biodiversity and social values, and ensure that compensation for the offset and communities are commensurate to what is foregone.

4. 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 (affected people at both the development site and at the offset site).

5. KBAs are "no-go areas" for purposes of developments that call for establishing biodiversity and social offsets. The residual impacts on biodiversity in KBAs (after completing the avoidance, minimization and restoration/rehabilitation steps of the mitigation hierarchy) cannot be offset.

6. Some values that people place on biodiversity are irreplaceable and cannot be compensated for if that biodiversity is lost to a development, for example cultural and traditional sites. Any such impacts on people's irreplaceable values of biodiversity are to be avoided.

7. Biodiversity and social offsets shall not be allowed where there exist some components of biodiversity for which impacts could be offset, but with a high risk of failure. Examples include areas with threatened species (critically endangered, endangered and vulnerable); species which are endemic to specific areas, (e.g. Albertine Rift endemic, Mt. Elgon endemic, Sango Bay Minziro endemic), or species which have restricted range. The IUCN Red List and the National Red List for Uganda (WCS, 2017) are important references for guiding decision making.

8. Offsets should be located as near the development footprint of the biodiversity loss as possible, and within the same ecosystem to ensure that ecological and social-cultural values are not seriously disrupted or lost but preferably enhanced for social acceptability.

9. In areas affected by both the development project and by the biodiversity offset (which might be two different locations), stakeholders shall 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 and social offsets should be designed and funded by the developer for as long as the development impacts on biodiversity exist or preferably in perpetuity. The commitment will be documented in a Biodiversity and Social Offset Management Plan which shall be developed in a participatory manner especially with local communities, and providing details of the activities and costs.

11. An offset shall not be offset for any other developmental purpose.

12. Offsets shall be subject to 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 and social outcomes shall be funded by the developer (and contingency funds shall be set aside from the start to allow for this).

4.3 Strategy components

This document provides a set of seven strategic options namely; strengthen the enabling policy and legislative framework; public awareness on biodiversity and social offsetting; a system for identification of priority offset sites for biodiversity and ecosystem services; ensuring sustainable social community well-being and livelihoods; institutional arrangements for management of offsets; funding mechanisms for biodiversity offsetting; and a framework for monitoring and evaluation to support sustainable management of the offsets.

Overall, in updating the relevant regulations, there will need to be a thorough delineation of essential actions in this strategy which will be provided for in the regulations. Similarly, the details of the general guidance on the process of establishment and management of offsets will need to be incorporated into the technical guidelines.

4.3.1 Strategy component 1: Strengthen the policy and legal framework

Objective: *The objective of this strategic component is to improve the policy and legal framework to enable the setting up (selection and demarcation), and, long term management of biodiversity offsets for both biodiversity and for people.*

Offsets are often considered a market-based instrument for conservation of biodiversity. Offset policies require in-kind compensation that balances biodiversity losses, or resulting in a 'net gain' in biodiversity that is also a net gain for people. All such outcomes are pursued by quantifying residual ecological impacts arising from development, and creating equivalent biodiversity components elsewhere where these benefit the people who have incurred the losses.

The National Environment Act (2019) provides an enabling legal framework for implementation of biodiversity offsetting, through the ESIA process as a tool for the mitigation hierarchy. However, the ESIA regulations require revision to enable operationalization of the offsets. Similarly, the current ESIA guidelines do not clearly provide for offsets on either the biodiversity or social aspects. There is need to complete the review of the legal and administrative frameworks to provide for effective application of the mitigation hierarchy for development projects to deliver NNL/NG outcomes for both biodiversity and for people in the long-term and the associated management of biodiversity and social offsets. The main strategic actions will therefore focus on:

4.3.1.1 Amendment of the EIA Regulations

The EIA regulations shall be amended to promote the full application of the mitigation hierarchy and provide clarification on the measures to avoid, minimize, restore and offset the impacts on biodiversity and the associated impacts on people's wellbeing. The biodiversity and social offset design will be integrated into the EIA process to enable greater potential for impact avoidance through project re-design because it makes the benefits of avoidance and minimization clearer through subsequently reduced offset costs.

4.3.1.2 Revise the Guidelines for Environment and Social Impact Assessment

NEMA will develop guidelines to provide detailed procedures for the implementation of the mitigation hierarchy to ensure NNL/NG of biodiversity and social outcomes. The guidelines will integrate offset planning, the development of biodiversity and social management plans, and the involvement of independent experts in the drafting of licensing conditions and greater emphasis on the early steps of avoidance and minimization in the mitigation hierarchy, quantification of residual impacts and the assessment and design of offsets as a last resort for addressing residual impacts on both biodiversity and people's wellbeing.

4.3.1.3 Develop guidelines for biodiversity and social offsets

Guidelines for designing, implementing and maintaining biodiversity and social offsets for the long term shall be developed by the offset coordinating agency – the National Environment Management Authority (NEMA).

4.3.1.4 Develop or amend relevant sectoral policies and laws to provide for offsets

Relevant laws for sectors (e.g. forestry, agriculture, wetlands, etc…) will be either enacted or amended to take cognizance of the impact of development projects on biodiversity conservation (and the associated impacts on people's wellbeing) and provide for the mitigation through the application of the mitigation hierarchy (avoid, minimize, restore/rehabilitate and offset).

4.3.1.5 Development of sectoral guidelines to provide for offsets

In accordance with Section 69 (3) of the National Environment Act, NEMA will liaise with the lead agencies to assist Government institutions, private sector, civil society and other stakeholders to develop guidelines for mainstreaming mitigation and adaptation strategies in their planning and decision making processes. This will entail applying the full mitigation hierarchy (avoidance, minimization, restoration and offsets) to ensure NNL/NG of biodiversity and social outcomes within the sectors. In sectors where guidelines already exist, these will be reviewed to integrate the relevant information.

4.3.2 Strategy component 2: Public awareness on biodiversity and social offsetting

Objective: *The objective of this strategic component is to improve the knowledge and understanding of biodiversity and social offsets at national level, sectoral levels and the general public.*

Biodiversity and social offsets are not yet well appreciated in the country and it will be very important that stakeholders are made aware of the importance of biodiversity, as well as the effective approaches that could ensure NNL/NG for both biodiversity and people to the country. An awareness programme will be pursued to increase knowledge and understanding of the mitigation hierarchy in general and biodiversity and social offsets in particular. The main strategic actions will be as described below.

4.3.2.1 Develop, disseminate and promote use of information, education and communication materials

Information, education and communication (IEC) materials will be developed for targeted groups to promote understanding of the concepts and application of biodiversity and social offsets. The target group will include practitioners in the environment and natural resource sector, the sectors that impact on biodiversity resources, the private sector and the general public.

4.3.2.2 Conduct sectoral awareness and education/training

Awareness training will be conducted for Government Ministries, Agencies and local governments to raise the level of appreciation of the concepts and practice of biodiversity and social offsets and enable them to participate effectively in the selection, design and long term management of offsets.

4.3.2.3 Conduct public awareness and education training

Public awareness events will be organized to promote the appreciation of biodiversity conservation, the importance of biodiversity for people's wellbeing, the mitigation hierarchy and the application of biodiversity and social offsets for ensuring NNL/NG of biodiversity and social outcomes. The awareness events will include radio talk shows, TV programmes and debates among others.

4.3.3 Strategy component 3: Planning for avoidance and ensuring sustainable social community well-being and livelihoods from No Net Loss / Net Gain of biodiversity

Objectives: *The objective of this strategic component is for developments to achieve NNL/NG of biodiversity in ways that ensure people's wellbeing is at least as good as before. This includes ensuring stakeholder involvement in the selection, demarcation and long term management of offsets so as to apply the mitigation hierarchy to social impacts. The intention is also to provide for influencing planning by the involvement of the whole range of stakeholders.*

4.3.3.1 Mainstream the mitigation hierarchy and biodiversity and social offsets into the planning processes

Mainstreaming the mitigation hierarchy into national and subnational policies, plans and programmes is an important process of planning for avoidance, during which potential impacts of development are assessed and options to address them are considered before they actually occur. This is an efficient way to avoid and then reduce impacts (prevention is better than cure) and will result in better reconciliation of development needs with those of biodiversity conservation and social wellbeing. Based on the provisions in the revised ESIA process, the various sectors, local governments and the private sector will be required to mainstream as appropriate the mitigation hierarchy and biodiversity/social aspects relevant to their functions and impacts of development interventions. Avoidance will be enhanced through improved inter-agency coordination and participatory planning. In accordance with Section 69 (3) of the National Environment Act, NEMA will liaise with the lead agencies to assist Government institutions, private sector, civil society and other stakeholders to mainstream mitigation and adaptation strategies in their planning and decision making processes. This will entail applying the full mitigation hierarchy (avoidance, minimization, restoration and offsets) to ensure NNL/NG of biodiversity and social outcomes within the sectors. In sectors where guidelines already exist, these will be reviewed to integrate the relevant information.

a) ***Mainstreaming biodiversity and social offsets in national planning frameworks***

International good practice principles for the social aspects of NNL/NG (Bull *et. al*, 2018) will be mainstreamed in cross sector national planning policies such as the Comprehensive National Development Planning Framework policy (CNDPF), the National Development Plans, Sector Investment Plans and Local Government Development Plans. The social principles, together with application of the mitigation hierarchy and biodiversity and social offsets will, as much as possible be integrated in the policies, strategic plans and programmes. Available scientific data shall be utilized to inform the planning.

b) ***Mainstreaming biodiversity and social offsets in sectoral and local government plans, and programmes***

International good practice principles for the social aspects of NNL/NG (Bull *et. al*, 2018), together with the mitigation hierarchy and biodiversity and social offsets, will be mainstreamed in the sectoral and local government planning processes, including the Sector Investment Plans and Local Government Development Plans to ensure NNL/NG of biodiversity of the natural resources (and the associated social aspects) under their jurisdiction.

c) Mainstreaming wellbeing assessments within ESIAs

Assessing impacts on people's wellbeing from NNL/NG (especially offsets) shall be mainstreamed within Uganda's ESIA processes and procedures. Wellbeing assessments shall follow methods in the international good practice principles for social aspects of NNL/NG (Woodhouse *et. al*., 2016). Activities to mainstream wellbeing assessments shall include: including wellbeing assessments in the NEMA guidance on biodiversity and social offsets; and

undertaking capacity building training on wellbeing assessments for industry, government and NGOs.

4.3.3.2 Ensure transparent and inclusive stakeholder participation in the choice and long term management of fair and sustainable offsets

Stakeholder participation (especially with the poor and vulnerable) shall be integral to all processes of firstly, application of the mitigation hierarchy, and secondly, the selection, design, establishment and long term management of biodiversity and social offsets. This participation shall follow international good practice principles for social aspects of NNL/NG (Bull *et. al,* 2018), especially to be transparent and inclusive – and most importantly - early within the development project lifecycle. The key stakeholders may be categorized as project developers/investors, funding agencies, project implementing partners, agencies responsible for natural resource management, local governments, local communities, indigenous peoples, researchers and the academia. The stakeholders will be engaged through different fora established to encourage confidence, honesty, transparency, trust and equity to foster constructive dialogue and promote coordinated action. In particular, transparent and inclusive stakeholder participation in the ESIA process will be undertaken. The ESIA is an important tool for implementing the mitigation hierarchy and the consultation of the public will continue to be an important part of the process. Useful information that is required to guide offset planning as well as identification, selection, establishment and management of biodiversity and social offsets is scattered among many stakeholders. The participation of stakeholders will therefore enhance information sharing and promote harmonized decision making, leading to more successful outcomes of the development and its offset. Through stakeholder participation, access to the social-cultural, ecological and political concerns will be promoted, and mechanisms for transparent and inclusive communication, coordination and collaboration among all parties will be developed.

4.3.3.3 Implement activities that benefit communities both at the development footprint areas and at offset areas

Local communities and indigenous peoples shall be involved as early as possible, during the design, implementation and long-term management of all activities to achieve NNL/NG, and most especially offsets. The local communities (and indigenous peoples where applicable) are directly affected by biodiversity offsetting since they are most likely to lose the ecosystem services needed for their wellbeing, social cohesion, livelihoods and health that result from losses of biodiversity at the development site, and from the creation of offsets. Their participation in the mitigation hierarchy and in the offset processes will ensure that social and cultural concerns are fully addressed (for example, by ensuring that impacts on highly valued cultural sites are avoided) and that any necessary compensation measures (after avoidance and minimization of social impacts) are socially acceptable. That is, local people affected by NNL/NG activities (especially offsets) themselves consider that any necessary compensation measures are acceptable to the losses they incur.

In addition, activities required to restore or compensate the ecosystem services for the people at the impacted and offset sites would be identified together with the affected people for implementation. Appropriate measures to provide full compensation to the affected people for the land acquired for the development and then for the offset shall be determined to ensure that the affected people are not made landless (by either the development or offset) and that there is no loss of people's livelihoods or negative impacts on their wellbeing from NNL/NG in any stage of a development project's lifecycle.

In addition, local communities can be important actors in the long term implementation of offsets, providing means to reduce the pressures on natural resources. Engagement with local stakeholders in the design and implementation of offset management plans will be essential to achieve desired results and provisions shall be in place to build local capacity and to ensure financial support.

4.3.3.4 Utilization of other available systems that support avoidance

Planning for avoidance will be strengthened through the application of already existing approaches and using available information, but wherever necessary more additional mechanisms such as use advanced biodiversity survey methods will be developed to support the process. The following materials, among others are available, and will be accessible at NEMA's information network, as well as the relevant lead institutions:

- National Biodiversity Strategy and Action Plan II (20215-2025)
- The National Forest Nature Conservation Master Plan (Forest Department, 2002);
- Managing Central Forest Reserves for the People of Uganda: Volume 1 - A strategic Action Plan for the Period 2008/09 to 2012/13 (NFA, 2008 a)
- Managing Central Forest Reserves for the People of Uganda: Volume 2 – Functions of Central Forest Reserves in Uganda (NFA, 2008 b).
- Environmental Sensitivity Atlas for the Albertine Graben (NEMA, 2010)
- The Strategic Environment Assessment (SEA) of Oil and Gas Activities in the Albertine Graben, Uganda.
- The Uganda Wetlands Atlas (GoU, 2016).
- Key Biodiversity Areas.
- Key Bird Areas in Uganda.
- The National Biodiversity Strategy and Action Plan II (NEMA, 2016).
- The AICHI targets as domesticated in the NBSAP II.

4.3.4 Strategy Component 4: Identification of priority offset sites for biodiversity and ecosystem services

Objectives: *The objective of this strategic component is to provide for approaches to effectively identify and select biodiversity and social offsets by careful consideration of both the ecosystem and social factors to ensure that development initiatives are undertaken without compromising Uganda's biodiversity resources or the associated local people's wellbeing.*

Every effort in the process shall be made to ensure that the option of a biodiversity and social offset is adopted as the last resort after taking measures of avoidance, minimization and restoration of impacts.

4.3.4.1 Apply scientific information to guide selection of sites for biodiversity and social offsets

a) The selection of the offset shall be based on scientific information on biodiversity and social aspects (data sets, maps, classifications of habitat types and conditions) and to ensure proper valuing of the resource. There shall be deliberate effort by decision makers to seek researched information from the various biodiversity and social database centers. These include, among others, NBDB, CHEIN in NEMA, UBOS, Nature Uganda, WCS, NFA, UWA, NARO, Wetlands Management Department, IUCN, WWF and ARCOS. For social data, the key sources of information include the Ministry of Gender, Labour and Social Development (MGLSD), the Makerere Institute of Social Research (MISR) and Uganda Bureau of Statistics (UBOS). The characterization of the water resources based on water quality

objectives, if actualized by MWE, will also guide policy makers and developers in decision making regarding offsetting for water bodies. The Ministry of Water and Environment will progressively develop a central database as a support system for decision makers.

b) The ESIA process will ensure that any additional relevant information necessary to guide decision making is collected from further research and other designated sources. Where need be, the ESIA process may use the available technical capacity of the NBDB and other institutions to collect and process data.
c) The core centres of government should be encouraged to collaborate and corporate with NBDB and other data centres on matters of biodiversity and social data and information to guide decision making and routine resource management.

4.3.4.2 Stakeholder participation in identifying areas for offsets

Various stakeholders shall be engaged in the process of identifying and selecting the priority sites for the establishment of a biodiversity and social offset. In particular, the key stakeholders will include project developers/investors, funding agencies, project implementing partners, agencies responsible for natural resource management, local governments, local communities, (especially the poor and vulnerable), indigenous peoples, researchers and the academia.

4.3.4.3 Key Biodiversity Areas in Uganda

KBAs are important sites for conservation because they conserve significant numbers of one or more species of conservation concern. The determination of these areas was based on a global approach that applied five assessment criteria:

- Threatened biodiversity;
- Geographically restricted biodiversity;
- Intact ecological communities;
- Ecological congregations or sources for recruitment;
- Irreplaceable sites based on global analyses

A total of 36 KBA sites, which include terrestrial, wetland and freshwater sites have been identified for Uganda (Plumptre *et. al.*, 2017). Out of these, ten (10) are outside the protected areas, e.g. Tororo Rock, Lake Bisina, Lake Nakuwa and Lake Napeta (ANNEX 4).

Any development in a KBA shall be permitted only where scientific evidence presented demonstrates that the residual impacts of development actions in the KBA are offsetable. KBAs are important biodiversity hotspots. As far as possible, no development shall take place in these areas. This is because of their inherent importance for Uganda's natural heritage and of the challenges associated with offsetting the residual impacts from such areas.

4.3.4.4 Ecosystem approach

An ecosystem approach shall be applied in identifying options for an offset. The ecosystem approach will ensure that the offset is as much as possible located within the same ecosystem in order to boost chances of selecting "like-for-like" for the maintenance of ecosystem services. At the same time options will be considered for trading up where an offset can protect or enhance higher priority biodiversity.

The boundaries of the biodiversity offset will then be mapped and clearly demarcated on the ground. This is particularly important where an offset area is acquired on private land. The owners of the private land (under customary, leasehold or free-hold tenure system) should be compensated and the land transferred to the managing entity. The gazettement of the land shall be in accordance to the designated purpose of the offset and the mandate of the managing

entity. For instance, the offset may be declared a forest reserve, National Park, protected wetland, etc.

4.3.4.5 Social-cultural thresholds and considerations

Developments shall avoid impacts on biodiversity that are highly valued by people, to an extent whereby their values cannot be compensated for if that biodiversity is lost. For example, spiritual and cultural sites that are significant to local people. Identifying these sites requires inclusive involvement of local communities affected by a development's impacts on biodiversity, and this involvement shall be as early as possible to ensure that avoidance measures can be implemented smoothly.

The choice of a biodiversity offset shall take into consideration the social and cultural benefits derived from the ecosystem service to the local communities and indigenous people. The social effects of a development's NNL/NG activities (including its offset) may include, among others, generation or reduction of employment in the area, social cohesion or disruption, effect on human health, immigration or emigration, etc. Through community participation initiatives, relevant social-cultural issues shall be identified, discussed and integrated in firstly, the application of the mitigation hierarchy. Then secondly, after all possible measures have been undertaken to avoid and then minimize and restore social impacts, in the offset plans for implementation. Offsets shall thus be designed and implemented to ensure that people's wellbeing is at least as good as before the development – for people at both the development site and at the offset site. The developer shall be responsible for presenting evidence to the relevant regulator (which will usually be NEMA) that fully demonstrates this social outcome of offsets for all people affected by NNL/NG for example for women, the poor and the vulnerable; without which no offsetting should proceed.

4.3.5 Strategy component 5: Strengthen Institutional Arrangements for the Management of Offsets

Objective: *The objective of this strategic component is to clarify roles and responsibilities of the different institutions and improve their abilities for effective implementation of the biodiversity and social offsetting.*

The institutional framework described here is for the roles and responsibilities of different actors to be clear in the establishment and management of offsets and promoting inter-institutional coordination, collaboration and cooperation for effective governance and performance in delivering NNL/NG of outcomes from biodiversity and social offsets.

4.3.5.1 Clarify the Roles and responsibilities in support of biodiversity and social offsets

Different actors are involved in the management of offsets, including Central Government agencies, local governments, the private sector, NGOs/CBOs and local communities. Clarification of institutional roles in the management of biodiversity and social offsets is important in avoiding duplication, overlap and conflicts. The stipulated roles and responsibilities shall be in accordance with the institutional mandates, and these shall be clearly spelt out and sources of funding identified in each site specific Biodiversity and Social Offset Management Plan (BSOMP) developed through the participation of key actors. The main institutions are outlined below.

1. Ministry of Water and Environment

The MWE is the lead Ministry in regard to the management of environment and shall be responsible for the development of the National Biodiversity and Social offset Strategy and strategic guidance during its implementation. A number of Departments and agencies under

MWE provide support for effective regulation and implementation of its mandate. In particular, the roles of the following agencies are critical in implementing the strategy. In addition, MWE will coordinate with other institutions to provide input towards social aspects of the strategy.

National Environment Management Authority (NEMA) is responsible for regulating, guiding and approving the ESIA, which is a tool for implementing the mitigation hierarchy and also coordinates implementation of the CBD. Biodiversity offsetting is an outcome of the global discussions under the CBD. In this respect, NEMA will be responsible for developing guidelines and implementing biodiversity and social offsets, in collaboration with the relevant lead agencies. NEMA will also work with the appropriate agencies that would ensure integration of social aspects of the offsetting process. In addition, the Technical Committee on Biodiversity Conservation will support NEMA in the implementation of the offsets.

a) **National Forest Authority (NFA)** is mandated to manage Central Forestry reserves in Uganda with the main objective of providing goods and services, and many of the CFRs are KBAs. The CFRs have in the past been affected by development projects such as roads, power-lines, industrial developments and expansion of urban centers. The areas hitherto planned as a Permanent Forest Estate (PEF) to guide the functioning of other ecosystem types that depend on forests to function as well as providing of many forest goods and services that drive growth and foster national economic development are fast declining. The roles of NFA in the establishment and management of offsets include the following:
   (i) Identifying areas of critical habitats where development projects must be avoided. The National Biodiversity Conservation Master Plan provides a strong basis for determining these “No-Go” areas;
   (ii) Supporting the identification of areas for establishing forest-related offsets. Such areas may include degraded forests where improvement in the management actions would result in restoration of the biodiversity components;
   (iii) Supporting the determination of the costs of identifying, establishing and maintenance of offsets using best available techniques (BAT) for purposes of providing realistic estimates of forest-related offsets;
   (iv) Supporting the development of and implementation of Offset Management Plans for offsets established within the CFRs, in collaboration with the key stakeholders including social specialists for achieving the desired social outcomes of the offset; and
   (v) Monitoring and evaluation of implementation of Offset Management Plans.

2. Ministry of Tourism, Wildlife and Antiquities

The Ministry of Tourism, Wildlife and Antiquities (MTWA) is responsible for sustaining tourism, wildlife and cultural heritage. The mission for MTWA is to develop and promote the tourism, wildlife and heritage resources for enhancement of Uganda as a competitive and preferred tourist destination, with accelerated sector contribution to the national economy. The Ministry mandate includes:

- Formulate, Implement policies of Tourism, Wildlife and Cultural heritage;
- Sustain and manage wildlife and cultural heritage conservation areas;
- Diversify Tourism Product;
- Promote and market Uganda as a preferred tourism destination;
- Develop human resource capacity in Tourism, Wildlife and Heritage sector;
- Regulate and Quality Assure Tourism, Wildlife and Heritage programs and services;
- Disseminate and manage Tourism, Wildlife and Heritage Research, information; and
- Negotiate, conclude and implement bilateral and multilateral agreements on Tourism, Wildlife and Heritage in Uganda.

a) **Uganda Wildlife Authority (UWA)** is one of the agencies under MTWA, which is mandated to ensure sustainable management of wildlife resources and supervise wildlife activities in Uganda both within and outside the protected areas. UWA is mandated to manage Wildlife Conservation Areas (National Parks, Wildlife Reserves, wildlife sanctuaries, community wildlife areas) and wildlife on privately owned land. All WCAs are KBAs because of their biodiversity conservation values. The roles of UWA in the establishment and management of offsets include the following:
   (i) Identifying areas of critical habitats where development projects must be avoided – i.e. "No-Go" areas;
   (ii) Supporting the identification of areas for establishing offsets related to wildlife. These may include the degraded areas of the WCAs where improvement in the management actions would result in restoration of the biodiversity components;
   (iii) Supporting the determination of the costs of identifying, establishing and maintenance of offsets using best available techniques (BAT) for purposes of providing realistic estimates of wildlife-related offsets;
   (iv) Supporting the development of and implementation of Offset Management Plans for offsets established, in collaboration with the key stakeholders including social specialists for achieving the desired social outcomes of the offset; and
   (v) Monitoring and evaluation of implementation of Offset Management Plans.

3. Ministry of Local Governments

a) **Local governments** are responsible for the decentralized functions related to natural resource management. The District Natural Resource Department (DNRD) is instrumental in the management of forests outside protected areas, wetlands and land. The District local governments will therefore play important roles where the offsets are established outside the protected areas. The roles may include:
   - Participation in offset management planning,
   - Provision of advisory services to communities
   - implementation of agreed activities of the offset management plans

4. Ministry of Lands, Housing and Urban Development

The Ministry of Lands, Housing and Urban Development (MLHUD) should also be involved especially because of their mandate in physical planning activities. It is noted that a physical plan is already being developed for the whole country.

5. Uganda Investment Authority

The Uganda Investment Authority (UIA) may provide further support to implementing the offset strategy. UIA is critical and is highlighted here because of its mandated role of investment promotion. When an investor comes, he/she goes to UIA for advice on where to invest, including investment in natural resources. UIA has an environment office, but does not conduct impact assessments. UIA should get more involved in and create greater awareness about the ESIA processes and the mitigation hierarchy and thus advise the developers about the need to conduct the ESIA.

6. Biodiversity and social impacting agencies

The biodiversity and social impacting agencies include both public sector agencies and developers who are either individuals or private companies. The public sector agencies include the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Ministry of Energy and Mineral Development (MEMD), the Ministry of Works and Transport (MWT), the Ministry of

Land, Housing and Urban Development (MLHUD), Uganda National Road Authority (UNRA), Civil Aviation Authority (CAA) and Ministry of Education and Sports (MES).

The roles of biodiversity and social impacting agencies shall include:

a) To set a target of NNL/NG for both biodiversity and for people as a deliverable of the development project, from the start so that this target is embedded within decision-making, within the budget and within the programme.
b) Ensure adherence to the mitigation hierarchy for all of their projects, starting with design efforts focused on avoiding impacts, and then minimize impacts.
c) To participate in the process of selecting the offset
d) To mobilize resource for establishing and managing the offset
e) Monitoring the implementation of the offsets.

7. Ministry of Finance, Planning and Economic Development (MFPED)

- Mobilization of resources for establishment and management of the biodiversity and social offsets for public sector funded projects.
- The Ministry is the CBD Focal Point for Resource Mobilization.

8. Developers/Investors and Financing Agencies

The developers/investors and financing agencies shall be responsible for financing the identification, selection, eventual management and monitoring the offsets. Offset identification shall be initiated during the ESIA process as prescribed in the law.

4.3.5.2 Strengthen the capacity of existing institutions to enhance their performance in managing biodiversity and social offsets

(i) The capacity of the existing environment and natural resource and social management institutions shall be strengthened so that they can effectively address emerging offsets issues. In particular, the human resources shall be improved in terms of numbers, knowledge and skills and funding to facilitate implementation and monitoring of biodiversity and social offsets.
(ii) Every natural resource managing institution shall establish a focal point for the purpose of building internal capacity for offset management.
(iii) The capacity of individual staff shall be improved through training and exchange visits to acquire experience from areas with well-established offsets.

4.3.5.3 Strengthen the capacity of the developers/private sector and cultural institutions

Developers shall be trained through short tailor-made courses to appreciate the importance of biodiversity and its effect on people's wellbeing, understand issues of biodiversity conservation, understand the application of the mitigation hierarchy and aspects of the management of biodiversity and social offsets.

4.3.5.4 Improve coordination, collaboration and cooperation among institutions

a) MWE will be responsible for policy guidance on matters related to biodiversity and social offset inter-sectoral coordinating of offset management.
b) NEMA, in consultation with the lead agencies, shall be responsible for the coordination of the implementation of the offset strategy
c) A multi-sectoral Technical Committees for Biodiversity and Social offsets will be established based on the available competences for managing the crucial categories of ecosystems. These may comprise of DESS, FSSD, WMD, NEMA, UWA, NFA, MAAIF, MLHUD, MGLSD; research and academia and relevant CSOs (IUCN, WCS, WWF) as well as the District

Natural Resource Officers (DNROs) of the affected area could also be co-opted as non-permanent member as these will change with location.

d) Technical Committee established under Section 21 of the NEA will give advice or perform delegated functions related to biodiversity conservation and appropriate social agencies which will be responsible for providing technical guidance and quality control on the selection and management of biodiversity and social offsets.

4.3.6 Strategy component 6: Funding for Biodiversity Offsets

Objective: *The objective of this strategic component is to provide for mechanisms for resource mobilization and management of financial resources for management of offsets.*

Offsets require a sustainable funding mechanism to support identification, selection, establishment, management and monitoring activities. Essentially the developer is expected to meet all the offset costs, preferably in perpetuity or at least as long as the impacts persist on the ground. Whether for a public or private investment project, the cost of the offset should be calculated as part of the overall project cost. Implementation of this objective will take into account the financing solutions for resource mobilization in the National Biodiversity Finance Plan developed by NEMA

The activities that require financing may fall under two distinct categorizes. Firstly, there are those actions that are related to the implementation of offsets to achieve NNL/NG following a project's development and identification of residual impacts. These must be funded by the developer so that the offset can be considered additional. Additionality is a key principle of offsets (see the BBOP Standard). The funding from the project will either come from capital expenditures or from operating revenue (in the case of businesses). Section 115 (6) of the National Environment Act (2019) states that, "*The biodiversity or other offsets or compensation mechanism referred to in subsection (4) shall be designed and funded by the developer as long as the impacts exist or preferably in perpetuity*". The developer will therefore be required to apply necessary metrics/standards to determine the measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity, and for people, and prepare a comprehensive budget in consultation with the relevant lead agency.

Secondly, in addition to funding offset activities, it is important to fund additional conservation actions that go above and beyond the offset requirements. Some of these there are some other funding mechanisms that may support additional conservation activities include public awareness, monitoring and evaluation of the offsets and community based actions. These are activities that develop national processes, structures and capacity so that offsets can function in Uganda. These can be supported by funding independently from a company or institution which causes impacts. National government or external funding could be considered amongst other sources.

Key elements in this strategy component therefore include:

- *Securing up-front financing for the offset:* Where possible the entire cost of the offset would be funded prior to project implementation. Offset funds should be deposited into a trust account which can be established in a designated bank preferably administered by a conservation trust fund such as the Uganda Biodiversity Trust Fund (UBTF).
- *Securing partial up-front financing:* At a minimum, at least 50% of the offset would be paid for up front and a plan developed to pay the remaining percentage over a set period of time from operating revenue. Where this approach is taken, guarantees to ensure that financing will need to be created to ensure compliance with financial obligations.

For public projects, the funding mechanisms include:

- The national budget.
- Non-tax revenues from the lead agencies.
- The financing source such as the World Bank, African Development Bank, or other development bank.

The negotiations for the funds should take into consideration the following:

- The cost of implementing the management plan to achieve the specific conservation objectives.
- The cost of monitoring the activities to determine achievement of objectives.
- The cost of any administration of funds or of third-party oversight, audits, etc.
- Contingency costs to reflect uncertainty and risk, and,
- Any costs of borrowing or investment.
- The TEV, which provides information on the loss created by the project.

The different agencies overseeing offset design and implementation will decide how much funding is necessary to achieve the required gain. This may include up-front start-up costs (e.g. purchase of new areas or trees), ongoing management costs (e.g. management of fire and cutting for firewood) and monitoring (e.g. analysis of satellite imagery). Funds for implementation of the strategy will follow the normal government processes from the Ministry of Finance, Planning and Economic Development.

4.3.6.1 Determination of the financial needs for a biodiversity and social offset

The current experience in the country is that financial needs for biodiversity and social offsets have been determined through valuation of biodiversity loss and social costs at the impacted sites, through scientifically proven best available techniques (BAT). Efforts have always been made to have the value take into consideration the cost of biodiversity loss, the social-cultural implications as well as possible future option losses, collectively called a Total Economic Valuation (TEV). This has, as much as possible involved the participation of key actors in the process in order to build ownership and local capacity for negotiation of the offset price and eventual management of the offset. The funds are then dedicated as a lump sum to the offset management agencies.

There are, however, inherent risks in this approach namely the possibility that the TEV may undervalue the loss or that the funds may not be enough for the management costs of the eventual offsetting activities; and also that funds could be utilized for activities deemed urgent by the offsets management agency. In such circumstances, the offset activities may be underfunded and thus lose out on sustainability. Where there are no third parties for eventual mediation this challenge can be overcome by the costs approach.

This strategy thus proposes the use of the cost approach where parties agree/ determine the biodiversity and social outcomes required at the offset site and cost them. The fact that the TEV does not capture the real costs (e.g. how much do you spend on fuel per month, supervisory costs etc.) it is not easy to provide an authoritative figure and thus this approach is not internationally acceptable, especially because of the difficulty of quantifying losses at the impacted site. However, the TEV can be undertaken to provide information on the loss created by the project with regards to both biodiversity and people, to contribute to ensuring fair determination of costs. In the costs approach, however, the actual cost of what it takes to manage the remedial measures for both biodiversity and people can be more accurately established. The financial needs for a biodiversity and social offset will thus be determined by

the investment needed to achieve the required gain in biodiversity, and the associated net gain for people, which will offset the residual impact following project development. The cost approach is interactive and adaptive– between the developer and the offset managers and thus should be utilized to ensure that actual required financial resources are provided for the offsetting activities.

4.3.6.2 Resource mobilization for financing offsets

Further resource mobilization may be necessary such for resources to facilitate creating an enabling environment for offsets such as capacity building and relevant policy adjustments. Further resource mobilization may require engaging other actors including financing institutions, but also regulators, MALGs and service suppliers, such as asset managers. Other sources of funds may include the Uganda Biodiversity Trust Fund (UBTF), the Environmental Conservation Trust Fund (ECOTRUST), the Land Fund and possibly the Tree Fund if it is made operational.

To ensure that offsets to do not suffer inadequate management because any lack of resources, all projects will be required to put up-front funds into a trust account to guarantee that at least 50% of the offset financing has been paid. The funds will then be placed in a separate trust account in an international bank with proof provided to the regulators, or can be paid into a fund with an organization like the UBTF or ECOTRUST. All funds provided to the Conservation Trust Funds (CTFs) will be entrusted to an international asset manager who has been selected through a vetting process acceptable to all stakeholders. Agreements would be signed between the developer and CTF regarding how the money will be managed and overseen. The creation of a steering committee involving the developer and other stakeholders in the region could be established to ensure that funding is directed to priority activities to deliver offsets and to make course corrections as needed.

For public investment projects, the Government may decide to place payments into a fund managed by Government. The National Environment Fund (NEF) is the immediate option; and NEF may then have an MOU with a CTF to manage the funds on their behalf. This will address the risk that private investors may not be confident to put their money in a Government led Fund.

4.3.6.3 Flow of the funds to ensure their effective utilization for offsets

In most of the current case examples, such as Mbarara-Nkenda power line in Murchison Falls National Park, and the NFA-Gangu offset; the developers transfer the valued offset costs directly to the mandated management institution through a MoU. This, as noted in 4.3.6.1 may not ensure sustainable management of the offsets and so a dedicated fund is very useful.

If the biodiversity and social offset funds are a component of the National Environment Fund, which is already provided for under the NEA the developer would deposit to the NEF the financial resources equivalent to the offsetting costs. The private sector may however trust an independent fund more; and thus it could be possible for the UBTF to manage the funds for implementing offsets on behalf of NEMA. NEMA could enter into an MOU (as a public-private partnership arrangement) with the UBTF specifically to ensure effective and timely provision of resources to offset managers. NEMA will then free up time and effort to proceed with technical decisions. The UBTF would be accountable to the offsetting managers; the developer; and the Government regulating agencies.

NEMA is after all part of the board of UBTF and thus the funds would not be appropriated without Government's representation. Additionally, a member of the Multi – sectoral committee will be seconded to the grants management committee of the UBTF to ensure further

transparency. It is important to note that there are already discussions between UBTF and NEMA; and NEMA is nominating someone on the UBTF. This partnership will enable NEMA to carry on with other technical functions and UBTF will cushion NEMA on matters of financial management to ensure that there is harmony in the operationalization of the funds flow process. Funds shall be transferred to the UBTF as ***Upfront Capital*** to include the complete financing of start-up capital and ongoing management costs for an offset project satisfied through a single lump sum secured before any project activity begins; rather than as on-going finance.

The agency implementing the offset plan will then request for funds from the UBTF periodically through a work plan process ensuring activity based funding. The UBTF would disburse the resources through a contract following their normal funds management processes.
Reporting on financial resources will be to the overseeing committee on the funds utilization.

4.3.6.4 Benefits to the impacted communities and indigenous peoples

Management rights and obligations shall flow right up to the local communities and indigenous peoples (in an inclusive and transparent manner to avoid 'elite capture') through routine plans and budgets, at both the impacted (footprint sites) and offset sites, with efforts to ensure that local communities and indigenous peoples are supported with any capacity building required.

4.3.6.5 Sustainability of the offset funds

One of the goals of financing offsets is the creation of permanent funding sources to ensure the management of the offset in perpetuity. To achieve that objective, an endowment should be created to cover the long term management costs of the offset. The endowment will be invested to earn income that will cover all administrative and program costs without reducing the capital of the endowment. Endowment funds will be invested with an international asset manager located in the US or Europe to take advantage of investment in global markets. This approach for sustainable financing, by investing in Offshore Trust Funds[11], takes lessons from the Bwindi Trust Fund. Local investment options in Uganda may also be considered.

4.3.7 Strategy Component 7: Monitoring and Evaluation of offsets

The monitoring and evaluation of the offsets is concerned with ensuring that the activities set out for the establishment and management of a specific offset are implemented in accordance with the Offset Management Plan developed in a participatory manner. Most importantly it is also to monitor whether the set outcomes have been achieved - and to have a regime of adaptive management whereby monitoring informs on going management.

4.3.7.1 Objectives of monitoring and evaluation

The overall objective of monitoring and evaluation and the associated reporting mechanisms is *to support effective implementation of agreed activities for a particular offset and thus ensure accountability of the offset outcomes for both biodiversity and people*.

The specific objectives are:

(i) to track implementation of the work plans developed for the offset management;
(ii) to ensure that the key stakeholders execute their roles and responsibilities as envisaged in the offset management plan;
(iii) to monitor progress towards the set outcomes for biodiversity and people (as stated in the Offset Management Plan)
(iv) to generate information that is useful for evidence-based decision making; and

[11] Offshore Trust Funds offer investment opportunities that may favorably offer returns compared to local service providers in terms of investment and retirement trust options and so contribute to resource mobilization.

(v) to provide for adaptive management based on lessons learnt and generating ideas for making improvements in management of the offset.

4.3.7.2 Monitoring cycle for offsets

The monitoring cycle for offsets will be determined through the Offset Management Plan developed through a participatory process, involving key stakeholders including the affected communities and indigenous peoples where these exist.

There shall be provisions for mid-term evaluation of the Offset Management Pan to inform the general implementation process.

4.3.7.3 Performance indicators

The Performance Indicators will depend on the planned activities for each offset, and will therefore be developed on a case-by-case basis on the designed activities for the offset. The indicators will relate to both biodiversity and to people, and are to assess whether the offset work plan is being implemented on the ground.

4.3.7.4 Impact indicators

Impact indicators come from the metrics and exchange rules that are incorporated in the standards adopted for mitigation. The intention is to ensure that activities that are implemented for each offset are effective in achieving no-net loss or net gain biodiversity conservation outcomes and the set outcomes for people as designed in work plans. They could be species specific or for the overall ecosystem with regard to biodiversity and for the surrounding community. They should also include wellbeing with regard to the social aspects of offsets.

4.3.7.5 Mechanisms for monitoring and evaluation of the offsets

A rigorous monitoring, evaluation and enforcement system will include independent verification of all mitigation actions through a multi-layer approach involving various key stakeholders and especially local communities affected by Biodiversity loss at the development site and by the biodiversity offset. There are three levels for monitoring offsets namely:

a) ***Routine monitoring by agencies responsible for managing the offsets.*** The institution mandated to manage the offset will establish internal routine monitoring systems to ensure that planned activities are implemented and that progress towards the biodiversity and social outcomes are on track. Monthly, quarterly and annual progress reports will inform subsequent decision making processes for enhancing activity implementation performance.
b) ***Monitoring by the coordinating agency.*** The Offset coordinating agency (NEMA) will monitor the offset site at least twice a year. Where some offsets have a more frequent monitoring regime, NEMA will endeavour to monitor as appropriate. NEMA will also be responsible for ensuring that the monitoring covers both biodiversity and social aspects of the offset.
c) ***Joint cross-sectoral monitoring team.*** A joint team composed of the investor/developer, the funding agency, local governments, project implementing partners, the offset managing entity and representatives of the local community will be conducted annually.

4.3.7.6 Reporting

Monthly, quarterly and annual reports will be complied by the lead agencies responsible for the implementation of the offset. These reports will be reviewed by a joint team of stakeholders to ensure compliance.

NEMA, in collaboration with the lead agencies, will take responsibility to compile Annual Reports for integration in the National State of Environment Reports and in the national reports to the CBD for Uganda.

Reporting will also involve communication to the public through purposefully organized public hearings and documents will be publically available for public disclosure on the progress of management of offsets.

5 IMPLEMENTATION OF THE STRATEGY

5.1 Roadmap for implementation

This National Biodiversity and Social Offset Strategy will be implemented in a phased manner. The Roadmap is aimed at scheduling the key actions to be undertaken during the period of ten (10) year of the Strategy to lay a foundation that facilitates implementation of offset programs. The following are the main actions:

(i) ***Finalize the regulatory framework to support the mitigation hierarchy; and biodiversity and social offsets*****:** With the enactment of the NEA, there is need to put in place the statutory regulations to provide enhance the regulatory framework.

(ii) ***Conduct public awareness, education and training*****:** This will be a continuous process but will start immediately.

(iii) ***Support collection and management of biodiversity and social data*****:** There is need to increase the availability of quality data to support the selection and location of offsets. Continuous studies / surveys by the academia and research institutions will be necessary to provide information to various practitioners involved in ESIA, resource management and developers so that they make informed decisions on No Net Loss or Net Gain, and on (if required) biodiversity and social offset processes and management.

(iv) ***Build the capacity of institutions*****:** There are likely to be additional demands on staff of the natural resource and social management agencies and district authorities through increased requests for advice and assistance in designing, locating, development of offset management plans and implementing biodiversity and social offsets. In addition, there are likely to be additional demands on staff to negotiate and conclude protected area legal agreements to secure 'on the ground' offsets. There will be a need for increased capacity in NEMA and other sectoral agencies to identify the need for a biodiversity and social offset, evaluate a proposed offset's design and implementation assurance, and to draft defensible, robust and enforceable conditions of authorization. There will be a need for increased capacity in the institution or agency tasked to set up and maintain a register of biodiversity and social offsets by NEMA, and to carry out periodic evaluation of the performance of these offsets. There is likely to be a minor incremental increase in the time needed by NEMA officials to check and enforce any biodiversity and social offset conditions attached to development authorizations, over and above checking and enforcement of other conditions. There is likely to be an increase in the work load or staff capacity in statutory agencies that may be responsible for implementing or taking over offset areas, even though this might be funded by the applicant for the duration of the offset condition requirements. Initially therefore, there is need to invest in capacity building, including staff numbers and skills and the resources needed to improve performance.

(v) ***Influence planning:*** this entails mainstreaming the mitigation hierarchy, wellbeing assessments and biodiversity and social offsets at various levels of planning and in various sectors, local governments and the private sector.

(vi) ***Resource mobilization*:** Initially the main aspect will be agreeing on the systems, and will make use of the guidance provided for in the relevant sections of the financing solutions in the national biodiversity finance plan.

(vii) ***Support establishment and management of biodiversity and social offsets**:* Practical aspects of management demonstrated and implemented.

Table 1 is an indicative scheduling of actions for the ten (10) years.

Table 1: Indicative Schedule of activities

Strategic Components	**Timeline (Years)**									
	1	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***
(i) Improving the enabling environment										
• Finalize amendment of the ESIA regulations										
• Revise ESIA guidelines										
• Develop Offset guidelines										
• Amendment of sectoral guidelines										
(ii) Public awareness on offsets										
• Awareness at sectoral level										
• Conduct district level awareness										
• Ecosystem level awareness										
(iii) Ensuring sustainability										
• Influencing planning – mainstreaming offsets										
• Stakeholder participation										
• Community level actions										
(iv) Identification of priority sites										
• KBAs, Catchments										
• Demarcations and gazettements										
(v) Institutional capacity building										
(vi) Resource mobilization										
• Setting up systems										
• Fundraising										
(vii) Monitoring and evaluation										
• agreement on system and cycle/indicators										
• Monitoring										

5.2 Institutional Mandates

The institutional arrangements for implementation of this strategy will follow the established government system following the mandates of the various institutions. These include Central Government agencies and local governments.

The MWE is the lead agency in the management of the environment and has thus the oversight responsibility for biodiversity and social offsets. The Ministry shall therefore be responsible for formulation of appropriate strategies on national biodiversity and social offsetting and inspection as appropriately provided in the Ministry mandate.

Within MWE, the key agencies and Departments that will support the implementation of biodiversity and social offsets include the following:

- Department of Environment Support Services (DESS)
- Forest Sector Support Department (FSSD)
- Wetland Management Department (WMD)
- Water Quality Management Department (WQMD)
- NEMA- will be responsible for coordinating the implementation of offsets in collaboration with the relevant lead agencies under which the offsets fall. NEMA will also contribute to resource mobilization and carry out capacity building/awareness activities on offsets, especially to link together the biodiversity and social experts within government, industry and NGOs.
- NFA which is mandated to manage Central Forest reserves in the country;

The other agencies include:

- The Ministry of Wildlife, Tourism and Antiquities with **UWA**; mandated to manage Wildlife Conservation Areas (National Parks, Wildlife Reserves, wildlife sanctuaries, community wildlife areas) and wildlife on privately owned land as a key agency.
- Ministry of Local Government (MLG): **Local governments** are responsible for the decentralized functions related to natural resource management;
- **MGLSD** – which is responsible for empowering communities in diverse areas, will be involved to ensure guidance in mainstreaming gender equality, promotion of cultural growth and ensuring the social protection and transformation of communities affected by biodiversity and social offsets.
- **MFPED**, which is part and parcel of the negotiations for the compensation and identifying sources of funding for the offsets and the appropriate modalities for payments, and,
- The biodiversity and social impacting agencies that include MAAIF, MEMD, MWT, MLHUD, UNRA, CAA and MES will be major stakeholders in implementing this strategy.

The developers/investors and financing agencies shall be responsible for financing the identification, selection, eventual management and monitoring the offsets. Offset identification shall be initiated during the ESIA process as prescribed in the law.

5.3 Institutional roles in implementing the Roadmap

Strategic action	Details	Lead actor	Other actors
1. **Finalize the regulatory framework to support the mitigation hierarchy and biodiversity offsets**	Finalize amendment of the ESIA regulations	MWE/NEMA	MWE/DESS, FSSD, WMD, NFA, UWA, Parliament, all other lead agencies and other stakeholders
	Revise ESIA guidelines	MWE/NEMA	MWE/DESS, FSSD, WMD, NFA, UWA, all other lead agencies and other stakeholders
	Develop Offset guidelines	MWE/NEMA	MWE/DESS, FSSD, WMD, NFA, UWA, all other lead agencies and

Strategic action	Details	Lead actor	Other actors
			other stakeholders
	Amendment of sectoral guidelines	Lead agencies	NEMA, DESS; WMD; WQMD, MGLSD, MGLSD, MOLG, DLGs
2. Conduct public awareness, education and training	Awareness at sectoral level	NEMA	MWE/ DESS, WMD; WQMD, NFA, UWA; Lead agencies
	Conduct district level awareness	NEMA	MWE/ DESS, WMD; WQMD, NFA, UWA; Lead agencies
	Ecosystem level awareness	NEMA	MWE/ DESS, WMD; WQMD, NFA, UWA; Lead agencies
3. Support collection and management of biodiversity data	Biodiversity Database management	MWE	Makerere University NBDB, WCS, IUCN, WWF, NFA, UWA,
4. Build institutional capacity		MWE	Lead institutions
5. Influence planning	Mainstreaming the MH and biodiversity offsets	Lead agencies	NPA; NEMA; DESS; WMD; WQMD, MGLSD, MGLSD, MOLG, DLGs
6. Resource mobilization		MWE/NEMA	Partners in Development; Developers, MFPED, MGLSD, MOLG, DLGs, UBF; ECOTRUST, etc.
7. Support establishment and management of biodiversity and social offsets		NEMA	MWE/ DESS, WMD; WQMD, NFA, UWA Partners in Development; Developers, MFPED, MGLSD, MOLG, DLGs, UBF; ECOTRUST, etc.

5.4 Cost and Benefit Implications for the Strategy

There are *financial and capacity implications* associated with the strategy namely:

- There are likely to be additional demands on staff of the natural resource management agencies and district authorities through increased requests for advice and assistance in designing, locating, development of offset management plans and implementing biodiversity offsets. In addition, there are likely to be additional demands on staff to negotiate and conclude protected area legal agreements to secure 'on the ground' offsets and ensuring mainstreaming of aspects of social wellbeing.
- There is need to increase the availability of quality data to support the selection and location of offsets. Continuous studies / surveys by the academia and research institutions will be necessary to provide information to various practitioners involved in

ESIA, resource management and developers so that they make informed decisions on biodiversity and social offset processes and management.

- There will be a need for increased capacity in MWE (including DESS, WMD, FSSD, NFA, WQMD and NEMA) and other sectoral agencies (e.g. UWA and MAAIF) to identify the need for a biodiversity and social offset, evaluate a proposed offset's design and implementation assurance, and to draft defensible, robust and enforceable conditions of authorization.
- There will be a need for increased capacity in the institution or agency tasked to set up and maintain a register of biodiversity and social offsets, possibly by NEMA, and to carry out periodic evaluation of the performance of these offsets.
- There is likely to be a minor incremental increase in the time needed by NEMA officials to check and enforce any biodiversity and social offset conditions attached to development authorizations, over and above checking and enforcement of other conditions.
- There is likely to be an increase in the work load or staff capacity in statutory agencies that may be responsible for implementing or taking over offset areas, even though this might be funded by the applicant for the duration of the offset condition requirements.

Initially therefore, there is need to invest in capacity building, awareness creation, biodiversity and wellbeing data collection and management, as well as improving the policy environment for offsets implementation in the country.

5.4.1 Costs

Item	*Details*	*Activity level*	*Unit costs (USD)*	*Total cost*
(i) Finalize the regulatory framework				
	Finalize ESIA regulations	Consultations support	Already supported	
	Revise ESIA guidelines	Consultations support	Already supported	
	Develop Offset guidelines	Consultant and consultations, workshops fieldtrips and printing	(Lump sum)	90,000
Subtotal				***90,000***
(ii) Conduct public awareness, education and training				
	Sectoral level awareness	Annual Workshops (10)	20,000	200,000
	Awareness at regional level (Eastern, Northern, Western, Southern and Central regions)	5 Regional workshops; conducted twice in the ten year period	20,0000	200,000
	Awareness at community levels	Community-based organizations as needed	10,0000	100,000
Subtotal				***500,000***
(iii) Support collection and management of				

Item	Details	Activity level	Unit costs (USD)	Total cost
biodiversity data				
	Biodiversity Database management (KBAs, Catchments)	Assessments/surveys / studies	Lump sum	500,000
Subtotal				***500,000***
(iv) Build institutional capacity				
	Capacity building	Training and exchange visits	150,000	150,000
	Build system, metric, cycles/ indicators	Meetings/workshops	Lump sum	40,000
	Monitoring frameworks	Meetings/workshops	Lump sum	40,000
Subtotal				***230,000***
(v) Influencing planning				
	Mainstreaming the MH and biodiversity and social offsets	Meetings and some Field visits	Lump sum	100,000
Subtotal				***100,000***
(vi) Resource mobilization				
	Setting up systems	Purchases and trainings	Lump sum	30,000
	Fundraisings	Proposals and workshops	50,000	50,000
Subtotal				**80,000**
(vii) Support establishment and management of offsets				
	Offset Management Planning	Field visits/ meetings	Lump sum	150,000
	Monitoring	Field visits/ meetings	Lump sum	100,000
Subtotal				***250,000***
Grand Total				**1,750,000**

5.4.2 Benefit from the Strategy

It is important that the country effectively protects the biodiversity resources and the values placed on biodiversity by Ugandans especially the cultural values; and, one of the options is to ensure a no-net loss. This strategy provides approaches to achieve such. The benefits of effective implementation of the strategy will be reflected in the increased capacity of agencies to analyze, select and demarcate offsets.

5.5 Monitoring and evaluation of the strategy

The monitoring and evaluation of the Strategy is to ensure that the Strategic components set out under this Strategy are effectively and efficiently implemented.

5.5.1 Objectives of monitoring and evaluation

The overall objective of monitoring and evaluation and the associated reporting mechanism is to ensure effective implementation of the strategy. Weak or absent compliance monitoring will contribute to laxity in achieving uptake of the strategic components.

The specific objectives are:

(i) to track implementation of the Strategy components;
(ii) to ensure that the key stakeholders execute their roles and responsibilities as envisaged in the Strategy for the achievement of NNL/NG of biological and social offset outcomes;
(iii) to generate information that is useful to evidence-based decision making; and
(iv) to provide for adaptive management based on lessons learnt and generating ideas for making improvements in offsets choices and management.

5.5.2 Monitoring cycle

This Strategy will be implemented for ten years, with a Mid-term review after five (5) years. The Multi-sectoral Technical committee will undertake annual monitoring to ensure compliance.

5.5.3 Mechanisms for compliance / monitoring compliance

The multi-sectoral committee will provide the oversight and ensure compliance.

5.5.4 Performance indicators

Indicators shall be developed to assess progress of implementation of this strategy and will target to answer two basic questions namely:

- Are offset projects being implemented on the ground?
- Are they effective in achieving biodiversity and social outcomes?

5.5.5 Impact indicators

Biodiversity baselines against which progress under the strategy is judged include species lists and condition. Biodiversity-related indicators which will be used to track the impact of implementation of this strategy therefore are from the NBDB and other sources of data. Social baselines and indicators will include specific components of people's wellbeing that are associated with biodiversity. The focus will be impact indicators that reflect biodiversity and social outcomes. The key issue is whether development projects in Uganda are generating no-net loss or net gains in biodiversity, whilst ensuring that people's wellbeing (associated with biodiversity) is at least as good as before. This will mainly depend on assessments and surveys undertaken by partners. For biodiversity, the main stakeholder will be the National biodiversity data bank based at Makerere University, WCS, NEMA and NARO that are holding centers for biodiversity information. MGLSD, the Makerere Institute of Social Research (MISR) and Uganda Bureau of Statistics (UBOS) are among the institutions where people-related information is generated or disseminated. These will be actively involved. However, MWE will progressively develop a central database as a repository of all environmental and social information and some aspects of social information for ease of access.

5.5.6 How implementation of the Strategy will be monitored

The implementation of the NBSOS will be monitored at quarterly, annually and bi-annually by the different stakeholders. The MWE, through NEMA, will be the lead organization to coordinate monitoring and evaluation of Strategy, with support from a multi-stakeholder Technical Committee on Biodiversity Conservation. The multi-stakeholder technical committee will ensure compliance of implementation of this national biodiversity and social offset strategy for the country.

5.5.7 Reporting

Quarterly and annual reports will be complied by the lead agencies responsible for the implementation of the offset. In addition, the TCBSO will compile annual reports on the implementation of the Strategy.

NEMA, in collaboration with the lead agencies, will take responsibility to compile National State of Environment Reports, including a State of Biodiversity Report and also provide detailed information in the national reporting under the CBD.

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ANNEXES

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ANNEX 3: SUMMARY OF APPROPRIATE POLICIES, LAWS AND GUIDELINES THAT SUPPORT MITIGATION

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
A. **Policy**		
1. Energy policy 2002	1.2.4 and 1.3.1	Biomass is a major source of energy for Ugandan rural and urban communities. However, there is no clear strategy for replacement of lost biodiversity in the policy arising of the use. There is however a mention of "substitution" such as use of LPG to reduce deforestation.
2. National policy for disaster preparedness 2010	2.2.10 (ii,iii,iv,v)	• Involve communities in environment protection • Formulate strict laws against environmental degradation • Develop programs for proper management of the environment • Conduct environmental impact assessment
3.National agriculture policy 2011	Objective 5	The Agriculture sector in Uganda is largely rain-fed. As such, the sustainable management of natural resources is key to agriculture development. Unfortunately there is no specific policy mention on the importance of management of natural resources… less likely about biodiversity; save for a mention of sustainable management of agricultural resources in Objective 5 of the policy.
4.Land use policy 2006	1.4.2(f)(g) Policy statement 20	The policy recognizes that any changes in land use will have impact on both biological diversity and overall environment degradation. While the suggestion in the policy is to promote better land use planning, there is no mention of how this would be done and no details for specific habitats. • The weak policy and legal mechanism for wildlife conservation outside the protected area. Wildlife outside protected areas has continued to receive little attention as far as conservation is concerned. This is a very serious omission is that wildlife knows no boundaries and therefore, remains largely unprotected when they stray from the reserves into private or public land. • The country is experiencing widespread degradation of water catchment areas as evidenced by the Large-scale drainage of wetlands for construction and conversion to agricultural land continues despite the existence of the National Environment Management Statute 1995 (National Environment Act Chapter 153) and the National Wetlands Management Policy 1996, which have provisions for their sustainable utilization. • Direct discharge of untreated or poorly treated effluent from industries. There have been instances of fish kills in the immediate locality of the inner Murchison Bay, due to the effect of de-oxygenation of water as a result of heavy organic loading and the effect of high pH and temperatures. • Wastewater discharges especially from industrial activities close to or discharging directly into water systems have led to their degradation. For example, River Musamya (near SCOUL, Lugazi) was in1996 found to be dead along a stretch of 20 km, with bubbling sulphide and no animal or plant life along the stretch. • Loss of forest cover to infrastructure development (roads, power, pipe and rail lines). The benefits of construction and rehabilitation of roads, however, come along with costs associated with the damage caused to the environment. This activity involves clearing vegetation, and in some areas where the road is to pass through a forest area, part of the forest is inevitably lost. • There is strong evidence of a steep decline in biological diversity resources in the country. All the levels of biological diversity, namely the genetic, species and ecosystem levels are affected. Uganda's Forest Reserves have experienced a loss of 35% of their forest cover (The Uganda Forestry Policy, 2001). Similarly, losses are being experienced in other ecosystems such as wetlands and grasslands. • a) Design and implement a clear and well-defined land evaluation mechanism. • b) Sensitize the people on the costs and benefits of conserving biodiversity. • c) Restore the lost biodiversity through sustainable, • Well-established and innovative programmes. • d) Implement the National Biodiversity Action Plan. • e) Encourage coordination and networking among institutions responsible for biodiversity conservation.

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		• f) Encourage practices that promote conservation of biodiversity among communities.
5.National oil and gas policy 2008	Section 5.3(5.3.9) a, b, c, d	• To ensure that oil and gas activities are undertaken in a manner that conserves the environment and biodiversity. • Ensure availability of the necessary institutional and regulatory framework to address environment and biodiversity issues relevant to oil and gas activities. • Ensure presence of the necessary capacity and facilities to monitor the impact of oil and gas activities on the environment and biodiversity. • Require oil companies and their contractors/subcontractors to use self-regulation and best practices in ensuring environmental protection and biodiversity conservation. • Require oil companies and any other operators to make the necessary efforts to return all sites on which oil and gas activities are undertaken to their original condition as an environmental obligation. • Upgrade the relevant Environment and Biodiversity legislation to address oil and gas activities. • Strengthen the institutions with a mandate to manage the impact of oil and gas activities on the environment and biodiversity. • Develop physical master plans, environmental sensitivity maps and oil spill • Contingency plans for the oil and gas producing region and any transport corridors.
6.NEMP	Section 3.4(vii) and 3.4(xi)	• This section provides the intention "*to foster public support for intended biodiversity actions and encourage private investment in biodiversity conservation*" but does not give details of how this will be done • Section 3.4(xi) provides for "the intention to develop strategies and guidelines for implementation of biodiversity offsets" This is a good starting point and this would need to be operationalized.
NEMP	Section 3.6.6(i)	• This is a section that was entirely dedicated to biodiversity off sets • To develop, test and disseminate good practice on biodiversity offsets and to demonstrate, through a portfolio of pilot projects in a range of contexts and industry sectors, that biodiversity offsets can deliver improved and additional conservation and business outcomes than have often resulted in the context of development projects to date. • Work with local communities, NGOs and government agencies involved in conservation and land-use planning, to demonstrate that developers can implement biodiversity offsets that enhance local communities' use and enjoyment of biodiversity, • Deliver prioritized, targeted and cost-effective biodiversity conservation outcomes for the long term, and help companies manage their risks, liabilities and costs. • No net loss: A biodiversity offset should be designed and implemented to achieve in situ, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity. • Additional conservation outcomes: A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity to other locations. • Adherence to the mitigation hierarchy: A biodiversity offset minimization and on-site rehabilitation measures have been taken according to the mitigation hierarchy is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance • Landscape context: A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach. • Stakeholder participation: In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design,

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		implementation and monitoring. • Equity: A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognized rights of indigenous peoples and local communities. • Promote compensation for the biodiversity values (species, habitats or ecosystems) that is impacted through development. • Promote restoring or rehabilitating degraded areas or trans-locating biodiversity components; • Promote protection of threatened areas • Promote establishment of buffer zones in affected areas • Promote improvement of habitat connectivity and secure species corridors • Promote voluntary biodiversity offsets
7.Uganda national land policy 2013	Section 6.7: 140(d), 142(iii), 143(ii), 7: 157(iv)	• The government shall ensure that all land use practices conform to land use plans and the principles of sound environmental management, including biodiversity preservation, soil and water protection conservation and sustainable land management • Provide special protection for fragile ecosystem including unique and sensitive biodiversity colonies like hill tops, wetlands, water catchment areas, lake shores and river banks. • Establish and implement an effective mechanism for the management of wildlife outside the protected areas • Conserve biodiversity and the environment
8.Uganda national climate change policy 2012	Biodiversity and ecosystems services policy response	• Identify biodiversity hotspots where only restricted development should be allowed • Strengthen the capacity for monitoring the impacts of climate change on biodiversity, ecosystems and ecosystem services • Encourage collaborative management and sustainable use of biodiversity and ecosystems
9.Uganda wildlife policy 2014		The Biological Diversity Convention, 1992 The Convention on Biological Diversity imposes a duty on its parties to take a number of measures to implement its provisions. The Convention, in particular, requires each nation to: a) Integrate sustainable utilization of natural resources into its national strategies and plans and programmes; b) Promote in-situ conservation and in particular protect traditional knowledge about conservation and protection of threatened species; c) Promote ex-situ conservation; d) Promote sustainable use of biological diversity; e) Create economically and socially sound incentives for conservation and sustainable utilization f) Promote research, training and public awareness and education; g) Introduce environmental impact assessment; h) Govern access to genetic resource and promote transfer and access technology i) Promote bio safety; j) Promote international co-operation in the protection of biological diversity under various provisions. Most of the above provisions are already incorporated in the National Environment Act, Cap 153 The Uganda Wildlife Act, Cap 200 of 2000 also adheres to the principles of the Convention, and provides for the sustainable management and utilization of wildlife.
10. Uganda Forestry Policy 2001	Policy statement 7	Uganda is blessed with a rich diversity of natural habitats, species and genetic resources in its forests. It is one of the most diverse countries in Africa, with for example 11% and 7% of the world's bird and mammal species respectively, in only 0.02% of the land area. This biodiversity has a great intrinsic value • Support conservation initiatives in priority forests with high biodiversity value,

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		including both government and private forests, as identified in the Nature Conservation Master Plan, the Protected Area Assessment Programme and the National Biodiversity Strategy. • Promote collaboration between sectoral institutions concerned with biodiversity conservation (Forestry, Wildlife, Fisheries and Agriculture). • Promote collaborative management of Protected Areas, with defined responsibilities and sharing of benefits derived from biodiversity conservation. • Address conflicts resulting from problem animals near Protected Areas • Promote the development of biodiversity-related tourism, to generate income for local and national benefits. • Increase knowledge of forest biological diversity, its management and its potential for future use. • Support the implementation of international biodiversity obligations and cross-border conservation initiatives, with any required subsidiary legislation and regulations. • Integrate and co-ordinate methods of forest genetic and species conservation through seed banks, botanical gardens and arboreta
The National Community Development Policy, 2015		The policy provides for ensuring sustainable development and improvement of community facilities and services. It also emphasizes enhancing and strengthening public sector capacity to implement the National Community Development Plan. Key aspects of the policy are to: - ensure effective coordination of community mobilization and empowerment efforts for increased community appreciation, demand and uptake of Government services. -strengthen community resilience to withstand and cope with socio-economic risks and shocks. -ensure sustainable development and improvement of community facilities and services.
The National Social Protection Policy, 2015		This policy focuses on increasing access to social security as well as: -to enhance care, protection and support for vulnerable people; and, - strengthen the institutional framework for social protection service delivery.
B. **Laws**		
1.National Environment Act (No 5 of2019)	Section 115 and 4(2)j	The provision requires consideration of the mitigation hierarchy; but falls short of providing for the process; and the process should be in the revised regulations and developed guidelines.
2. Plant Protection Act, 2015		Plant protection via curtailing import of harmful flora and fauna
3. National forestry and Tree Planting Act 2003	1.2.6 Policy statement 7	Uganda is blessed with a rich diversity of natural habitats, species and genetic resources in its forests. It is one of the most diverse countries in Africa, with for example 11% and 7% of the world's bird and mammal species respectively, in only 0.02% of the land area. This biodiversity has a great intrinsic value • Support conservation initiatives in priority forests with high biodiversity value, including both government and private forests, as identified in the Nature Conservation Master Plan, the Protected Area Assessment Programme and the National Biodiversity Strategy. • Promote collaboration between sectoral institutions concerned with biodiversity conservation (Forestry, Wildlife, Fisheries and Agriculture). • Promote collaborative management of Protected Areas, with defined responsibilities and sharing of benefits derived from biodiversity conservation. • Address conflicts resulting from problem animals near Protected Areas • Promote the development of biodiversity-related tourism, to generate income for local and national benefits. • Increase knowledge of forest biological diversity, its management and its potential for future use. • Support the implementation of international biodiversity obligations and cross-border conservation initiatives, with any required subsidiary legislation and regulations. • Integrate and co-ordinate methods of forest genetic and species conservation

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		through seed banks, botanical gardens and arboreta
4..National environment act 2005 chap. 153	Section (IX) 67	• Subject to the provisions of this Part, the authority may issue to any person in respect of any matter relating to the management of the environment and natural resources an order in this Part referred to as an environmental restoration order • An environmental restoration order may be issued under subsection (1) for any of the following purposes— a) requiring the person to restore the environment as near as it may be to the state in which it was before the taking of the action which is the subject of the order; b) preventing the person from taking any action which would or is reasonably likely to do harm to the environment; c) awarding compensation to be paid by that person to other persons whose environment or livelihood has been harmed by the action which is the subject of the order; d) Levying a charge on that person which represents a reasonable estimate of the cost of any action taken by an authorized person for organization to restore the environment to the state in which it was before the taking of the action which is the subject of the order. • An environmental restoration order may contain such terms and conditions and impose such obligations on the persons on whom it is served as will, in the opinion of the authority, enable the order to achieve all or any of the purposes set out in subsection (1). • Without prejudice to the general effect of the purposes set out in subsection (1) or the powers of the authority set out in subsection (2), an environmental restoration order may require a person on whom it is served to:- a) take such action as will prevent the commencement or continuation of or the cause of pollution; b) restore land, including the replacement of soil, the replanting of trees and other flora and the restoration, as far as may be, of c) outstanding geological, archaeological or historical features of d) the land or the area contiguous to the land specified in the order; e) take such action as will prevent the commencement or continuation of or the cause of an environmental hazard; f) cease to take any action which is causing or may cause or may contribute to causing pollution or an environmental hazard; g) remove or alleviate any injury to land or the environment or to the amenities of the area; h) prevent damage to the land or the environment, aquifers beneath i) the land and flora and fauna in, on, under or about the land specified in the order or land or the environment contiguous to land specified in the order; j) remove any waste or refuse deposited on land specified in the order; k) deposit waste in a place specified in the order; l) Pay such compensation as is specified in the order. • In exercising its powers under this section, the authority shall— a) have regard to the principles as set out in section 2; b) Explain the rights of the person, against whom the order is issued, to appeal to the court against that decision.
5.Uganda wildlife Act		The recently enacted Uganda Wildlife Act "provides for sustainable management of wildlife; to consolidate the law relating to wildlife management; to provide for a coordinating, monitoring and supervisory body for that purpose and for other matters incidental to or connected with the foregoing". The Act provides for the Uganda Wildlife Authority (UWA) and outlines the functions of the Authority including the sustainable management of wildlife conservation areas; and promotion of conservation of biological diversity ex situ among others. The Act requires a person intending to undertake a project or activity which may have a significant effect on any wildlife species or community to undertake an EIA in accordance with the NEA and thus provides for mitigation of development impacts on wildlife resources.

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
	10(1)	Eradication of harmful organisms to biodiversity – *leading to averted loss….*
6.Fish act 1964	Section 26	• Any authorized officer may enter upon or into any land and may halt and enter upon or into any aircraft, vehicle or vessel for the purpose of carrying out the provisions of this Act or of preventing or detecting offences against this Act.
7.The National Environment (Wetlands, River Banks And Lake Shores Management) Regulations, No. 3/2000	Section 6(1): this is an entire section on biodiversity 2(a,b,c,d,e,f,g, h) 35	• The Technical committee on Biodiversity Conservation established under section 11 of the statute shall be responsible for advising the Board and the Executive Director on the wise use, management and conservation of wetland resources. • reviewing the implementation procedures for wetlands management and making the necessary recommendations to the Board and the Executive Director; • reviewing and recommending regulations or guidelines to be issued by the Authority to developers; • reviewing and advising on the environmental impact assessments, audit and monitoring; • advising on solutions to potential conflicts that might arise through competing requirements for wise use of wetland resources; • recommending activities that may be regulated in the utilization of wetland resources; • advising on reconciling wetland use rights by local communities with the impact such activities may have on other natural resources; • advising and recommending mechanisms for ensuring public awareness and participation in the protection of wetlands; and • Advising the Authority on any other issues relating to conservation and management of wetland resources. • The Executive Director may require that a wetland, river bank and lake shore which has been degraded be allowed to regenerate, or issue a restoration order in accordance with section 67, 68, 69, 70 and 71 and the Act.
8.Water act 1997	Section 80: (1,2), 81(a,b), 83(1,2,3), 91(1,2,3,4)	• Where it is necessary for the construction or operation of any works, an authority may break up the surface of any road and open or break up any works under the road. • An authority shall – do as little damage as possible; and carry out the work as quickly and efficiently as practicable, • Pay compensation for any damage which may have been done to the works of any public authority in the exercise of the powers under this section. • erect and maintain fences on or enclose the land under the protected zone; and • Prohibit activities within the protected zone, as it sees fit. • An authority may enter and remain upon land and may – (a) take measurements and make estimates on the land as it thinks necessary or desirable; (b) construct or remove works as it thinks necessary or desirable for the exercise of its functions; (c) collect and take samples it may think necessary or desirable; (d) Make investigations, inquiries or inspections as it thinks necessary or desirable to determine whether the provisions of this Act are being complied with. • Section 15 shall apply to any entry of land under this section. A water authority shall be liable for any nuisance or other injury tone to any land other than the land entered under this Act. • (1) If damage is caused to land in the exercise of powers conferred on an authority by this Act, the authority shall, if required, compensate all parties interested in the land for all damage sustained by them in consequence of the exercise of those powers, subject to this Act. • (2) For purposes of this section, "damage to land" means loss suffered as a result of - • (a) deprivation of the possession of the surface of any land; • (b) damage to the surface of land and to any improvements, crops or trees on the land;

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		• (c) damage to stock; and • (d) all consequential damage • (3) In calculating compensation under this section - • (a) for damage to land payable under this section; • (b) in respect of the compulsory acquisition of any interest in land for the purposes of this Act, • no amount will be payable to the owner of any interest in, or the occupier of, any land in respect of the taking or use of water on, adjacent to or beneath that land by an authority pursuant to a water permit granted under Part II of this Act.
9.Uganda national roads authority act 2006	Part 1: section 2(c)	• To create an environment that is conducive to the efficient and effective management of the national roads network and other services provided by the Authority
10.Petroleum act 2013	Section 3(5), (8)	• The National Environment Management Authority in consultation with the Authority, may grant a licence for the management, transportation, storage, treatment or disposal of waste arising out of petroleum activities to an entity contracted by a licensee under subsection (3) on terms and conditions prescribed in the licence. • NEMA shall make regulations for the management of the production, transportation, storage, treatment and disposal of waste arising out of petroleum activities.
11.Mining act 2003	Section 110	• There shall be included in an exploration license or a mining lease granted under this act, a condition of such a holder shall submit an environmental restoration plan of the exploration or mining area that may be damaged or adversely affected by his/her exploration or mining operations. • The environmental restoration plan shall include the following a) An identification of the exploration or mining area concerned. It current uses and productivity prior to exploration or mining operations b) A detailed time table of the accomplishment of each major step to be carried out under the restoration plan which may include:- i. The reinstatement, levelling, re-vegetation, reforesting, and contouring of the affected land ii. The filling in sealing or fencing off of excavation shafts and tunnels iii. Any other method that may be prescribed c) The use to which the land is proposed to be put following restoration. Including a statement of the utility and capacity of the restored land to support a variety of alternative uses. • In making a decision whether to accept the environmental restoration plan, the commissioner shall take into account a) The steps taken to comply with applicable environmental protection standards, existing land use policies and plans and any applicable health and safety standards b) The consideration that has been given in developing the environmental restoration plan in a manner consistent with local physical environmental and climatological conditions.
12. Physical planning act. 2010	Section V(37)	Where a development application relates to matters that require an environmental impact assessment to be carried out, the approving authority or physical planning committee may grant preliminary approval of the application subject to the applicant obtaining an environmental impact assessment certificate in accordance with the National Environment Act.
National forestry and tree planting Act, 2003	Section 8: (3), (4) Section 13: (3)(b)	Before a new area is declared a central forest reserve in terms of subsection(2), the environment impact assessment must find the area to be of equivalent or grater environment a) Soil slope or other watershed conditions in the area will not be irreversibly

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
	Section 41	damaged b) An environmental impact assessment carried out in respect of the proposed new land use of the areas, find that the same area can be adequately reforested within five years after harvest or clearance of the land should be area subsequently be the subject of a new declaration as a central forest reserve c) Protection is provided for streams, rivers, lakes, lake shores, river banks, wetlands and wild life from detrimental changes in temperature or from erosion, pollution degradation, deposit of sediments and desertification in areas where the proposed new land use is likely to seriously and adversely affect habitats or the environment d) Maintenance of the animals and plant indicator species with in the area is assured. b)forests shall be developed and managed so as to: to conserve biological diversity, ecosystem and habitats (1) A responsible body may, subject to the management plan, grant a licence to an interested person for – (a) The cutting, taking, working or removing forest produce from the forest reserve or community forest; or (b) The sustainable utilization and management of the forest reserve or community forest; (2) A responsible body shall in accordance with the regulations, prescribe the terms, conditions, rights and fees for a licence granted under this section (3) Nothing in this section shall be deemed to transfer to or vest in the person granted a licence, any privilege, right, title, interest or easement over the forest reserve or community forest , other than that stated in the terms of the licence
15. constitutional amendment act 2005	Section 4(1)	Subject to article 26 of this Constitution, the entire property in, and the control of, all minerals and petroleum in, on or under, any land or waters in Uganda are vested in the Government on behalf of the Republic of Uganda.
16. Animal (Prevention of Cruelty act) [Cap. 220.	none	
C. **Strategic Plans…**		
1.Agriculture sector development strategy and investment plan 2010/11-2014/15	none	
National Community development policy		The policy provides for stakeholder participation in development decision making. It recognizes that people are social actors for positive change in the communities. The role of Government is to enhance people's capacity to determine their own destiny and future through accessing their relevant information
The Uganda Gender Policy 2007		The policy mandates sectors to develop and implement sector specific gender policies with the ultimate goal of promoting gender equality in their respective sectors. T
National wet-land policy 1995	Section 7.1(i) 7.2(i) 7.3(i) and (ii) 7.4(i,ii and iii) 7.6(i) 7.13 (i,ii, iii, iv)	• There will be no drainage of wetlands unless more important environmental management requirements supersede. • Only those uses that have been proved to be non-destructive to wetlands and their surroundings will be allowed and/or encouraged. These include water supply, fisheries, wetland edge gardens and grazing. • Wetlands may be utilized in such a way that they do not lose traditional benefits presently obtained from them. • Any decision to use wetlands must consider the requirements of all other users in the community. • Government will establish fully "Protected Wetlands Areas" of important biological diversity.

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		• Government may also establish certain wetlands which will be used for partial exploitation such as research. • No modification, drainage or other impacts will be entertained for the so-protected wetlands. • Parts of utilized wetlands will be set aside for conservation activities and/or protected from modification, drainage or exploitation • Enact a national law for regulating the management of wetland resources • Encourage district authorities to make bye-laws for the proper management of wetlands • Disseminate the broad guidelines provided herein, to district and urban authorities, as well as wetland users, researchers, academic institutions etc. • Establish an inter-ministerial policy implementation institution
2.Mineral policy 2000	2.3.4(4) (a,b,c)	• strengthen the environmental monitoring unit of the Ministry; • (b) carry out sensitization of the society on the impact of mining on environment; • Promote the application of environmentally friendly technologies and mitigating where there is possible degradation.
3..National forest plan 2011/12-2021/2022	none	
4..Ministry of lands, housing and urban development 2007/2008-2012	none	•
5..Ministry of water environment strategic plan	none	•
6.Ministry of works and transport 2011/2012-2015/16		•
7. National environment strategic plan 2009/2010-2013/2014	none	•
8. Ministry of agriculture and animal fisheries strategic plan 2010	none	•
D. Regulations		•
1.NEA (ENVIRONMENT ASSESSMENT) Regulations, 2016.	Section vi(43), 44, 45	• A developer of a project included in Schedule 5 or 6 of the Act or of a project proposed to be located in or near an environmentally sensitive area listed in Schedule 7 of the Act and any other project for which environment assessment may be required, shall apply the mitigation hierarchy of avoidance, minimization and mitigation of environmental impacts. • Subject to sub regulation (1), where the developer, during the environmental impact study considers that a biodiversity offset, other offset or compensation mechanism may be necessary, the developer may propose the offset or compensation mechanism only as the last measure in the mitigation hierarchy to address remaining residual adverse impacts. • Notwithstanding sub regulation (2), a developer or other person may consider a biodiversity offset, other offset or compensation mechanism as a distinct arrangement with the provider of an ecosystem or environmental service.

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		• In designing a biodiversity offset, other offset or compensation mechanism under this regulation, the developer or person referred to in sub-regulation (3) shall– a. propose an offset or compensation mechanism which restores the original ecological functions of the project area or other suitable area or location with similar ecological traits; and b. adhere to the "like-for-like or better" principle in accordance with these Regulations and other applicable law. • The developer shall submit to the Authority an environmental impact statement, or in the case of sub regulation (3) as a separate document, a justification for the proposed offset or compensation mechanism. • In(44)The Authority may consider the proposal of a biodiversity offset, other offset or compensation mechanism made by the developer under regulation 43(2) or (3), taking into account- **(a) in relation to biodiversity or other offset, whether the offset -** I. covers the full range of biological, socio-economic and cultural functions and values relating to biodiversity use; II. Is appropriate for the supporting ecosystems; III. Will achieve the expected measurable conservation outcomes; and IV. Adequately responds to the risks or hazards identified. **(b) in relation to compensation mechanisms, whether-** (i)the natural resource or land is able to perform the ecosystem service or to provide the environmental service desired; (ii)The proposed compensation is agreed to by the recipient, is appropriate and adequate; and (iii)A payment for ecosystem services scheme is concluded in accordance with regulation 46(3). • Where residual impacts may not be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected, the Authority may require the developer to re-assess and put in place measures to address the identified risks. • In section (45), it is stated that, Where the Authority approves a biodiversity offset, other offset or compensation mechanism, the developer shall ensure that the mechanism considered does not cause harm to human health or a net loss of biodiversity when applied. • The developer shall set out strategies to achieve the same or greater level of biodiversity in the area of the offset or compensation mechanism with respect to – i. species composition; ii. habitat structure; iii. ecosystem function; and iv. cultural values and human uses associated with biodiversity
2..EIA guide lines of the road sector 2006	Section: 3.1 3.5.2	• An environmental impact is a change in an environmental element that is caused directly or indirectly by an activity related to a road project. Environmental impacts can be in the form of risks created by a project (e.g. increased risk of traffic accidents) and different social groups may be affected in different ways by environmental impacts. Impacts vary in terms of duration; timing; magnitude; spatial coverage; and likelihood of occurrences. All environmental impacts need to be established during the EIA process of a road project. • Mitigation measures aim to minimize or eliminate adverse impacts, enhance beneficial impacts, and protect the rights of affected groups to compensation. Mitigation measures for those impacts found to be significant should be identified. • Potential mitigation measures include alternative alignments and modifications of the design of the road project, compensation of those affected by the loss of land, and relocation. An EIR identifies potential positive and negative impacts caused by the road project. The major issues can be grouped as follows: • Impacts on the physical environment (e.g. soils/erosion, water quality) Impacts on the natural environment (e.g. wetlands, national parks, forests)

Reference Policy, Law or Guideline	Provision	The provisions imply or provide for: Either (i) the application of the mitigation hierarchy; or (ii) requirement for NNL/NG outcomes of biodiversity; or (iii) some specific requirements for implementing biodiversity offsets.
		• Impacts on production systems (e.g. land use, agriculture, livestock) • Impacts on the human environment (socio-cultural and socio-economic aspects such as public health, loss of land, settlement patterns, income, gender)
3. EIA guide lines of water sector	Section 4: 4.1.2, 4.2.2(This is an entire section on TORs on environmental impact assessment)(v),(vii), 4.2.3, 4.2.3.6, 4.4	• Environmental analysis is normally unnecessary, as the project is unlikely to have significant environmental impacts. A project brief is enough. This could include project location in less sensitive areas or where many such schemes are in the same locality and their synergetic effects have potential impacts. • A limited environmental analysis is appropriate, as the project impacts can be easily identified and for which mitigation measures can be easily prescribed and included in the design and implementation of the project. Projects in this category could include: I. Rural water supply, II. Large earth reservoirs, but not located in very sensitive areas III. Big gravity flow schemes IV. aquaculture, V. small industries, and VI. All category one projects located in sensitive areas. • Where it is envisaged that the project is likely to lead to significant impact on the environment, it shall require that an EIA or a full EI Study be carried out. • Identification of mitigation measures - recommend appropriate mitigation measures for mitigating the negative impacts and identify opportunities from positive impacts and how they can be enhanced, • Recommend feasible and cost effective measures to prevent or reduce significant impacts to acceptable levels. Estimate the costs of implementing the EMP. Consider compensation to affect parties for impact(s) which cannot be mitigated. The EMP should include proposed work programs, schedules, staffing and training requirements, and other necessary support services to implement mitigation measures: • Once the ToR are approved by NEMA in consultation with DWRM and other relevant lead agencies the next step in the EIA process is to carry out a detailed study of the key impacts according to the scoping report and ToR. The EI Study process for water resources related projects shall remain the same as stated in the National Environment Act Cap 153 and EIA Regulations 1998. • locating the project so as not to affect environmentally sensitive locations; • using construction, operation and restoration methods or processes which reduce environmental effects; • designing the whole project carefully to avoid or minimize environmental impacts; and • Introducing specific measures into the project design, construction, decommissioning and restoration that will reduce or compensate for adverse effects. • The Environmental Impact Assessment Regulations 1998 requires that the developer carries out environmental monitoring in order to ensure that recommended mitigation measures are incorporated into the project design and that these measures are effective so that unforeseen impacts may be mitigated. • Environmental monitoring recommendations are an essential part of the Environmental Management Plan. The monitoring activities should run through the construction, implementation and decommissioning stages of projects.
Mining regulations	FORM XXVIII. Reg. 67(3).(5 and 6)	• Details of environmental parameters or aspects monitored. • Results of monitored activities • Proposal of new procedures, if any, to protect and improve environmental conservation.
Social Development Sector Plan (SDSP) 2015/16 - 2019/20		• The Government, through its Ministry of Gender, Labour and Social Developed formulated a social sector development plan. The major theme is empowering communities particularly the vulnerable and marginalized groups for wealth creation and inclusive development". This provides for involvement of communities in development decision making.

ANNEX 4: LIST OF KEY BIODIVERSITY AREAS (KBAs) IN UGANDA

Key Biodiversity Area	Status
1. Budongo Forest Reserve	Protected area
2. Bugoma Forest Reserve	Protected area
3. Bugoma Forest Reserve	Protected area
4. Bwindi Impenetrable National Park	Protected area
5. Echuya Forest Reserve	Protected area
6. Kasyoha-Kitomi Forest Reserve	Protected area
7. Kibale National Park	Protected area
8. Kidepo Valley National Park	Protected area
9. Kyambura Wildlife Reserve	Protected area
10. Lake Bisina	Unprotected
11. Lake Mburo National Park	Protected area
12. Lake Nakuwa	Unprotected
13. Lake Opeta	Unprotected
14. Lutembe Bay	Protected area
15. Mabira Forest Reserve	Protected area
16. Mgahinga Gorilla National Park	Protected area
17. Mount Elgon National Park	Protected area
18. Mount Moroto Forest Reserve	Protected area
19. Mount Otzi Forest Reserve	Protected area
20. Murchison Falls National Park	Protected area
21. Nabugabo wetland	Protected area
22. Ogili Forest Reserve	Protected area
23. Queen Elizabeth National Park (including Kyambura and Kigezi Wildlife Reserves)	Protected area
24. Rwenzori Mountains National Park	Protected area
25. Semuliki National Park	Protected area
Additional sites added	
26. Mardiopei - South Moyo	Unprotected
27. Mpanga Falls	Unprotected
28. East of Thurston Bay	Unprotected
29. Tororo Rock	Unprotected
30. Kyenjojo-Mubende inselberg	Unprotected
31. Inselbergs on Hoima Road	Unprotected
32. Itwara Forest Reserve	Protected area
33. Kalinzu Forest Reserve	Protected area
34. Morungole Forest Reserve	Protected area
35. Nyangea-Napore Forest Reserve	Protected area
36. Sesse Islands	Unprotected

Source: Plumptre, et al. 2017.