



## World Wildlife Fund GEF Project Document

<b>Project Title:</b>	<b>Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management</b>
<b>GEF Project ID:</b>	10412
<b>WWF-US Project ID:</b>	G0022
<b>Countries:</b>	Republic of Zambia
<b>Project Duration:</b>	60 Months
<b>Project Type:</b>	Full Size Project
<b>GEF Trust Fund(s):</b>	GEF Trust Fund
<b>GEF Focal Area(s):</b>	Biodiversity, Land Degradation
<b>GEF Focal Area Objectives:</b>	<i>BD-1-1: Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors</i>
	<i>BD-2-7: Address direct drivers to protect habitats and species and improve financial sustainability, effective management, and ecosystem coverage of the global protected area estate</i>
	<i>LD-1-4: Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape</i>
<b>Implementing Agency:</b>	World Wildlife Fund, Inc.
<b>Lead Executing Agency:</b>	Ministry of Green Economy and Environment – Environmental Management Department

<b>GEF Project Cost:</b>	US\$ 2,889,155
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WWF/GEF Project 10412 - Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management

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## ACRONYMS AND ABBREVIATIONS

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AMR	WWF-GEF Annual Monitoring Review
AWPB	Annual Work Plan and Budget
CA	Conservation Agriculture
CBD	Convention on Biological Diversity
CBO	Community Based Organization
CBNRM	Community Based Natural Resource Management
CFMG	Community Forest Management Group
COMACO	Community Markets for Conservation
CSO	Civil Society Organization
DC	District Commissioner
DNPW	Department of National Parks and Wildlife (under Ministry of Tourism)
EA	Executing Agency
EIA	Environment Impact Assessment
EMD	Environmental Management Department (of MoGEE)
ESMF	Environment and Social Management Framework (WWF)
ESSF	Environment and Social Safeguards Framework (WWF)
FZS	Frankfurt Zoological Society
GEF	Global Environment Facility
GESI	Gender Equality and Social Inclusion
GIS	Geographic Information System
GCF	Green Climate Fund
GMA	Game Management Area
GRZ	Government of the Republic of Zambia
Ha	Hectare
IAS	Invasive alien species
IP	Indigenous People
IUCN	International Union for the Conservation of Nature and Natural Resources
KBA	Key Biodiversity Area
M&E	Monitoring and Evaluation
MoGEE	Ministry of Green Economy and Environment
MPE	Midterm Project Evaluation
MWDSEP	Ministry of Water Development, Sanitation and Environmental Protection
NBSAP	National Biodiversity Strategy and Action Plan
NDP	National Development Plan
NFR	National Forest Reserve
NGO	Non-Government Organization
NP	National Park
NSC	National Steering Committee
NTFP	Non-timber Forest Product
PA	Protected Area
PDC	Project Development Committee (for Project Preparation phase)

PES	Payment for Ecosystem Services
PF	Process Framework (WWF)
PIF	Project Identification Form (project concept)
PIR	WWF-GEF Project Implementation Report
PM	Project Manager
PMU	Project Management Unit
PPG	Project Preparation Grant (for GEF)
PPR	Project Progress Report
PS	Permanent Secretary
PTC	Project Technical Committee
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RF	Results Framework
SCRALA	Strengthening Climate Resilience for Agricultural Livelihoods in Agroecological Region I & II
SDG	Sustainable Development Goals (UN)
SE	Socio-economic
SFM	Sustainable Forest Management
SIPP	Safeguards Integrated Policies and Procedures (WWF)
SLM	Sustainable Land Management
TA	Technical Assistance
TBD	To Be Determined
TE	Terminal Evaluation
ToC	Theory of Change
TOR	Terms of Reference
TRALARD	Transforming Landscapes for Resilience and Development Project (World Bank)
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	UN Framework Convention on Climate Change
UNDP	United Nations Development Program
UNEP	United Nations Environment Programme (now UN Environment)
USAID	United States Agency for International Development
USD	US Dollar
WARMA	Water Resource Management Authority (of MWDSEP)
WCS	Wildlife Conservation Society
WECSZ	Wildlife and Environmental Conservation Society of Zambia
WRPA	Water Resource Protection Area
WWF	World Wildlife Fund
WWF ZCO	WWF-Zambia Country Office
ZEMA	Zambia Environmental Management Authority

**Map Disclaimer:** Throughout this document, the designations of the geographical entities and the presentation of the material do not imply the expression of any opinion whatsoever concerning the legal status of any country, territory, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

## EXECUTIVE SUMMARY

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The project focuses on the Upper Sub-catchment of the Luangwa River in north-eastern Zambia, in order to ensure the long-term security of water flow and quality of the Luangwa River and its associated downstream ecosystems and ecosystem services. The rich forest habitats of the headwaters provide rural communities with critical ecosystem goods and services, including wood, fuel-wood and non-timber forest products (NTFPs).

The Luangwa River is one of the major tributaries of the Zambezi River, and is one of the four major rivers of the country. Some 850 km long<sup>1</sup>, it remains one of the last major free-flowing rivers in Zambia and is one of the largest unaltered river systems in southern Africa. It is an essential source of water for adjacent populations (~1.8 million people reside in the Luangwa Catchment), providing water for irrigated agriculture and household use in the downstream area of the catchment. The Luangwa Catchment has globally important biodiversity assets and natural resources: the Luangwa Floodplains Ramsar Site, six National Parks, eight Game Management Areas, and National Forest Reserves (NFR). In all, these protected areas (PAs) cover 68,812 km<sup>2</sup> - around 50% of the total catchment area. The catchment includes large areas of miombo woodland, designated by Conservation International as one of five High Biodiversity Wilderness Areas and by WWF as one of the Global 200 Ecoregions. The Mafinga Hills NFR is rich in biodiversity and forms part of the Eastern Afrotropical biodiversity hotspot. Due to their rich variety of endemic flora and fauna, the Mafinga Mountains, in which the NFR is located, is a Key Biodiversity Area.

Mafinga Hills NFR is impacted by unsustainable forest uses from communities living within the reserve and its surrounding area, while the unprotected forests of the headwaters are impacted by shifting agriculture (through fire and land clearance) and other agricultural extensification, wood collection for fuelwood and charcoal, and livestock grazing. The Luangwa river source area is particularly affected by agriculture, exacerbating the erosion of the inherently erodible soils in the Luangwa sub-catchment and siltation of waterways. The degradation and loss of forest in the Luangwa headwaters threatens biodiversity, adversely affects water quality and flow regime, and impacts the associated ecosystem services to downstream floodplain habitats and populations. The environmental problem that the project seeks to address is forest and land degradation and biodiversity loss in the headwaters of the Luangwa, which threatens ongoing ecosystem service provision across the whole catchment.

The project seeks to address the following barriers to protection of the Luangwa river source:

- i. Lack of protection and management designations and of capacity for the protection and effective management of headwater forests in order to secure the Luangwa river source area;
- ii. Limited involvement of community stakeholders in management of the forest resources; and
- iii. Limited proof of concept of effective and scalable sustainable land, forest and watershed management approaches by communities and local government, including alternatives to shifting cultivation practices that are both environmentally sustainable, biodiversity friendly and climate-resilient.

The project objective is *to reduce forest and land degradation of the Luangwa Upper Sub-Catchment for enhanced protection of water resources, biodiversity and associated community livelihoods*. Over the five year project period this will be achieved through three inter-related components. Component 1 will lead to the

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<sup>1</sup> <http://www.warma.org.zm/catchments-zambia/luangwa-catchment-2/>



improved management of the key protected area, Mafinga Hills NFR, within the headwaters towards protection of the Luangwa River source and the designation of a Water Resource Protection Area for increased protection of the upper sub-catchment. Component 2 will establish sustainable community management of headwater forests as well as environmentally sustainable livelihoods through prioritised interventions focused on the headwaters to reduce land and forest degradation. Component 3 will ensure that the lessons learned and best practices from the project are collected and disseminated across Zambia, the Zambezi river basin and globally, and that M&E is carried out to inform project decisions and adaptive management.

Overall, the project will contribute towards improved conservation and management of globally significant miombo woodland and other habitats, and the Mafinga Hills NFR, which is part of the Mafinga Mountains Key Biodiversity Area and the Eastern Afromontane biodiversity hotspot. The project will secure watershed ecosystem services that will support the ecological integrity of one of Africa's largest free flowing rivers, and its associated ecosystems and wildlife, and that will support water and food security for downstream human populations in the Luangwa Catchment. The river's seasonal changes support vibrant communities that are spread across 25 chiefdoms, a growing \$27 million tourism industry and some of Africa's most valued wildlife populations including globally threatened species.

Specifically, the project will contribute to four GEF Core Indicators: i) 25,000 ha of terrestrial PAs created in the form of a new Water Resource Protection Area for the Luangwa headwaters, and 15,500 ha of the Mafinga Hills NFR under improved management for conservation and sustainable use; ii) 900 ha of forested land restored, 300 ha inside Mafinga Hills NFR and 600 ha outside the NFR; iii) 40,000 ha of the Luangwa headwaters under sustainable land management practices; and iv) approximately 2,500 community members as direct beneficiaries (50% women) and some 100 government staff (40% women) as a co-benefit of GEF investment.

## SECTION 1: PROJECT BACKGROUND AND SITUATION ANALYSIS

### 1.1 Project Scope and Environmental Significance

The project scope is the Luangwa Upper Sub-catchment in Mafinga, Isoka, Nakonde and Chama Districts of Muchinga Province in eastern Zambia, given the importance of this region to the long-term water flow and quality of the Luangwa River and associated downstream ecosystems and ecosystem services. Within the Upper Sub-catchment, the project will focus on the source of the Luangwa River, in the Mafinga Hills National Forest Reserve and the surrounding agricultural and forested land in Mafinga, Musipizi, Ntonga and Senje Wards of Mafinga District, near the Malawi border (**Fig. 1**) which was determined according to the application of site selection criteria (**Appendix 7**). The rich forest habitats of the headwaters provide rural communities with critical ecosystem goods and services, including wood fuel and non-timber forest products (NTFPs) such as mushrooms, edible caterpillars, honey, beeswax, fruits, fibre, etc.

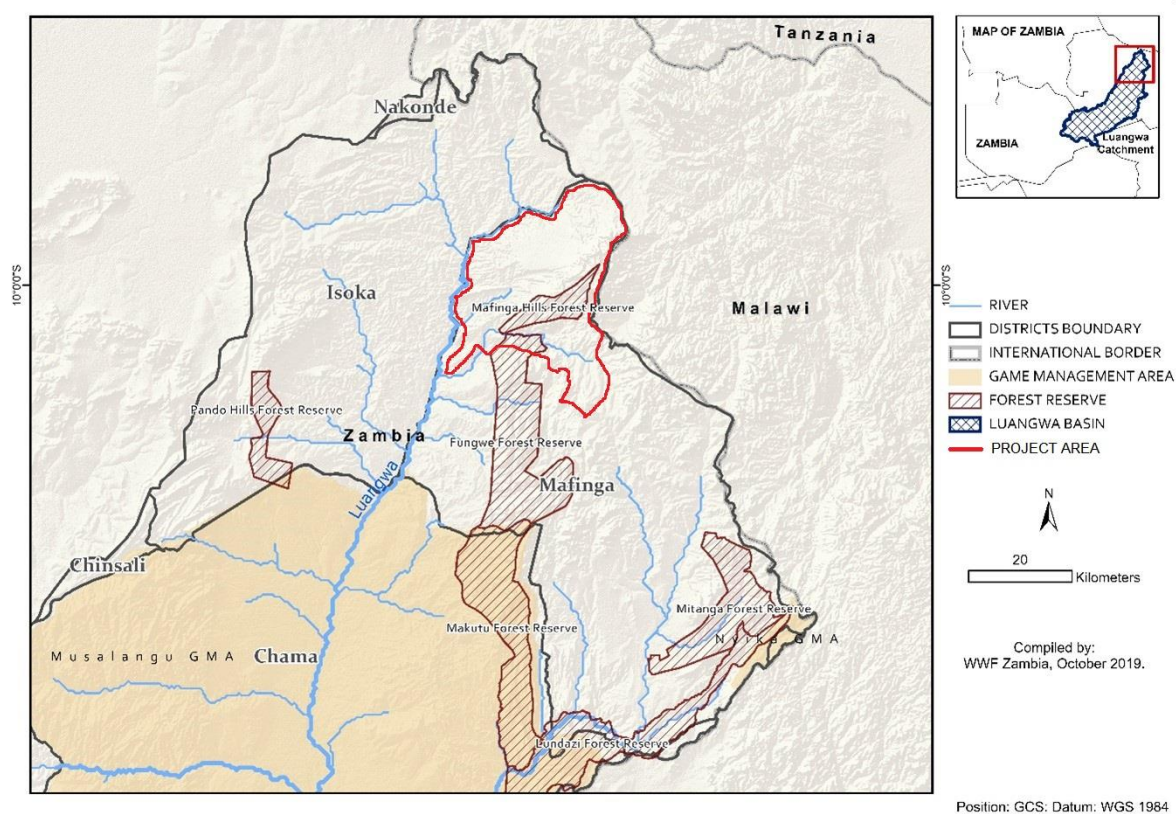


Figure 1. Map showing the Project Area in the Upper Sub-catchment of the Luangwa River in Mafinga District of Muchinga Province, Zambia

The Luangwa River originates in the Mafinga Hills on the Zambian side of the Luangwa-Malawi watershed in the north-eastern part of Zambia and flows over a stretch of 850 km<sup>2</sup> to the confluence with the Zambezi River in Luangwa District. The Luangwa Catchment (**Fig. 2**) (i.e. the whole river basin) covers approximately 145,690.33 km<sup>2</sup> within Zambian territory and lies between latitudes 9°30" and 15°40" south, and between longitudes 28°00" and 33°45" east. Administratively it lies in five provinces, namely (largest to smallest in terms

<sup>2</sup> WARMA: <http://www.warma.org.zm/catchments-zambia/luangwa-catchment-2>

of area): Muchinga, Eastern, Central, Lusaka and Copperbelt. The catchment watershed forms the international boundary with Malawi to the east, and Mozambique and Zimbabwe to the south<sup>3</sup>.

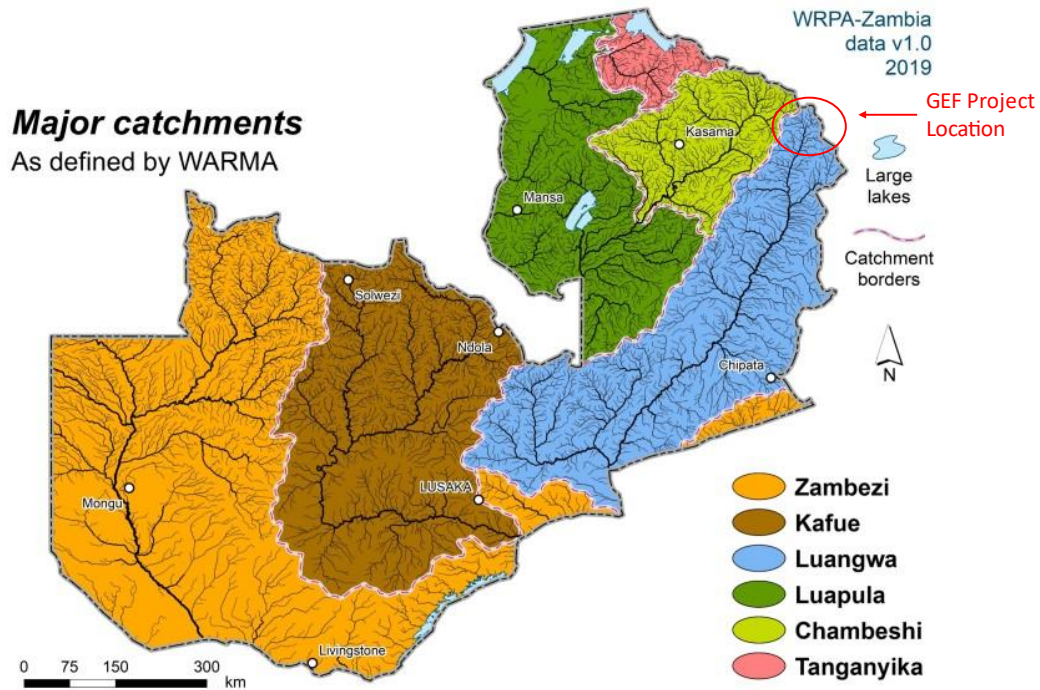


Figure 2. Major river catchments of Zambia

Source: <https://wrpa-zambia.weebly.com/data.html>

The Luangwa River is one of the major tributaries of the Zambezi River, and is one of the four major rivers of the country, forming the core of the Middle Zambezi – Luangwa Freshwater Ecoregion<sup>4</sup>. The Luangwa River - one of the last long free-flowing rivers<sup>5</sup> in Zambia (see **Figure 3** and one of the largest unaltered river systems in southern Africa - is an essential source of water for adjacent populations (~1.8 million people reside in the Luangwa Catchment<sup>6</sup>), providing water for irrigated agriculture<sup>7,8</sup>, household use and hydropower<sup>9,10,11</sup> in the downstream area of the catchment. The Luangwa Catchment has globally important biodiversity assets and

<sup>3</sup> WARMA; ibid.

<sup>4</sup> <https://www.feow.org/ecoregions/details/558>

<sup>5</sup> WWF defines a free-flowing river as one which flows undisturbed from source to mouth, without encountering infrastructure such as dams, weirs, dykes etc.

<sup>6</sup> World Bank. 2010. The Zambezi River Basin: A multi-sector investment opportunities analysis. *State of the Basin*, 3.

<sup>7</sup> Extraction for irrigation is currently low, ~120 km<sup>3</sup> annually, but the potential for extraction is high.

<sup>8</sup> World Bank. 2010. The Zambezi River Basin: A multi-sector investment opportunities analysis. *State of the Basin*, 3.

<sup>9</sup> Three small hydropower stations are located on tributaries of the Luangwa river, namely Lusiwasi (12 MW) operated by ZESCO; Mita Hills (24 MW) and Mulungushi (32 MW) operated by Lunsemfwa Hydropower Company. Source: <http://www.warma.org.zm/catchments-zambia/luangwa-catchment-2/>

<sup>10</sup> Global CSS Institute. 2012. A risky climate for southern African hydro: assessing hydrological risks and consequences for Zambezi River basin dams. Available online at: <https://hub.globalcssinstitute.com/publications/risky-climate-southern-african-hydro-assessing-hydrological-risks-and-consequences-zambezi-river-basin-dams/>

<sup>11</sup> World Bank. 2010. The Zambezi River Basin: A multi-sector investment opportunities analysis. *State of the Basin*, 3.

natural resources: the Luangwa Floodplains Ramsar site<sup>12, 13</sup>, six National Parks, eight Game Management Areas, and National Forest Reserves. In all, these protected areas cover 68,812 km<sup>2</sup> - around 50% of the total catchment area.

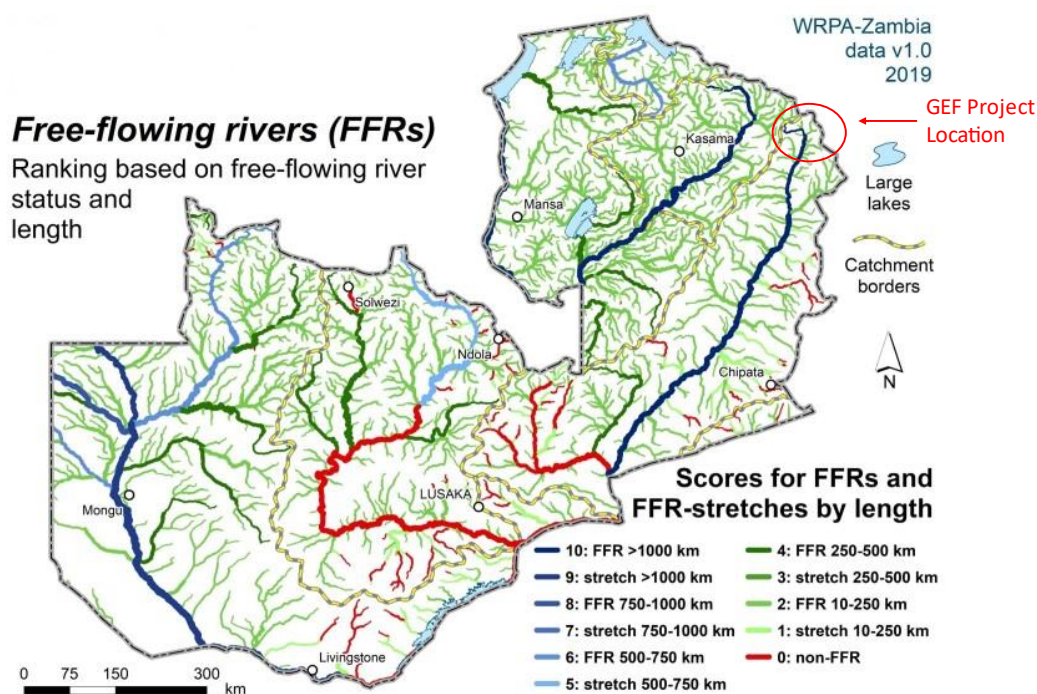


Figure 3. River systems of Zambia ranked by free-flowing river status and length.

Source: <https://wrpa-zambia.weebly.com/data.html>

The catchment includes large areas of Miombo Woodland, designated by Conservation International<sup>14</sup> as one of five High Biodiversity Wilderness Areas<sup>15,16</sup> and by WWF<sup>17</sup> as one of the Global 200 Ecoregions<sup>18</sup>. These ecosystems support important terrestrial and aquatic species, including globally threatened African clawless otter *Aonyx capensis*, spotted necked otter *Lutra maculicollis*, hippopotamus *Hippopotamus amphibious*, African wild dog *Lycaon pictus* and the critically endangered black rhino *Diceros bicornis*<sup>19</sup>.

The Mafinga Hills NFR, a Category VI protected area, is rich in biodiversity and forms part of the Eastern Afromontane biodiversity hotspot. Due to its rich variety of endemic flora and fauna species, Mafinga

<sup>12</sup> The Luangwa Floodplains is Ramsar site no. 1660, WDPA ID 903030.

<sup>13</sup> The Annotated Ramsar List: Zambia. Available online at: [http://archive.ramsar.org/cda/en/ramsar-documents-list-anno-zambia/main/ramsar/1-31-218%5E15789\\_4000\\_0](http://archive.ramsar.org/cda/en/ramsar-documents-list-anno-zambia/main/ramsar/1-31-218%5E15789_4000_0)

<sup>14</sup> High-Biodiversity Wilderness Areas (HBWA). Available online at: <http://www.biodiversitya-z.org/content/high-biodiversity-wilderness-areas-hbwa.pdf>

<sup>15</sup> These are large intact ecosystems of the world that hold significant levels of global biodiversity.

<sup>16</sup> Brooks, T.M., et al. 2006. Global biodiversity conservation priorities. *Science* 313 (5783), 58.

<sup>17</sup> Olson, D.M. & Dinerstein, E. 2002. The Global 200: Priority ecoregions for global conservation. *Annals of the Missouri Botanical Garden* 89(2):199–224. Available online at: <https://www.worldwildlife.org/publications/global-200>

<sup>18</sup> These are defined as terrestrial, freshwater, and marine ecoregions that harbour exceptional biodiversity and are representative of earth's ecosystems.

<sup>19</sup> Dallas, H. 2015. 558: Middle Zambezi – Luangwa. *Freshwater Ecoregions of the World*. Available online at: [http://www.feow.org/ecoregions/details/middle\\_zambezi\\_luangwa](http://www.feow.org/ecoregions/details/middle_zambezi_luangwa)

Mountains, in which the NFR is contained, is listed as a Key Biodiversity Area (KBA) of Zambia<sup>20</sup>. A vertebrate survey of the Mafinga Hills KBA in March-April 2018 by BirdWatch Zambia<sup>21</sup> added 52 bird species to the existing Mafinga bird list, bringing it to a total of 207 species. KBA Trigger species were Blue Swallow *Hirundo atrocaerulea* (VU) and African Crowned Eagle *Stephanoaetus coronatu* (NT). In terms of biome-restricted species, 20 Afromontane endemics and 14 Afromontane near-endemics were recorded. In addition, a total of 15 mammal species, seven reptile species and eleven amphibian species were recorded.

WWF Zambia has supported WARMA in the process of identifying key watershed areas for increased protection (see **Figures 2-4**), with the Luangwa watershed being such a key area. WARMA and WWF Zambia have conducted a detailed and scientific assessment of potential Water Resource Protection Areas (WRPAs) nationally<sup>22</sup>, laying the foundation for the identification and justification of WRPAs. Overall, the upper sub-catchment area targeted by the GEF project ranks among the most important in Zambia in terms of combined criteria for water provision, aquatic ecological importance and sensitivity (**Figure 4**), rendering it a high priority for WRPA establishment.

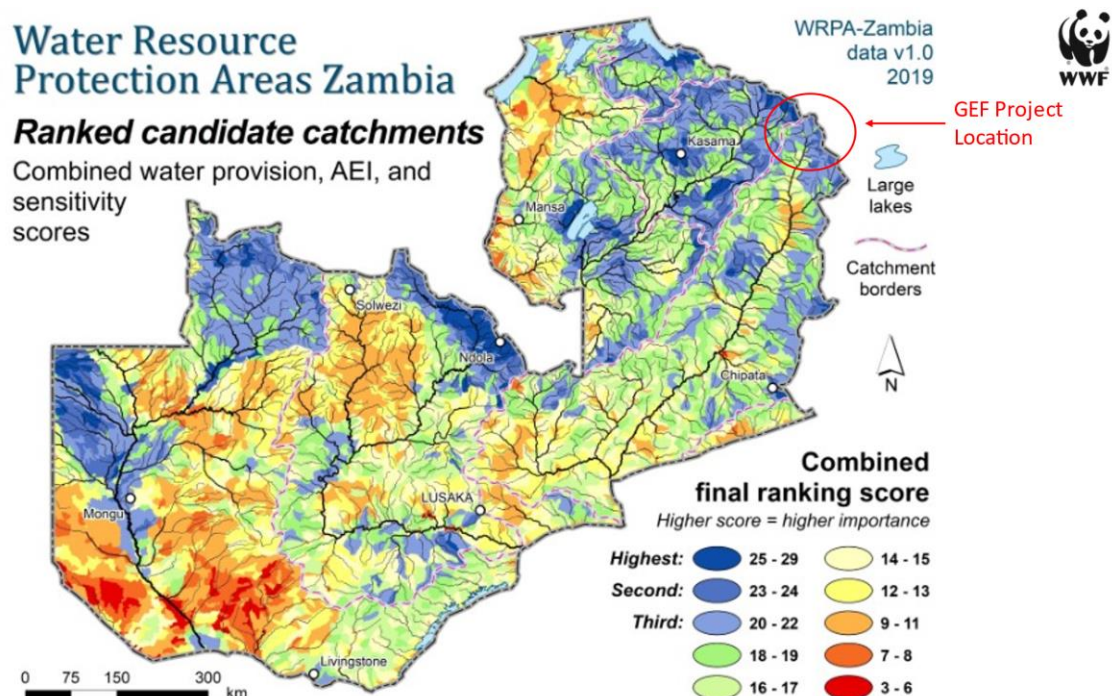


Figure 4. Catchment areas ranked by scores for water provision, aquatic ecological importance (AEI) and sensitivity (indicated by soil erosion and in-stream sediment transport).

Source: <https://wrpa-zambia.weebly.com/data.html>

<sup>20</sup> <http://www.keybiodiversityareas.org/site/factsheet/24247>

<sup>21</sup> [https://www.birdlife.org/sites/default/files/attachments/vertebrate\\_survey\\_of\\_the\\_mafinga\\_mountians-final\\_report-31.01.19\\_1.pdf](https://www.birdlife.org/sites/default/files/attachments/vertebrate_survey_of_the_mafinga_mountians-final_report-31.01.19_1.pdf)

<sup>22</sup> Bernhard Lehner and Günther Grill, Department of Geography, McGill University, for WWF Zambia & WARMA, 2019. Identification of Water Resource Protection Areas (WRPAs) for Zambia. [https://wrpa-zambia.weebly.com/uploads/1/2/3/8/123830567/wrpa\\_technical\\_report\\_mcgill\\_2019\\_07\\_final\\_low\\_res.pdf](https://wrpa-zambia.weebly.com/uploads/1/2/3/8/123830567/wrpa_technical_report_mcgill_2019_07_final_low_res.pdf)

Mafinga District has a projected population of 103,877 as at 2018. Of this population, 50,193 are male (representing 48.3%), while 53,684 are female (representing 51.7%) with an annual growth rate of 4.6%. The district has a total number of 12,648 households and a population density of 16.0/km<sup>2</sup>.

The project landscape is generally under customary land ownership outside the National Forest Reserves. Small scale farmers using hand hoes make up the majority of all farmers in the area. The principal crops grown by these farmers include maize, soya beans, sorghum, cassava and millet. Other crops are sweet potatoes and vegetables. Most farmers also keep chickens and small livestock such as goats while a few farmers also keep cattle. The main practices used by farmers in maintaining and/or restoring soil fertility include intercropping of crops, clearing new fields and leaving degraded fields fallow for periods of 8 to 14 years. The market for these crops is limited in Zambia due to the poor road network. As a result, they sell their products across the border in Malawi, which is nearby.

### 1.2 Environmental Problem, Threats and Root Causes

The environmental problem that the proposed project seeks to address is forest and land degradation and biodiversity loss in the headwaters of the Luangwa, which threatens ecosystem service provision across the whole catchment. The forests of the headwaters are impacted most notably by shifting agriculture (through fire and land clearance) and other agricultural extensification, and to a limited extent by wood collection for fuel wood and charcoal (both home use and for sale). Overall, the ongoing land degradation and loss of forest in the Luangwa headwaters (**see Fig. 5**) threatens local biodiversity and the provision of ecosystem services from the upper sub-catchment to the river system downstream. In particular, deforestation and forest degradation in the headwaters area contributes towards soil erosion and sediment loading of the river system<sup>23</sup>.

The landcover map for the targeted wards of Mafinga District (**see Map 2 in Appendix 1**) shows that the northern part of Mafinga hills is degraded or deforested, mainly the area of Damasika and its surroundings. On the other hand, areas with significant vegetation cover remain around Mweniwisi. In the headwaters area, the expansion of agricultural land is the main cause of deforestation and forest degradation. While there is a potentially high level of forest regeneration in fields that have been left fallow, such regeneration is not adequate – the visible large areas of young regeneration are a sign of imminent transition from forest degradation to deforestation, as the local human population is growing and fallow periods are getting shorter. Every year a new area of forest is cut down for finger millet fields, which means that new regeneration areas are under threat of being cleared.

#### *Unsustainable Agricultural Practices*

Small scale agriculture is a common livelihood practice in Mafinga district, and agricultural activities are concentrated in the headwaters of the Luangwa and its tributaries (**see Fig. 5**). The river source is particularly affected by agriculture - more than 20% of all agricultural camps<sup>24</sup> in the Mafinga district are clustered around the Mafinga Hills. These camps collectively support a population of 20,000 people, many of whom (35%) are

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<sup>23</sup> WWF. 2018. Integrated Flow Assessment for the Luangwa River. Phase 1: Basin Configuration of EFlows. WWF Zambia, Lusaka, Zambia. [https://wwfafrika.awsassets.panda.org/downloads/lutr\\_geomorphology.pdf](https://wwfafrika.awsassets.panda.org/downloads/lutr_geomorphology.pdf)

<sup>24</sup> Smallest agricultural extension unit under the Ministry of Agriculture at District administration level, supported by Camp Extension Workers.

farmers practicing shifting agriculture, or *chitemene*<sup>25,26</sup>. The practice of *chitemene* requires that large areas are cleared through burning, exacerbating the erosion of the inherently erodible soils in the Luangwa Upper Sub-catchment - Mafinga is a hilly area and there is high potential for soil erosion from the removal of the natural vegetation cover and inappropriate tillage practices leads to siltation of waterways. The soils of the area are mainly Leptosols of shallow depth in the valley, which are fine loamy and clay soils. However, in and around the hills, there are Leptosols which often contain large amounts of gravel and are susceptible to erosion, desiccation and waterlogging. There are also ferralsols, which are less susceptible to erosion and are well drained (see **Map 1 (Soil Map) in Appendix 1**).

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<sup>25</sup> Grogan, K., et al. 2012. Transition of shifting cultivation and its impact on people's livelihoods in the Miombo Woodlands of northern Zambia and south-western Tanzania. *Human Ecology* 41:77–92. DOI: 10.1007/s10745-012-9537-9

<sup>26</sup> Chidumayo, E.N. 1987. A shifting cultivation land use system under population pressure in Zambia. *Agroforestry Systems* 5(1): 15–25.

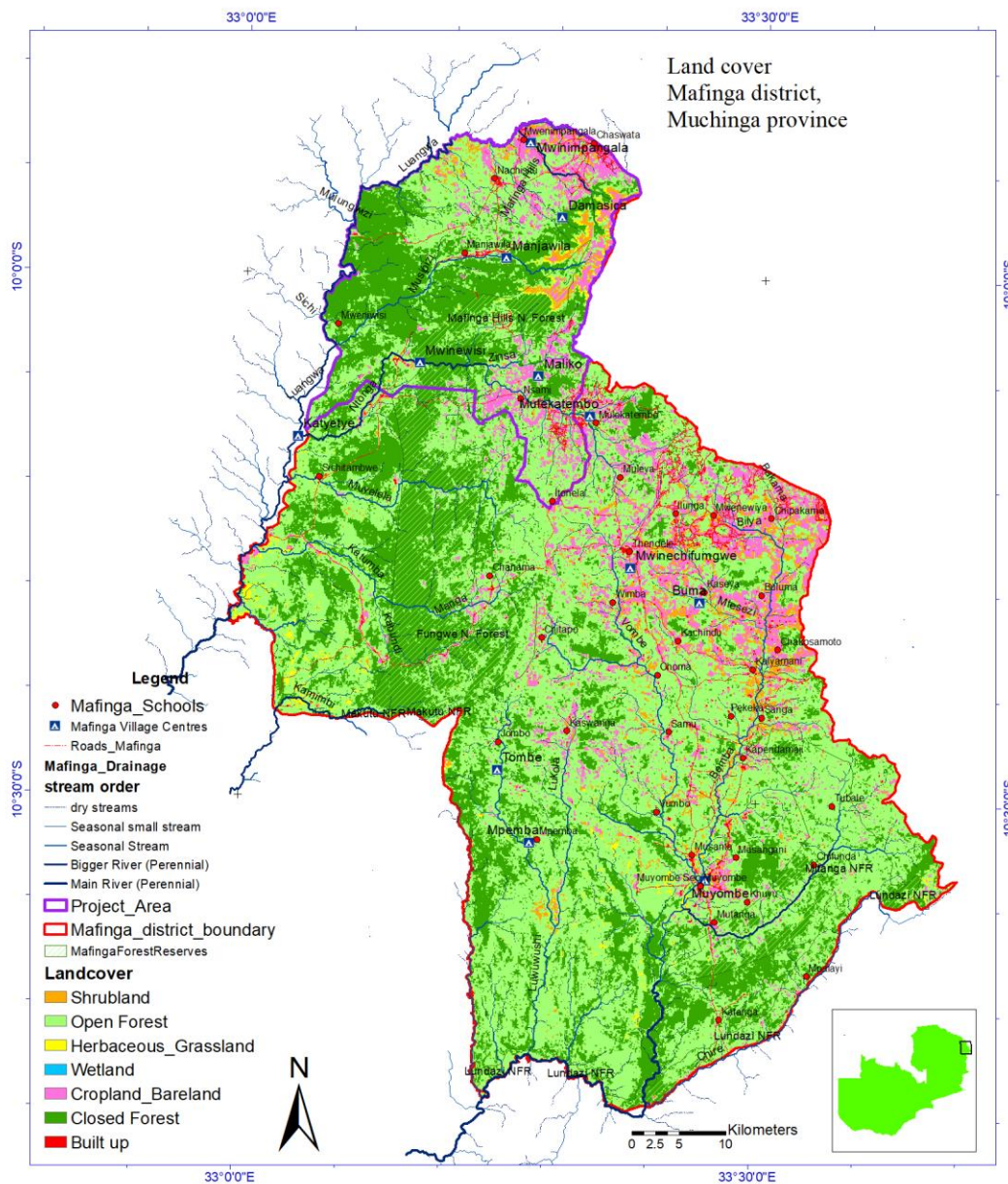


Figure 5. Map showing land cover in the Luangwa headwaters of Mafinga District  
 Note – Project Area is indicated by the purple border

Local communities burn wood biomass to improve soil fertility and reduce weeds, especially for finger millet cultivation. Finger millet is a major crop used for food and production of a sweet drink as well as alcohol, whose cultivation is a mainstay of local communities. Farmers cut down trees and shrubs and slash grass and allow them to dry out before burning them. After burning, the cleared areas are then planted with finger millet. Yields in these areas are usually higher than in areas that have not been burned, although only in the short term. As the human population increases, the demand for food increases and smallholder farmers in Mafinga



tend to address this by opening up more land, including clearing trees along river banks as these areas are known to be more fertile.

In the project target area within Mafinga District, most areas are covered by young regenerating forests that are continuously being cut for new fields of finger millet. On the other hand, fallow periods for other crops like maize range from 8 to 10 years. With the increasing population and demand for agricultural cropping, the fallow period will be reduced and deforestation will occur since millet cultivation continuously clears young regenerating forest. Such agricultural practices in the areas of Mukundalombe and Damasika close to the source of the Luangwa pose a threat to forest cover, biodiversity, and cause the siltation of various tributaries of the Luangwa river. Local communities also cultivate along the river banks, causing soil erosion and siltation.

#### *Unsustainable wood collection for fuelwood and charcoal production*

Nationally, 87.7% of total households in rural areas use firewood for cooking and 9.5% use charcoal, while only 1.5% use electricity<sup>27</sup>. In common with the national situation, firewood is mainly used for cooking by rural communities in Mafinga. However, household collection of firewood is thought to have a limited impact on forest degradation since it is mostly dead wood that is collected and only rarely are live trees cut down. Fuelwood collection does have some impact around the Damasika area, however. Sawn timber is used in construction, and for coffins, furniture and joinery. Charcoal production is mainly for supplying urban towns in Malawi and partly in Mafinga township. Charcoal production is labour intensive and is mainly carried out at the household level and mostly by men. Poles are harvested in the area for construction of houses. High value tree species such as the rosewood Mukula *Pterocarpus tinctorius* also occur in the area but the government has restricted harvesting and it has been listed under CITES Appendix II. Overall, present levels of forest exploitation for timber and charcoal are mostly for domestic use, with limited commercial use and are not a significant threat at present in the project area.

#### *Forest fires*

The Miombo woodlands tolerate or are resistant to fire, which plays a role in the natural regeneration of the forests such as breaking the dormancy of seeds. Local communities set fires late in the year as they clear the surrounding vegetation which is also used for traditional hunting. However, these late fires also represent a threat to the young trees in the forest. Consequently, there is a need for a fire management plan to reduce the impacts of late fires. There is also the risk of fires spreading into the NFRs from the surrounding landscape, therefore effective fire management is needed to protect the NFRs. As the high frequency of fires is a key conservation issue in the Mafinga Hills (for plateau grasslands as well as forest habitats)<sup>28</sup>, efforts should be made to reduce fire frequency, involving awareness-raising and education among the surrounding villages.

#### *Other threats*

Other potential issues impacting biodiversity at the local level include the unsustainable exploitation of wildlife resources for subsistence consumption, which is largely traditional in the local communities in the area but difficult to discuss openly or quantify due to the absence of data. This mainly concerns small game species, and it is not currently known to be a particular threat to globally threatened species in the area. There is no current indication of organized poaching or illegal wildlife trade in this area.

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<sup>27</sup> National Energy Policy, 2008

<sup>28</sup> Timberlake et al. 2018. [http://www.biodiversityfoundation.org/documents/BFA%20No.24\\_Mafingas%20botany.pdf](http://www.biodiversityfoundation.org/documents/BFA%20No.24_Mafingas%20botany.pdf)

In view of the Luangwa River's status as one of Africa's longest free-flowing rivers, the issue of hydro-electric power (HEP) generation and river regulation is significant from the freshwater biodiversity conservation perspective. Dams act as barriers to aquatic biodiversity, preventing movements of fish and other species that naturally occur along rivers. They profoundly change the ecology of the upstream stretch through permanent inundation of the floodplain, and river regulation dramatically reduces downstream flows especially during dry seasons, and reduces or eliminates the flood pulses that are the lifeblood of floodplain wetlands and support the life cycles of numerous aquatic animals. There was a recent proposal for a HEP dam in the downstream region at Ndevu Gorge, but it was cancelled by the government in June 2019 following a popular campaign led by WWF<sup>29</sup>. So far, there are no proposals for river regulation or HEP in the Luangwa headwaters area, although small HEP stations exist on tributaries elsewhere in the Luangwa catchment - Lusiwasi (12 MW) operated by ZESCO; Mita Hills (24 MW) and Mulungushi (32 MW) operated by Lunsemfwa Hydropower Company<sup>30</sup>.

### **Drivers of land and forest degradation and biodiversity loss**

#### *Poverty*

Poverty in Zambia remains high with 54.4% of the population living below the national income poverty line, and 21% living in severe multidimensional poverty<sup>31</sup>; up to 80% of poor (and 90% of the extreme poor) are living in rural areas. This high level of rural poverty represents a key driver of land and forest degradation and biodiversity loss, as the rural population is heavily dependent on natural resource-based livelihoods, often as their only source of subsistence, resulting in increased pressure on natural resources and unsustainable practices, which in turn leads to land and forest degradation processes. This pattern is exacerbated by the impacts of climate change, mainly through increased variability of rainfall, with periodic floods and droughts.

#### *Climate change vulnerability*

A climate change risk analysis was conducted during the PPG (see **Appendix 16**), which reviewed potential climate risks to the project intervention. At present, there is limited evidence of local impacts of climate change, although following the drought experienced in the 2016/17 season, the district had to be assisted with food aid<sup>32</sup>. Local communities identified changes in the rainfall pattern and especially delays in the start and end of the rain season and heavy periods of rainfall as signs of change. Due to the short rainfall seasons, there is a threat to the potential for absorption of water in the Mafinga Hills, and hence potentially reduced flow or supply into the many rivers originating in the hills. While the Mafinga District government has not conducted any climate change vulnerability study, one conducted under the Transforming Landscapes for Resilience and Development (TRALARD) Project demonstrated the vulnerability of Mafinga District (**Fig. 6**). The report states that Mafinga exhibits high levels of exposure, moderately high levels of sensitivity, moderate levels of adaptive capacity and, ultimately, high vulnerability. This high vulnerability is primarily driven by significant rainfall variability, prevalent drought conditions, high flood risks, low soil moisture, steep slopes, low levels of access to safe water, large distances to the electricity grid and cities, low household wealth, poor infrastructure development and low surface water availability<sup>33</sup>.

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<sup>29</sup> <https://www.worldwildlife.org/stories/big-win-zambia-halts-mega-dam-on-a-crucial-free-flowing-river>

<sup>30</sup> <http://www.warma.org.zm/catchments-zambia/luangwa-catchment-2/>

<sup>31</sup> <http://hdr.undp.org/en/countries/profiles/ZMB>

<sup>32</sup> One World. 2018. District Risk Profiles and Risk & Vulnerability Report, Climate Change Risk and Vulnerability Assessment in Luapula, Muchinga, Northern and Western Provinces.

<sup>33</sup> Petrie, B., Rawlins, J., Tsilik, P., Chapman, A., Kalaba, J. (2018). Transforming Landscapes for resilience and Development in Northern and Southern Zambia (TRALARD-Zam) Project: Landscape Vulnerability Decision Support Framework. One World Sustainable Investment, Cape Town, South Africa

In terms of existing land use, the continuing deforestation and forest degradation will reduce resilience to the negative impacts of climate change, thus endangering the livelihoods of smallholder farmers, whose crops can be wiped out by droughts, floods, pests and diseases.

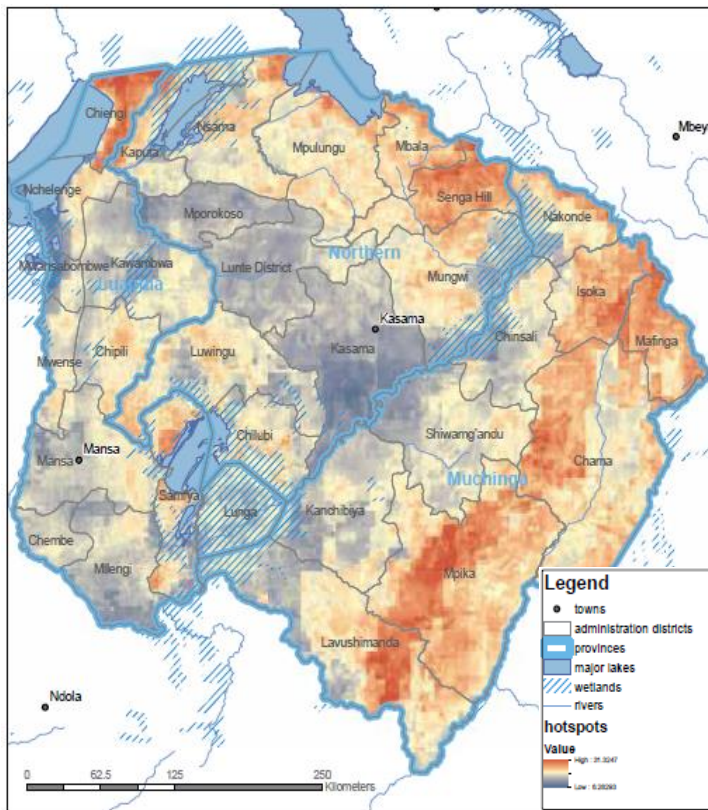


Figure 6. CLIMATE CHANGE VULNERABILITY MAP  
MAFINGA DISTRICT CAN BE SEEN IN THE NE OF MUCHINGA PROVINCE (Source: Petrie et al. 2018 Ibid.)

### 1.3 Barriers addressed by the project

#### 1.Lack of protection and management designations and of capacity for the effective management of headwater forests in order to secure the Luangwa river sources

Protection of the Luangwa headwater forests is currently limited to the area of the existing National Forest Reserves (**Fig.1**): Mafinga Hills NFR, Fungwe NFR, Mitanga NFR, Lundazi NFR, as well as Nyika Game Management Area (GMA), but protection or sustainable use of the forests throughout the headwaters is needed to ensure the adequate protection of the river source areas. The lack of coverage of forested headwater areas in the Luangwa Upper Sub-catchment is clear from the landcover and topography and drainage maps (**Fig. 5; Maps 2 and 4 in Appendix 1**). Denuded lands that are now croplands and bare land are clearly evident in the land cover map focusing on the project target area (Mafinga, Musipizi, Ntonga and Senje

Wards<sup>34</sup> of Mafinga District), illustrating the inevitable changes in land use that will occur without watershed conservation measures in place. The upper slopes of the Mafinga Hills are also largely unprotected despite their significant interest for biodiversity conservation, in addition to their watershed function<sup>35</sup>.

Scope for the protection of key water resource areas including headwaters is provided for in the Water Resource Management Act 2011 under the authority of WARMA, but this mechanism has yet to be rolled out and tested. The river catchments and sub-catchments throughout the country have been mapped and WWF Zambia has supported WARMA to identify key watershed areas for increased protection laying the foundation for the identification and justification of WRPAs (see **Figures 2-4**) to help enable WRPA establishment. The Luangwa upper sub-catchment area targeted by this GEF project ranks among the most important in Zambia in terms of combined criteria for water provision, aquatic ecological importance and sensitivity (**Figure 4**), rendering it a high priority for WRPA establishment.

The Forestry Department lacks the financial and management capacity at the provincial and district levels to manage the NFRs in the upper sub-catchment area. Consequently, management including law enforcement and monitoring is ineffective and leaves the NFRs open to deforestation and forest degradation due to overexploitation of forest resources, illegal encroachments and other infringements. Currently, the NFRs lack resource inventory information and do not have management plans to guide the prioritization of management activities. The reserves have minimal on-ground demarcation (see WECSZ work with CEPF grant under baseline section), which can lead to unclear understanding of use areas and conflicts with neighbouring land users. The baseline METT assessment for Mafinga Hills NFR (**Appendix 11**) illustrates the low level of management effectiveness typical of such remote NFRs, with a total baseline score of only 26. While the NFR was gazetted in the 1970s, and a management plan was developed at this time, it is no longer accessible to staff and has not been updated. There is only one Forestry Department staff for Mafinga District to support management of the NFRs, no infrastructure on site, and no vehicles or equipment for forest management. There are no resource inventories or planning system in place to support the management of the area. The current staff need training especially in participatory and collaborative natural resource management.

Outside the NFRs, there are no designated community forests to provide for local needs for fuelwood, NTFPs and grazing areas, placing pressure on the NFRs and surrounding forest areas as sources of these communal resources. While the Forest Act and Community Forest Management Regulations provide for the development and implementation of community-based forest management, there is very limited local capacity within the Forestry Department to develop, administer and monitor these agreements with local communities. Also at the community level, there is no existing capacity to effectively regulate, monitor and enforce forest resource use rights under community forest management agreements.

In view of these significant sector capacity limitations that constrain the establishment and management of protected areas in remote headwaters regions, responses to this barrier must be cost-effective, practical alternatives that engage local communities and provide them with the capacity and incentives to support the collaborative management of such headwater protection.

## **2.Limited involvement of community stakeholders in management of headwater forest resources.**

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<sup>34</sup> Ntonga Ward was recently divided into two Wards – Ntonga and Senje at the time of submission in August 2021

<sup>35</sup> See: Timberlake et al. 2018. [http://www.biodiversityfoundation.org/documents/BFA%20No.24\\_Mafingas%20botany.pdf](http://www.biodiversityfoundation.org/documents/BFA%20No.24_Mafingas%20botany.pdf)

Communities living in the project landscape in the headwaters of the Luangwa Catchment have the potential to participate in various forms of forest management under the Forest Act and Water Act, but this has yet to be realized due to the lack of local capacity and demonstration of such management actions.

Headwater forest resources in the upper sub-catchment area either fall under the above-mentioned National Forest Reserves and Game Management Area classified as State land, or under Customary tenure, which is the dominant system among rural communities, including in the proposed project area. The Forest Act provides for sustainable management of forest resources including community forest management (CFM), joint forest management (JFM) and private forests, under which Community Forest Management Groups (CFMGs) are empowered to conduct the sustainable management of forests. While these provisions allow for community engagement in forest management, to date they have not been applied in the headwaters forest area. Similarly, the Water Resources Management Act, No. 21 promotes community management of water resources but this provision has not yet been applied in this area. In addition, there are no incentives to encourage the conservation and sustainable use of forests in protected areas, or to add value to forest products, therefore other economic uses are considered to be more profitable in the short term, especially agriculture.

State land can also be leased through a Statutory Leasehold tenure system, under which obtaining or acquiring leasehold titles to land (leased from Government) has an in-built check on the capability to develop (e.g. make land productive through growing of agriculture crops, construction of house) and related permission to develop. This reflects the conditional nature of leasehold land and the government's requirement that it is used in the best interests of the country before allocation can be made. These checks and balances are exercised by a variety of departments and ministries.

Under Customary tenure, land is without title and falls under the jurisdiction of traditional leaders who include Chiefs and Headmen/women. Under this system, which is common to most, if not all Zambian tribes, specific plots of land are assigned either temporarily or permanently in most cases through a male head of a family for cultivation, while other areas are held in common for pasture, forestry, and collection of wild plants and game. The mode of acquisition of land under customary tenure is relatively easy when compared to statutory leasehold under modern tenure. The major forms of acquisition in case of a member of the community are by: Grant from the Chief/Headman; Clearing of virgin land and asset possession rights over the pieces of land; Inheritance from deceased relations; and: Gift from either a relative or from any member of the community.

In case of a person from another community or tribe, the person has to be accepted by the community through either the chief or headman before any land can be allocated to them. In both cases there are neither sketch maps, survey diagrams nor documents to be filled in. The ease of mode of acquisition has led to many virgin forests being cleared for agriculture, but abandoned after the land has been degraded (due to poor land husbandry practices). The traditional tenure system usually leads to fragmentation with time, hence making land management and planning difficult at macro-level.

Overall, this lack of engagement in forest resource management coupled with limited local awareness of environmental issues beyond traditional practices and lack of incentives for sustainable use of forest resources has contributed towards the progressive degradation of headwater forests through use of fire, shifting cultivation and agricultural extension, and overexploitation of forest resources.

**3. Limited proof of concept of effective and scalable sustainable land, forest and watershed management approaches by communities and local government, including alternatives to *chitemene* practices that are climate-resilient and sustainable.**

While other projects have sought to address the loss and degradation of miombo woodlands in Zambia and other southern African countries, this project has the specific intention of addressing the degradation of upper catchment areas in the headwaters of the Luangwa River system. Outside the existing protected areas, the landscape is under community tenure and mainly dominated by smallholder farming combined with use of forest and grassland resources for food, materials, fodder and grazing land. The existing forest and grassland resources provide essential livelihood support and income, from the sale of honey for example. The crops are rainfed and therefore vulnerable to climate change impacts such as periodic droughts. As such, the maintenance of catchment forest areas is important to preserve the vital water sources in the Mafinga Hills that support these isolated communities in addition to downstream populations, as well as the NTFPs that support their livelihoods.

The current patterns of shifting cultivation and expansion of fields for finger millet cultivation through slash and burn techniques in the upper sub-catchment are unsustainable, leading to forest degradation, deforestation and land degradation through soil erosion and loss of fertility. Consequently, local communities require environmentally sustainable, conservation agriculture techniques as an alternative path to avoid deforestation and land degradation. Such alternatives have been developed in other parts of Zambia but not in Mafinga District, therefore in-country capacity exists to provide the technical assistance required to introduce conservation agriculture to local communities. A further constraint is access to markets in view of the remote location and poor road infrastructure in this area, with communities trading across the border into Malawi as a more convenient route yielding better returns.

Significant forest cover remains outside protected areas in large parts of the upper sub-catchment, which is used by local communities but not under any management regime, allowing forest degradation to occur through unregulated harvesting practices (eg for fuelwood and charcoal). The introduction of community forestry practices in such areas through the establishment of Community Forest Management Groups would empower local communities to take responsibility for the conservation and management of forests on their lands, contributing towards watershed protection.

As a headwater area, water resource management needs to be considered as a key element of the overall land use planning for these areas under community tenure. Under the National Water Policy 2010, the focus is on managing water resources using the catchment as the management unit. This approach centres on empowering stakeholders in a particular locality with the ability and responsibility to make decisions regarding the management of water resources in a specific catchment. This approach to catchment management is supported by the Decentralisation Policy whose goal is to empower local communities by devolving decision making authority, functions and resources from the centre to the lowest level (district and provincial levels). Under the National Water Policy, the management of water resources will be carried out by catchment councils, who will have as its members, representatives of the provincial administration. Catchments will be divided into smaller units called sub-catchments (as in the case of the project area) which will have as its members' representatives of all the Local Authorities in the sub-catchment and representatives of the traditional authorities in the sub-catchment. All district and provincial plans will be integrated into the catchment and sub-catchment plans.

To date, none of these approaches – conservation agriculture, community forest management and water catchment management – have been demonstrated in the project area, and the capacity of local government

at the District and Ward levels lack the experience of supporting such an integrated approach to catchment management.

#### 1.4 National and Sectoral Context

Zambia participates in the relevant Multilateral Environmental Agreements, including the Convention on Biological Diversity (CBD), the UN Convention to Combat Desertification (UNCCD), the Convention on Wetlands of International Importance (Ramsar Convention), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the UN Framework Convention on Climate Change (UNFCCC), joining the Paris Agreement in 2015. The Government's development goals support the national implementation of these MEAs and also complement efforts from international development partners for socio-economic and environmental benefits.

The relevant policy framework for the project objectives includes Vision 2030, the Seventh National Development Plan (7NDP, 2017-2021), the Second National Biodiversity Strategy and Action Plan (NBSAP2, 2015-2025), National Policy on Environment (NPE, 2007), National Water Policy (NWP, 2010), National Climate Change Policy (NCCP, 2016), Zambia National Forest Policy (ZNFP, 2014), and National Agriculture Policy (NAP, 2016). The national policy and legislative framework for the project is summarized in **Appendix 18**.

The over-arching national vision is provided by *The Vision 2030*, representing the first long-term written plan for Zambia. It sets out the goals and targets for Zambia to become "a prosperous middle-income nation by 2030" and outlines three scenarios and development options. It aims to achieve a strong and dynamic middle-income industrial nation that provides opportunities for improving the well-being of all, embodying values of socioeconomic justice, underpinned by the principles of: (i) gender responsive sustainable development; (ii) democracy; (iii) respect for human rights; (iv) good traditional and family values; (v) positive attitude towards work; (vi) peaceful coexistence and; (vii) private-public partnerships. The socio economic development objectives of the Vision's "preferred scenario" include gradually increasing annual economic growth rates from 6 to 10% by 2030 and significantly reducing poverty levels to 20% of the population, with education and access to health care for all. The Vision promotes a decentralised governance system and sets out specific goals and targets for different sectors. Environmental sustainability is integrated across the Vision 2030 as a Strategic Objective - To enforce environmentally and socially sustainable development principles, contributing towards the long term Outcome: A Nation Existing in a Sustainable Environment.

*The Seventh National Development Plan (2017-2021)* emphasizes an integrated development approach to create a diversified and resilient economy for sustained growth and socio-economic transformation driven, among others, by agriculture, natural resource management, climate and low carbon development pathway. This is in support of Smart Zambia Transformation Agenda 2064 in line with the UN 2030 Agenda for Sustainable Development and the African Union Agenda 2063. Under Development Outcome 7: Improved Water Resources Development and Management, Strategy 1: Enhance Rainwater Harvesting and Catchment Protection, the Government will promote protection and improvement of catchment areas, to protect recharge zones and river sources.

#### **Water Resource Management, Catchment Management and Environmental Protection**

The project Executing entity, Ministry of Water Development, Sanitation and Environmental Protection (MWDSEP)<sup>36</sup> was formed and functions under the Zambian Government Gazette Notice No. 836 of 2016 dated 18<sup>th</sup> November, 2016. Under this gazette notice, the Ministry through its Environmental Management Department (EMD) is mandated to promote and coordinate environmental programme and project development among others in order to ensure sustainable utilization of natural resources for socio-economic development in the country. As elaborated in the Government Gazette No 836 of 18<sup>th</sup> November, 2016, MWDSEP is responsible for the following portfolio functions: Environmental Policy, Environmental Protection and Pollution Control, Environmental Research and Training, Water Policy, Water Supply and Sanitation, and Water Resources Management and Development.

The Environmental Management Department (EMD), is thus mandated to analyze and initiate the formulation of policies; review existing and develop new legislation; and facilitate, promote and coordinate research on the management of the environment in order to ensure and achieve sustainable environmental management and contribute to the sustainable socio-economic development of the country. This is done under projects, activities and programmes as follows: Policies/legislation/strategies /Programmes Development Coordination, Support to Environmental Projects, Environmental Awareness, Development and Review of Desertification, Land Degradation and Drought (DLDD)/Sustainable Land Management (SLM) and Land Degradation Neutrality (LDN), and Bilateral, Multilateral and Regional Co-operation. The EMD hosts the GEF Operational Focal Point, Focal Point to the United Nations Convention on Combating Desertification (UNCCD), United Nations Environment Programme (UNEP), and SADC BLUE Economy initiatives.

The sectoral context for water resource management is enshrined in *The National Water Policy (2010)*. This policy supports the improvement of water resource management, through strengthened institutional coordination and defined roles and responsibilities. It includes policy statements on *Water resources management* (a comprehensive framework for management of water resources); *Water for Wildlife*: To manage and develop water resources effectively in order to sustain wildlife and the ecosystem; *Water for Environment*: managed on a sustainable basis and retain their integrity to support the needs of the current and future generations; *Water and Land*: To promote integrated land and water resources management in order to enhance sustainable land use; as well as *Water for food and agriculture*; *Water for fisheries*; and other sectors. The *Integrated Water Resources Management/Water Efficiency (IWRM/WE) Implementation Plan (2007-2030)* aims to increase capacity to cope with climate change stresses on water resources and facilitate integration of climate change issues in national planning, thus contributing to the country's adaptive potential.

MWDSEP is responsible for the development and management of water resources, provision of water supply and sanitation as well as environmental management. The mandate of the Ministry is to provide policy guidance in the water and environment sectors, following its Strategic Plan 2018-2021<sup>37</sup>. The day to day execution of its portfolio functions are carried out by six directorates including the Directorate of Water Resources Development, Directorate of Water Supply and Sanitation, and Directorate of Environmental Management. In carrying out its functions, the Ministry is responsible for the operations of three statutory

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<sup>36</sup> Following elections held in August 2021, and in accordance with the government gazette notice No. 1123 of 2021 on the statutory functions, portfolios and composition of government, the Environmental Management Department previously under MWDSEP is moving under the Ministry of Green Economy and Environment at the time of re-submission (October 2021). Everywhere MWDSEP is listed in the document is now the Ministry of Water Development and Sanitation (MWDS). The Ministry of Green Economy and Environment will replace MWDSEP as Lead Executing Entity for the project. This change has been updated in the Institutional Arrangements section of the document.

<sup>37</sup> [https://www.mwdsep.gov.zm/wp-content/uploads/2019/08/2018-2021-Strategic-Plan-20June2019\\_2.pdf](https://www.mwdsep.gov.zm/wp-content/uploads/2019/08/2018-2021-Strategic-Plan-20June2019_2.pdf)



bodies namely, Zambia Environmental Management Agency (ZEMA), National Water Supply and Sanitation Council (NWASCO) and the Water Resources Management Authority (WARMA). It has five departments, of which the Environment Management Department (EMD) (the Executing Agency for the current GEF-7 project) is responsible for facilitating and coordinating the development and implementation of policies, programmes and projects on the environment in order to ensure sustainable management and conservation of the environment according to *The National Environment Policy 2009*. Other key departments include the Department of Water Resource Development (DWRD), which provides policy guidance on national water resources related issues and development of both surface and groundwater resources in order to ensure adequate water resources availability and equitable access by all users for sustainable national socio-economic development.

The Water Resources Management Authority (WARMA) was established to serve as the regulatory body for the management and development of water resources in the whole country based on the principles of Integrated Water Resources Management (IWRM), which also takes into account gender and climate change dimensions<sup>38</sup>. As such, WARMA is a statutory body which GRZ/MWDSEP delegated with a mandate of water resources management and the grants for WARMA's operations are still disbursed by GRZ through MWDSEP. WARMA is responsible for sustainable and rational utilisation, management and development of water resources down to sub-catchment level, including managing water allocation. The catchment and sub-catchment structures provide a means of addressing water issues at the lowest level in a more participatory way. The extent to which these structures will work with participatory approaches at the local level will depend on the ability to embrace knowledge sharing and experiences, flexibility in decision making and problem solving and responsiveness to all stakeholders.

Under the *Water Resources Management Act 2011* (WRMA 2011), a Water Resource Protection Area (WRPA) is defined as an area "where special measures are necessary for the protection of a catchment, sub-catchment or geographic area". The Minister of Water Resources, Sanitation and Environmental Protection gazettes these areas under technical guidance from the Water Resources Management Authority (WARMA). The actual legislation and associated strategies, mechanisms, and level of water protection in each area will vary depending on local vulnerability, threats and expected impacts. WARMA has finalized Statutory Instruments under the WRMA 2011 including *The Catchments Delineation Order* and *The Headwaters and Eco-Sensitive Protection Regulations* which have been submitted to the Ministry of Justice for approval. The WRMA 2011 makes provision for the formation of Catchment Councils, Sub-catchment Councils and Water User Associations, however these bodies are yet to be established as part of decentralised water resources management.

## **Biodiversity Conservation**

*The Second National Biodiversity Strategy and Action Plan (NBSAP2, 2015-2025)* includes the following goals of direct relevance to the current project (note – some other goals are also relevant):

- B5: By 2020, the deforestation rate in Zambia is reduced by at least 25%;
- B7: By 2025, areas under agriculture, aquaculture and forestry (forest reserves, parks, Game Management Areas, forest concessions, open areas) are managed sustainably, ensuring conservation of biodiversity;

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<sup>38</sup> See: <http://www.warma.org.zm/wp-content/uploads/2020/07/WARMA-Strategic-Plan-2017-2021.pdf>

- C10: By 2020, Zambia's Protected Area (PA) network is rationalized to achieve representativeness and ecological connectivity at landscape level;
- D15: By 2025, Zambia takes deliberate actions to protect critical ecosystems of the Zambezi, Kafue, Chambeshi, Bangweulu and Luangwa watersheds.

The Wildlife Act No. 14 (2015) provides for management of wildlife and its habitat including the preparation of management plans. The Act outlines the principles for wildlife conservation and management, which include protection of biological diversity; sustainability of the ecosystem and biological diversity; integration; equity and effective participation of local communities and traditional leaders. In the context of this project, the project area includes the Mafinga Hills Key Biodiversity Area (KBA) and wildlife management will be considered in the project interventions. The Department of National Parks and Wildlife (DNPW) is responsible for management of the National Parks and Game Management Areas in the Luangwa Catchment, often in collaboration with NGOs, however the project area in Mafinga District does not include any PAs under their jurisdiction.

### **Forest Management**

*The National Forestry Policy (2014)* has now been supported by the National REDD+ Strategy and the National Forest Investment Plan (FIP) which details how the Strategy might be enhanced and implemented on the ground. The Decentralisation Policy, National Forestry Policy and Forests Act have established measures to improve land security and forest resource rights for rural communities, while the Community Forest Management Regulations have enabled community forest management agreements to be established with rural communities in some protected forests. This framework provides the basis for increased participation of communities in forest management in the project landscape.

*The Forests Act (2015)* explicitly provides for sustainable management of forest resources through community and private sector participation and equitable benefit sharing mechanisms. Community forest management (CFM), joint forest management (JFM) and private forests are participatory forest management categories provided for in the Act aimed at ensuring that stakeholders participate in the conservation and management of forests. In addition, management of forest fires is regulated in the Act. *The Forests (Community Forest Management) Regulations, 2018* under the Forests Act provides guidance on the management of Community Forests and lays down the procedures for application and approval for management of forests. The Forests Act also recognises the Community Resource Boards as Community Forest Management Groups (CFMGs), who hence can manage selected forests. The procedure is that a CFMG apply to the Forestry Department for recognition to manage a Forest under the Community Forests (CF). Once approved the CFMGs may be supported to develop forest management plan and then apply for an agreement with Forestry Department.

The Forestry Department under the Ministry of Lands and Natural Resources is responsible for research, restoration of degraded and depleted areas and extension services provided for under the National Forestry Policy and the Forests Act to enforce law and order regarding the management of forests and their exploitation. This includes the management of National Forest Reserves, support for the creation of CFMGs and the development of Forest Management Plans, technical support and monitoring of activities relating to forest management.

### **Sustainable Land Management**

While there is no specific national policy on tackling land degradation, this is referred to in the National Policy on Environment (NPE, 2007) and the Land Degradation Neutrality National Targets for Zambia<sup>39</sup>. EMD is the national Focal Point for UNCCD and produced the *National Report on Land Degradation Neutrality*<sup>40</sup>. The latest report in 2019 lists some 13 pieces of national legislation that provides the framework for implementation of Zambia's LDN commitments under UNCCD. Many of these laws are listed in **Appendix 18**, including the Forests Act, Wildlife Act, Water Resource Management Act, etc. MWDSEP through EMD has initiated restoration efforts for Mweru Wa Ntipa Ecosystem, which was approved by UNCCD Secretariat for technical assistance in developing Land Degradation Neutrality Transformative Projects<sup>41</sup>. To this effect, EMD has continued with data collection for improving and refining the concept note for the development of the Lake Mweru-Wantipa ecosystem restoration land degradation neutrality transformative projects and programme in North Western and Copperbelt provinces.

The National Agriculture Policy (2016) promotes the adoption of climate resilient and sustainable agricultural practices such as conservation agriculture and agroforestry and linkages to other sectors such as forestry, energy, land use and infrastructure development. Within the Ministry of Agriculture, the Department of Agriculture is responsible for the pivotal role of providing agriculture extension services in order to promote adoption of improved farming technology for farmers to achieve high production, productivity, maintain and improve the agriculture resource base. This includes community awareness raising and mobilisation, facilitating the Farmer Input Support Programme, promoting climate resilient forms of agriculture such as Conservation Agriculture, providing technical support to farmers and other stakeholders at local level, and monitoring activities. The WB TRALARD and EU SCRALA Programmes both involve the Ministry of Agriculture (see baseline section, below). Significant national support for the acceleration of climate smart agriculture (CSA)<sup>42</sup> in Zambia has been provided through the Climate Smart Agriculture Zambia (CSAZ) Programme (2016-2021), financed by DFID (£25 million of International Climate Finance).

See **Section 3.5** below for information on project alignment with national priorities and plans.

### Provincial and District Governance

The structure of planning and coordinating district level activities by Government line Ministries, NGOs and Private sector is through the District Development Coordinating Committee (DDCC), which represents a technical advisory committee to local Government, with the overall aim of coordinating, implementation and monitoring of district development projects (see **Fig. 7**). District councils play a coordinating role within the districts. The District Planning Officer sits on all the council departments as well as the DDCC which comprises the District Commissioner, Government Departments, Non-Governmental Organisations, Private Sector and technical council staff. The office of the District Commissioner (DC) through the District Development Coordinating Committee creates a platform for all the stakeholders in the district to interact and exchange information and plan for the development of the district. The District Development Coordinating Committee through its various committees provides an opportunity for the harmonisation and collaboration of activities for purposes of more efficient management of financial and human resources.

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<sup>39</sup> MWDSEP 2019. High Level Note on Land Degradation Neutrality. A document has been prepared with the support of the Land Degradation Neutrality Target Setting Programme (LDN TSP).

<sup>40</sup> [https://knowledge.unccd.int/sites/default/files/ldn\\_targets/2019-10/Zambia%20LDN%20TSP%20Country%20Report.pdf](https://knowledge.unccd.int/sites/default/files/ldn_targets/2019-10/Zambia%20LDN%20TSP%20Country%20Report.pdf)

<sup>41</sup> In line with UNCCD Decisions 3/COP.13 and 14/COP.13

<sup>42</sup> DFID notes: Climate-smart agriculture (CSA) is an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate. Conservation Agriculture (CA) is an approach to managing agro-ecosystems for improved and sustained productivity, increased profits and food security while preserving and enhancing the resource base and the environment.

A similar structure exists at provincial level where the Provincial Development Coordinating Committee (PDCC) performs the role of coordination between the various government departments and NGOs. The PDCC is headed by the provincial minister. The Sub-Committee on Agriculture and Natural Resources or Multi-sectoral team under the Seventh National Development Plan or another name given to such a committee provides technical support to implementation of projects at district level. However, at present such committees generally provide information for report writing and are not practically involved in monitoring of projects or activities in the District. The PDCC is headed by the provincial minister. The project can utilise the same structures to ensure the sustainability of its outcomes.

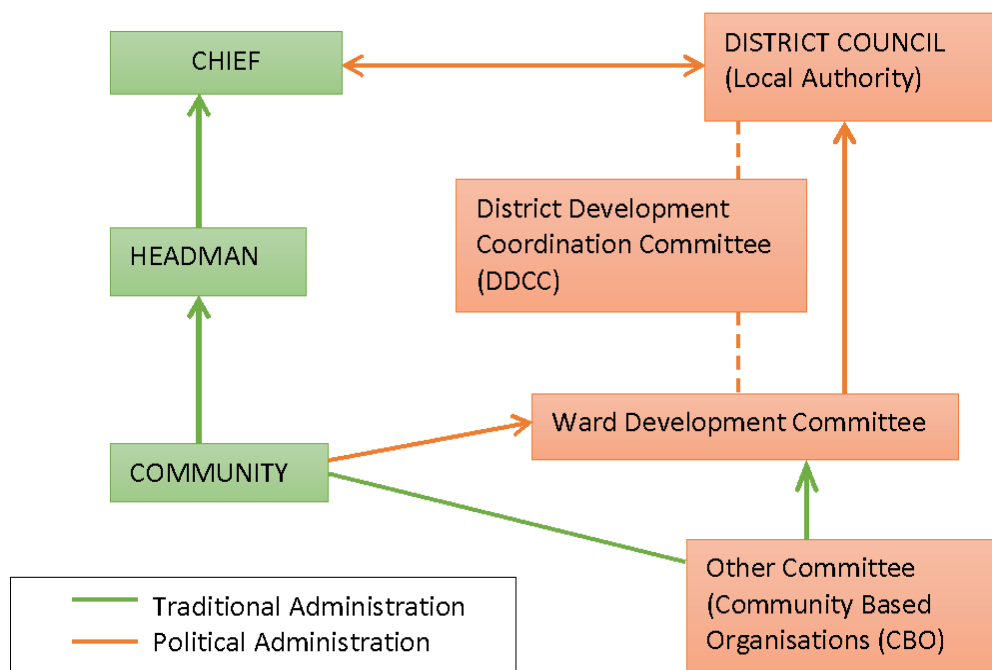


Figure 7. The government and traditional governance structure at local level

### 1.5 Baseline Scenario

#### **Component 1: Protected area management and establishment in the Luangwa headwaters:**

The Forestry Department under the Ministry of Lands and Natural Resources, the Department of National Parks and Wildlife (DNPW), and the Water Resource Management Authority (WARMA) and the Environmental Management Department (EMD) under the Ministry of Water Development, Sanitation and Environmental Protection (MWDSEP) are the key government agencies that have the mandate to manage protected areas in the Luangwa Catchment. EMD will take the coordination role of all other government agencies and partners under this project, as the project executing agency.

Management of the National Parks and the Game Management Areas in the Luangwa Catchment is undertaken by DNPW, often in collaboration with NGOs such as WWF, WCS and FZS. There is a strong baseline of protected area management in the four National Parks and seven Game Management Areas within the Luangwa

Catchment, under DNPW<sup>43</sup>; however, these lie mostly in the downstream area of the catchment outside Mafinga District in the Luangwa headwaters, where there are three National Forest Reserves (NFRs) (see **Fig. 5**) under the management of the Forestry Department. The Decentralisation Policy requires that Central Government devolve management functions to district councils. As such, the Mafinga District Council is responsible for on-the-ground management of the NFRs, the buffer zones, and working with communities for sustainable land management. The three NFRs provide critical forest for headwater protection, particularly Mafinga Hills where the Luangwa source is located; however, management resources at the District level are limited.

The management effectiveness tracking tool baseline assessment for Mafinga Hills NFR scored 26 (see **Appendix 11**), illustrating the weak state of management, with only one permanent staff of the Forest Department responsible for the management of the reserve, lack of transportation and equipment for fieldwork, no forest resource inventory conducted, no management plan, limited demarcation of boundaries, and no fire management in place.

In line with the National Water Policy (2010), the management of water resources now centres on the catchment as a management unit, to be carried out by catchment councils, who will have as their members, representatives of the provincial administration. Catchments will be divided into smaller units called sub-catchments which will have as their members' representatives of all the Local Authorities in the sub-catchment and representatives of the traditional authorities in the sub-catchment. All district and provincial plans will be integrated into the catchment and sub-catchment plans.

The Water Resources Management Act No. 21 of 2011 (WRM Act) established the Water Resource Management Authority (WARMA) under the MWDSEP. WARMA has overall authority for water resources management, including identification and designation of Water Resource Protection Areas (WRPAs). WARMA has Catchment Offices for all six catchments in Zambia, including the Luangwa Catchment Office, which was established in 2016 and currently has 10 staff. The estimated baseline contribution from WARMA's Luangwa catchment office is some USD 180,000 over the five years of the project, plus a further USD 45,000 from MWDSEP<sup>44</sup>. The environment and natural resources priorities and investment targets in the Luangwa catchment under MWDSEP's mandate include: urban environmental management, industrial waste/pollution interventions, community-based natural resource management, sustainable natural resource-based enterprises, management of critical ecosystems and biodiversity hotspots, climate change adaptation or mitigation initiatives, and emerging issues accepted by the Joint Steering Committee as relevant to the projects purpose.

In line with MWDSEP's mandate of ensuring that water is available for various uses in an environmentally sustainable manner for the benefit of the people of Zambia, the Ministry in collaboration with WWF-Zambia has in the recent past paid attention to the drying of once-perennial rivers across the country. This work is being conducted through the context of developing WRPAs, using environmental and ecosystem restoration measures and integrated watershed management. In order to bring about the protection of key rivers, the mapping and delineating of potential WRPAs was a critical initial step towards achieving the broader environmental protection and human well-being agenda. The government of Zambia in its five-year national

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<sup>43</sup> For example, management of the Nyika-North Luangwa component of the Malawi-Zambia Transfrontier Conservation Area (TFCA), including through EU funding since 2018 to consolidate six community conservation areas into a single corridor that connects North Luangwa National Park in Zambia to protected areas in Malawi. The North Luangwa Conservation Programme is a long-term initiative (1986–ongoing) funded by GIZ and USAID and implemented through a partnership between the Frankfurt Zoological Society and the Zambia Department of National Parks and Wildlife. It strives to conserve wildlife and ecosystems by involving local communities in management decisions to generate social capital and socio-economic benefits that will then improve conservation outcomes.

<sup>44</sup> See National and Sectoral Context section above for more information on MWDSEP and EMD's role

plan the Seventh National Development Plan (7NDP) set a target of declaring 12 WRPAs by 2021. Thus, to support this ambitious target, from 2017 to 2019 WWF in collaboration with WARMA, the University of Zambia, consultants from McGill University in the USA, and FRC South Africa, together with other stakeholders who have livelihood and economic stakes and expertise, conducted a national assessment of potential WRPAs. This assessment involved all sub-catchments and river reaches of Zambia being analyzed and ranked regarding their importance for water provision, aquatic ecology, and their sensitivity to impact (see website <https://wrpa-zambia.weebly.com/>). The main goal of this assessment was to broadly identify areas in Zambia that should be prioritized as candidate sites for protection because they are important for water provision, aquatic ecology, and their sensitivity to impact and to guide decision-making processes for infrastructure development. In addition, a scientific product ([Hydro Atlas](#)) which contains a series of hydro-environmental sub-basin and river characteristics has been produced and can be used as a scientific justification for protection as per requirement when looking towards declaring an area as a WRPA (see **Figures 2-4**), with the Luangwa watershed being such a key area. WARMA and WWF Zambia have conducted a detailed and scientific assessment of potential Water Resource Protection Areas (WRPAs) nationally<sup>45</sup>, laying the foundation for the identification and justification of WRPAs. The Water Resources Management Act 2011 defines Water Resource Protection Areas as areas where special measures are necessary for the protection of a catchment, sub-catchment or geographic area. Examples include river sources or headwaters, groundwater recharge zones and areas with store water (i.e., wetlands, marshes and dambos). Three specific selection criteria are listed for the definition of WRPAs: (1) areas of high importance in providing water to users in a catchment; (2) areas of high aquatic ecological importance; and (3) areas that are particularly sensitive to use and anthropogenic impact.

With this strong foundation and the lessons learned from this past programme, WWF-Zambia with funding from WWF Netherland office is now looking to take the next step needed to advance water resource management by expanding lobbying and advocacy efforts with the aim of protecting the middle and upper Luangwa headwaters (Luangwa headwaters in Mafinga, Luangwa mainstem channel and alluvial belt of Mushibemba catchment). The desired outcome is that freshwater habitats are secured by the protection of at least 30% of the Luangwa River by MWDSEP and political will is gained to scale up WRPAs to cover additional key river stretches in Zambia to enhance biodiversity and protect important ecosystem services by 2022.

WWF is also working with WARMA and other partners in the Lower Kafue Sub-Catchment and specifically the headwaters of Magoye River, where WWF has mobilized other stakeholders and is applying a community involvement approach for protection of WRPAs. In this work, some of the key benchmark activities implemented were stakeholder consultations, rapid assessment, audit of hydraulic infrastructure, assessment of hydrological regime/river flows and e-flows, land use audit, and hydro-geomorphological assessment.

The second element of WWF Zambia's programme for the Luangwa is *Inclusive Conservation for Environmental Compliance* through enhancing the role of citizens and the long-term sustainable economic visioning, and engaging on the review of environmental impact assessment, supported by WWF Netherlands.

In addition, WWF's pioneering partnership with World Rowing is building a 'water leadership centre' on the banks of the Kafue River, where communities, scientists, conservationists and decision-makers will come together to better understand, manage, sustainably use and enjoy the freshwater resources they depend on. The Kafue River and Rowing Centre (KRRC) aims to connect freshwater experts and researchers from across

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<sup>45</sup> Bernhard Lehner and Günther Grill, Department of Geography, McGill University, for WWF Zambia & WARMA, 2019. Identification of Water Resource Protection Areas (WRPAs) for Zambia. [https://wrpa-zambia.weebly.com/uploads/1/2/3/8/123830567/wrpa\\_technical\\_report\\_mcgill\\_2019\\_07\\_final\\_low\\_res.pdf](https://wrpa-zambia.weebly.com/uploads/1/2/3/8/123830567/wrpa_technical_report_mcgill_2019_07_final_low_res.pdf)

Africa and the world, who will use it to study freshwater challenges and find solutions. Building on the ethos of the KRRC, WWF has been working with WARMA to develop a Citizen Science-water quality monitoring project along with the water quality network for Zambia. This project focuses on bridging the water quality data gap and enhancing community management of water resources. Three parameters are currently being monitored i.e. nitrates, phosphates and turbidity as they only require a basic level of understanding<sup>46</sup>. To date, WWF Zambia and WARMA have trained seven communities and five local schools to conduct water quality monitoring citizen science in the Lower Kafue flats, and a further eight communities in the Upper Zambezi (Kabompo). WWF Zambia is now looking to expand this work to the Luangwa Catchment focusing on the Luangwa headwaters in Mafinga, Luangwa mainstem channel and alluvial belt of Mushibemba catchment in line with the potential WRPAs.

The third element of WWF's Luangwa programme is *Improving Community Management of Natural Resources in the Luangwa Catchment*. Downstream of the GEF project area in the Eastern part of the Luangwa Catchment, WWF Zambia with funding from the German Government (GIZ) (Jan 2021 to Dec 2022) is working with other partners and stakeholders to implement a project focused on improving community management of natural resources around selected tributaries of the Luangwa River and sustainable fisheries management with a focus on ten small dams, where community groups (Dam Management Committees (DMCs)) have been identified to be restructured with accompanying management plans to guide sustainable management of fish stocks and other natural resources in the respective small water bodies. This will be achieved by facilitating improved community participation in sustainable natural resources management through engagement of DMCs and amplifying the experiences through selected community platforms such as radio stations. The aim here is to promote co-management approaches-involving communities, traditional leaders, fishermen, women, local authorities, government departments, and value chain actors- through the functioning dam committees and sustainable management methods. The estimated baseline contribution from WWF Zambia over the five years of the project is USD 1,080,100.

### ***Component 2: Community management of the upper Luangwa Sub-Catchment (Mafinga District):***

The local authority was created only in 2011 when the new Mafinga District was formed. Currently, the council is operating at Thendele. Mafinga Council has 11 elected councillors representing their respective wards (Mafinga, Ntonga, Thendele, Kakoma, Bemba, Luhoka, Kalanga, Mukutu, Mahobe, Musipizi and Mululu) and three traditional leaders. Overall, Mafinga council is headed by the Council Chairperson. However, in terms of administration and implementation of council policies, the council is headed by the Council Secretary, who is assisted by heads of department.

The District Commissioner (DC) is head of the civil servants in the district employed by the central government. The DC coordinates government programmes and interprets and ensures that central government policies and programmes are understood and implemented, respectively. Furthermore, the DC co-chairs the District Development Coordinating Committee (DDCC) with the Council Secretary. This is the committee which coordinates local development programmes and gives technical guidance on various developmental programmes. In addition to the District government, the Ward Development Committees are actively involved in the planning process and are positioned to take a monitoring role in development projects. The Wards to be involved during the project already have draft Development Plans. In addition, some traditional leaders are focused on ensuring that natural resources are well managed.

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<sup>46</sup> See: <https://freshwaterwatch.thewaterhub.org/research-training-quiz>

In Mafinga District, there are two main rural development projects in progress, both of which are being implemented through government structures with support from service providers. The first is *Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia* (SCRALA) – a US\$32 million 7-year GCF-UNDP/FAO/WFP project executed by Ministry of Agriculture through MNDP/NDA, with an estimated baseline contribution of USD 12,345,970 over the five years of the project. The project aims to address climate change risks, with the key objective to enhance the lives and livelihoods of smallholder farmers in Agro-ecological Regions I and II in Zambia to adapt and become resilient to the impacts of climate change and variability. Coordination with the SCRALA project will be achieved through the NSC at national level and also the PMU at a technical level.

Community Markets for Conservation (COMACO) has been operating for 15 years in Eastern Zambia and has established and partnered with ~80 community cooperatives in the region<sup>47</sup>. Their aim is to remove the incentives and economic drivers of shifting cultivation, poaching and other unsustainable activities by incentivising environmental conservation. The initiative offers farmers and former poachers training and opportunity to farm organic produce that is purchased at guaranteed prices and sold under COMACO's brand ("It's Wild"). Participating communities take a conservation pledge and compliance is rewarded with an annual conservation dividend. Through improved incomes and increased food security from sustainable farming linked to conservation agreements, local participants become stewards of their land, as well as advocates for wildlife conservation. COMACO coordinates with farmers in the headwaters area, but not with all of the communities that are affecting the NFRs and other critical forest of the upper catchment. COMACO is currently operating in Muyombe (in Mahobe, Kakoma and Kalanga Wards of Mafinga District), close to the project area. This depth of local experience and tested approach provides a sound footing to support a shift in land use management in the project landscape area, while other approaches to alternative livelihoods may present greater risks (eg see Roe et al. 2015)<sup>48</sup>. The estimated baseline contribution from COMACO over the five years of the project is USD \$5,750,000.

Recognizing that the people of Mafinga District are mostly traditional agro-pastoralists who also act as guardians of biological diversity and have a critical role in the preservation of the headwaters of the Luangwa River, the Wildlife and Environmental Conservation Society of Zambia (WECSZ) completed the CEPF project Conservation and Forest Management in the Mafinga Hills priority Key Biodiversity Area (KBA)), under which they trained community members of Mafinga District on how to raise indigenous tree nurseries. The resulting seedlings are planted along degraded riparian zones of the Luangwa river headwaters. WECSZ coordinated closely with the District authorities in such support to the communities for headwater protection. The results of this project included: over 500 community members from four villages (Mulekatembo, Sichitambule, Mweniwisi and Nachisitu villages) sensitised on the National Forestry Policy, National Forestry Act, Agricultural Policy and the National Heritage Conservation Act of Zambia; 60 members of the local community (35 men and 25 women) from three villages (Mweniwisi, Mulekatembo and Nachisitu) trained in indigenous tree nursery establishment; 7,600 indigenous seedlings planted, saplings established by the local community members; 16 (9 men and 7 women) farmers from Nachisitu area trained in modern beekeeping and management; 1 community apiary established consisting of 15 beehives; three fauna and flora ecological assessments conducted, and a checklist of plant species produced, with one possible addition to the trigger species of the KBA. WECSZ also received a small grant from CEPF to organise a range of community consultation meetings and desk reviews in preparation of a conservation programme to protect the Mafinga Hills KBA including work

<sup>47</sup> For example, see: <https://www.pnas.org/content/108/34/13957.short> ; <http://palevel.unza.zm/handle/123456789/4578>

<sup>48</sup> Roe et al. (2015) "Are alternative livelihood projects effective at reducing local threats to specified elements of biodiversity and/or improving or maintaining the conservation status of those elements?" *Environmental Evidence* 4:22. DOI 10.1186/s13750-015-0048-1. See: <https://environmentalevidencejournal.biomedcentral.com/track/pdf/10.1186/s13750-015-0048-1>



at Mafinga Hills NFR and has been supported by WWF for conservation efforts around Mafinga Hills. This work included installing 7 concrete beacons and 132 markers installed in-between the beacons around the boundary of Mafinga Hills NFR, a fire break around the 14 hectares of reforested area in Damasca Village, and 10 new beehives. WECSZ is based at the Mafinga District Council and is operational in Ntonga and Musipizi wards. WECSZ also work with schools under the Chongolo and Chipembebe clubs. The estimated baseline contribution from WECSZ over the five years of the project is USD \$2,061,341.

WWF Zambia has played a leading role in strengthening Forestry policy and governance at both the national and local levels. WWF Zambia is implementing the 1.2 million Euros Forests Landscape Project in close collaboration with the Forestry Department, Ministry of Lands and Natural Resources, and has collaborated with local stakeholders to foster participatory processes around community-based mapping, land use planning, monitoring of natural resources, wildlife protection, community wellbeing and the Forest Landscape Restoration (FLR) Project funded by BMZ/EG Germany.

BirdWatch Zambia also received a CEPF grant to conduct a vertebrate survey of the Mafinga Mountains in March-April 2018, resulting in significant new information especially on the bird fauna of the area, but also including surveys of mammals, reptiles and amphibians, including some first records for Zambia<sup>49</sup>.

In addition to the above, during PPG consultations with communities, the following local level structures were identified that provide potential entry points for project engagement: women's groups/clubs – with indications are that many are inactive; beekeeping groups which combine both women and men; community-based natural resource groups; Ward Development Committees which are part of the District Council structure - communities identify their own representatives to this structure; and agricultural cooperatives.

While there are diverse international development and conservation projects of thematic relevance in Zambia (see **Appendices 13 & 14**) and numerous civil society organizations active in the country, the baseline for the project area does not directly involve most of these efforts, reflecting its relatively remote location far from the main population and economic centres. Consequently, the project strategy focuses on developing community-based governance of natural resources in the upper sub-catchment area and strengthening the technical capacity of local government to support these efforts in partnership with civil society and the private sector.

### ***Component 3: Knowledge management and monitoring and evaluation (M&E):***

As a headwater area, water resource management needs to be considered as a key element of the overall land use planning for these areas under community tenure. Under the National Water Policy 2010, the focus is on managing water resources using the catchment as the management unit. This approach centres on empowering stakeholders in a particular locality with the ability and responsibility to make decisions regarding the management of water resources in a specific catchment. However, this approach to sustainable catchment management has not been demonstrated in the Luangwa Catchment or the targeted project area and no WRPAs have been successfully established in Zambia as yet. Local government at the District and Ward levels lacks the experience of supporting such an integrated approach to catchment management. While knowledge has been developed on conservation agriculture, community forestry and sustainable livelihood practices in some other parts of Zambia, these have yet to be transferred to the project area, where local capacity for sustainable catchment management remains low.

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<sup>49</sup> <https://www.cepf.net/sites/default/files/mafinga-hills-vertebrate-report.pdf>

## 1.6 Coordination with other relevant GEF & non-GEF Initiatives

The National Steering Committee including national government agency representatives identified by the EA (MWDSEP) will provide overall oversight and alignment with other Government agencies and ongoing GEF projects (see section 2.3 on institutional arrangements). There are several GEF and non-GEF projects currently being implemented in Zambia that focus on protected area management, sustainable land and forest management, catchment management, and climate change adaptation. The project will coordinate with and build on these ongoing projects and initiatives in order to benefit from lessons learned on relevant practices, and to avoid potential overlaps. Relevant lessons have been extracted from related completed and ongoing projects and these are summarized in **Appendix 13**.

### ***GEF-funded projects***

See **Appendix 14** for a Table summarizing all related GEF projects, the most relevant of which are described below.

There are two related national GEF-7 projects. The first of these, which was recently approved, is the **FAO/GEF Climate Change Adaptation in Forest and Agricultural Mosaic Landscapes (GEF-7 #10186 LDCF)**, which WWF Zambia will support during execution. The project has four components: 1) Strengthening the management capacity within productive landscapes for climate resilience; 2) Promoting innovations and technologies in forestry value chains; 3) Enhancing diversified farm-based livelihood strategies for climate resilience; and 4) Project monitoring, evaluation, and dissemination of results. The project objective is to increase the resilience of productive landscapes and rural communities through organizational innovations and technology transfer for climate change adaptation, and its expected impact is "climate change vulnerability reduced and resilience in forest /farm landscape mosaics and amongst rural communities in 4 districts in Zambia's Eastern (in Petauke and Nyimba districts) and Western provinces".

The second GEF-7 project (in preparation) is the **UNEP/GEF Ecosystem conservation and community livelihood enhancement in North Western Zambia (GEF-7 #10192)**. Both projects are led by the Ministry of Lands and Natural Resources (Forestry Department), and in both cases, there are strong thematic convergences concerning the sustainable management of forest resources, sustainable agriculture, improved livelihoods and climate resilience, therefore regular coordination and sharing of experiences will be beneficial.

There are at least six national and four regional GEF projects that are currently in progress that have varying degrees of relevance. The most significant of these are as follows:

The **Zambia Integrated Forest Landscape Project (ZIFLP) (GEF-6 #9213)** is being implemented between 2018 and 2023 by the World Bank with a total budget of US\$63,250,000. Of this, US\$8,050,000 is being provided as a grant from GEF as a child project of the GEF-6 Global Wildlife Program, while the remainder is being sourced as co-financing, largely through the BioCarbon Fund – Initiative for Sustainable Forest Landscapes (ISFL), a pioneering pilot programme designed to incentivise and enable countries to develop and implement land-use plans and policies which reduce deforestation and carbon emissions across large jurisdictions. These areas may include forests, agricultural regions, and other types of mixed land-uses. ISFL is a pilot mechanism delivered by the World Bank, currently operating in five countries including Zambia.

The objective of the ZIFLP is to improve landscape management and increase environmental and economic benefits for targeted rural communities in the country's Eastern Province. The project also plans to improve communities' capacity to respond to emergencies such as extreme weather events. Coordination will be held with the executing agency of ZIFLP (MNDP) to collate information on successful landscape management

practices and sustainable economic opportunities for rural communities. This will inform the selection of appropriate interventions in the proposed project.

The **Zambia Lake Tanganyika Basin Sustainable Development Project (GEF-6 #8021)** has received US\$7,334,246 from GEF and US\$26,562,630 in co-financing and is being implemented in 2017–2022, coordinated by MWDSEP's EMD. The baseline contribution for EMD is estimated at USD 175,000. The project objective is to improve natural resources management and the livelihoods of communities in Zambia's Lake Tanganyika Basin through the sustainable and integrated use of lake resources. This will be achieved by improving landscape and forest management and diversifying livelihoods through the development of sustainable agricultural and forest ecosystem practices, including: the construction of sedimentation, siltation and erosion control structures, planting of woodlots, adoption of conservation farming methods primarily focused on water harvesting and weed control through mulching, finalisation of a community-based Charcoal and Timber Licensing System (CBCTLS) for community forests, and development and implementation of Game Management Plans (GMP) for three PAs. Coordination between these projects will be achieved through their shared executing entity (EMD).

In addition, a regional UNEP / GEF project involving four countries, IUCN and TNC: **Biodiversity conservation, sustainable land management and enhanced water security in Lake Tanganyika basin (GEF-7 #10388)** was approved in June 2020. The project will enhance transboundary cooperation and SAP implementation through sustainable fisheries co-management, biodiversity conservation and restoration of degraded landscapes in selected key biodiversity areas of Lake Tanganyika. In Zambia, the project will be led by MWDSEP, therefore coordination will occur through this Ministry. This five year project will receive US\$ 14,599,083 from the GEF.

**Building the Resilience of Local Communities in Zambia through the Introduction of Ecosystem-based Adaptation (EbA) into Priority Ecosystems, including Wetlands and Forests (GEF-6 #8034 LDCF) led by MLNR.** This project will increase the resilience of local communities to the effects of climate change through: i) increasing the institutional capacity of national and local government; ii) revising policies and strategies to mainstream climate risk considerations; iii) demonstrating Ecosystem-based Adaptation (EbA) interventions; and iv) integrating EbA and integrated environmental management into development planning. These EbA interventions will be focused on wetland and forest ecosystems in the Bangweulu Wetlands (located in Northern Province) and surrounding areas. EbA is highly relevant to the current project, as climate change resilience of the headwaters area will be important both for local communities and the watershed services provided to the overall river basin.

#### ***Other relevant projects and initiatives***

**WWF's projects in the Luangwa catchment** are coordinated by their Luangwa Landscape Planning Advisor, to whom the GEF Project Catchment Management Expert will be reporting together with the managers of the other projects. These projects can be summarized as follows (see baseline section above for further information). First, WWF-Zambia with funding from WWF Netherland office (69,150 Euros) intends to build on its recent work in supporting water resource management by expanding lobbying and advocacy efforts for protecting the middle and upper Luangwa headwaters with the aim of protecting at least 30% of the Luangwa River through MWDSEP and scaling up WRPAs to cover additional key river stretches in Zambia by 2022. The second element of WWF Zambia's programme for the Luangwa is *Inclusive Conservation for Environmental Compliance* supported by WWF Netherlands (151,800 Euros). Through this work, WWF Zambia has increased CSO participation and voice in water resources management through the training of 56 CSOs and Community Radio Stations in the Luangwa and Upper Zambezi River Catchments. 38 of these CSOs were [sub-granted in partnership with the Zambian Governance Foundation](#) to implement action plans and empower communities

in the Luangwa and Upper Zambezi Catchments. This included WECSZ and the radios in the surrounding areas such as ISO FM and Mpika Radio that have coverage in Mafinga. The watchdog roles of CSOs were also strengthened due the interventions and creation through an informal functional CSO coalition to review and feed into 5 ESIA processes, 3 of which were for infrastructure developments in the Luangwa Catchment. Advocacy wins included the [Luangwa remains a free flowing river](#).

The third element of WWF's Luangwa programme is *Improving Community Management of Natural Resources in the Luangwa Catchment* (Jan 2021 to Dec 2022; GIZ 700,000 Euros) for selected tributaries of the Luangwa River and sustainable fisheries management with a focus on ten small dams (downstream of the GEF project area).

**Transforming Landscapes for Resilience and Development in Zambia (TRALARD)** (\$100 million over 2019-2025) aims to reduce livelihood vulnerability and enable climate-resilient growth in key economic sectors. The Project Development Objective is to improve natural resource management in the northern region of Zambia to support sustainable livelihoods, and in the event of an eligible crisis or emergency, to provide immediate and effective response to the eligible crisis or emergency. The project is part of the Resilient Landscapes for Development Program in African Drylands and contributes to the landscape pillar of the Africa Climate Business Plan, with a focus on reducing climate risks and vulnerabilities through a mix of interventions. The Project will be implemented in a phased approach. Targeted provinces and districts will be rolled into the programme based on resource mobilization. The Phase I focus is on Luapula, Muchinga and Northern Provinces, and will deepen current investment in Western province with subsequent scaling up to other parts of the country. Coordination will be achieved through the NSC at national level and also the PMU at a technical level.

**USAID** provides a wide range of support to Zambia, of which the most relevant is the **Integrated Land And Resource Governance Program (ILRG, 2018-2021)**. ILRG aims to bolster the ability of local organizations and communities, district and national government, and traditional leaders to document land and resource rights, and to use this data to inform land-use planning and development decisions. USAID ILRG helps integrate best practices into land and resource policy and legislation through consultative processes. It also works with local partners to pilot progressive legislation and regulations that promote community-based management of natural resources. Results of these actions will help lead to an improved national policy that ensures adequate tenure rights and economic benefits to communities. Led by Tetra Tech ARD, in Eastern, Lusaka, and Muchinga Provinces. In addition, the **United States Forest Service Participating Agency Program Agreement (2010-2020)** has provided valuable capacity building support for wildland fire management, forest monitoring and management, climate change, and protected area management, mainly for Eastern Province. Coordination will be achieved through the NSC at national level.

USAID is funding the **Community Forest Program (CFP)** in Muchinga and Eastern Provinces. This is a 5-year, US\$14 million program with three objectives: (i) reduce emissions from deforestation through Community Based Natural Resource Management (CBNRM); (ii) reduce poverty through the development and scaling up of sustainable community-based livelihoods and forest-based enterprises; and (iii) build local and national capacity of key stakeholders and institutions to implement (CBNRM) and REDD+ interventions. Coordination will be achieved through the NSC at national level.

**GIZ/Federal Ministry for Economic Cooperation and Development (BMZ)** are working in the Lower Kafue Sub-catchment under the programme **Sustainable Water Resources Management and Agricultural Water Use in Zambia. The Accelerate Water and Agricultural Resources Efficiency (AWARE) Programme** was launched in February 2019. Its objective is to enhance climate-smart water resources management and efficient agricultural water use for smallholders in the Lower Kafue Sub-Catchment, ensuring a gender sensitive

approach. To achieve the objective, AWARE works on the national as well as decentralised level on water resources management through WARMA, and supports more than 11,000 smallholders in the sub-catchment to improve their agricultural water management practices. Coordination will be achieved through the shared executing entity (MWDSEP) and WARMA's engagement especially in Output 1.2.1 of the current project on piloting WRPA development and management.

In addition, **GIZ SEWOH Initiative** is a close collaborator and supporter of COMACO, a key partner for Component 2 of the current project<sup>50</sup>.

**The UK Department for International Development (Dfid)** is supporting the **Climate Smart Agriculture Zambia Programme 2016- June 2021** (led by the Conservation Farming Unit), and **the IWT Challenge Fund** – two ongoing projects under the Challenge Fund include Zambia: **IWT063: Combatting cross-border illegal wildlife trade in the Lower Zambezi, Zambia** (Conservation Lower Zambezi lead, 2019-2021); and **IWT060: LeAP: Learning and Action Platform for Community Engagement Against IWT** (IIED lead; 2019-2021). The CFU started operations in April 2021, coordination will be achieved through the NSC and PMU.

**The North Luangwa Conservation Programme (NLCP)** is a partnership between the **Frankfurt Zoological Society** and the Zambia Department of National Parks and Wildlife to conserve 22,000 km<sup>2</sup> of the North Luangwa ecosystem. Founded in 1986, this ongoing partnership focuses on protected area management and law enforcement. Coordination will take place through the PMU, to inform PA management in Component 1.

**The Forest and Farm Facility (FFF)** is a multi-donor partnerships' programme, hosted by FAO and working in numerous countries worldwide, including Zambia. The goal of the FFF is "to support forest and farm producers and their organizations to enable 'Climate Resilient Landscapes and Improved Livelihoods'. These producers are key players in reducing poverty and significant contributors for achieving the Sustainable Development Goals (SDGs) and Nationally Determined Contributions (NDCs) as part of the Paris Agreement. In Zambia the FFF work focuses on greening the wood fuel value chains in which a number of innovative approaches and technologies have been developed and successfully piloted – one key innovation being a Participatory Guarantee System for certifying sustainable charcoal. Building on the success of phase I, FFF phase II (2018 – 2022) will support greater inclusion of producers in policy initiatives; and will increase business and technical capacity of FFPOs (enterprise development and business incubation) so these can become profitable while scaling up their support to a greater number of members especially poor and vulnerable marginalized groups. This ongoing initiative in southern and northwestern Zambia can provide lessons in forest product value chains.

The Nsumbu National Park area shores of Lake Tanganyika has been identified as a prospective site for fisheries co-management building on the activities initiated by TNC and the Frankfurt Zoological Society<sup>51</sup>. Conducted in partnership with the Zambian Department of National Parks and Wildlife, the **Nsumbu Tanganyika Conservation Project** will build on work conducted by the organisation '*Conservation Lake Tanganyika*', focusing on PA management with an emphasis on conserving the elephant population, as well as community engagement and capacity building around conservation. It is financed by the Lion Recovery Fund, U.S. Fish and Wildlife Service, and the GIZ-Partnership against Poaching and Illegal Wildlife Trade in Africa and Asia. Coordination with this ongoing initiative will take place through the NSC and PMU, and may provide useful lessons on community engagement and livelihoods such as ecotourism.

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<sup>50</sup> [http://www.bmz.de/en/issues/Food/gruene\\_innovationszentren/sambia/index.html](http://www.bmz.de/en/issues/Food/gruene_innovationszentren/sambia/index.html)

<sup>51</sup> <https://fzs.org/en/projects/nsumbu/>

## SECTION 2: PROJECT EXECUTION STRATEGY

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### 2.1 Project Objective and Theory of Change

The overall vision of the project is to reduce the key threats to the Luangwa upper sub-catchment for the purpose of preserving the ecological condition of the free-flowing Luangwa river, and the biodiversity and ecosystem services values of the upper sub-catchment. As such, the project focuses on the upper sub-catchment of the Luangwa, within Mafinga District of Muchinga Province in north-eastern Zambia (**Fig. 1; see also Map 3 in Appendix 1**).

The project seeks to achieve the following objective: ***to reduce forest and land degradation of the Luangwa Upper Sub-Catchment for enhanced protection of water resources, biodiversity and associated community livelihoods.***

The theory of change for the project is illustrated in **Figure 8** below, responding to the threats and barriers described above in Sections 1.2 and 1.3 and in the project conceptual model in **Appendix 2**. The theory of change can be summarized as follows:

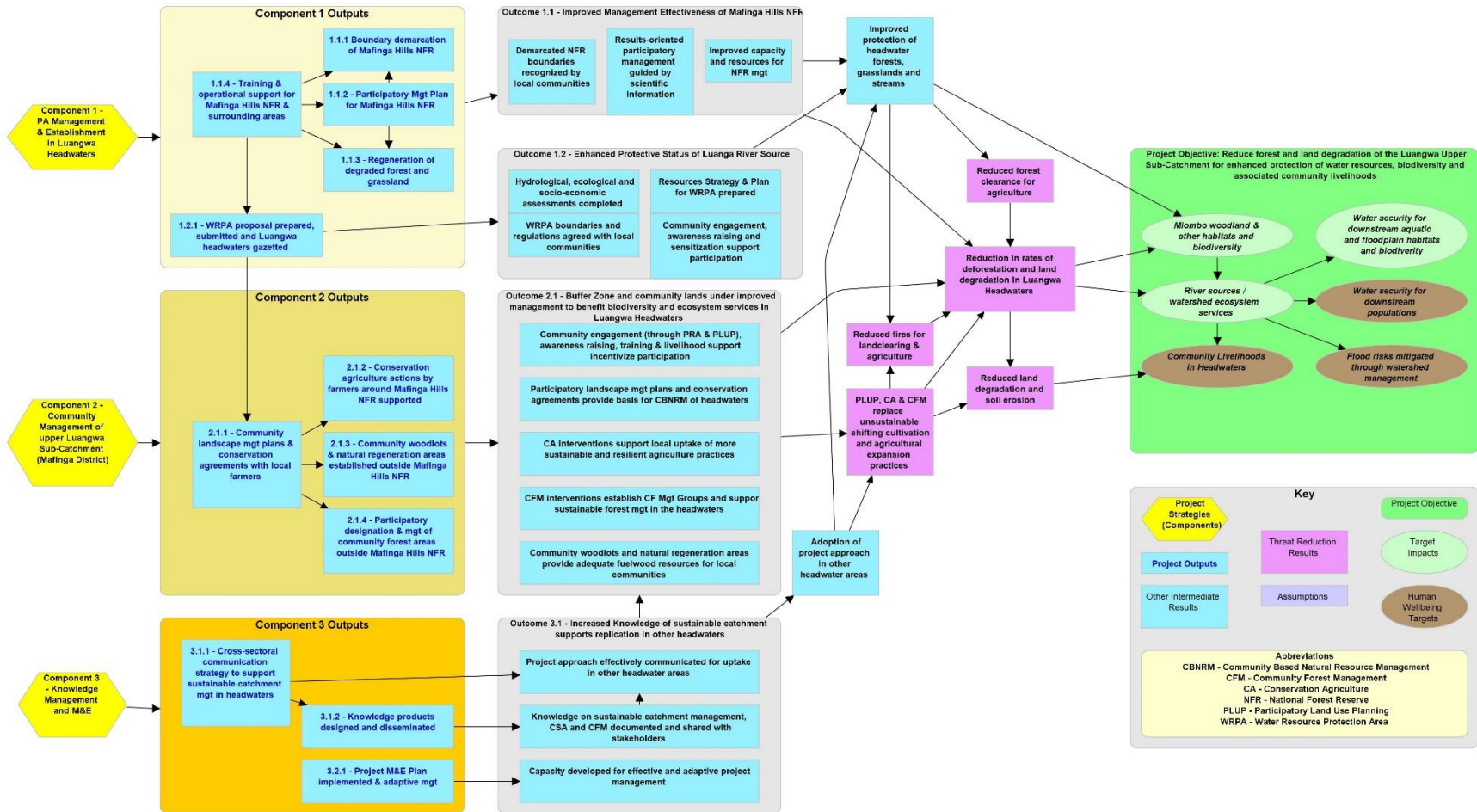
If a participatory process involving planning, resource assessment, capacity development and community engagement results in a WRPA under community-based natural resource management; and if improved management of Mafinga Hills National Forest Reserve reduces threats of unsustainable wood and wildlife offtake and forest fires; and if sustainable, climate resilient and productive conservation agriculture and community forestry practices with relevant market linkages can be successfully demonstrated; then this will reduce agricultural land expansion in key areas and the headwaters of the Luangwa Upper Sub-Catchment will be better managed and protected. This will contribute to the conservation of globally significant biodiversity, the preservation of catchment ecosystem services and sustainable land management that supports community livelihoods, thus contributing towards a sustainable future for the free-flowing Luangwa River.

Theory of change considerations include:

- Improving the management effectiveness of Mafinga Hills National Forest Reserve in the Luangwa headwaters (Mafinga District) through participatory planning and capacity development, in order to strengthen the protection of important river source areas lying within the NFR;
- Providing improved protection to a wider area of river headwaters around the Mafinga Hills NFR through the participatory development and community-based management of a model Water Resource Protection Area;
- Establishing community-based management of the upper Luangwa Sub-Catchment in Mafinga District through a participatory landscape management planning approach that incorporates environmentally sustainable and climate resilient livelihoods based conservation agriculture and community forestry practices that reduce land and forest degradation;
- Developing effective communications, knowledge management and monitoring and evaluation, to ensure that improved knowledge of sustainable catchment management supports replication of the project's approach in other headwater areas.

To achieve the project objective, three strategies (Project Components) will be deployed with activities and interventions described in section 2.2. Indicators and assumptions for the accomplishment of expected Outcomes under the project Components are given in the Project Results Framework (**Appendix 5**).

Figure 8. Theory of change diagram for the project



## 2.2 Project Components and Expected Outcomes

Over the five-year project period, the project objective will be achieved through the implementation of the following three interconnected components:

1. *Protected area management and establishment in the Luangwa headwaters* - Component 1 will lead to improved participatory management of the key protected area within the headwaters, Mafinga Hills National Forest Reserve, which includes important river source areas. It will also support the development and designation of a Water Resource Protection Area that will provide a model for improved protection and community-based management of the upper sub-catchment.
2. *Community management of the upper Luangwa Sub-Catchment (Mafinga District)* - Component 2 will establish sustainable community environmental management and climate resilient livelihoods through prioritised interventions focused on the headwaters to reduce land and forest degradation that contribute towards the loss of biodiversity and ecosystem services.
3. *Knowledge management and Monitoring and Evaluation* - Component 3 will ensure that the increased knowledge of sustainable catchment management from lessons learned and best practices supports replication of the approach in other headwater areas at local and national levels, as well as being disseminated at Zambezi River Basin level and globally. M&E will be carried out to inform project decision-making and adaptive management.

### **COMPONENT 1: Protected area management and establishment in the Luangwa headwaters**

#### ***Outcome 1.1: Improved management effectiveness of Mafinga Hills National Forest Reserve (MHNFR) in the Luangwa headwaters (Mafinga District).***

The National Forest Reserves of the upper watershed are crucial for replenishing the Luangwa river and maintaining stream flow in the main stem. In addition, the protection of the upper watersheds will conserve indigenous forest patches, which have high biodiversity value. The project will focus on Mafinga Hills NFR (15,500 ha), which is of particular importance as the source of the Luangwa River is located within its area. The Outputs will address gaps and weaknesses identified in the baseline METT assessment through demarcating and raising awareness of the boundaries of the NFR, putting in place a participatory management, addressing the risk of forest fires, rehabilitating degraded habitats within the NFR and providing operational support for its management, and dedicated awareness raising and training activities with government staff and local communities based on the objectives and threats to the MHNFR. Collectively, these measures will strengthen the management effectiveness of the NFR, securing the ecological integrity of the Luangwa headwaters within its boundaries. This Outcome will secure the core area of the Luangwa headwaters, supported by wider protection under the proposed WRPA in Outcome 1.2, and sustainable land and forest management in Outcome 2.1.

#### **Output 1.1.1: Boundary demarcation of Mafinga Hills NFR (with beacons)**

While the existing boundary of the Mafinga Hills NFR is largely known, its actual demarcation on the ground is needed for clear identification and to facilitate monitoring, patrolling and law enforcement. The indicative activities to support the demarcation of the 36.43 km boundary are as described below, which will include clarification of statutory and customary boundaries with Chiefs and headmen and identification of any specific cultural practices that may be affected by access restrictions to the NFR.



1. Constitute a team of technical staff consisting of Forestry Department staff and appoint at least 20 local community members as Honorary Forest Officers to support boundary identification and demarcation, patrolling and outreach, engagement with surrounding communities and to support management plan implementation (Output 1.1.2).
2. Prepare a communication plan for component 1, including preparation of messages and awareness raising/sensitization activities regarding the NFR and its boundaries among 25 adjacent communities and other relevant stakeholders, and consultations on related social and environmental safeguard considerations as indicated in the ESMF.
3. Procure tools and equipment for boundary marking, including: GPS, measuring rods, materials for beacons, compass, axes, hoes, etc.
4. Carry out boundary demarcation works on the ground using beacons (including GIS and field observation work).
5. Produce digitized NFR boundary map(s) through a consultative process and submit to the Director of Forestry for approval.
6. Conduct regular patrolling by Forestry Dept staff and community forest volunteers, law enforcement and community outreach to secure the NFR boundaries (linked to output 1.1.4 on operational support) with due regard for social safeguard considerations.

*Responsibility:* Managed by the PMU, with FD, related government departments and local community members

*Related projects and programmes:* WECSZ

#### **Output 1.1.2: Participatory management plan for Mafinga Hills NFR developed and endorsed**

A management plan will be developed for Mafinga Hills NFR in collaboration with local communities, focusing on maintaining the supply of water from these critical watersheds. The management plan will focus on establishing management priorities and goals to ensure conservation of the NFR's environmental values, including restrictions on land-use within the NFR along with a set of actions that focus on conserving biodiversity, improving vegetation cover and removing potential sources of erosion and pollution that negatively impact the river source area. The management plan will also incorporate climate change resilience considerations and forest fire management as forest fires are a major cause of forest and biodiversity loss in the Mafinga Hills area, associated with shifting cultivation practices. Consequently, the project will support an inclusive approach to management that embraces the Mafinga Hills NFR (15,500 ha) and its surrounding communities in order to promote local engagement and reduce external threats to the NFR. The participatory process for development of the management plan will take full account of the social and environmental safeguard considerations identified in the ESMF/PF including potential impacts on access restriction to forest resources, cultural practices, invasive alien species (IAS), pesticide application, health and safety, and engagement of vulnerable community members. It will be completed and officially endorsed within the project lifetime. The duration of the management plan will be five years, with review within or at the end of the five year period before renewal, taking into account the results of monitoring, research and evaluation. The indicative activities are as follows:

1. Conduct a workshop and meetings among local stakeholders including women and vulnerable groups to develop and raise awareness about the participatory development process for the

- management plan for Mafinga Hills NFR and develop a methodology for carrying out forest, biodiversity and socio-economic assessments
2. Procure equipment for forest assessment and fire management, including: tools for measuring tree heights and diameters e.g. chronometers, a camera, diameter tapes/ calliper, dumpy level, etc.
  3. Conduct participatory forest, biodiversity and socio-economic assessments, prepare the assessment reports and present them to the technical team and local stakeholders for review.
  4. Prepare a fire management plan as a component of Forest Management plan for the NFR in consultation with local communities, FD and related stakeholders.
  5. Develop the general forest management plan for the Mafinga Hills NFR including by-laws and a workplan for its implementation with local authorities based on the assessment reports and legislative documents and an established schedule and process for periodic review and update, taking into account climate change resilience, gender mainstreaming and social and environmental safeguards considerations.
  6. Review of the draft general forest management plan by stakeholders at district, provincial and national level.
  7. Submit the final forest management plan to the Director of Forestry for approval.
  8. Implement the forest fire management plan which includes operating costs for creating firebreaks around the NFR boundaries in cooperation with local communities

*Responsibility:* Managed by the PMU, with FD staff, related government department technical experts on forest management, biodiversity and socio-economic assessment, local stakeholders

*Related projects and programmes:* WECSZ

### **Output 1.1.3: Assisted regeneration of degraded forest and grassland areas undertaken through community engagement**

The activities under this Output will focus on degraded areas within the NFR as well as adjacent community lands where there is potential for habitat rehabilitation, primarily focusing on forest. At least 300 hectares of degraded habitats will be rehabilitated through assisted natural regeneration<sup>52</sup>. Rehabilitation activities will be participatory in order to engage and provide benefits to local communities, and will take into account safeguards considerations for avoiding Invasive Alien Species (IAS) and the application of pesticides<sup>53</sup>. Indicative activities are as follows:

1. Conduct an assessment to determine areas affected by habitat degradation in degraded areas within the NFR and adjacent community lands in the four wards.

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<sup>52</sup> ANR is a flexible approach to reforestation that assists natural regeneration of forest trees (natural seedlings and sprouts) through natural successional processes by removing barriers to natural regeneration such as soil degradation, competition with weedy species and recurring disturbances (e.g., fire, grazing and wood harvesting). Source: Ministry of Lands and Natural Resources (2017). National Investment Plan to Reduce Deforestation and Forest Degradation (2018-2022).

<sup>53</sup> Note – Output 1.1.3 differs from 2.1.4 in that its primary aim is habitat rehabilitation, especially in and around Mafinga Hills NFR.

2. Develop a participatory action plan for assisted natural regeneration .
3. Demarcate the areas for assisted natural regeneration with beacons.
4. Implement participatory action plan for assisted natural regeneration with support from communities, for example control of grazing , fires and wood extraction and clearing of competing weeds.
5. Conduct monitoring for the assisted natural regeneration areas as necessary.

*Responsibility:* Managed by the PMU with FD/NFR staff and local communities

*Related projects and programmes:* WECSZ

#### **Output 1.1.4: Training, capacity building and operational support for management of Mafinga Hills NFR and surrounding areas**

This Output aims to provide the support needed to establish effective patrolling and monitoring activities undertaken by field staff in Mafinga District to support the implementation of the Management plan developed under 1.1.2. The targeted staff for training and capacity building would include: PMU and related government departments at district level. These activities would take into account safeguards requirements for health and safety at work (regarding use of equipment), and the human-rights based approach to enforcement. Indicative activities are as follows:

1. Conduct a field level training needs assessment for field staff.
2. Train field staff in various field skills related to participatory natural resource management approaches, fire management, GIS/remote sensing, resource monitoring, etc.
3. Field staff conduct training activities for local communities involved in CBNRM.
4. Procure and distribute key equipment needs, including motorcycles for patrolling, maintenance, field supplies and fire control equipment.

*Responsibility:* Managed by the PMU, and involving District level government staff and local communities

*Related projects and programmes:* WECSZ

#### **Outcome 1.2: Enhanced protective status of the source of the Luangwa River**

A key part of the demonstration value of this project is the development of a proposal for gazettement of a Water Resource Protection Area (WRPA) in the Luangwa headwaters under the Water Resources Management Act of 2011 – the first such WRPA to be established in Zambia. The WRPA proposal will be submitted to the Minister of MWDSEP responsible for water resources management for approval, leading to its gazettement within the project lifetime. The intended community-based management of the WRPA will contribute towards sustainable catchment management through sustainable land management practices, conservation of biodiversity, and provision of ecosystem services that underpin community livelihoods and climate resilience. This Outcome will strengthen the success of Outcome 1.1 by providing improved protection to a wider area of river headwaters around the Mafinga Hills NFR.

#### **Output 1.2.1: Proposal prepared through a participatory process leading to gazettement of the Luangwa headwaters as a Water Resource Protection Area (WRPA)**

In accordance with the Water Resources Management (WRM) Act of 2011, one Water Resource Protection Area (WRPA) proposal will be submitted to the WARMA Board for the Upper Sub-Catchment including: biological and physical survey results; outcomes from community consultations; boundary proposals; and restrictions and regulations proposals. Building on baseline experience involving collaboration between WARMA and WWF-Zambia on the HydroATLAS-Zambia project, the WRPA proposal will be developed through a participatory assessment and consultation process involving all affected communities and related stakeholders, with due regard for social and environmental safeguards procedures involving relevant project-affected communities. The design of the WRPA should take into account the need for effective management of forested lands around the Mafinga Hills NFR and its connectivity with Fungwe NFR immediately to the south (noting that dense forest cover remains in parts of the intervening unprotected area) – see Fig. 5 (Land Cover Map of Mafinga District).

This will be the first implementation of the WRM Act of 2011 or any related Act for establishing a WRPA – with the goal of creating a model for the WRPA designation process in Zambia - and will greatly contribute to the cohesive management and protection of the Luangwa headwaters. Once an area has been defined and gazetted as a WRPA, it will legally be protected and will receive protection status similar to current PAs. The actual IUCN category under which the WRPA will fall is not yet defined, but likely Category VI which is protected area with sustainable use of natural resources<sup>54</sup>. It is provisionally estimated that the WRPA proposal will result in a proposal for a new protected area of approximately 25,000 ha, the exact area of which will be decided through the participatory assessment process.

The indicative activities are as follows:

1. Conduct an awareness campaign for stakeholders on WRPA establishment in the targeted Wards. This will involve 8 months of radio programme aired in a year for three years.
2. Conduct and prepare rapid assessment report including data and information collection and analysis of surface water infrastructure, land cover land use (LCLU) surveys, water resource/hydro-geomorphology, ecological and socio-economic assessments in the proposed area.
3. Conduct consultations with local communities and other stakeholders to propose mutually agreed boundaries, restrictions and regulations of the WRPA.
4. Develop draft WRPA protection plan taking into consideration recommendations from Environmental and Social Management Framework (ESMF) and gender action plan.
5. Conduct validation meetings for the WRPA protection plan including nature based solutions plan with key stakeholders at district, provincial and national levels .
6. Submit the proposal for declaration of a Water Resource Protection Area to the WARMA's Board for approval.
7. Support the process of the Board submitting WRPA proposal and gazetting process by the Minister responsible for Water including preparation of policy brief for Minister on protection, stakeholder consultation report, preparation for the statutory instrument (SI) for protection, amongst other technical assistance activities such as the validation of technical reports, alignment of the proposed activities in the WRPA to national policies and strategies, ground-truthing and stakeholder consultations.

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<sup>54</sup> <https://www.iucn.org/theme/protected-areas/about/protected-areas-categories/category-vi-protected-area-sustainable-use-natural-resources>

8. Demarcation of WRPA Boundaries and signage and creation of buffer zones.
9. Develop and implement nature based solutions (ecosystem based solutions) for restoration and protection of the WRPA. Depending on the results of the rapid assessment above, measures such as the following may be implemented: river bank stabilisation using green infrastructure e.g., promote planting of velvet grass to hold river banks; catchment protection e.g., demarcate natural reforestation areas around the WRPA; gully restoration for groundwater recharge; and green mechanisms such as demonstration sites for rainwater harvesting.
10. Implement and Monitor WRPA protection plan with local stakeholders including Community Forestry Management Groups (established under Component 2 – Output 2.1.4). Actions on the ground will focus on the nature-based solutions above. Monitoring will include citizen science work monitoring water quality at approximately 10 sites using test kits for selected parameters, supported by field visits for guidance.
11. Support Community Forestry Management Groups in the enforcement of WRPA protection plan through provision of equipment and capacity building workshops at District level and meetings at community level .

Responsibility: Managed by the PMU, and involving relevant government authorities such as WARMA, MWDSEP, and partners such as WWF Zambia.

Related projects and programmes: Magoye Protection plan (WWF Zambia) and GIZ AWARE project.

## **COMPONENT 2: Community management of the Upper Luangwa Sub-catchment (Mafinga District)**

### ***Outcome 2.1: Buffer zone and community lands under improved management to benefit biodiversity and ecosystem services in the Luangwa headwaters***

Under Outcome 2.1, land degradation will be reduced, and biodiversity and ecosystem services will be preserved through the implementation of sustainable forest, land and water management practices. This will be achieved through: developing, signing and monitoring community-level participatory landscape management plans and conservation agreements that identify the areas for conservation agriculture, community forestry and other forms of natural resource management; and introducing climate-resilient conservation agriculture to farmers around the Mafinga Hills NFR. The project will identify and develop market linkages for agricultural products through existing social enterprises. Support will be provided to establish native woodlots in natural regeneration areas on degraded land outside the Mafinga Hills NFR to reduce offtake of timber and fuelwood from this NFR. The Mafinga District forestry staff have identified potential areas to be designated as community forest areas – these will be assessed, and some community forests will be designated and managed through project support. These forests will be subject to sustainable community use, to reduce pressure on the NFR by the communities. This Outcome will contribute towards the success of Outcomes 1.1 and 1.2 by strengthening the sustainability of forest and land surrounding Mafinga Hills NFR, and land management within or adjacent to the proposed WRPA.

#### **Output 2.1.1. Community landscape management plans and conservation agreements negotiated with local farmers and monitored**

This Output aims to put in place the plans and agreements required to implement a community-led approach towards sustainable land and forest management in the Upper Luangwa Sub-catchment outside existing protected areas. This will involve a participatory rural appraisal (PRA) / participatory land use planning (PLUP) process of awareness raising, natural resource assessment and mapping, and planning that engages all affected communities including traditional leaders and relevant government agencies. The participatory land use plans will be developed by local communities with technical support from government technical departments, i.e. the District Planner working with other key Departments like Forestry, Agriculture, Community Development, Social Welfare, etc., will support the communities to plan using PLUP methodologies. The local planning authority led by the District Planner will facilitate these plans, which will feed into the District plans at higher level. The views of women and vulnerable groups will be specifically sought during these processes to ensure that the plans are gender-responsive and socially inclusive, including relevant project-affected communities. The implementation of conservation measures within the wider scope of these plans will be supported by community conservation agreements, for example to reduce the impacts of certain community activities on natural habitats or to conserve a specific element of biodiversity. Traditional knowledge held by local communities will be taken into account during the planning process.

1. Identify and engage existing community structures to take in community landscape management and conservation.
2. Conduct awareness raising activities and build capacity of the identified community structures on potential community-based natural resource management areas and the PRA / PLUP processes to develop the planning framework. This will involve radio talk shows and community live broadcast for 4 wards once a month for two years.
3. Identify key natural resource features (including natural habitats, food resources, aquatic resources) and their locations in the landscape, with community members through the PRA/PLUP process.

4. Conduct meetings to develop the desired vision for the landscape and outcomes and benefits with the local government, traditional leaders and communities through the PRA/PLUP process.
5. Design participatory landscape management plans (PLMPs) based on the stakeholder negotiation feedback, and distribution and use of resources outside protected areas e.g., forestry, water, agriculture through the PRA/PLUP process. These will be embedded in District integrated development plans for the community components.
6. Support conservation measures within the wider scope of the PLMPs through the development and signing of community conservation agreements that link to project support for conservation agriculture, community forestry and other forms of livelihood support (see Outputs 2.1.2-4 below)
7. Monitor implementation of the PLMPs and community conservation agreements

*Responsibility:* PMU with technical support from relevant government departments, and partners such as WESZ (for awareness and sensitization activities)

*Related projects and programmes:* TRALARD and SCRALA

**Conservation Agriculture (CA)** is a farming system that promotes minimum soil disturbance (i.e. no tillage), maintenance of a permanent soil cover, and diversification of plant species. It enhances biodiversity and natural biological processes above and below the ground surface, which contribute to increased water and nutrient use efficiency and to improved and sustained crop production<sup>55</sup>. Conservation agriculture is compatible with climate-smart agriculture in that its practices are generally climate-resilient<sup>56</sup>, and in the case of this project, informed by the project's climate risk screening (see **Appendix 16**).

Conservation agriculture (CA) and community forestry (CF) are seen as two of the most important approaches to achieve climate-resilient sustainable land and forest management in the Upper Sub-catchment area that have the potential to improve local productivity and yield sustainable socio-economic benefits while at the same time maintaining the natural capital of the natural resource base. Both approaches have been successfully demonstrated in other parts of Zambia (see **Section 3.7**), and extensive international guidance<sup>57</sup> and in-country capacity exists to develop and implement them in Mafinga District<sup>58, 59</sup>.

#### **Output 2.1.2. Key climate-resilient conservation agriculture actions by farmers around the Mafinga Hills NFR supported and linked to markets**

Climate-resilient Conservation Agriculture (CA) practices will be supported by extension services from national experts and experienced service providers for the communities that are entering community conservation agreements per activity 6 in 2.1.1. The types of CA interventions used may include: crop intensification in suitable locations as a strategy to reduce expansion through clearing of natural habitats (as is currently practised, representing the main local cause of deforestation); provision of quality seed to increase the productivity and profitability of farming efforts; the introduction of composting and mulching systems to improve soil quality and soil moisture retention; introduction of minimum tillage practices to reduce soil erosion and damage to natural vegetation; introduction of poultry and beekeeping as sustainable livelihood

<sup>55</sup> See: <http://www.fao.org/conservation-agriculture/en/>

<sup>56</sup> For example, see: <https://climate-adapt.eea.europa.eu/metadata/adaptation-options/conservation-agriculture#:~:text=The%20three%20main%20principles%20of,agricultural%20practices%20to%20greenhouse%20gases%20>

<sup>57</sup> <http://www.fao.org/conservation-agriculture/en/>

<sup>58</sup> <https://www.conservation-capital.com/conservation-agriculture-comaco>

<sup>59</sup> <https://conservationagriculture.org/>

options; and sustainable livestock management practices (eg using locally adapted breeds, limiting grazing pressures). This will be supported by improving market linkages for agricultural products through existing social enterprises. The implementation process will take account of elite capture risks by ensuring equitable sharing of project benefits among the targeted communities in the project landscape under this Component.

Indicative activities are as follows:

1. Identify service providers and capacity development institutions, and apply due diligence screening to selected providers to ensure that contractual engagement of communities is fair and equitable, including equitable benefit sharing procedures;
2. Conduct awareness and sensitization of targeted communities, including on related rights of engagement.
3. Identify climate-resilient CA practices suitable for the specific conditions of the Mafinga area through consultation processes with local communities and agricultural experts.
4. Support the implementation of selected CA practices through provision of TA, basic equipment (eg rubber boots, hoes, bicycles), seed, agricultural supplies, with specific attention to gender mainstreaming, the empowerment of women and engagement of vulnerable community groups, within the framework of community conservation agreements developed in Output 2.1.1.
5. Conduct an assessment of potential markets and market linkages or outgrower schemes for CA products.
6. Strengthen communication of agricultural market information, COVID situation reports and local weather forecasts via local radio broadcasts.
7. Build capacity in communities on value chain development and develop market linkages for local communities or out grower scheme through a subgrant to project executing partner.
8. Provide livelihood support assistance where necessary through small community loans to cover any temporary reductions in income experienced as a result of the transition to conservation agriculture<sup>60</sup>. This will be coordinated by the PMU in conjunction with the Ministry for Community Development in accordance with their official guidelines<sup>61</sup>.
9. Monitor participation trends (including gender and social inclusion), productivity, profitability and economic sustainability of CA practices.
10. Monitor the environmental impacts of CA practices, especially in relation to the use of local water resources and potential impacts on water quality.

**Responsibility:** PMU with technical support from the Ministry of Agriculture and other relevant government departments, and partners.

**Related projects and programmes:** TRALARD, Conservation Farming Unit (CFU) and SCRALA

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<sup>60</sup> See: <http://www.fao.org/3/cb0572en/cb0572en.pdf>

<sup>61</sup> Operational Guidelines For Women Village Bank Program (Micro Credit To Women). Ministry of Community Development and Social Services, Department of Community Development. January 2016.



**Output 2.1.3 Community woodlots provided through natural regeneration areas to reduce forest loss from wood fuel gathering within Mafinga Hills NFR**

The collection of fuelwood is a significant source of forest degradation and deforestation in Mafinga District. This Output aims to provide an alternative source of fuelwood through the establishment of community woodlots through natural regeneration (600 ha) within the context of the participatory landscape management plans and community conservation agreements in 2.1.1 (see Activity 6).

Woodlots are plots of planted or naturally growing trees that provide multiple products and services such as timber, poles, fuelwood, medicine, soil-erosion control and shelter. Poles, fuelwood and timber may be used by the farmer or sold to supplement cash income for the household or community. The areas for natural regeneration will mainly be from young degenerating trees, rather than planting - trees grow faster from regeneration than from planting and success rates are higher. The activities will take due account of safeguard considerations including: use of degraded land for woodlots, avoidance of IAS and pesticides usage, as well as elite capture risks through equitable engagement and benefit sharing procedures.

Indicative activities are as follows:

1. Conduct an assessment of potential areas where forest resources have been significantly impacted by fuelwood collection (and other threats such as forest fires) and identify suitable communities to engage in demonstration activities.
2. Conduct training of community members in the skills required for woodlot development through assisted natural regeneration practices.
3. Identify degraded forest areas for community woodlots provided through natural regeneration and prepare an implementation plan through participatory consultations that take into account gender mainstreaming and social inclusion. This will include training, capacity building and field work.
4. Monitor and record natural regeneration in restoration areas and apply management measures including fire control, weeding, protection from grazing, etc.

*Responsibility:* PMU with technical support from Forest Department and other relevant government departments

*Related projects and programmes:* TRALARD, SCRALA, WECSZ

**Output 2.1.4 Participatory designation and management of community forest areas undertaken with communities outside Mafinga Hills NFR**

The Forests Act (2015) and CFM Regulations (2018) define a procedure for how members of a community, who derive their livelihood from a nearby forest, may apply for recognition by the Forestry Department as a community forest management group (CFMG). A CFMG can manage one (normally) or more areas, depending on the location and size of the community forest areas selected by the community. Key requirements for establishment of new community forestry areas include consultations (also with adjacent communities), assessment of user rights, drafting of key documentation, and equitable benefit-sharing arrangements, with due regard for safeguards considerations including conservation of high value habitats. The project will support selected communities to follow all the necessary steps in this procedure, as well as the subsequent management of community forest areas. Areas under community forestry may fall within the proposed WRPA,

providing communities with the right to manage these lands, water and forest resources. Indicative activities are as follows:

1. Conduct awareness-raising meetings for relevant communities on the process and benefits of establishing community forest areas.
2. Identify three areas suitable for community forest establishment.
3. Conduct meetings for participatory problem analysis.
4. Train communities in governance aspects of community forest management.
5. Facilitate community elections for community forest management group members, including specific attention to gender mainstreaming and the empowerment of women.
6. Apply for recognition as Community Forest Management Groups (CFMG).
7. Develop a Management Plan for each community forest area including benefit sharing arrangements and seek approval from the Forestry Department.
8. Sign a Community Forest Management Agreement and provide initial support for implementation including identification of forest areas and demarcation of boundaries, support for sustainable livelihoods, creation of the community forest user groups and support for functioning of the groups.

*Responsibility:* PMU with technical support from Forestry Department, with relevant government departments

*Related projects and programmes:* TRALARD, SCRALA, WECSZ

### **COMPONENT 3: Knowledge management and Monitoring and Evaluation (M&E)**

#### ***Outcome 3.1: Increased knowledge of sustainable catchment management supports replication of the project approach in other headwater areas***

This Outcome will establish an effective strategy for knowledge management and sharing of project lessons at different levels (see **Appendix 9** on Knowledge Management and Communications). Stakeholder engagement activities will be undertaken to identify appropriate knowledge products to be developed and distributed to users at national, local, catchment and community levels. By making knowledge available to all stakeholders, the project will contribute towards the replication of the upper catchment management approach, including the WRPA model and community engagement in sustainable land and forest management, within the Luangwa catchment, across Zambia, and in other Zambezi river basin countries. This is a cross-cutting outcome, supporting interventions across all three other components.

#### **Output 3.1.1: Cross-sectoral communication strategy developed and implemented to support sustainable catchment management in headwater areas**

The project will demonstrate an integrated, community-based approach towards sustainable catchment management that embraces conservation agriculture, community forestry, biodiversity conservation and other disciplines. As such it will engage diverse stakeholders, especially at the local level, which will be guided by a communication strategy that defines the purpose of communications, the key messages and modes of communication to ensure that project implementation is efficient and well supported, and to guide knowledge

management. The communication strategy will enable the project experiences and lessons learned to be applied in other headwater areas of the Luangwa, across Zambia, and in other Zambezi river basin countries. It should also take the socio-economic needs of the communities into consideration.

Indicative activities include the following:

1. Identify the objectives of the communication strategy, its scope and stakeholders in line with the project Stakeholder Engagement Plan (**Appendix 15B**).
2. Develop the main communication actions, messages and information materials needed to promote sustainable, integrated catchment management and its constituent parts.
3. Identify suitable communications platforms for dissemination of information at different levels
4. Implement the communication strategy.
5. Organize information exchange and visits for key stakeholders from other priority headwater areas in the Luangwa catchment to share lessons learned and promote uptake and replication of the project approach.
6. Share lessons locally, regionally and internationally at Zambezi river basin level through various platforms and networks.

*Responsibility:* PMU with support from Government Departments and Partners

*Related projects and programmes:* Zambia Water Forum (ZAWAFE)<sup>62</sup>, Waternet<sup>63</sup>, and others

### **Output 3.1.2: Knowledge products designed and distributed to relevant stakeholders**

Project knowledge products will take diverse forms including technical reports, white papers, case studies, website articles, videos, etc. These will cover technical issues and best practices experienced during project implementation, such as: a guiding manual for the WRPA development process, community-based management of WRPAs, community-based management of miombo woodland, linking incentives (such as woodlots, conservation agriculture to replace chitemene practices) to conservation and protection outcomes, gender benefits from community-based management of water resources, and wetland ecosystem service benefits from headwater protection. The knowledge products will also highlight any social issues arising from the engagement of communities in the project area.

Indicative activities include the following:

1. Identify, document and disseminate best practices and lessons from project activities through stakeholder consultations including guiding manuals for WRPA process.
2. Document and share traditional knowledge associated with natural resource management.
3. Prepare videos and stories of project success stories - hire a media firm to produce at least three short videos on success stories.
4. Develop case studies and project technical reports, disseminated in electronic and printed formats, to discuss specific issues in greater depth;
5. Organize project technical reports, studies and articles and make them available through project-related website(s) and in other appropriate forms for targeted stakeholder groups

*Responsibility:* PMU with support from relevant government Departments and other partners

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<sup>62</sup> <https://www.zambiawaterforum.org/index.php/news>

<sup>63</sup> A regional network of university departments and research and training institutes specialising in water. The network aims to build regional institutional and human capacity in Integrated Water Resources Management. <https://www.waternetonline.org/>

*Related projects and programmes:* TRALARD, SCRALA, WESCZ

***Outcome 3.2: Informed and adaptive project management***

The project will build the capacity of project staff for effective project management at all levels of organization through establishment and sharing of clear procedures, orientation and training in line with government and WWF requirements as a GEF Project Agency.

**Output 3.2.1: Project M&E plan implemented and project progress reports, results framework, midterm evaluation and terminal evaluation used to inform adaptive management**

Output 3.2.1 will ensure adequate capacity for participatory and efficient monitoring and evaluation and adaptive management during project implementation. This will include the following indicative activities:

1. Training for project staff, clarification of stakeholder roles and planning processes at the Inception Workshops in Lusaka and Mafinga District, including training on WWF network standards, report writing, M&E reporting requirements, gender mainstreaming and social inclusion, and social and environmental safeguards;
2. Annual adaptive management review workshops at central and field levels to review progress and workplans;
3. Detailed planning for implementation including trimester review and planning sessions;
4. Joint annual monitoring visits to field sites;
5. Safeguard monitoring visits;
6. Training and technical support for sub-grantees on participatory monitoring and evaluation;
7. WWF/GEF reporting including biannual Project Progress Reports (PPR) and the Project Closeout Report, results framework tracking, annual work plan tracking, and quarterly Financial Progress Reports;
8. External mid-term and terminal evaluations and associated workshops plus a final project completion workshop for sharing lessons.

These activities will ensure that the project monitoring system operates effectively, systematically provides information on progress, and informs adaptive management to ensure results.

*Responsibility:* PMU with technical support from external consultants

## 2.3 Institutional Arrangement

### Overview of Implementation Arrangements

The proposed executing structure (Figure 9) includes WWF as the GEF Agency, the Environmental Management Department under the Ministry of Green Economy and Environment (MoGEE) as Lead Executing Agency and WWF Zambia Country Office (WWF ZCO, a program office of WWF International) to provide technical support for delivery of outputs as well as financial and administrative management. On behalf of government with approval from the project National Steering Committee, WWF-ZCO will sub-grant to potential project delivery partners. MoGEE and WWF ZCO will carry out due diligence of sub-grant partners to review past performance and profiles, develop detailed work plans and budgets to be reviewed and approved first by MoGEE and WWF ZCO, and then by the GEF National Steering Committee. Contracts will then be developed with each sub-grant partner, countersigned by the partner, WWF ZCO and MoGEE.

Due to the recent presidential elections in Zambia in August of 2021 and the ensuing restructuring in government in accordance with government gazette notice No. 1123 of 2021 on the statutory functions, portfolios and composition of government, at the time of re-submission, EMD, formerly under the Ministry of Water Development, Sanitation and Environmental Protection, has now moved under the Ministry of Green Economy and Environment. EMD will continue to be Lead Executing Agency under the new Ministry, with the same EMD team that was involved during project identification and development and who will also be involved in project execution. This section and the executing arrangements diagram have been updated to reflect this change accordingly.

### Project Management Unit

A Project Management Unit (PMU) will be established to conduct the day-to-day operations and coordination of the project. The PMU based in Mafinga shall comprise of 3 full-time permanent staff to be recruited competitively or seconded by government: (1) the Catchment Management Expert and Project Manager, (2) Community Engagement and Gender Officer, and (3) Safeguards & Monitoring, Evaluation and Learning Officer.

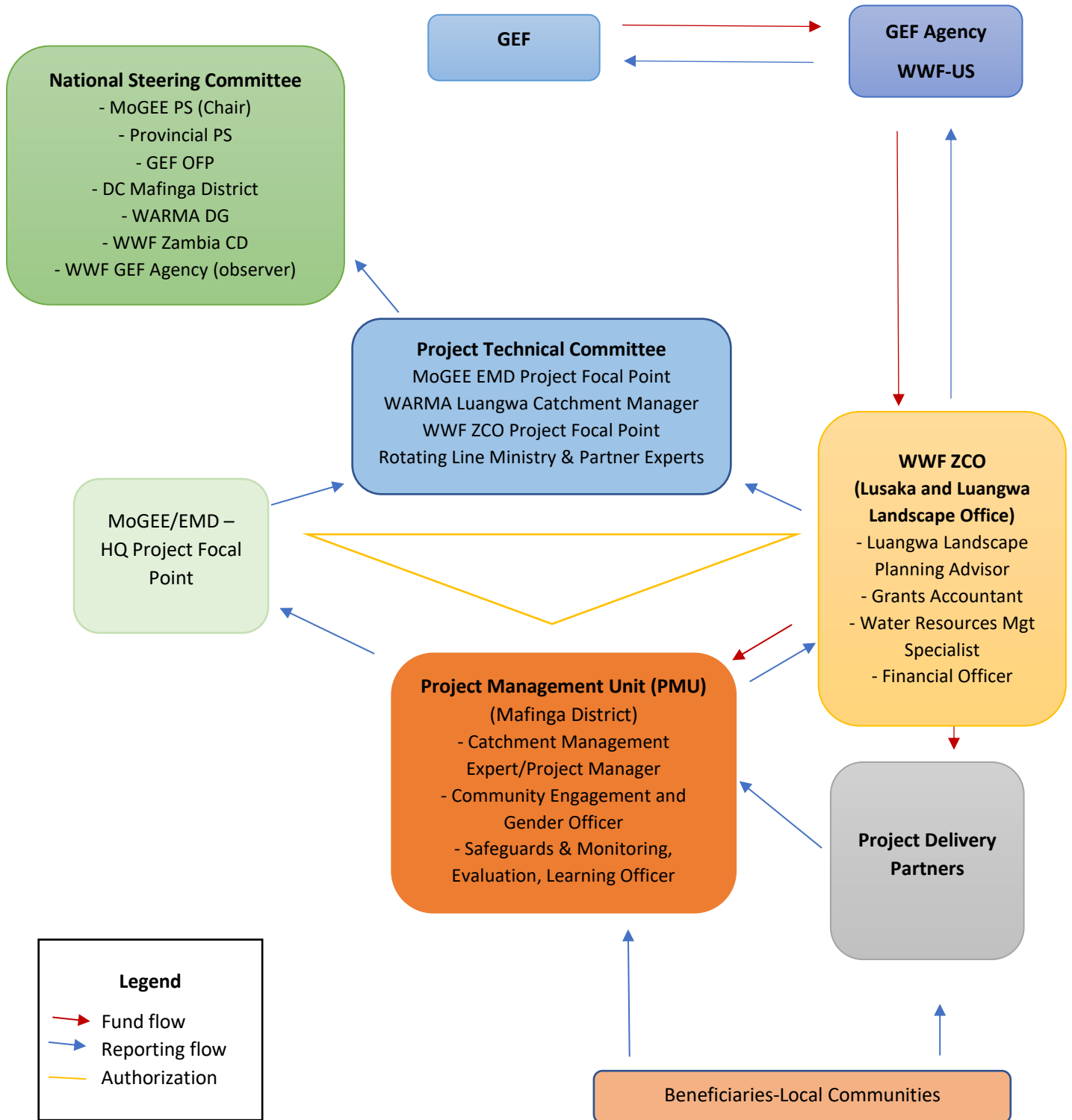
Three additional support staff will provide assistance to the PMU. These include a Grants Accountant (responsible for financial administration) with 50% time on project and 50% GEF Project budget funded (based out of WWF ZCO Lusaka office), the Luangwa Landscape Planning Advisor with 30% time on project and 30% GEF Project budget funded (based in the WWF ZCO Field Office in Luangwa Landscape) and the Water Resources Management Specialist with 20% time on the project and 20% GEF Project budget funded (based in the WWF ZCO Lusaka Office). TORs for PMU positions can be found in **Appendix 6**.

The PMU will be housed by the existing government structures in Mafinga District. It will administratively and technically report to and be accountable to the MoGEE/EMD-HQ and will coordinate with the focal point in WWF ZCO. MoGEE and WWF ZCO shall counter-sign all necessary authorisations including financial transactions. The funds will flow from WWF ZCO office to the PMU and to the partner institutions implementing project activities, according to government and WWF procedures and guidelines.

The PMU will be responsible for: (i) preparing the overall project work plan; (ii) preparing annual budgets and work plans; (iii) managing project expenditure in line with these annual budgets and work-plans; (iv) recruiting additional partner institutions and specialist support services to implement outputs and activities; (v) ensuring technical quality of products, outputs and deliverables; (vi) producing quarterly expenditure and cash advance requests from project partners; (vii) reporting to the Project Technical

Committee (PTC), National Steering Committee (NSC) and the WWF GEF Agency on project delivery and impact via six-month and yearly Project Progress Reports; and (viii) liaising and working closely with all government District line ministries and partner institutions to link the project with complementary national, regional and local programs and initiatives.

Figure 9. Project Executing Structure



*Abbreviations: PS-Permanent Secretary, CD – Country Director, DC – District Commissioner, DG – Director General, WWF ZCO – WWF Zambia Country Office*

### **Project Technical Committee**

A Project Technical Committee (PTC) will be constituted to provide technical expertise and inter-sectoral coordination at national level. The composition of the PTC shall include a focal point from the Environmental Management Department of MoGEE, Luangwa Catchment Manager from WARMA and a focal point from WWF ZCO as permanent members, with technical experts from other line ministries and partners brought in as project needs arise. This committee will review the Annual Workplan and Budgets, Procurement Plan and Annual Progress Reports for submission to the National Steering Committee for review and approval.

### **National Steering Committee**

A National Steering Committee (NSC) will be constituted to serve as the oversight, advisory and high-level decision-making body for the project. The core members of the NSC will include MoGEE Permanent Secretary (Chair), Provincial Permanent Secretary (co-chair), GEF Operational Focal Point, District Commissioner of Mafinga District, Director General of WARMA, WWF Zambia Country Office Director, and WWF GEF Agency as an observer. Other members shall be co-opted from the government line ministries, cooperating partners, NGOs, CBOs and other institutions as project needs arise. The NSC will ensure that the project remains on course to deliver the desired outcomes of the required quality. The NSC provides overall guidance and policy direction to the implementation of the project and provides advice on appropriate strategies for project sustainability. The NSC will play a critical role in project monitoring and evaluation by assuring quality of project processes and products. It also advises on any conflicts within the project or to any problems with external bodies.

### **WWF Zambia Country Office (WWF ZCO)**

The WWF ZCO will handle the financial administration and management on behalf of the Ministry of Green Economy and Environment, and will provide technical support to the delivery of outputs under Components 1, 2 and 3. This modality is proposed for the following reasons:

- The Project Development Team explored various options for selecting the most appropriate institutional arrangement for the project. There are other organizations present and active in implementation of conservation projects in Zambia, and several of these were consulted (including COMACO, WECSZ, FAO, UNDP) regarding their interest and capacity to carry out both financial and administrative management of the project as well as technical delivery of outputs, but these did not materialize.
- Financial and administrative project management: based on the consultations and assessments done for identifying the most appropriate institutions to undertake financial and administrative project management on behalf of MoGEE, WWF ZCO is the only agency willing, with the capacity and stake in the project, and with robust financial structures, procurement systems, policies and procedures that meet the GEF's minimum fiduciary standards, to fulfil this role.
- Technical delivery of outputs: COMACO and WECSZ are identified as potential sub-grant partners in outputs related to climate-smart conservation agriculture and awareness raising activities. However, consultations with WECSZ and COMACO identified that they do not have expertise on



WRPAs, and WCS and ZSL do not work in the Mafinga Catchment nor have experience in WRPAs. WWF ZCO is one of the few NGOs working in the Luangwa Catchment on community-based natural resource management and protected area management, but the *only organization* that also has the technical expertise and experience working on Forestry policy and governance at national and local levels and leading Water Resource Protected Area work with government.

It is against the background above, that WWF ZCO will provide the following technical support to the PMU:

- The Grants Accountant will do financial management support for activities implemented by the PMU including budget development and monitoring, producing timely and quality reports for the WWF GEF Agency and reconciliation of activities and their close out. The staff will ensure activities are implemented in compliance with both WWF and GEF policies and requirements. The Accountant will work closely with Sub-grantees under Output 1.1.4, 1.2.1 and 2.1.2 to manage and monitor the sub-grants and ensure that efficient accounting and finance systems exist that will accord maximum support as well as act as a platform for providing sound financial information to the Project executors, implementors and donor.
- The Luangwa Landscape Planning Advisor will provide support to the PMU to develop technical scopes of work, terms of reference, plans and partnerships to implement project outputs, with technical inputs to develop the planning for Mafinga Hills NFR (Output 1.1.2); the WRPA development process, land cover land use (LCLU) surveys, and ecological and socio-economic assessments, citizen science networks for monitoring river health, drafting of Nature Based Solutions concept notes, and to develop desired landscape scenarios (visions) and engage with the local government, traditional leaders and communities to negotiate a designed outcome to support the delivery of Output 1.2.1; support the PMU to design a roadmap to create the participatory landscape management plans (PLMPs) and support the drafting of the PLMPs to deliver Output 2.1.1; facilitate and engage in strategic advocacy activities, representing the project on high governmental and traditional authority levels within the wider Luangwa Landscape; and provide comprehensive CBNRM (Community-Based Natural Resource Management) and social development guidance to the project on strengthening relationships, market-based incentives and community influence over the equitable and sustainable management of natural resources.
- The Water Resources Specialist will provide GIS expertise to deliver Output 1.1.1 and Output 1.2.1 activities will include mapping of boundary demarcations for Mafinga Hills NFR and the WRPAs. In addition, the Specialist will be part of the WRPA technical team and will provide support for the data and information collection for the water resource/hydro-geomorphology surveys, and surface water infrastructure assessments to deliver Output 1.2.1.

The total project budget accessed by WWF Zambia for support to technical delivery of outputs above and financial administration and management of the project is \$215,901. WWF Zambia's comparative advantage for undertaking these project inputs is based on its long track record of providing technical support to the government of Zambia in relevant technical areas, as follows (see Baseline Scenario section for further information):

- WWF has been at the forefront of supporting the government of Zambia on identifying and mapping potential WRPAs. As a partner to WARMA and MWDSEP, WWF has led the efforts for

this ground-breaking pilot initiative in Zambia and brought in international expertise from the network to advise on how to operationalize/roll out WRPA implementation. As this work is being done for the first time in Zambia, WWF Zambia produced the first hydrological atlas (HydroATLAS-Zambia), the data for which have been used to inform the Water Resource Protection Area (WRPA) assessment conducted by WARMA and WWF-Zambia in 2019. For more information and all HydroATLAS-Zambia data related to this project please visit <https://wrpa-zambia.weebly.com/>.

WWF ZCO has played a leading role in strengthening the Forestry policy and governance at both the national and local levels. Furthermore, Government in partnership with WWF Zambia launched the 1.2 million Euros Forests Landscape Project. WWF Zambia is implementing the program in close collaboration with the Forestry Department, Ministry of Lands and Natural Resources. Additionally, WWF has worked for more than two decades, collaborating with local stakeholders to foster participatory processes around community-based mapping, land use planning, monitoring of natural resources, wildlife protection, community wellbeing and the Forest Landscape Restoration (FLR) Project funded by BMZ/EG Germany.

### **Implementing Agency**

WWF-US, through its WWF GEF Agency will: (i) provide consistent and regular project oversight to ensure the achievement of project objectives; (ii) liaise between the project and the GEF Secretariat; (iii) ensure that both GEF and WWF policy requirements and standards are applied and met (i.e. reporting obligations, technical, fiduciary, M&E); (iv) approve budget revisions, certify fund availability and transfer funds; (v) organize the mid-term and final evaluations and review project audits; and (vi) certify project operational and financial completion.

## 2.4 Stakeholder Engagement

### **a) Summary of stakeholder consultations during project preparation**

Three field trips were conducted to inform the development of the PIF, the first in November 2018, with a follow-up mission to the Luangwa sub-catchment in January 2019 and an additional site visit to Mafinga Hills during August 2019. During the field trips a variety of stakeholders were engaged, including those from government (e.g., WARMA and Environmental Management Department from Ministry of Water Development, Sanitation and Environmental Protection, provincial departments of Ministry of Agriculture, and Mafinga District Commissioner and other government staff), the private sector (e.g., COMACO, Mfuwe Tourism Business Association and Biocarbon Partners) and local communities (e.g., local chiefs within the Njimba and Mafinga district, COMACO lead farmers in Mafinga District). In addition, two validation workshops have been undertaken, involving a dedicated Technical Working Group with representation from key Government institutions, including Water Resources Development Department from Ministry of Water Development, Sanitation and Environmental Protection, Climate Change Department from Ministry of Lands and Natural Resources, Department of Wildlife and National Parks from Ministry of Tourism and Wildlife, and others including Zambia Environmental Management Authority (ZEMA) and Zambia Electricity Supply Corporation (ZESCO).

During the PPG phase (January 2020 – August 2021), the project development process was guided by a Project Development Team consisting of representatives from MWDSEP, WWF Zambia, WWF GEF Agency, and the international and national PPG consultants. This team met virtually almost on a weekly basis throughout the

PPG and reviewed draft documents. Stakeholder consultations were guided by a PPG Stakeholder Engagement Plan (see **Appendix 15A**). However, COVID restrictions remained in force during much of this period, therefore stakeholder consultation meetings were held virtually in most cases, and field visits were constrained to one in October 2020 and a second in May 2021. **Table 2 in Appendix 15B** lists the stakeholder consultations conducted during the PPG phase.

A virtual Kick-Off Workshop was convened on 15 July 2020, organized jointly by Government of the Republic of Zambia, WWF Zambia and WWF GEF Agency with 33 participants. The meeting aimed to launch the project development process for the preparation of the WWF GEF Sustainable Luangwa Project Document package and GEF CEO Endorsement Request among key stakeholders by: a) Developing a shared understanding of the project's concept proposal; b) Explaining the project preparation process, draft timeline and final deliverables; c) Clarifying the roles and responsibilities of the Project Design Team (PDT), consultants and partners involved in the PPG process; and d) Providing a moderated Q&A session for feedback from participants. The participants included the EMD Director of MWDSEP and GEF Operational Focal Point, and the Permanent Secretary of MWDSEP and GEF Political Focal Point, representatives of related national agencies (incl. Dept of Water Resources Development, Dept of National Parks & Wildlife, Climate Change Adaptation, Agriculture), provincial and district government agencies (incl. Provincial Water Officer, WARMA Luangwa Catchment Manager, Provincial Agricultural Coordinator, Provincial Chiefs and Traditional Affairs Officer, District Planning Officer, District Forest Officer), NGOs (WECSZ), private sector (COMACO, Conservation Farming Unit), etc.

A virtual Validation Workshop was convened at the end of the PPG phase on 11 August 2021, organized jointly by Government of the Republic of Zambia, WWF Zambia and WWF GEF Agency with 34 participants. The meeting aimed to finalize all the key elements of the project design and secure agreement and support for the project by key partners, including the opportunity for feedback from participants. The participants included the EMD Director of MWDSEP and GEF Operational Focal Point, EMD Director of Planning (Chair), WWF Zambia Country Director; WWF US/GEF Agency, representatives of the Project Design Team, other MWDSEP and WWF Zambia staff, key partners – Dept of Forestry, Ministry of Agriculture, Muchinga Provincial government (Planning, Water Development, Forestry, Chiefs and Traditional Affairs), Mafinga District (District Council, District Administration, Planning, Forestry, Chiefs and Traditional Affairs), and representatives of COMACO, WECSZ, TRALARD, SCRALA and ZIFLZIPFL.

#### **b) Stakeholder Engagement during Project Implementation**

The project will continue to use a participatory approach and conduct ongoing stakeholder consultations throughout the project implementation period, guided by the Stakeholder Engagement Plan (**Appendix 15B**). Key stakeholders and their potential roles in the project are indicated in **Table 1** below. The project will seek to ensure appropriate and consistent involvement of diverse stakeholders, including women and men in the targeted communities, during every stage of project implementation. The PMU will ensure that the views and inputs of stakeholders will be taken into consideration as early as possible and throughout project implementation. The consultation processes will be continued throughout the project, in order to ensure engagement and motivate the participation of beneficiaries and partners, and to maintain inclusive and diverse representation, including among women and men in the targeted communities. The PMU and project partners will ensure that the information disclosed, and the format, language and methods used to communicate will be tailored to each stakeholder group. Women and men in local communities will receive information about the project via appropriate channels chosen to reflect preferences (for example gender differences in access to technology and language), such as the internet, public notices, SMS, social media, as well as national government channels and traditional mechanisms for consultations, and in person (or virtual in person).

The stakeholder engagement plan is aligned with the Gender Analysis and Gender Action Plan (**Appendix 12A & 12B** respectively) to ensure that views of women and other relevant groups are appropriately considered (see **section 2.5: Gender**, and **Appendix 15B: Stakeholder Engagement Plan**).

Due to the ongoing uncertainties arising from the COVID-19 pandemic, stakeholder engagement methods will be subject to government and WWF guidance in order to minimize risks to project staff and stakeholders, as reflected in the COVID-19 Analysis and Action Framework (**Appendix 17**) and **section 3.4: Risks**.

Stakeholder Engagement during implementation will also take account of the role of traditional leaders in Zambian society, in line with national policies that have been reviewed over the years towards strengthening local communities' involvement and participation. Local government and the chiefs have a vital role in the preservation and control of utilization of natural forests since they can facilitate local level rules and regulations or even by-laws. It is important to recognise that local communities tend to respect more the advice and decisions of the Chiefs. Therefore, development actions are passed through the Chiefs for decision-making. Strategies to lessen the pressure on natural resources need to be explained to the Chiefs as this will facilitate work with local communities.

Table 1. List of key stakeholders and their potential roles in the project

STAKEHOLDER	DESCRIPTION	POTENTIAL ROLE
Ministry of Water Development, sanitation and Environmental Protection (MWDSEP) <ul style="list-style-type: none"> <li>• Environmental Management Department (EMD)</li> <li>• Water Resources Management Agency (WARMA)</li> </ul>	The Ministry is responsible for the development and management of water resources, provision of water supply and sanitation as well as environmental management.	<ul style="list-style-type: none"> <li>• National coordination of project under EMD, with WARMA as a technical support provider.</li> <li>• Facilitate establishment of Water Catchment Action Groups for water catchment area management</li> </ul>
Ministry of Lands and Natural Resources <ul style="list-style-type: none"> <li>• Forestry Department</li> </ul>	The Department is responsible for research, restoration of degraded and depleted areas and extension services provided for under the National Forestry Policy of 2014 and the Forests Act No. 4 of 2015 to enforce law and order regarding the management of forests and their exploitation	<ul style="list-style-type: none"> <li>• Community awareness raising and mobilisation</li> <li>• Support for the creation of Community Forest Management Groups (CFMG);</li> <li>• Provide technical support to other stakeholders (community, NGO, Private sector) in the District</li> <li>• Monitor activities</li> <li>• Law enforcement with communities</li> <li>• Support communities in the development of Forest Management Plans</li> </ul>
Ministry of Agriculture	The Department of Agriculture is responsible for the pivotal role of providing agriculture extension services in order to promote adoption of improved farming technology for farmers to achieve high production, productivity, maintain and improve the agriculture resource base.	<ul style="list-style-type: none"> <li>• Community awareness raising and mobilisation</li> <li>• Facilitate Farmer Input Support Programme;</li> <li>• Promote climate resilient forms of agriculture</li> <li>• Provide technical support to other stakeholders (community, NGO, Private sector) in the District</li> </ul>

		<ul style="list-style-type: none"> <li>• Monitor activities</li> </ul>
Ministry of Community Development and Social Services	The MCDSS aims at empowering people to recognize their own ability to understand themselves and their environment, change their attitudes positively, so that they can take a leading role geared at increased responsibility in improving and managing their living conditions effectively and efficiently.	<ul style="list-style-type: none"> <li>• Community awareness raising and mobilisation</li> <li>• Facilitate literacy classes</li> <li>• Facilitate village banking activities</li> </ul>
District Administration (Mafinga)	The office of the District Commissioner (DC) is the highest office of the Civil Service in the district. The office coordinates government programmes and interprets and ensures that government policies and programmes are understood and implemented, respectively.	<ul style="list-style-type: none"> <li>• The Office of the District Commissioner will host the project Management Unit</li> <li>• Facilitate formulation and implementation of by-laws and policies;</li> <li>• Support and facilitate natural resources management programmes;</li> <li>• Integrate CFM into district development plans</li> <li>• Facilitate project monitoring through the District Development Coordinating Committee (DDCC)</li> </ul>
Local Government <ul style="list-style-type: none"> <li>• Mafinga Town Council</li> </ul>	Overall, Mafinga council is headed by the Council Chairperson. However, In terms of administration and implementation of council policies, the council is headed by the Council Secretary, who is assisted by heads of department.	
Local Communities	These are communities living in the proposed project sites. They include women, men and youths. The local communities also include individuals that may be working for various government institutions, NGOs and private sector and living in the targeted areas.	<ul style="list-style-type: none"> <li>• Demand support for creation of natural resource management structures</li> <li>• Identify and define boundaries for natural resource conservation and management</li> <li>• Active participation in project activities</li> <li>• Develop criteria and plans for equitable benefit sharing of costs and benefits</li> <li>• Facilitated to develop and Implement action plans</li> <li>• Support needs assessment</li> <li>• Develop enterprises</li> <li>• Law enforcement</li> </ul>
Cooperatives in Mafinga	These are Organisations established by local communities aimed at improving their livelihoods and especially market linkages and productivity of local communities. At the moment these are mainly involved in Farmer Input Support Programmes but with potential to be transformed.	<ul style="list-style-type: none"> <li>• Support and facilitate community engagement in identifying market</li> <li>• Identify potential service providers</li> <li>• Storage and marketing of products for farmers through linkages</li> </ul>

Wildlife Education and Conservation Society of Zambia (WECSZ)	WECSZ is a charitable NGO promoting the conservation and management of natural resources, including projects supporting the conservation of Mafinga Hills KBA.	<ul style="list-style-type: none"> <li>• Participatory field level identification of project sites and households</li> <li>• Awareness raising, sensitisation and training of community members</li> <li>• Participatory Planning and development of actions plans</li> </ul>
Common Markets for Conservation (COMACO)	COMACO is an out grower social enterprise, which combines with conservation activities and good agricultural practices	<ul style="list-style-type: none"> <li>• Provide sensitisation and awareness raising extension services</li> <li>• Support an out-grower scheme by providing markets for products</li> <li>• Capacity development for cooperatives</li> </ul>
Transforming Landscapes for Resilience and Development (TRALARD) Project	The Project is under the Ministry of National Development and Planning. The Ministry Coordinates and prepares national development plans. The TRALARD Project aims to integrate various sectors for coordinated outputs moving away from the sectoral approach. The project intends to address agriculture, forestry, development of district plans and alternative livelihoods. Implementation target is for the whole district.	<ul style="list-style-type: none"> <li>• Collaborate in building market linkages for a greater impact</li> <li>• Joint Management meetings through the District Development Coordinating Committee (DDCC)</li> <li>• Sharing experiences in project implementation</li> </ul>
Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia	This initiative focuses on smallholder farmers in two agro-ecological regions covering the five provinces of Eastern, Lusaka, Muchinga, Southern and Western. It will take a value-chain approach and help to provide a number of benefits, including increased access to climate information services, support for climate-resilient agricultural inputs and practices, sustainable water management, and alternative livelihoods. Implementation target is for the whole district.	<ul style="list-style-type: none"> <li>• Collaborate in building market linkages for a greater impact</li> <li>• Joint Management meetings through the District Development Coordinating Committee (DDCC)</li> <li>• Sharing experiences in project implementation</li> </ul>

## 2.5 Gender

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? (yes  /no )

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

- closing gender gaps in access to and control over natural resources;
- improving women's participation and decision making; and or

generating socio-economic benefits or services for women.

Does the project's results framework or logical framework include gender-sensitive indicators? (yes  /no )

In light of the gender barriers identified during the conceptual stages of the project, a gender mainstreaming approach has been adopted through the process of development and design of the Sustainable Luangwa project. The people concerned who live within the project's catchment area, who include both women and men and other disadvantaged groups that were involved in the project design phase, will be involved in the implementation phase and are expected to equitably benefit from the project's results and outcomes.

The overall methodology for mainstreaming gender into the project design is shown in **Table 2** below. As part of this process, a gender analysis was conducted during project development to provide the basis for mainstreaming gender into the design of the Sustainable Luangwa project. The gender analysis report is provided in **Appendix 12A**.

Table 2. Gendered Responsibility and Methodology in the Project Development Process

Project Development Process		Gendered Responsibility	Method of data collection
Desktop Gender Analysis		Identify gender issues and barriers relevant to the country and the project	Literature review
Stakeholder Engagement Plan		Integrate identified gender issues and barriers for consideration in stakeholder engagement	Engagement with Technical Team lead and provide inputs to the plan
Stakeholder Engagement	District Level	Presentation of Gender issues and barriers for further input and confirmation	Presentation and Key Informant interviews with Stakeholders
	Community Level	Provide specific gender inputs into tools to confirm and add to identified barriers	Focus Group Discussions/Key Informant interviews
Gender Analysis		Identify and confirm gender roles and responsibilities; access to and control over natural resources; decision making over natural resources and power relations; identify specific and relevant project-related gender issues, gaps and opportunities	Focus Group Discussions
Gender Action Plan		Identify specific actions to ensure gender responsiveness in the Sustainable Luangwa project. The Action plan is prepared in accordance with GEF and WWF guidelines and includes a table of the necessary actions to be undertaken by the project	Desktop analysis, Stakeholder consultations and Gender Analysis

The desktop analysis at national level was based on secondary data which included national policy and legal frameworks, documents shared by the MWDSEP and Ministerial statements saved on government web pages. This was complemented with key Informant interviews mainly with the MWDSEP. Primary data and information collection at District and Community level was collected through stakeholder consultations in line

with the 2018 GEF Gender Guidelines. The results from these processes have been used to compile the Gender Analysis report, which provided the basis for the **Gender Action Plan** (see **Appendix 12B**). The Action Plan ensures that the following aspects have been incorporated in the project document:

- (i) Gender indicators in the project results framework;
- (ii) Gender responsive activities/outputs/outcomes;
- (iii) Gender sensitive budget; and
- (iv) Gender responsive yearly work plan.

### Conditions at Country and District Level

Zambia has a reasonably well-gendered policy and legislative environment including in the area of natural resource management and specifically, the environmental protection and water sectors. However, in practice the country remains challenged by persistent gender inequalities. In 2017, the country was ranked 125<sup>th</sup> among 160 countries in the Gender Inequality Index and categorized as Group 3<sup>64</sup> in the Gender Development Index by the United Nations Development Program<sup>65,66</sup>.

The persistence of gender inequalities can be attributable to the inherent patriarchal disposition coupled with inadequacies in legal provisions, a legal system that embraces both traditional and statutory laws which, in the context of gender justice, may operate at variance with each other. For instance, access to land in predominantly rural districts such as Mafinga is based on customary tenure. As the major ethnic tribes in Mafinga are patrilineal, property and land are inherited by the male lineage. Therefore, although the Interstate Succession Act of 1989 grants male and female heirs' equal rights to inherit land and non-land assets, the application of this provision excludes land held under customary tenure.

Enforcement of legal provisions is also thwarted by lack of awareness by duty bearers about their responsibilities and roles to enable rights holders to claim their rights e.g. for awareness raising and education. Rights holders may not be fully aware of their legal rights and provisions to claim their rights.

Legal provisions to support gender equity and equality may also in some cases be deficient in ensuring that rights provided for can be claimed. For instance, although the Water Resources and Management Act 2011 acknowledges the need to ensure equitable access to water resources, the provisions for constituting Water Catchment Councils do not provide for gender representation.

Gender inequalities are also evident in decision making structures at national, district and community levels. In 2017, women held only 18% of seats in parliament<sup>67</sup>. After the 2016 national elections, women councillors elected into office accounted for only 9 per cent. Mafinga District Council has only two women councillors out of the 11 seats available, accounting for 18 per cent representation.

Unequal access to and control of natural resources is one of the causes and consequences of gender inequality. For example, under customary tenure, land is without title and falls under the jurisdiction of traditional leaders who include Chiefs and Headmen/women. Under each Chiefdom, land is devolved through families. In

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<sup>64</sup> Countries are divided into five groups by absolute deviation from gender parity in HDI values. Group 3 signifies medium equality in human development performance between women and men.

<sup>65</sup> United Nations Development Programme. 2017. Gender Inequality Index (GII). Available: <http://hdr.undp.org/en/composite/GII> in Undated. GEF-7 Project Identification Form (PIF) for Sustainable Luangwa Project.

<sup>66</sup> United Nations Development Programme. 2017. Gender Development Index (GDI). Available: <http://hdr.undp.org/en/composite/GDI> in Undated. GEF-7 Project Identification Form (PIF) for Sustainable Luangwa Project.

<sup>67</sup> World Bank. 2016. *Gender Data Portal*. Gender Indicators Report for Zambia. Available: <http://datatopics.worldbank.org/gender/country/zambia> in Undated. GEF-7 Project Identification Form (PIF) for Sustainable Luangwa Project.



patrilineal societies and where land falls under customary tenure, ownership is the preserve of the male family line<sup>68</sup>.

The Gender Inequality Index estimates that, between 2010 and 2017, only 39.2% of women aged 25 and older had at least some secondary education, compared with 52.4% in men aged 25 and older for the same period. In high- and middle-income populations, females obtain higher completion rates of lower secondary schooling than males, but in low-income populations this trend reverses, with an absolute decrease in completion rates for females<sup>69</sup>.

Literacy levels for females when compared to males are also lower, estimated at 83 percent for adult females and 90 per cent for adult males<sup>70</sup>. The lower levels of education and literacy are a hindrance to women's participation in decision making and in some instances access to resources.

### **Specific Gender Conditions at Project Level/Community level**

The predominant ethnic tribes in the project area comprise the Nyika and Lambia. Both tribes are patrilineal and evidence at community level confirms that strong patriarchal tendencies shape the gender relations between men and women at all levels. The prevalence of cultural traditions/practices such as polygamy and early marriages affirm the subordinate position of women to men. Women are not recognized as equal partners with men.

The prevalence of early marriages and early pregnancies both exacerbate gender inequalities in access to education. Although a re-entry policy is in place the extent of its use to ameliorate the situation is not sufficient. The resultant low education levels contribute to the further marginalising women from the decision-making arena at household and community level.

Polygamy not only entrenches patriarchy while re-enforcing the subordinate position of women to men, it can also result in limiting women's rights to for instance land, family resources and inheritance<sup>71</sup>.

In general, power to regulate access to and control over natural resources lies in the hands of traditional authorities. At community level, decision making by the traditional authorities is believed to be made in consultation with the respective communities and male members of the community take the leading role in the dialogue. Women are marginalized in this decision making process because they do not see themselves as capable to do so, are shy and believe men are better placed in terms of knowledge.

At household level and among male headed households, men have the upper hand in terms of use of resources such as land. Natural water from rivers and streams on the other hand is a community resource and no permission is required for both men and women to enable them to access it.

### **Project-specific gender information and considerations:**

The project is aimed at enhancing the protection of the water resources, biodiversity and associated community livelihoods in the Luangwa Upper Sub-catchment, concentrated in northern part of Mafinga district of Muchinga Province. The project seeks to achieve this goal by strengthening management capacity and structures as well as involving various stakeholders as facilitators in the process. An analysis of the gender relations at community level through the Gender Analysis confirms that ensuring equal opportunity and

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<sup>68</sup> OECD Development Centre. 2019. *Social Institutions & Gender Index: Zambia Country Report*. in Undated. GEF-7 Project Identification Form (PIF) for Sustainable Luangwa Project.

<sup>69</sup> World Bank. 2016. Gender Data Portal. Gender Indicators Report for Zambia

<sup>70</sup> <https://countryeconomy.com/demography/literacy-rate/zambia>

<sup>71</sup> Von Struensee, S.2004. The Contribution of Polygamy to Women's Oppression, Impoverishment- An Argument for Prohibition [:https://www.researchgate.net/publication/228261954Von](https://www.researchgate.net/publication/228261954Von)

enjoyment of benefits from the project outcomes is not guaranteed because of the overall disadvantaged position of women in relation to men.

In general, management of natural resources is the preserve of the local leaders and specifically the traditional leaders. The commonly held view is that decisions made by the traditional authorities are made in consultation with the respective communities. However, community consultations confirmed that it is the male members of the community that take the leading role in the dialogue. Women, when present, often do not take an active part in the conversation as they believe men are more competent. Women may also not be as assertive as the men because they may be less educated and less exposed and therefore will shy away from the discussions.

In general, women's representation in the decision-making structures at local level is limited indicating a lack of voice and consequently possibilities are diminished for women to influence planned project interventions/activities. This could result in missed opportunities for addressing women's specific needs in terms of access to and use of natural resources, and as a consequence, risk undermining the potential for project interventions to benefit entire households. For instance, limiting rights to water through creation of Water Resource Protection Areas (WRPA) without the full understanding of both domestic and productive uses by women, could impact negatively on household needs and labour requirements/demands.

In addition, women's ability to influence decision-making at household level also varies from household to household as well as with respect to the type of decision. Among married women, men take the lead in major decisions related to productive assets such as land and financial resources. This lack of decision-making power over productive resources could limit married women's ability to participate in the project livelihood interventions. Targeting women headed households would, however, broaden the opportunity for enhanced women's participation.

However, women do have some level of decision-making power over land that has been allocated to them by their spouses and concerning money that they earn on their own. This provides an opportunity for the project to reach out to married women based on the specific livelihood activities they are already involved in such as bee keeping and gardening, which their spouses are already in support of.

The existence of local level structures such as cooperatives, natural resource groups and women's groups can serve as entry points for enhancing women's participation during project implementation. Statistics from the Department of Cooperatives indicate that women account for 54% of the total membership in Cooperatives.

#### **Project-specific strategies and opportunities for gender mainstreaming and desired impact**

The project will employ the following strategies to mainstream gender; ensure active and meaningful participation of both women and men and equal access to opportunities, resources and benefits from the project; and to avoid perpetuating inequalities that may have been identified:

- (i) Ensure management and coordination structures at all levels include the relevant Gender Focal points so that decision making on project implementation and learning is gender responsive;
- (ii) Ensure planned project activities in principle target 50:50 participation of women and men to provide for equal participation and gender inclusive implementation. However a variance in the targeting shall also be used to:
  - a) Ensure targeting of households especially for outputs related to livelihoods and specifically in Component 2 does not exclude married women e.g. 60% women: 40% men

- b) Avoid setting unachievable targets for women's participation in the project for activities largely in Component 1 that are perceived as being in the male domain e.g. 30% women:70% men
- (iii) Ensure a gender-responsive budget, which allows for sufficient institutional capabilities to effectively implement gender-responsive activities, monitor and evaluate, and communicate about gender aspects of the project;
- (iv) Provide staff with basic training on gender dimensions specific to the Project to increase understanding and capacity on gender mainstreaming for implementation;
- (v) Ensure that awareness raising activities are carried out among key stakeholders/duty bearers including traditional leaders at all levels of the project to garner their support in overcoming cultural practices and traditions that may contribute to perpetuating inequalities between women and men;
- (vi) Ensure that both women and men have equal access to information regarding the project taking into account mode, language and channels of communication for effective participation of both women and men;
- (vii) Ensure project activities are accessible to women by taking into account all factors which may hinder their attendance in project activities e.g. location, timing, transportation, household responsibilities and permission needed from male family member(s);
- (viii) Ensure project activities are accessible to women by taking into account all factors which may hinder their ability to actively participate in project activities/dialogue forums e.g. low self-esteem/lack of confidence, lack of knowledge/skills in project-related sectors, by using participatory approaches;
- (ix) Collaborate/partner with existing local level structures such as primary cooperative societies, clubs/groups that are led by women or include women in their leadership as a means to enhancing outreach for women's participation in the project activities;
- (x) Ensure gender disaggregated data are collected and gender-specific indicators are measured for relevant activities during project implementation, monitoring and reporting.

Based on these strategies, specific gender actions, indicators and targets have been elaborated across all activities to be implemented by the Sustainable Luangwa project as a part of the Gender Action Plan (see **Appendix 12B**).

## 2.6 Safeguards

The Project will comply with WWF's Environmental and Social Safeguards Framework, as detailed in the Safeguards Integrated Policies and Procedures (SIPP). The Project has been screened as Category "B" given that it is essentially a conservation initiative, expected to generate significant positive and durable social, economic, and environmental benefits. Any adverse environmental and social impacts are expected to be minor and site specific and can be mitigated.

An Environmental and Social Management Framework (ESMF), including a Process Framework (PF), has been prepared to define procedures for managing the project activities' potential environmental and social risks and impacts.

The Project is required to comply with WWF's Standard on Environment and Social Risk Management, the Standard on Grievance Mechanisms, and the Standard on Stakeholder Engagement.

In addition to the aforementioned standards which are applicable to all WWF GEF Agency projects, this Project has triggered the following standards:

*Standard on the Protection of Natural Habitats* – Overall, activities of the project will produce significant conservation benefits and any potential adverse environmental impacts on human populations or environmentally important areas are expected to be very limited. While there shall be no conversion or degradation of natural habitats, this Standard has been triggered as a precaution since there will be site-specific activities relating to productive landscapes under Component 2.

*Standard on Restriction of Access and Resettlement* – There will be no land acquisition or involuntary resettlement of individuals and/or families under the proposed project. While the proposed project will not cause displacement of people from their homes, the Standard is triggered because regeneration activities, the creation of the Water Resource Protection Area, and management plans for MHNFR and community lands may restrict or prohibit the extraction of resources in certain areas, thereby restricting access to resources required for the subsistence and cultural maintenance of the affected populations. A Process Framework has been prepared as part of the ESMF to conform to WWF's Environment and Social Safeguards Framework.

*Standard on Indigenous People* – As a precautionary approach, this Standard is triggered by various tribal groups located in the target project areas. These include the chiefdoms of Mwenechifungwe, Muyombe, and Mwenewisi, in addition to other tribes who have settled in Mafinga including the Tumbuka, Lambiya, Fungwe, and Nyika. An initial assessment points out that their social and cultural identity, although distinct, does not make them vulnerable or disadvantaged, as all Zambians belong to a tribe. Therefore, although this safeguards standard is triggered, a separate Indigenous Peoples Planning Framework will not be prepared.

*Standard on Community Health and Safety* – This Standard is not triggered as the project is highly unlikely to have an impact on community health, safety, and security.

*Standard on Pest Management* – The activities are not expected to trigger the Standard on Pest Management. While the project might support community woodlots (under Component 2), it will not support the procurement or use of pesticides or other agricultural chemicals, or lead to the increased use of such chemicals. The ESMF will include guidance to this effect.

*Standard on Cultural Resources* – This Standard is not triggered as the project is highly unlikely to have an impact on cultural resources.

A Safeguards and Monitoring, Evaluation and Learning (MEL) Officer will be hired in the PMU to implement the ESMF and PF and conduct compliance monitoring, supervision, and reporting. The EAs will implement the ESMF and associated monitoring, and where there might be gaps in capacity, the Safeguards and MEL Officer will build capacity through trainings and collaboration.

A project-level grievance mechanism will be developed in the first six months of implementation, in line with the guidance and principles established in the ESMF/PF. The WWF GEF Agency's grievance mechanism will be available throughout the project lifecycle, and accessible to stakeholders and project-affected peoples.

The final ESMF (including PF) and the Stakeholder Engagement Plan (SEP) will be disclosed on the websites of the EAs for a 30-day public disclosure period and final documentation will be disclosed in country in a locally accessible manner for at least 30 days in order to issue the Safeguards Compliance Memo prior to Agency Approval.

## 2.7 Monitoring & Evaluation

The project monitoring and evaluation plan has been developed in coordination with the Ministry of Water Development, Sanitation and Environmental Protection and shared with other project stakeholders. US\$145,117 has been budgeted for M&E (see section 2.8 - Budget).

The Project will be monitored through the Results Framework (see **Appendix 5**). The Results Framework includes 1-3 indicators per Outcome. The baseline has been completed for each indicator along with feasible targets, set annually where relevant. A methodology for measuring indicator targets is provided. Indicator targets are Specific, Measurable, Achievable, Relevant, and Time-bound (SMART), and disaggregated by sex where applicable. Component 3 of the Results Framework is dedicated to Knowledge Management and M&E.

Relevant Core indicators have been included to provide a portfolio level understanding of progress towards the GEF Global Environmental Benefits (GEBs).

The Safeguards, M&E and Learning Officer (see TOR in **Appendix 6**) will be responsible for gathering M&E data for the annual results framework tracking, and providing suggestions to the Project Manager to improve the results, efficiency and management of the project.

The following is a summary of project reports.

Table 3. Reporting documents for monitoring and evaluation

M&E/ Reporting Document	How the document will be used	Timeframe	Responsible
Inception Report	<ul style="list-style-type: none"> <li>Summarize decisions made during inception workshop, including changes to project design, budget, Results Framework, etc.</li> </ul>	Within three months of inception workshop	PMU Project Manager and M&E Officer
Quarterly Field Report [optional]	<ul style="list-style-type: none"> <li>Inform PMU PM on progress, challenges and needs of activities in field.</li> </ul>	Every three months	Field team
Quarterly Financial Reports	<ul style="list-style-type: none"> <li>Assess financial progress and management.</li> </ul>	Every three months	PMU F&A officer
WWF Project Progress Report (PPR) with annual RF and workplan tracking <sup>72</sup> .	<ul style="list-style-type: none"> <li>Inform management decisions and drafting of annual workplan and budget;</li> </ul>	Every six months	PMU Project Manager and M&E Officer

<sup>72</sup> Note – WWF GEF Agency will prepare the annual GEF Project Implementation Reports based on the PPRs

	<ul style="list-style-type: none"> <li>● Share lessons internally and externally;</li> <li>● Report to the NSC and GEF Agency on the project progress.</li> </ul>		
GEF PIR	<ul style="list-style-type: none"> <li>● Inform GEF SEC on progress towards outcomes and implementation performance</li> </ul>	Annually	WWF-US GEF Project Manager
GEF METT Tracking Tool	<ul style="list-style-type: none"> <li>● Inform GEF SEC on progress towards outcomes/impact relating to protected areas;</li> <li>● Assessment of the project contribution to GEBs.</li> </ul>	CEO endorsement, Mid-term and Final	PMU Project Manager and M&E Officer
Mid-term Project Evaluation Report	<ul style="list-style-type: none"> <li>● External formative evaluation of the project;</li> <li>● Recommendations for adaptive management for the second half of the project period;</li> <li>● Inform NSC, GEF and other stakeholders of project performance to date.</li> </ul>	Midterm	External expert or organization recruited and managed by WWF US
Terminal Project Evaluation Report	<ul style="list-style-type: none"> <li>● External summative evaluation of the overall project;</li> <li>● Recommendations for GEF and those designing related projects.</li> </ul>	Before project completion	External expert or organization recruited and managed by WWF US

Independent formal evaluations have been budgeted by the project and will adhere to WWF and GEF guidelines and policies. The Midterm Evaluation will be conducted within six months of the midpoint of the project and the Terminal Evaluation will be completed before the official close of the project. The evaluations provide an opportunity for adaptive management as well as sharing of lessons and best practices for this and future projects. The GEF Operational Focal Point will be briefed and debriefed before and after the evaluations and will have an opportunity to comment on the draft and final report.

An annual reflection workshop has been budgeted for the PMU, MWDSEP, WWF Zambia and other project partners that play key technical roles to review project progress and challenges to date, taking into account results framework tracking, work plan tracking, stakeholder feedback and quarterly field reports to review project strategies, risks and the theory of change (ToC). The results of this workshop will inform project decision making (i.e., refining the ToC, informing PPRs and AWP&Bs).

## 2.8 Budget

The total GEF project funding is USD \$2,889,155, and the total project co-financing is USD \$21,849,200 over a period of 5 years. A summary budget (by outcome and output) appears below, and a detailed indicative project budget is in **Appendix 8**.

<b>ANNUAL BUDGET SUMMARY by Outcome and Output</b>	
CATEGORY	PROJECT TOTAL
<b>Component 1. Protected area management and establishment in the Luangwa headwaters</b>	<b>1,350,829</b>
<b>TOTAL OUTCOME 1.1 : Improved management effectiveness of Mafinga Hills National Forest Reserve (MHNFR) in the Luangwa headwaters (Mafinga District).</b>	<b>567,300</b>
Output 1.1.1. Boundary demarcation of Mafinga Hills NFR (with beacons)	162,062
Output 1.1.2 . Participatory management plan for Mafinga Hills NFR developed and endorsed	202,512
Output 1.1.3 Assisted regeneration of degraded forest and grassland areas undertaken through community engagement	109,654
Output 1.1.4 Training, capacity building and operational support for management of Mafinga Hills NFR and surrounding areas	93,073
<b>TOTAL OUTCOME 1.2. Enhanced protective status of the source of the Luangwa River</b>	<b>783,529</b>
Output 1.2.1. Water Resource Protection Area (WRPA) proposal prepared for submission to the Minister of MWDSEP	783,529
<b>Component 2: Community management of the Upper Luangwa Sub-catchment (Mafinga District)</b>	<b>1,144,772</b>
<b>TOTAL OUTCOME 2.1 Buffer zone and community lands under improved management to benefit biodiversity and ecosystem services in the Luangwa headwaters</b>	<b>1,144,772</b>
Output 2.1.1 Community landscape management plans and conservation agreements negotiated with local farmers and monitored	178,667
Output 2.1.2 Key climate-smart agriculture actions by farmers around the Mafinga Hills NFR supported and linked to markets	687,614

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Output 2.1.3 Community woodlots provided through natural regeneration areas to reduce forest loss from wood fuel gathering within Mafinga Hills NFR	126,495
Output 2.1.4. Participatory designation and management of community forest areas undertaken with communities outside Mafinga Hills NFR	151,995
<b>Component 3: Knowledge management and Monitoring and Evaluation (M&amp;E)</b>	<b>263,026</b>
<b>TOTAL OUTCOME 3.1 Increased knowledge of sustainable catchment management supports replication of the project approach in other headwater areas</b>	<b>117,909</b>
Output 3.1.1. Cross-sectoral communication strategy developed and implemented to support sustainable catchment management in headwater areas	66,755
Output 3.1.2. Knowledge products designed and distributed to relevant stakeholders	51,155
<b>TOTAL OUTCOME 3.2. Informed and adaptive project management</b>	<b>145,117</b>
Output 3.2.1. Project M&E plan implemented and project progress reports, results framework, midterm evaluation and terminal evaluation used to inform adaptive management	145,117
<b>COMPONENT 4 Project Management Costs</b>	<b>130,529</b>
<b>TOTAL PROJECT COSTS</b>	<b>2,889,155</b>

## 2.9 Private Sector Engagement

The project will engage with the private sector in relation to sustainable land management in the project area, including national and local partners. Private sector organizations will assist in the processing and marketing of agricultural and forest products in the targeted communities involving cooperatives and community forest management groups. In this regard, a close connection will be established, among others, with the Community Markets for Conservation (COMACO) initiative, a social enterprise that has been operating for some 15 years in Eastern Zambia and has established and partnered with ~80 community cooperatives in the region, including relevant experience in Muchinga Province and Mafinga District. COMACO is a non-profit company limited by guarantee that works in partnership with government to support its efforts in service delivery, especially serving the most rural and remote communities. COMACO's core strengths include wildlife conservation through changing poachers into farmers, bee-keeping and other NTFP commodities to support sustainable forest management, extension support for conservation farming linked to community conservation agreements, and marketing of sustainable produce through value chains. It currently has two processing centres in Chinsali and Mpika (Muchinga Province), representing marketing infrastructure for involved communities that adds value through processing and packaging of products for sale to consumers. COMACO was identified as a potential project contributor and co-financier during project concept development, and further consultations at national and provincial levels during the PPG have confirmed COMACO's willingness to participate and contribute significant cofinancing towards the implementation of Component 2 in particular.



Potentially COMACO can provide sensitisation and awareness raising extension services, support an out-grower scheme by providing markets for products, and provide capacity development for cooperatives.

## SECTION 3: GEF ALIGNMENT AND JUSTIFICATION

### 3.1 Incremental Cost Reasoning and Global Environmental Benefits

Building off a baseline of largely sector-focused and site-specific activities, the project will adopt a cross-sectoral and community-government-private sector approach to connect land and water use planning and management in the Luangwa upper sub-catchment, to generate biodiversity, land management and livelihood benefits. In this regard, the project will support integrated land and water management and forest restoration in the Luangwa upper sub-catchment and will balance the need for sustainable economic and livelihoods development in Mafinga District with environmental and conservation priorities for the Luangwa upper sub-catchment. This will be achieved through: i) protecting critical upper watersheds; and ii) supporting communities and private sector in sustainable land and water management practices to reduce land and water resources degradation in the headwaters.

In the baseline, a combination of inadequate protection of the forests and river headwaters and shifting agriculture and agricultural expansion is causing deforestation and forest degradation in the Luangwa’s upper sub-catchment area. There are no systems in place for catchment management, sustainable land management or community forestry practices to prevent environmental degradation that in turn will impact watershed ecosystem services and downstream ecosystems and populations. While the policy, legislative and institutional basis exists for establishing WRPA to protect priority headwater areas such as the Luangwa’s Upper Sub-catchment, this mechanism has yet to be demonstrated and shown to be workable. In the proposed GEF Alternative, the management of Mafinga Hills NFR covering much of Mafinga Hills KBA will be strengthened in order to secure the ecological integrity of key headwater streams. A participatory process will engage communities and other local stakeholders in negotiating the scope and regulations for a WRPA in the surrounding high priority headwater areas on community lands. Sustainable management of the remaining community lands in the project area will be supported through technical assistance and capacity development for conservation agriculture, community forestry and other livelihood interventions linked to participatory landscape management plans and community conservation agreements that aim to secure the ecological integrity of this key headwater area. The global environmental benefits arising are expected to include improved management effectiveness of Mafinga Hills NFR (15,500 ha); a WRPA covering at least 25,000 ha of the headwaters; and reduced threats to the forests of the NFRs and surrounding landscape areas through sustainable land and forest use over at least 40,000 ha; together contributing towards improved security of water quality and flow in the river headwaters and ecosystem service provision for the whole Luangwa Catchment.

Table 4. Incremental reasoning for the GEF Alternative

Baseline	Proposed Alternative	Environmental Benefits
<b>Component 1: Protected area management and establishment in the Luangwa headwaters</b>		
In the targeted area of the Luangwa headwaters, forests are protected in 3 National Forest Reserves and their surrounding areas, and forest also remains outside of these areas in the productive landscape. The forest reserves	Led by the District of Mafinga under the Environmental Management Department of MWDSEP, the project will support a participatory approach towards Mafinga Hills NFR	Increased community engagement and management effectiveness of the Mafinga Hills National Forest Reserve

<p>are key to the protection of the Luangwa headwaters, especially Mafinga Hills NFR, in which the source of the Luangwa is located. The NFRs are managed by the District of Mafinga, however, they have very few staff and limited resources. Current levels of management effectiveness are low, with a lack of systematic management, limited community engagement, no monitoring, little enforcement capacity and a lack of transportation and equipment for fieldwork.</p>	<p>demarcation, forest management plan development, patrolling and law enforcement, fire management and assisted natural regeneration, to protect the forests around the Luangwa river source and to restore degraded areas.</p>	<p>(15,500 ha) of the Luangwa headwaters, contributing towards enhanced biodiversity conservation, improved security of water quality and flow in the river headwaters and ecosystem service provision for the whole Luangwa Catchment.</p>
<p>Zambia's 2011 Water Resources Management Act defines a WRPA as an area "where special measures are necessary for the protection of a catchment, sub-catchment or geographic area," further defined in the Technical Content for the Statutory Instruments for Water Resource Protection Areas for Zambia. However, no WRPAs have been designated yet, nationally. Land cover mapping of the Luangwa headwaters area in Mafinga District (<b>Map 2 in Appendix 1</b>) shows that forest cover is being lost to unsustainable agricultural practices in the absence of effective protection and sustainable management, representing degradation of the watershed and threatening the water quality and natural flow regime of the Luangwa River.</p>	<p>The project will support a process of biological and physical surveys to identify key areas for protection within the Luangwa headwaters, consultation with communities to assess the level of support for WRPA designation, and participatory development of proposed restrictions and regulations; and based on that, submission of a WRPA proposal to the Minister of MWDSEP, and its subsequent approval and implementation.</p>	<p>Increased protection and community co-management of the forest and land of at least 25,000 ha of the Luangwa headwaters, leading to improved security of water quality and flow in the river headwaters and ecosystem service provision for the whole Luangwa Catchment, including benefits to downstream floodplain ecosystems and human populations.</p>
<p><b>Component 2: Community management of the upper Luangwa Sub-Catchment (Mafinga District)</b></p>		
<p>A small number of villages are utilizing the forests of the NFRs, which is leading to forest degradation. This includes offtake of wood for fuel wood or charcoal and exploitation of wildlife resources. Most significantly, shifting agriculture and agricultural expansion is causing deforestation and forest degradation in the upper sub-catchment area.</p> <p>Mafinga District government and the Ward Development Committees are actively involved in the planning process and appear ready to take a monitoring role in development projects. The Wards to be involved in the project have draft Development Plans. In addition, some traditional leaders are focused on ensuring that natural resources are well managed.</p>	<p>The project will demonstrate a participatory approach to sustainable catchment management that includes conservation agriculture, community forestry and sustainable livelihoods focused on the headwaters to reduce land and forest degradation that contribute towards the loss of biodiversity and ecosystem services.</p> <p>This will be achieved through: establishing participatory landscape management plans and community conservation agreements, followed by capacity development and technical assistance for introducing climate-resilient conservation agriculture to farmers around the Mafinga Hills NFR. The project will</p>	<p>Reduced threats to the forests of the NFRs and surrounding landscape areas through sustainable land and forest use over at least 40,000 ha, leading to reduced forest loss and degradation and reduced land degradation in the headwaters. This will contribute towards the protection of the globally significant forests and wildlife of the upper sub-catchment, as well as protection of the river source and the associated ecosystem services that</p>

<p>In Mafinga District, there are two large rural development projects in progress, being implemented through government structures: SCRALA – a 7-year GCF-UNDP/FAO/WFP project executed by Ministry of Agriculture through MNDP/NDA, which aims to increase climate resilience of smallholder farmers; and TRALARD, WB project that aims to improve natural resource management, sustainable and resilient livelihoods. In addition, the WECSZ has a Conservation and Forest Management project supporting the Mafinga Hills KBA.</p> <p>COMACO, a private sector entity that supports conservation farming and markets, is working in Mafinga District, but not in the specific area targeted by this project.</p> <p>Within the productive landscape, the District has identified seven possible areas that could be designated as community forest but have not had the resources to undertake a process of community consultation and participative designation and management of such areas.</p>	<p>identify and develop market linkages for agricultural products through existing social enterprises (such as COMACO).</p> <p>Support will be provided to establish native woodlots through assisted natural regeneration (600 ha) to reduce offtake of timber for fuelwood from the Mafinga Hills NFR.</p> <p>The Mafinga District forestry staff have identified potential areas to be designated as community forest areas – these will be assessed, and some community forests will be designated and managed as an alternative to accessing resources from Mafinga Hills NFR.</p>	<p>support the Luangwa Catchment's downstream floodplain habitats and wildlife, human population and local economy.</p>
<p><b>Component 3: Knowledge management and monitoring and evaluation</b></p>		
<p>As a headwater area, water resource management needs to be considered as a key element of the overall land use planning for these areas under community tenure. Under the National Water Policy 2010, the focus is on managing water resources using the catchment as the management unit. This approach centres on empowering stakeholders in a particular locality with the ability and responsibility to make decisions regarding the management of water resources in a specific catchment.</p> <p>However, this approach to sustainable catchment management has not been demonstrated in the project area and no WPRPAs have been established in Zambia as yet. Local government at the District and Ward levels lack the experience of conducting integrated catchment management.</p>	<p>The project will establish an effective strategy for knowledge management and sharing of project lessons. Stakeholder engagement activities will be undertaken to identify appropriate knowledge products to be distributed to users at national, local, catchment and community levels. By making knowledge available to all stakeholders, the project will contribute towards the replication of the upper sub-catchment management approach, including the WRPA model and community engagement in sustainable land and forest management, within the Luangwa catchment, across Zambia, and in other Zambezi river basin countries.</p>	<p>Sharing of knowledge and lessons on sustainable catchment management for the targeted headwaters area will facilitate the replication of the project approach in other headwater areas in line with MWDSEP's approach to catchment management, and inform catchment management efforts in other countries.</p>

**Global environmental benefits**

Overall, the project will contribute towards:

- Protection of miombo woodland and associated globally significant habitats, designated by Conservation International as one of five High Biodiversity Wilderness Areas and by WWF as one of the Global 200 Ecoregions;
- Increased protection of the Mafinga Hills NFR, which is part of the Mafinga Mountains Key Biodiversity Area and the Eastern Afromontane biodiversity hotspot, hosting biome-restricted bird species including 20 Afromontane endemics and 14 near-endemics, as well as Blue Swallow *Hirundo atrocaerulea* (VU) and African Crowned Eagle *Stephanoaetus coronatu* (NT);
- Increased protection of the Luangwa headwaters, one of Africa's largest free-flowing rivers, providing watershed services to floodplain ecosystems downstream including the Luangwa Floodplains Ramsar Site, and the North and South Luangwa National Parks, whose exceptionally rich wildlife populations are sustained by the river's natural flow regime; and,
- Protection of ecosystem services that benefit the communities of the Luangwa Catchment (water provision for crops and household use, fisheries, natural buffering of floods and low flows, etc).

Specifically, the proposed project will contribute to four GEF Core Indicators: i) terrestrial protected areas created or under improved management for conservation and sustainable use; ii) area of forest land restored; iii) area of landscapes under improved practices; and iv) number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment.

***Core Indicator 1: Terrestrial protected areas created or under improved management for conservation and sustainable use***

Under Component 1, a proposal to designate a WRPA in the Luangwa upper sub-catchment will be submitted — based on recognition as critical upper watersheds for the Luangwa river. The WRPA will be further protected through the development of the management plan for Mafinga Hills NFR (Sub-Indicator 1.1: Terrestrial protected areas newly created and Sub-Indicator 4.1: Area of landscapes under improved management to benefit biodiversity). The management plan for Mafinga Hills NFR will include: i) restrictions on land-use within the NFR; and ii) actions to remediate land degradation and conserve biodiversity. It is provisionally estimated that the WRPA proposal will result in a new protected area of 25,000 ha.

Mafinga Hills NFR will be brought under improved management (see **Appendix 11** for the MFNFR METT) through project support (Sub-Indicator 1.2: Terrestrial protected areas under improved management effectiveness). Mafinga Hills NFR is where the Luangwa river source is located, and this project support will result in increased protected area management effectiveness for 15,500 ha.

***Core Indicator 3: Area of land restored***

Contributing to Sub-Indicator 3.2, the project will support around 900 ha of forest and forest land restored. This will be achieved through assisted regeneration of 300 ha of degraded forest in the area of the source of the Luangwa River inside the Mafinga Hills NFR, and 600 ha outside the NFR under community management.

***Core Indicator 4: Area of landscapes under improved practices***

Environmentally sustainable livelihoods introduced under Component 2 will improve the management of the Luangwa headwaters for an estimated area of 40,000 ha (Sub-Indicator 4.3: Area of landscapes under sustainable land management in production systems). The engagement of communities in sustainable water and land-use practices (such as community forest management and conservation agriculture under the

framework of landscape management plans and community conservation agreements) will result in sustainable land-use management of the critical water source areas for the Luangwa river.

**Core Indicator 11: Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**

The proposed project will directly benefit approximately 2500 farmers/community members in the headwaters. Of these, it is expected that around c.50% will be women, based on actual figures from COMACO on farmers supported in both Muchinga and Central Provinces, and by project activities to proactively support women in conservation farming. Women, as well as female-headed households, will be engaged to contribute to environmentally sustainable livelihoods that will support them in safeguarding natural resources and promoting their economic development (see Section 2.5 above). It is estimated that around 100 government staff will receive direct project support, such as training, tools and equipment. The project will also indirectly benefit the downstream population through sustained river flows, comprising a large proportion of the ~1.8 million people residing in the Luangwa Catchment<sup>73</sup>. Some 25 chiefdoms rely on the Luangwa River for water, food and livelihoods. The entire economy of the Luangwa Valley, based primarily on tourism and agriculture, is reliant on the river<sup>74</sup>.

Table 5. GEF Core Indicators for the project

Project Core Indicators		Expected at PIF
1	<b>Terrestrial protected areas</b> created or under improved management for conservation and sustainable use (Hectares)	40,500
2	<b>Marine protected areas</b> created or under improved management for conservation and sustainable use (Hectares)	
3	Area of <b>land restored</b> (Hectares)	900
4	Area of <b>landscapes under improved practices</b> (excluding protected areas) (Hectares)	40,000
5	Area of <b>marine habitat under improved practices</b> (excluding protected areas) (Hectares)	
	Total area under improved management (Hectares) <i>(The 900 ha total for habitat restoration is not additional to Core Indicators 1 and 4).</i>	80,500
6	<b>Greenhouse Gas Emissions Mitigated</b> (metric tons of CO <sub>2</sub> e)	
7	<b>Number of shared water ecosystems</b> (fresh or marine) under new or improved cooperative management	
8	Globally over-exploited <b>marine fisheries</b> moved to more sustainable levels (metric tons)	
9	<b>Reduction</b> , disposal/destruction, phase out, <b>elimination</b> and avoidance of <b>chemicals of global concern</b> and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)	
10	Reduction, avoidance of emissions of <b>POPs to air</b> from point and non-point sources (grams of toxic equivalent gTEQ)	
11	Number of <b>direct beneficiaries disaggregated by gender</b> as co-benefit of GEF investment	2,600 (1310 men, 1290 women)

<sup>73</sup> World Bank. 2010. The Zambezi River Basin: A multi-sector investment opportunities analysis. *State of the Basin*, 3.

<sup>74</sup> <https://news.mongabay.com/2019/07/zambia-halts-plans-to-dam-the-luangwa-river/>

### 3.2 Alignment with GEF Focal Area Strategies

This is a multi-focal area project aligned with the GEF-7 Focal Areas of Biodiversity and Land Degradation.

*Objective BD-1-1: Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors.*

In line with the GEF 7 Biodiversity priorities, the project will support the mainstreaming of biodiversity into local farming and land use in the Luangwa headwaters under Component 2 through participatory land use planning for the project landscape area that takes into account the protection of important biodiversity features including aquatic, forest and grassland habitats as well as the maintenance of catchment ecosystem services that benefit downstream habitats and communities.

*Objective BD-2-7: Address direct drivers to protect habitats and species and improve financial sustainability, effective management, and ecosystem coverage of the global protected area estate.*

The project will increase coverage and strengthen the protection of the global protected area estate under Component 1 by delivering increased forest under protected area status (estimated 25,000 ha under proposed WRPA status) and improving protected area management effectiveness for an area of at least 15,500 ha of National Forest Reserve. The project will increase the management effectiveness of the Mafinga Hills National Forest Reserve in the Luangwa headwaters by developing a participatory forest management plan (including fire management), demarcating NFR boundaries, undertaking assisted natural regeneration of degraded forest areas, and providing training and operational support for patrolling and monitoring activities. The project will also complete a proposal for the above-mentioned WRPA including baseline assessment surveys, community consultations, proposed boundaries and regulations, and development of a resource strategy and plan.

*Objective LD-1-4: Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape.*

The project is well aligned with the Land Degradation focal area focus on addressing drivers of land degradation through a comprehensive integrated landscape management approach. The project will address the main threats to land conservation in the upper catchment of Luangwa, including shifting agriculture, unsustainable local farming practices, and unregulated wood offtake in woodlands, all of which have led to land and forest degradation and deforestation impacting water flow and quality in the Luangwa River catchment. The project will address barriers to reducing land degradation in the Luangwa upper sub-catchment through the roll out of local level sustainable land use practices over an estimated area of 40,000 ha.

Through the proposed Water Resource Protection Area, and community-based forest management and land management through interventions in conservation agriculture with private sector partners, the project will improve management of protected areas and agricultural land in a critical upper sub-catchment area, to deliver multiple environmental benefits including forest protection, wildlife and habitat conservation, resilience and land protection.

### 3.3 Socioeconomic Benefits

Beneficiaries of the project will consist of communities resident in the project target area in the Luangwa Upper-Sub-catchment area in Mafinga District, and downstream populations in the Luangwa Catchment.

The communities in the Upper Sub-catchment will benefit directly through the project's support for more sustainable and productive land uses including climate resilient conservation agriculture practices, community forestry management and other forms of sustainable livelihood together with improved marketing links. The establishment of community forest agreements under the Forestry Act (2015) confers benefits in the form of the rights to form Community Forest Management Groups, the right to issue community permits and collect revenue for forest products and uses; secure tenure through forest user rights; and economic rights for forest uses and products including rights to harvest and trade in forest products; and rights to control access through development and enforcement of local rules to facilitate effective management of the forest.

Approximately 2,500 local people are estimated to be the direct beneficiaries of these activities, including at least 50% women. The improved sustainability of catchment management will also help to secure river headwater flows for local as well as downstream use, and the retention and restoration of forest cover will provide ecosystem-based adaptation benefits to local communities, enhancing their climate-resilience.

The Luangwa river is an essential source of water for adjacent populations, with c.1.8 million people residing in the Luangwa Catchment<sup>75</sup>, providing water for irrigated agriculture<sup>76,77</sup>, household use and hydropower<sup>78,79,80</sup> in the downstream area of the catchment. Consequently, improved protection of the headwaters and sustainable land management in the Luangwa Upper Sub-Catchment will contribute towards water and food security for these downstream human populations. The river's seasonal changes support vibrant communities that are spread across 25 chiefdoms, as well as a growing \$27 million tourism industry that is based on some of Africa's most valued wildlife populations including some of the highest concentrations of elephants and hippos in Africa, and globally important biodiversity assets that include the Luangwa Floodplains Ramsar site<sup>81, 82</sup>, six National Parks, eight Game Management Areas, and National Forest Reserves covering some 68,812 km<sup>2</sup> - around 50% of the total catchment area.

A recent study of the benefits of forest ecosystems in Zambia<sup>83</sup> included consideration of soil erosion and transport modelling (using INVEST) through which it was estimated that current rates of sediment output nationally are in the order of 250 million tonnes (average 2.23 tonnes per ha), while forests retain a further 274 million tonnes, generating a cost saving in the order of US\$247 million per annum. It also noted that the loss of forest cover over large areas could result in reduced precipitation in the region, impacting on flows, water yields and hydropower generation, and driving up the costs of electricity. The project approach will contribute towards such benefits, although related economic valuation details are not available specifically for the Luangwa catchment.

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<sup>75</sup> World Bank. 2010. The Zambezi River Basin: A multi-sector investment opportunities analysis. *State of the Basin*, 3.

<sup>76</sup> Extraction for irrigation is currently low, ~120 km<sup>3</sup> annually, but the potential for extraction is high.

<sup>77</sup> World Bank. 2010. The Zambezi River Basin: A multi-sector investment opportunities analysis. *State of the Basin*, 3.

<sup>78</sup> Three small hydropower stations are located on tributaries of the Luangwa river, Lusiwasi (12 MW) operated by ZESCO; Mita Hills (24 MW) and Mulungushi (32 MW) operated by Lunsemfwa Hydropower Company. Source: <http://www.warma.org.zm/catchments-zambia/luangwa-catchment-2/>

<sup>79</sup> Global CSS Institute. 2012. A risky climate for southern African hydro: assessing hydrological risks and consequences for Zambezi River basin dams. Available online at: <https://hub.globalccsinstitute.com/publications/risky-climate-southern-african-hydro-assessing-hydrological-risks-and-consequences-zambezi-river-basin-dams/>

<sup>80</sup> World Bank. 2010. The Zambezi River Basin: A multi-sector investment opportunities analysis. *State of the Basin*, 3.

<sup>81</sup> The Luangwa Floodplains is Ramsar site no. 1660, WDPA ID 903030.

<sup>82</sup> The Annotated Ramsar List: Zambia. Available online at: [http://archive.ramsar.org/cda/en/ramsar-documents-list-anno-zambia/main/ramsar/1-31-218%5E15789\\_4000\\_0](http://archive.ramsar.org/cda/en/ramsar-documents-list-anno-zambia/main/ramsar/1-31-218%5E15789_4000_0)

<sup>83</sup> Turpie J, Warr B, Ingram JC 2015. Benefits of forest ecosystems in Zambia and the role of REDD+ in a Green Economy transition. UNEP, Nairobi.

### 3.4 Risks and proposed Mitigation Measures

The key risks that could threaten the achievement of results through the chosen intervention strategy are shown in **Table 6** below. The risk rating is based on the probability (P) of a given risk occurring combined with its potential impact (I) on the success of the project. The risk assessment matrix used for scoring is shown in **Table 7**. For further information on climate change related risks see the Climate Change Risk Screen (see **Appendix 16**), and for further information on COVID-19 related risks and opportunities see **Appendix 17**.

Social and environmental risks identified during the WWF Environmental and Social Safeguards assessment process are described separately (see **Section 2.6**).

Table 6. Risks and proposed mitigation measures

#	Identified risk	Potential consequence	Mitigation measures	Risk rating (R) & Category (C)	Probability (P) & Impact (I) (1–5)
1	There is limited uptake of sustainable forest and land management approaches by stakeholders, or they cease to implement interventions after project lifetime.	If there is limited uptake by stakeholders or if they cease to implement project interventions after the project lifetime, it would result in continued unsustainable land use practices causing land and forest degradation.	<ul style="list-style-type: none"> <li>Stakeholders will be actively involved in the design, development and implementation processes of the project, through a bottom-up approach.</li> <li>Awareness will be raised on environmental conservation through sustainable use of natural resources.</li> <li>Collaborative natural resource management arrangements including community forestry and community-based WRPA management that provide stakeholders with a role in resource management</li> <li>Livelihood interventions, capacity development and provision of equipment will provide socioeconomic benefits to participants</li> </ul>	R = Medium C = Social	P = 3 I = 4
2	Disagreement among stakeholders with regards to their different roles and	Project interventions could be delayed or duplicated because of uncertain role allocation.	<ul style="list-style-type: none"> <li>Capacities of relevant government department staff and community leaders will be developed, resulting in better delineation of their</li> </ul>	R = High C = Institutional	P = 3 I = 4



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	responsibilities in the project.	Effectiveness of project execution would be reduced.	<p>roles in project implementation.</p> <ul style="list-style-type: none"> <li>● Transparent application of objective criteria for determining community / stakeholder engagement in project activities</li> <li>● Stakeholder Engagement Plan and Safeguards Screening ensure clear and fair basis for stakeholder involvement</li> </ul>		
3	Capacity constraints of local and national institutions to undertake the required project interventions.	Project interventions could be delayed and there may be insufficient capacity to overcome potential implementation challenges.	<ul style="list-style-type: none"> <li>● Institutional and technical capacities of government line departments will be developed as part of the implementation process.</li> </ul>	R = Medium C = Institutional	P = 3 I = 2
4	Insufficient financial capacity limits the replicability of project interventions as well as the implementation of project-sponsored plans and strategies.	Interventions do not scale beyond the project area and lifespan. The government cannot implement plans and strategies.	<ul style="list-style-type: none"> <li>● An upscaling strategy will be developed and institutionalised. This strategy will focus on cost-effective implementation measures.</li> </ul>	R = Medium C = Economic	P = 3 I = 3
5	High turnover of staff members in implementing and executing agencies.	Staff turnover could lead to the loss of institutional knowledge regarding project interventions, and less effective implementation.	<ul style="list-style-type: none"> <li>● Relationships with the appropriate individuals in respective government bodies will be established through clear institutional mandates for roles and responsibilities in the project</li> <li>● A knowledge management platform will be developed to facilitate the transfer of knowledge regarding project interventions.</li> <li>● Many activities will be conducted through community-led intervention</li> </ul>	R = Medium C = Institutional	P = 4 I = 4

			processes that carry lower risks of personnel turnover		
6	Other economic developments, such as hydropower, dam or highway construction, may compete with the implementation of project activities.	Project activities may be compromised, resulting in continued unsustainable land use and management and continued degradation of the sub-catchment.	<ul style="list-style-type: none"> <li>• Critical upper watersheds will be identified and related management plans will be developed to provide a basis for appropriate trade-offs.</li> <li>• The project's landscape approach will promote sustainable development pathways including environmental management of development projects</li> </ul>	R = High C = Economic	P = 2 I = 5
7	Unfavourable climate conditions, including current climate and seasonal variability and/or extreme weather events may negatively affect project implementation.	Access to the project landscape as well as project supported agriculture and sustainable land and water management interventions could be negatively impacted, hindering progress towards a sustainable economy for the sub-catchment's population.	<ul style="list-style-type: none"> <li>• Current climatic variability has been taken into account in the design (see <b>Climate Change Risk Screen in Appendix 16</b>) and will be considered during the implementation of all interventions.</li> <li>• The project will support conservation agriculture, such as drought-resilient variants of crops and other plants; fire management; and community forestry as a form of ecosystem-based adaptation. Other adaptive measures to increase the climate-resilience of local communities (eg rainwater harvesting) will be considered.</li> <li>• Field operations will make use of locally-based staff supported by telecommunications as far as possible, and scheduling of field activities will take account of seasonal rains in order to avoid disruption.</li> </ul>	R = High C = Environmental	P = 2 I = 4
8	Risk of the ongoing COVID-19 Pandemic or other human	During project preparation, the COVID-19 pandemic	<ul style="list-style-type: none"> <li>• The project will comply with government directives including travel restrictions in</li> </ul>	R = High	P = 3 I = 5

	disease outbreaks affecting project implementation	halted all international travel and social distancing measures largely prevented PPG stakeholder meetings taking place from March 2020. At the time of writing (July 2021), the scale, duration and impact of this pandemic upon project implementation cannot be confirmed, but it has the potential to be High. (See COVID-19 Analysis and Action Plan in <b>Appendix 17</b> for further information).	<p>order to reduce health risks to project staff and stakeholders. The project will also follow WWF Zambia internal policy and directives for field activities, meetings, etc.</p> <ul style="list-style-type: none"> <li>● Project start-up may be delayed or implementation may be paused if necessary in affected areas while government public health control measures are implemented, and resumed at a later time if feasible. The original project duration of 48 months has been increased to 60 months to provide more flexibility to cope with such risks.</li> <li>● The National Steering Committee will guide project responses for ongoing situations, as required.</li> <li>● Revision of the project workplan may be necessary, and an extension request may be required if implementation is substantially delayed.</li> <li>● Some adaptive adjustments may be needed to project strategy (eg on community livelihood development).</li> <li>● Project support for PPE and IT communications to facilitate remote working will be provided through the project budget.</li> </ul>	C = Social/Environmental	
9	Impacts of exchange rate fluctuations on the budget available to support implementation plans, and economic	The first year of the COVID-19 pandemic in 2020-21 saw the greatest disruption of financial markets and currencies in recent	<ul style="list-style-type: none"> <li>● The budget will be reviewed during project inception and any necessary measures taken to address any shortfalls due to exchange rate fluctuations between</li> </ul>	R = High C = Financial	P = 3 I = 5

	recession or changes in government priorities impacting delivery of cofinancing commitments for project implementation	decades, including shifts in the value of the USD against local currencies, adding uncertainty to the budgeting of activities. There is a significant risk of global and national economic recession impacting cofinancing commitments for project implementation. The national government could change its priorities in relation to COVID-19 impacts on the national economy, for example to stimulate economic development. (See COVID-19 Analysis and Action Plan in <b>Appendix 17</b> for further information).	<p>the GEF approved budget and project start up.</p> <ul style="list-style-type: none"> <li>Annual budget reviews will track and respond to subsequent fluctuations.</li> <li>Changes in the scope or timing of planned activities may be necessary through workplan adjustments.</li> <li>The National Steering Committee will monitor and address any significant financial constraints arising due to exchange rate fluctuations and any delays or failures in cofinancing delivery.</li> </ul>		
10	Risk that livelihood incentives are insufficient or not materialized to change behaviour towards achieving intended conservation outcomes, potentially exacerbated by COVID19 impacts	Project-supported CA, community forestry and other sustainable livelihood activities may not gain the traction needed to actually reduce unsustainable land uses, deforestation and forest degradation, which could be exacerbated if economic hardship associated with COVID19 impacts occurs in this part of Zambia. (See COVID-19 Analysis and Action Plan in <b>Appendix 17</b>	<ul style="list-style-type: none"> <li>Incentives such as basic equipment and small loans and technical assistance for sustainable livelihood activities will be targeted in specific areas where there are clear threats to resolve, including support for any COVID19 affected communities.</li> <li>Further to PPG consultations and the Stakeholder Engagement Plan and Gender Action Plan, proposals for livelihoods will be based on consultation and agreement of local communities and traditional leaders, and socialized before uptake.</li> </ul>	R = Moderate C = Social	P = 2 I = 2

		for further information).	<ul style="list-style-type: none"> <li>Local ownership for sustainable land and natural resource management will be strengthened through the participatory landscape management planning process and environmental awareness raising, that should help to mitigate the risk of non-materialization of livelihood incentives.</li> <li>As far as possible, the project will seek to embed incentives and TA within government programmes and build local capacity for line agency support to strengthen sustainability of CA, Community Forestry and other livelihood support.</li> </ul>		
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Table 7. Risk assessment matrix

Risk Assessment Matrix						
		Impact				
		5-Critical	4-High	3-Medium	2-Low	1-Negligible
Probability	5- Certain / Imminent	High	High	Substantial	Moderate	Low
	4- Very Likely	High	Substantial	Substantial	Moderate	Low
	3-Likely	Substantial	Substantial	Moderate	Low	Low
	2-Moderately Likely	Moderate	Moderate	Low	Low	Low
	1- Unlikely	Low	Low	Low	Low	Low

A climate change risk analysis was conducted during the PPG (see **Appendix 16**), which reviewed potential climate risks to the project intervention. At present, there is limited evidence of local impacts of climate change. During consultations, local communities mentioned the delayed start and end of the rain season (although its duration appears to be relatively unchanged) and heavy periods of rainfall as signs of change. Due to the short rainfall seasons, there is a threat to the potential for absorption of water in the Mafinga Hills, and hence potentially reduced flow or supply into the many rivers originating in the hills. A climate change vulnerability study conducted under the TRALARD Project demonstrated the vulnerability of Mafinga District, stating that Mafinga exhibits high levels of exposure, moderately high levels of sensitivity, moderate levels of adaptive capacity and, ultimately, high vulnerability. This high vulnerability is primarily driven by significant rainfall variability, prevalent drought conditions, high flood risks, low soil moisture, steep slopes, low levels of

access to safe water, large distances to the electricity grid and cities, low household wealth, poor infrastructure development and low surface water availability<sup>84</sup>. The main operational risks to the project are the potential for delay and disruption of project activities as a result of periodic flooding events; potential impacts on farmers’ yields due to flooding or drought periods; and the increased risk of fires associated with drought periods affecting forest conservation and restoration efforts in the project landscape. These risks and mitigation measures are shown as Risk 7 in **Table 6** above.

### 3.5 Consistency with National Priorities or Plans

The project is fully aligned with, and contributes to, national priorities for biodiversity and sustainable land management, and contributes directly towards the Republic of Zambia’s implementation of international multi-lateral environmental agreements (MEAs), especially the Convention on Biological Diversity (CBD), the UN Convention to Combat Desertification (UNCCD), the Convention on Wetlands of International Importance (Ramsar Convention), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement of 2015. The Government’s development goals support the national implementation of these MEAs and also complement efforts from international development partners for socio-economic and environmental benefits.

The project will contribute directly towards the *UN Sustainable Development Goals (SDGs)*. The proposed project’s primary focus will be on protecting, restoring and promoting sustainable use of terrestrial and freshwater ecosystems, sustainably managing forests, and halting and reversing land degradation and biodiversity loss (SDG 15) in the Luangwa’s upper sub-catchment in Zambia. The project will also contribute directly to SDG 6 on water and sanitation (Target 6.6 states “by 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes”). In addition, the proposed project will contribute towards ending poverty in all its forms (SDG 1), to achieving gender equality and empowering all women and girls (SDG 5), and to take urgent action to combat climate change and its impacts (SDG 13) through adopting climate-resilient approaches to community livelihood diversification and natural resource management.

The project is aligned with the strategies and plans described in **Table 8** below. See **Section 1.4** for national policy analysis details, and **Appendix 18** for a table of legislation and policies relevant to the project.

Table 8. Alignment of the project with national strategies and plans

National Strategies/Plans	Alignment
The 7 <sup>th</sup> National Development Plan 2017–2021 (NDP 7)	<i>The NDP 7 emphasizes an integrated development approach to create a diversified and resilient economy for sustained growth and socio-economic transformation driven, among others, by agriculture, natural resource management, climate and low carbon development pathway. This is in support of Smart Zambia Transformation Agenda 2064 in line with the UN 2030 Agenda for Sustainable Development and the African Union Agenda 2063. Under Development Outcome 7: Improved Water Resources Development and Management, Strategy 1: Enhance</i>

<sup>84</sup> Petrie, B., Rawlins, J., Tsilik, P., Chapman, A., Kalaba, J. (2018). Transforming Landscapes for resilience and Development in Northern and Southern Zambia (TRALARD-Zam) Project: Landscape Vulnerability Decision Support Framework. One World Sustainable Investment, Cape Town, South Africa

	<p><i>Rainwater Harvesting and Catchment Protection</i>, the Government will promote protection and improvement of catchment areas, to protect recharge zones and river sources. The NDP 7 has a strong focus on: i) increasing agricultural production; ii) job creation and increased incomes; and iii) increasing foreign exchange by promoting climate-smart and organic agriculture, as well as sustainable forestry. Priority development outcomes are identified to operationalise the strategy, including <i>inter alia</i>: i) diversified and export-oriented agriculture; ii) diversified tourism; iii) improved energy production; iv) improved water resources development and management; and v) enhanced job opportunities. The proposed project contributes directly to the achievement of these highlighted priorities.</p>
National Environmental Action Plan (1994)	<p>The proposed project aligns with Zambia's National Environmental Action Plan as it will contribute directly to two of the plan's fundamental principles, namely: i) the right of citizens to a clean and healthy environment; and ii) local community and private sector participation in natural resources management. This contribution will be achieved through improving land management practices in the Luangwa sub-catchment, thereby increasing the provision of ecosystem goods and services.</p>
National Conservation Strategy (1985)	<p>The objectives of conservation in Zambia outlined in the Conservation Strategy are to: i) ensure the sustainable use of Zambia's renewable resources; ii) maintain Zambia's biological diversity; and iii) maintain essential ecological processes and life-support systems. The proposed project has a similar objective, but at the level of the Luangwa sub-catchment this objective is to ensure integrated management of natural resources and biodiversity in the sub-catchment through various outcomes. By achieving this objective, the proposed project will contribute to the National Conservation Strategy's objectives.</p>
National Biodiversity Strategy and Action Plan 2 (NBSAP2) (2015) under UNCBD	<p>The NBSAP 2 includes the following goals of direct relevance to the current project (note – some other goals are also relevant):</p> <ul style="list-style-type: none"> <li>● B5: By 2020, the deforestation rate in Zambia is reduced by at least 25%;</li> <li>● B7: By 2025, areas under agriculture, aquaculture and forestry (forest reserves, parks, Game Management Areas, forest concessions, open areas) are managed sustainably, ensuring conservation of biodiversity;</li> <li>● C10: By 2020, Zambia's Protected Area (PA) network is rationalized to achieve representativeness and ecological connectivity at landscape level;</li> <li>● D15: By 2025, Zambia takes deliberate actions to protect critical ecosystems of the Zambezi, Kafue, Chambeshi, Bangweulu and Luangwa watersheds.</li> </ul> <p>Additionally, NBSAP 2 emphasises the need for: i) awareness-raising on biodiversity values; ii) mainstreaming of biodiversity into planning processes and sustainable land management; and iii) the establishment of co-management frameworks for natural resources. The proposed project is aligned with these priorities and, furthermore, directly contributes to the action plan's call for the sustainable management and the mainstreaming of biodiversity into agriculture, aquaculture and forestry.</p>
Poverty Reduction Strategy Paper	<p>This paper — prepared in response to requirements of Zambia's membership in the World Bank — is the central policy document to guide fiscal decisions. In alignment with the priorities presented in the NDP 7, it also places a strong emphasis on</p>

	agriculture, tourism and energy, as well as on social sectors. The interventions proposed for this project are aligned with these priorities.
Zambia's Intended Nationally Determined Contribution (INDC) to the 2015 Agreement on Climate Change	The proposed project is well-aligned with two priority actions in Zambia's INDC. These actions are: i) Priority 3 — protection and conservation of water catchment areas and enhanced investment in water capture, storage and transfer (linked to agriculture, energy, ecological, industrial and domestic use purposes) in selected watersheds; and ii) Priority 4 — institutionalise integrated land use planning compatible with sustainable management of natural resources and infrastructure development.
Zambia's Land Degradation Neutrality National Report (2019)	The proposed project is well aligned with and will contribute to several targets under this report, including: (i) by 2030, the deforestation rate in Zambia is reduced by at least 50%, (ii) by 2030, 50% of agricultural land is under sustainable agricultural practices compared to 2015, (iii) by 2030, increase forest cover by 5% compared to 2015, (iv) by 2030 Catchment Management Plans for the six (6) catchments of Zambia incorporate measures to mitigate or prevent land degradation developed.
Third National Communication to the UNFCCC	The Third National Communication identifies that the largest contributions to GHG emissions in Zambia are from deforestation and forest degradation. The proposed project is in alignment with suggested efforts to reduce GHG emissions such as sustainable forest management and promotion of additional sources of livelihoods to local communities.

### 3.6 Innovativeness, Sustainability & Potential for Scaling up

#### **Innovation**

The project provides a model for protection and management of the critical headwaters of a globally significant river. The project will: increase the protection status of currently unprotected but critical headwater forests; improve the management effectiveness of the protected forests of the river source; and support community sustainable land management in the headwaters, incentivised by links to the market by the private sector. This represents an innovative systems approach to tackling the degradation of the forest and lands of the headwaters, by bringing together multiple government agencies, farming communities, and the private sector. The project also integrates conservation agriculture, community forestry and sustainable livelihoods as a suite of actions that will contribute towards sustainable catchment management within the context of participatory land use planning. While the individual elements may not be new, the demonstration of such an integrated approach within a remote and undeveloped part of Zambia supporting headwater protection is innovative. Finally, while the National Water Policy 2010 and the Water Resources Management Act, No. 21 provide for the establishment of WRPAs to protect headwater areas, this has not yet been applied, therefore this will be the first time such an approach has been demonstrated in Zambia.

#### **Sustainability**

The project's long-term sustainability will be established through building on the existing capacity of relevant institutions in Zambia, including a strong baseline of existing Government and partner programs and initiatives, and by involving relevant stakeholders (including communities and the private sector) in project development and implementation. In this regard, the project will address the following key parameters of sustainability:



*Institutional Sustainability:*

Through the participatory design process followed during the preparation of this project, the ownership and involvement of the relevant Government agencies has been secured, especially the MWDSEP as the project Executing Agency, plus support from the Ministry of Agriculture (for conservation agriculture) and Department of Forestry (for community forestry and NFR management), and especially Muchinga Provincial Administration, Mafinga District Administration as well as the traditional Chiefdoms in the project area. The project-supported development and management of a Water Resource Protection Area under the mandate of MWDSEP is expected to provide a high-profile model that will be used to inform the development of a national system of WRPAs being developed by WARMA with ongoing technical assistance from WWF. As such the continued institutional support of MWDSEP in sustaining the project's results is strongly assured. In addition, the project will have a strong focus on building the capacity of government staff at national and local levels to support sustainable catchment management and its component practices. This will ensure that experiences, lessons learnt, and best practices generated by the project are maintained within the government structure, while integrated and, to a large degree, led by the traditional Chiefdoms at the community level.

*Financial Sustainability:*

The project will build on existing government, ODA and CSO programs to develop local capacity for sustainable catchment management that is rooted in the communities and highly cost-effective as a result of the local benefits associated with community forestry, NTFP collection, conservation agriculture and other sustainable livelihood options, requiring minimal external inputs. The main focus of component 2 of the project is to demonstrate models for community and private sector led approaches that would form the basis of a sustainable catchment economy, with the key objective of ensuring that the landscape plans and investments proposed under the project will become self-sustaining.

*Social sustainability:*

The project has a strong focus on promoting community-based natural resource management as the main route towards achieving the protection and sustainable management of the Luangwa upper sub-catchment. During the project concept development and project design, the traditional leaders in the project area have been consulted and their support secured for the project. Without this, nothing could be achieved. As such, stakeholder engagement during implementation will also take account of the role of traditional leaders in Zambian society, in line with national policies for local governance. Local government and the Chiefs have a vital role in the preservation and control of utilization of natural forests since they can facilitate local level rules and regulations or even by-laws. It is important to recognise that local communities tend to respect more the advice and decisions of the Chiefs. Therefore, development actions are passed through the Chiefs for decision-making. Strategies to lessen the pressure on natural resources will be explained to the Chiefs as this will facilitate work with local communities.

This community-based approach will be a key factor in assuring the long-term sustainability of the project approach. In this regard, a considerable part of the project is dedicated to enhancing community and private sector participation in sustainable forest and land management, including the establishment of natural resource management groups, strengthening of cooperatives, development of marketing links for produce, and development of co-management systems with government for WRPA and NFRs that will underpin long-term engagement.

*Scaling Up / Replication:*

By linking field level interventions with national level policy dialogue and capacity building at local and national level, the project is also set to lay the foundations for up-scaling its approach to sustainable catchment management in other catchments and landscapes in Zambia. It should be noted that the project will not be able to address the entire catchment area from a restoration and management perspective, but it will lay the basis for replication in other high priority parts of the Luangwa headwaters through the development of guidelines for WRPA management, and supporting knowledge management and exchange visits with other headwater areas. As mentioned above, the project's demonstration of WRPA development is expected to support the rolling out of a national system of WRPAs to strengthen protection of Zambia's water resources and headwater ecosystems in due course.

### 3.7 Lessons learned during project preparation and from other relevant projects

Community-based Natural Resource Management (CBNRM) has provided a number of lessons over the years. In designing this project, the following lessons from other projects implemented in Zambia have been taken into account in order to ensure that participatory natural resource management will be effective. Further lessons from related GEF and other projects are given in **Appendix 13**.

*Law Enforcement by Communities:* Communities have effectively participated in law enforcement in the management of natural resources when provided with appropriate training and incentives. Therefore, well organized communities can ensure the protection of the natural resources in their areas (forests, wildlife, fisheries).

*Forest Assessments and Boundary Maintenance:* Using local knowledge, local communities have effectively participated in the demarcation of the forests that they protect. Their knowledge of local areas has guided the creation of community forests. In addition, their knowledge of tree species and their uses has been valuable in designing harvesting plans and utilization of forest resources.

*Development of Rules and Regulations:* Communities have provided guidance in the development of rules and regulations to support sustainable forest management. In cases in which they have done so, the enforcement of such rules has been effective.

*User Rights:* The local communities have participated in the transfer of user rights based on appropriate legislation (e.g. Forests Act or Wildlife Act). This has been an incentive, although the major challenge has been developing appropriate, functional natural resource management enterprises that can be run sustainably on a profitable basis.

*Size of Community-based Natural Resource Management Area:* The size of areas demarcated for participatory natural resource management vary from one area to another based on the size of the communities and villages surrounding such areas. However, determination of the size of the area to manage is largely based on the community's local knowledge and technical support from line ministries.

*Benefit Sharing and Mechanisms used:* Benefits derived from participatory natural resource management e.g., forestry initiatives are important to local communities. Therefore, these should be well defined if communities are expected to continue to participate and be effective in their contributions.

*Community Enterprises:* Enterprises developed under participatory management must be sustainable by being profitable. This has been a major challenge as often communities are used to being assisted without being innovative.

*Elite Capture:* Community-based development has sometimes been criticized for its inadequate understanding of power relationships at the local level, which thus leaves room for elite capture. It is believed that elite capture happens when the elites, in most cases, a few politically and/or economically powerful people, manipulate local

decision-making and agendas to their personal benefits. Elites can capture initiatives meant to benefit an entire community because of their:

- a. Privileged access to economic resources and influencing local community decisions;
- b. Can systematically position themselves in community structures;
- c. They may have more knowledge than local communities of, say the Company formed, shareholding arrangements and the inadequacies or gaps in provisions of the law, which can be used later to their advantage; and
- d. Different education attained as compared to the community.

*Inadequate Community Participation:* Community participation in projects is very important as it promotes the principles of ownership and responsibilities by the communities. It also helps in ensuring that the needs and aspirations of the local communities are taken into account in project implementation. However, it has been observed that communities are sometimes side-lined in projects or inadequate incentives are provided, resulting in them not fully participating. When benefits and their responsibilities are not well defined in projects, communities expect handouts as benefits instead of innovative enterprises. In most cases, communities are willing to contribute towards the sustainable management of forests and other natural resources.

*Inadequate Transparency:* CBNRM is a decentralized, self-regulated, and localized system aimed at addressing weaknesses of centralized resource management. Centralized systems are mostly seen as being detached from local or rural life and dominated by elite and bureaucrats operating in a top-down fashion. However, it has been observed that while centralized systems may create problems, partnerships with private companies has also brought in concerns about transparency, in which communities rarely understand the partnership and benefit sharing terms are unclear. Some private companies and service providers take advantage of the limited technical and financial knowledge of the communities to design projects that provide limited benefits to communities, especially those involved in buying of products from communities.

*Potential Approach to Improve Local Community Participation:* In order for the communities to be effective in playing their roles in the project, an integrated landscape management approach should be adopted. Communities need to be supported to understand the linkages among various resources (forests, wildlife, fisheries, agriculture) from which they derive their livelihoods. They need to understand that the various resources can bring improved livelihoods when sustainably managed. Focusing on one resource may lead to its depletion and limit their source of livelihoods. Therefore, in order to address the needs of the local communities and increase resilience, a community needs to focus on the whole landscape in their area. The landscape process outlined in phases (**Fig. 10**), would help in understanding the real challenge of the local communities in choosing the right sites, practices and species for deforested areas as well as rehabilitation of degraded areas. The process can be implemented in five phases<sup>85</sup>: (1) understand the landscape, (2) negotiate the desired landscape outcomes, (3) plan landscape changes, (4) implement landscape changes, and then (5) evaluate the landscape. A multi-disciplinary team is required for such an initiative.

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<sup>85</sup> Louise et al, 2014

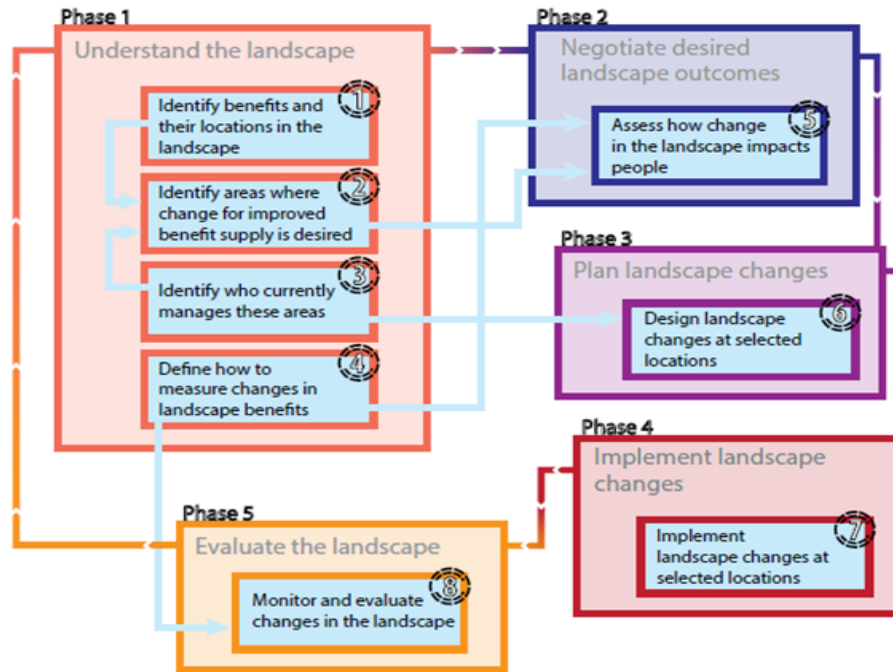


Figure 10. Diagram illustrating a participatory landscape planning process

## SECTION 4: TECHNICAL APPENDICES

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### Appendix 1: Project Maps with geo-coordinates

Map 1 – Soil map of Mafinga District

Map 2 – Land cover map of Ntonga, Mafinga and Musipizi Wards of Mafinga District

Map 3 – Proposed project area in Mafinga District

Map 4 – Topography and drainage map for Mafinga District

Map 5 – Land cover map of Mafinga District [same as Figure 5]

Map 6 – Geological map of Mafinga District

Map 7 – Slope map of Mafinga District

Map 8 – Groundwater potential map of Mafinga District

Map 9 – Surface water potential for Mafinga District

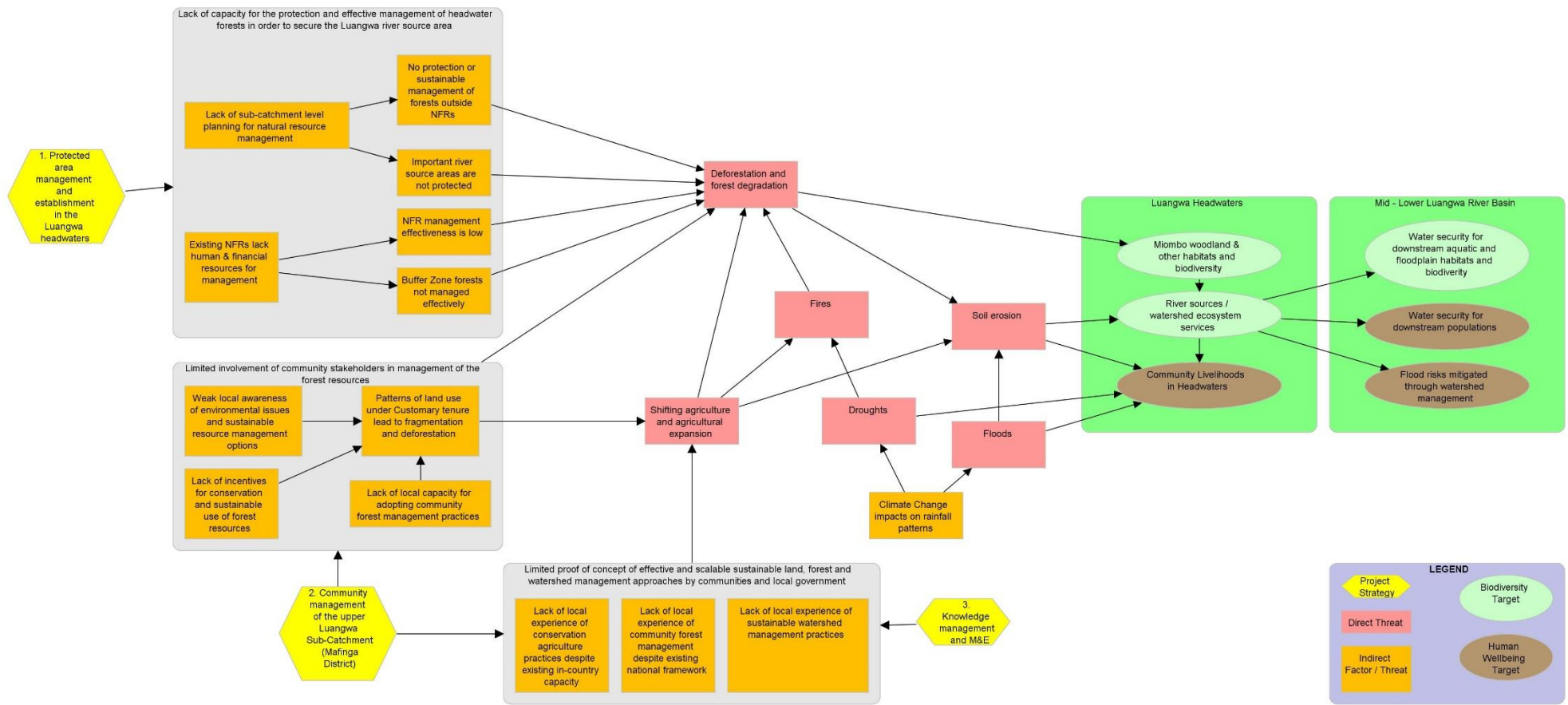
Map 10 – Sub-basins of Mafinga District

Map 11 – Ranked priority catchment areas in Mafinga District

Map 12 – Wards of Mafinga District

See separate file

Appendix 2: Conceptual Model



### Appendix 3: Results Chains

See separate file

Appendix 4: High Level Work Schedule

Note – Implementation will take place across 4 years out of a 5 year period, with only limited project management start up activities in the first half of Year 1 and winding down activities in the second half of Year 5.

Outputs	Activities	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Start-up		Technical Implementation Period																Wrap-up	
<b>COMPONENT 1: Protected area management and establishment in the Luangwa headwaters</b>																					
<b>Outcome 1.1: Improved management effectiveness of Mafinga Hills National Forest Reserve (MHNFR) in the Luangwa headwaters (Mafinga District)</b>																					
Output 1.1.1: Boundary demarcation of Mafinga Hills NFR (with beacons)	1.1.1.1																				
	1.1.1.2																				
	1.1.1.3																				
	1.1.1.4																				
	1.1.1.5																				
	1.1.1.6																				
Output 1.1.2: Participatory management plan for Mafinga Hills NFR developed and endorsed	1.1.2.1																				
	1.1.2.2																				
	1.1.2.3																				
	1.1.2.4																				
	1.1.2.5																				
	1.1.2.6																				
	1.1.2.7																				
	1.1.2.8																				
Output 1.1.3: Assisted regeneration of degraded forest and grassland areas undertaken through community engagement	1.1.3.1																				
	1.1.3.2																				
	1.1.3.3																				
	1.1.3.4																				
	1.1.3.5																				
	1.1.4.1																				



Output 1.1.4: Training and operational support for management of Mafinga Hills NFR and surrounding areas	1.1.4.2																			
	1.1.4.3																			
	1.1.4.4																			
<b>Outcome 1.2: Enhanced protective status of the source of the Luangwa River</b>																				
Output 1.2.1: Proposal prepared through a participatory process leading to gazettement of the Luangwa headwaters as a Water Resource Protection Area (WRPA)	1.2.1.1																			
	1.2.1.2																			
	1.2.1.3																			
	1.2.1.4																			
	1.2.1.5																			
	1.2.1.6																			
	1.2.1.7																			
	1.2.1.8																			
	1.2.1.9																			
	1.2.1.10																			
	1.2.1.11																			
<b>COMPONENT 2: Community management of the Upper Luangwa Sub-catchment (Mafinga District)</b>																				
<b>Outcome 2.1: Buffer zone and community lands under improved management to benefit biodiversity and ecosystem services in the Luangwa headwaters</b>																				
Output 2.1.1: Community landscape management plans and conservation agreements negotiated with local farmers and monitored	2.1.1.1																			
	2.1.1.2																			
	2.1.1.3																			
	2.1.1.4																			
	2.1.1.5																			
	2.1.1.6																			
	2.1.1.7																			
Output 2.1.2: Key conservation agriculture actions by farmers around the Mafinga Hills NFR supported and linked to markets	2.1.2.1																			
	2.1.2.2																			
	2.1.2.3																			
	2.1.2.4																			
	2.1.2.5																			

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	2.1.2.6																			
	2.1.2.7																			
	2.1.2.8																			
	2.1.2.9																			
	2.1.2.10																			
Output 2.1.3: Community woodlots and natural regeneration areas established to reduce forest loss from wood fuel gathering within Mafinga Hills NFR	2.1.3.1																			
	2.1.3.2																			
	2.1.3.3																			
	2.1.3.4																			
	2.1.3.5																			
Output 2.1.4: Participatory designation and management of community forest areas undertaken with communities outside Mafinga Hills NFR	2.1.4.1																			
	2.1.4.2																			
	2.1.4.3																			
	2.1.4.4																			
	2.1.4.5																			
	2.1.4.6																			
	2.1.4.7																			
	2.1.4.8																			
<b>COMPONENT 3: Knowledge management and Monitoring and Evaluation (M&amp;E)</b>																				
<b><i>Outcome 3.1: Increased knowledge of sustainable catchment management supports replication of the project approach in other headwater areas</i></b>																				
Output 3.1.1: Cross-sectoral communication strategy developed and implemented to support sustainable catchment management in headwater areas	3.1.1.1																			
	3.1.1.2																			
	3.1.1.3																			
	3.1.1.4																			
	3.1.1.5																			
	3.1.1.6																			
Output 3.1.2: Knowledge products designed and distributed to relevant stakeholders	3.1.2.1																			
	3.1.2.2																			

WWF/GEF Project 10412 - Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management

	3.1.2.3																					
	3.1.2.4																					
	3.1.2.5																					
<b>Outcome 3.2: Informed and adaptive project management</b>																						
Output 3.2.1: Project M&E plan implemented and project progress reports, results framework, midterm evaluation and terminal evaluation used to inform adaptive management	3.2.1.1																					
	3.2.1.2																					
	3.2.1.3																					
	3.2.1.4																					
	3.2.1.5																					
	3.2.1.6																					
	3.2.1.7																					
	3.2.1.8																					
	3.2.1.9																					

## Appendix 5: GEF Results Framework

See Separate Excel file

## Appendix 6: Draft Terms of Reference for Key Project Staff

For positions funded/part funded by GEF project funds

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### **TOR: Project Manager / Catchment Management Expert**

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#### **Background**

Consistent with the country's 7th National Development Plan, National Policy on Environment (2007), Zambia's Land Degradation Neutrality (LDN) Targets of 2018, Nationally Determined Contributions (NDCs), and the National REDD Strategy, the Government of the Republic of Zambia (GRZ) through the Environmental Management Department under the Ministry of Water Development, Sanitation and Environmental Protection (MWDSEP) is promoting an integrated landscape approach for the Luangwa catchment area with funding from the Global Environment Facility (GEF). World Wildlife Fund Inc. (WWF) was designated by GRZ as the GEF Implementing Agency for Zambia's project: **Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management**. The project's objective is to reduce forest and land degradation of the Luangwa Upper Sub-catchment for enhanced protection of water resources, biodiversity and associated community livelihoods and has three key components: 1) Protected area management and establishment in the Luangwa headwaters; 2) Community management of the upper Luangwa Sub-Catchment (Mafinga District); and 3) Knowledge management and Monitoring and Evaluation (M&E). The project will be implemented over a 60 month timeframe starting in month/year (tbd).

#### **Major Function**

The Project Manager / Catchment Management Expert will supervise staff in the Project Management Unit (PMU), coordinate with project partners and provide day-to-day management of the project. The Project Manager will report to the MWDSEP/EMD-HQ and WWF Zambia Project Focal Points. The PM will lead the PMU and coordinate project management, while this position will also be directly responsible for developing specified technical outputs under Components 1, 2 and 3.

#### **Responsibilities**

##### *1. Project Management:*

- Provide day-to-day management, monitoring and evaluation of project activities and results as outlined in the ProDoc, Grant Agreement, and Annual Work Plan and Budget to achieve the project objective and targets in the Results Framework
- Hold monthly virtual meetings with the partners involved in each outcome
- Manage the workflow for the National Steering Committee (NSC)
- In collaboration with all project sub-grantees and partners, develop the Annual Work Plan and Budget (AWPB) for each project year, for approval by the NSC and no-objection from the WWF GEF Agency
- Provide high level oversight and monitoring of procurement and expenditure in line with the AWPB
- Review progress of work plan and monitoring plan
- Lead planning and organization for annual reflection workshops to identify lessons learned and propose potential changes for adaptive management to ensure project results and indicator targets are reached

- Responsible for organization of Kick-Off workshop and other project-level workshops/meetings
- Manage the design of a project website, and its ongoing maintenance and updates
- Represent the project and provide support for project supervisions and internal and external reviews/evaluations

*2. Staff management:*

- Supervise the PMU staff including the Community Engagement and Gender Officer, Safeguards and M&E Learning Officer, Grants Accountant, and any directly recruited staff or consultants
- Prepare TORs to recruit consultants, staff and sub-contracts in consultation with and for no-objection from WWF GEF Agency

*3. Reporting:*

- Formulate semi-annual Project Progress Reports and ensure timely delivery to the WWF GEF Agency
- Oversee the preparation and disbursement of sub-grants
- Oversee development of quarterly financial reports and ensure timely delivery to the WWF GEF Agency
- Ensure co-finance reporting on a yearly basis

*4. Quality Assurance:*

- Provide quality assurance for project activities, including in sub-grants
- Review reports and other products from consultants, staff, and sub-grantees, and ensure quality
- Ensure implementation in line with the GEF and WWF standards and policies

*5. Partnerships:*

- Coordinate with co-financed projects and liaise with project partners to ensure co-financing commitments are realized
- Attract additional partners and co-financing
- Ensure smooth coordination and communication among all project partners, and with the Program partners
- Manage stakeholder engagement throughout the project duration with support from the Community Engagement and Gender Officer for monitoring/tracking implementation of the Stakeholder Engagement Plan
- Represent the project, as needed, at various meetings and workshops

The PM/Catchment Management Expert will provide technical inputs and coordination for all Outputs under all three Components on sustainable catchment management, including on landscape, NFR and WRPA planning, sustainable land management, community forestry and value chain development, and the communication and replication of the project approach through knowledge management and communications outreach.

Duties and responsibilities: Delivery of technical outputs (Component 1):

*Under this Component the PM/Technical Specialist will be responsible for providing technical inputs and guidance for the delivery of Outputs 1.1.1-1.1.4, 1.2.1), and supporting consultants and subcontractors including the following:*

- Lead the development and management of a team of technical staff and community members to conduct boundary identification and demarcation, patrolling and outreach, for Mafinga Hills NFR (Output 1.1.1);
- Lead the participatory development process for the management plan for Mafinga Hills NFR and the development of methodologies for carrying out forest, biodiversity and socio-economic assessments (Output 1.1.2);
- Lead the identification of areas affected by habitat degradation and participatory development and implementation of a participatory action plan for assisted regeneration and grassland rehabilitation with support from communities (Output 1.1.3);
- Lead the development of capacity for project field staff through training activities in key skills, and guide the provision of training activities for local communities involved in CBNRM and the procurement and distribution of equipment needs for operational management of Mafinga Hills NFR and surrounding areas (Output 1.1.4);
- Lead the participatory process for the development of a WRPA for the headwaters of the Luangwa River, including the drafting and submission of a WRPA protection plan taking into consideration recommendations from Environmental and Social Management Framework (ESMF) and gender action plan (Output 1.2.1)

Duties and responsibilities: Delivery of technical outputs (Component 2):

*Under this Component the PM/Technical Specialist will be responsible for providing technical inputs and guidance for the delivery of Outputs 2.1.1-2.1.4), and supporting consultants and subcontractors including the following:*

- Lead the participatory process that culminates in mutual consent of the participatory landscape management plans (PLMPs) and community conservation agreements required to implement a community-led approach towards sustainable land and forest management in the Upper Luangwa Sub-catchment outside existing protected areas. This will involve a participatory rural appraisal (PRA) / participatory land use planning (PLUP) process of awareness raising, natural resource assessment and mapping, and planning that engages all affected communities including traditional leaders and relevant government agencies (Output 2.1.1);
- Lead the Climate-resilient Conservation Agriculture (CA) practices and their support by extension services from national experts and experienced service providers, as well as the provision of improved market linkages for agricultural products through existing social enterprises (Output 2.1.2);
- Lead the assessment of areas for assisted natural regeneration and woodlot development where forest resources have been significantly impacted by fuelwood collection and fires, guide the identification and training of suitable communities in the skills required, and the participatory preparation of an implementation and monitoring plan (Output 2.1.3);
- Facilitate the participatory process for the establishment of new community forestry areas, including consultations, assessment of user rights, drafting of key documentation, and benefit-sharing arrangements. Guide project support for selected communities to follow steps in this procedure, leading to recognition as Community Forest Management Groups (CFMG), development of a Management Plan for each community forest area, signing of Community Forest Management Agreements, and subsequent management of community forest areas (Output 2.1.4).

**Duties and responsibilities: Delivery of technical outputs (Component 3):**

*Under this Component the PM/Technical Specialist will be responsible for providing technical inputs and guidance for the delivery of Output 3.2.1, and supporting consultants and subcontractors including the following:*

- Guide implementation of the project M&E plan including project progress reports, results framework, midterm evaluation and terminal evaluation in order to apply adaptive management (Output 3.2.1).

**Qualifications and Requirements**

- At least 10 years' combined experience in the coordination, management and/or execution of complex international and multi-lateral funded projects, especially for GEF
- At least 5 years' experience of sustainable catchment / watershed management including sustainable land and forest management and rural development
- Master's Degree in Natural Sciences, Natural Resource Management, Forestry or equivalent
- Diploma or Postgraduate qualification in Project Management
- Excellent consultation, facilitation, negotiation, analytical, management and presentation skills
- Excellent verbal communication and writing skills in English; ability to communicate in local languages an advantage
- Experience of leading a team of staff and coordinating sub-grant partners
- Experience of negotiating and coordinating with stakeholders at all levels including government officials, local government, donors, project partners, local communities, civil society organizations and multi-lateral organizations
- Adaptive management skills
- Knowledge of WWF Project and Programme Management Standards preferred
- Experience in delivering technical and financial reporting to donor agencies on large projects
- Technical experience and knowledge of sustainable land management, biodiversity conservation and sustainable catchment management
- Strong computer skills, in particular mastery of all applications of the MS Office package and internet search.

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**TOR: Grants Accountant**

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**Job Family:** Program Operations/ Coordinator

**Reports to:** Project Manager

**Background**

Consistent with the country's 7th National Development Plan, National Policy on Environment (2007), Zambia's Land Degradation Neutrality (LDN) Targets of 2018, Nationally Determined Contributions (NDCs), and the National REDD Strategy, the Government of the Republic of Zambia (GRZ) through the Environmental Management Department under the Ministry of Water Development, Sanitation and Environmental Protection (MWDSEP) is promoting an integrated landscape approach for the Luangwa catchment area with funding from the Global Environment Facility (GEF). World Wildlife Fund Inc. (WWF) was designated by GRZ as the GEF Implementing Agency for Zambia's project: **Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management.** The project's objective is to reduce forest and land degradation of the Luangwa Upper Sub-catchment for enhanced protection of water resources,



biodiversity and associated community livelihoods and has three key components: 1) Protected area management and establishment in the Luangwa headwaters; 2) Community management of the upper Luangwa Sub-Catchment (Mafinga District); and 3) Knowledge management and Monitoring and Evaluation (M&E). The project will be implemented over a 60 month timeframe starting in month/year (tbd).

### **Major Function**

Under the direction of the GEF Project Manager, manages all financial and operational aspects of the Project including project budgeting, contracting, subrecipient monitoring and evaluations, financial tracking and reporting, and administrative functions. Provides financial and administrative assistance to, and oversight of, program staff and grantees to ensure that budgets and agreements are handled in accordance with WWF policies, procedures, systems, and donor requirements. 50% time will be dedicated to the Project.

### **Responsibilities**

- Prepares, administers, and maintains the GEF project budget, ensuring that data is accurate and current. Reviews and monitors status of the budget, against the annual budget and the annual project workplan. Ensures spending levels are appropriate and coding is correct. Identifies problems and recommends corrective action, assists in the revision of budgets and communicates issues to the Project Manager. Ensures GEF Requirements are met including the budget structure contained in the ProDoc Budget, and that all expenses are associated with the incremental costs.
- Reviews all documentation received from proposed subrecipients per the WWF pre-award process, performs subrecipient risk analysis and develops a risk mitigation plan for the project.
- Works closely with Sub-grantees under Output 1.1.4, 1.2.1 and 2.1.2 to manage and monitor the sub-grants and ensure that efficient accounting and finance systems exist that will accord maximum support as well as act as a platform for providing sound financial information to the Project executors, implementors and donors.
- Coordinates and prepares quarterly financial reports for submission to the WWF GEF Agency, ensuring GEF requirements are met.
- Supports, prepares and monitors grant and consultant agreements ensuring compliance with agreement terms. Ensures agreements and payments are processed timely and in accordance with WWF policy and procedures. Prepares paper work for approval, secures signatures, and distributes documents to appropriate parties.
- Reviews and analyzes sub-recipient's financial reports to ensure compliance by sub-recipients with WWF-US and GEF Agency reporting requirements including project partner co-financing. Notifies grantees of any problems or discrepancies and provides technical assistance to grantees in resolving problematic issues.
- Supports WWF GEF Agency Annual supervision missions by providing requested documentation and other assistance as needed.
- Assists independent mid-term and final evaluations by providing all requested financial information. Provides feedback where relevant on evaluation reports and ensures that corrective actions based on the mid-term evaluation recommendations are taken when related to financial issues.
- Maintains information and files pertaining to all financial and administrative aspects of the project including agreements. Regularly monitors on-going compliance with WWF reporting

requirements and individual project deadlines. Ensures all project reports are acknowledged and routed to appropriate individuals for review.

- Provides support to the project management and coordination of day-to-day administrative operations and special projects. Identifies, coordinates and expedites the communication of information and issues both interdepartmentally and intra departmentally, as well as externally with subrecipients, the National Steering Committee, the WWF GEF Agency and independent evaluators as necessary.
- Performs other duties as assigned.

### Qualifications and Requirements

- A Bachelor's degree or an advanced diploma in business management including accounting/ financial management
- At least five years of relevant work experience preferably in a project management setting involving multi-lateral/ international funding agency.
- Proficiency in the use of computer software applications, especially MS Word, MS Excel and accounting software
- Demonstrated financial management ability for large projects
- Experience in delivering financial reporting to donor agencies on large projects
- Experience with GEF Projects an advantage
- Knowledge of WWF Project and Programme Management Standards preferred
- Very good inter-personal skills
- Excellent spoken and written English language; local language skills an advantage

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### TOR: Safeguards and Monitoring, Evaluation, and Learning (MEL) Officer

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### Background

Consistent with the country's 7th National Development Plan, National Policy on Environment (2007), Zambia's Land Degradation Neutrality (LDN) Targets of 2018, Nationally Determined Contributions (NDCs), and the National REDD Strategy, the Government of the Republic of Zambia (GRZ) through the Environmental Management Department under the Ministry of Water Development, Sanitation and Environmental Protection (MWDSEP) is promoting an integrated landscape approach for the Luangwa catchment area with funding from the Global Environment Facility (GEF). World Wildlife Fund Inc. (WWF) was designated by GRZ as the GEF Implementing Agency for Zambia's project: **Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management**. The project's objective is to reduce forest and land degradation of the Luangwa Upper Sub-catchment for enhanced protection of water resources, biodiversity and associated community livelihoods. The project objective will be achieved through the implementation of three interconnected components:

1. *Protected area management and establishment in the Luangwa headwaters* - Component 1 will lead to the demarcation and improved participatory management of the existing key protected area within the headwaters, Mafinga Hills National Forest Reserve, which includes important river source areas. It will also support the development and designation of a Water Resource

Protection Area that will provide a model for improved protection and community-based management of the upper sub-catchment.

2. *Community management of the upper Luangwa Sub-Catchment (Mafinga District)* - Component 2 will establish sustainable community management as well as environmentally sustainable and climate resilient livelihoods through prioritised interventions focused on the headwaters to reduce land and forest degradation that contribute towards the loss of biodiversity and ecosystem services. These interventions will be based on a participatory landscape management plan and community conservation agreements, and include conservation agriculture, community forestry, forest and grassland rehabilitation, community woodlots and support for resilient livelihood development.
3. *Knowledge management and Monitoring and Evaluation* - Component 3 will ensure that the increased knowledge of sustainable catchment management from lessons learned and best practices supports replication of the approach in other headwater areas at local and national levels, as well as being disseminated at Zambezi River Basin level and globally. M&E will be carried out to inform project decision-making and adaptive management.

Social and environmental safeguards and gender mainstreaming and women's empowerment are cross-cutting themes that run through all components. The project will be implemented over a 60 month timeframe starting in month/year (tbd).

### **Major Functions**

Under the guidance and supervision of the Project Manager, the Safeguards and MEL Officer will be responsible for ensuring project compliance with WWF's Environmental and Social Safeguards Standards and for M&E activities including tracking and reporting project implementation against project work plans, which will be implemented by WWF and a diverse group of partner organizations, and reporting progress towards outcome indicator targets. 100% of the Safeguards and MEL Officer's time will be devoted to the project. The Safeguards and MEL Officer will be responsible for: 1) the assessment and monitoring of project activities and processes to ensure conformity with WWF ESS Standards and the effective delivery of the ESMF/PF for the project; 2) the collection and analysis of different data in relation to the project activities, outputs, and outcomes; maintaining the M&E results frameworks of the project; and assisting the Project Manager in preparing quarterly, semi-annual, and annual reports on project progress; and 3) the delivery of knowledge management aspects of the project. Through the collection and analysis of high quality and timely data inputs, the Safeguards and MEL Officer will advise the PM towards ensuring that the project maintains its strategic vision and that its activities result in the achievement of its intended outputs and outcomes in a cost effective and timely manner, as well as contributing to project team discussions of potential opportunities for adaptive management.

The Safeguards and MEL Officer will work in close collaboration with other project staff, implementing partners and any external data collecting and data sharing organizations, and will report to the Project Manager.

### **Responsibilities**

#### Safeguards

- Provide inputs to the Project Manager to ensure safeguards compliance with reference to ESMF/PF during project planning;

- Monitor implementation of the ESMF/PF including inputs and recommendations from related consultants;
- Ensure the project team's understanding of environmental and social safeguards and how to support implementation of the ESMF/PF;
- Provide training on safeguards requirements to PMU staff and relevant partners as required;
- Regularly review the above-mentioned plans and make amendments as necessary;
- Set up and ensure implementation of the grievance redress mechanism;
- Ensure full disclosure with concerned stakeholders;
- Carry out regular monitoring and capacity building visits to the project sites;
- Provide inputs to project reports on the status of safeguards compliance with the ESMF/PF during implementation and any issues arising.

### Monitoring, Evaluation and Learning

- Work with PM to design the methodology for the collection of relevant data in close collaboration with all technical specialists;
- Work with field teams and implementation partners to ensure they are building and using effective monitoring systems aligned with the project Results Framework and M&E Plan including relevant GEF tracking tools;
- Based on the project Results Framework and M&E Plan, design a database that helps maintain data collected over the course of project implementation and is transparent to all partners;
- Manage said database to ensure data is accurate and updated, with guidance to ensure consistency of measurement methodologies over time;
- Monitor application of project M&E plans, gather and analyze data, and produce quarterly, semi-annual, and annual reports on project progress and impact in partnership with the PM including progress, reflections, adaptive management, M&E outcomes, and project ratings;
- Provide a completed and up to date Results Framework and Work Plan Tracking for the WWF-GEF Project at the end of each project year;
- Proactively investigate and reflect on emerging data collection for adaptive management proposals, including modifications to project strategy or theory of change;
- Coordinate annual reflection workshops to inform adaptive management of the project;
- Collect and analyze additional data relevant to project from external sources;
- Troubleshoot data collection challenges;
- Monitor for data inaccuracies or inconsistencies and seek clarifications when needed;
- Provide logistical and coordination support to facilitate project supervision missions and evaluations (by WWF-GEF Agency and external evaluators);
- Develop and lead the implementation of a gender-sensitive/responsive knowledge management and communications strategy in close collaboration with the PM, MWDSEP and WWF;
- Document, generate, and share knowledge products with relevant parties;
- Develop and maintain content on project-related websites for the purpose of making project news and resources available to diverse stakeholders.

### **Qualifications and Requirements**

- A Bachelor's degree is required in environmental science or management, environmental anthropology, program evaluation, or a related field;
- Must have at least 6 years of relevant work experience. A Master's degree in the above mentioned fields will substitute for 2 years of experience;

- Must have relevant experience of the application of environmental and social safeguards to project management, including familiarity with access restrictions and equitable benefit sharing;
- Ideally 2 years of experience will be in the design and implementation of M&E systems for development or conservation projects implemented by national/international NGOs/agencies/government;
- Must have proven ability to manage multiple priorities;
- Strong analytical skills/expertise in analyzing data is required;
- Strong writing skills are required;
- Experience in research methods, designing and implementing tools and strategies for quantitative and qualitative data collection, analysis and production of reports is preferred;
- Experience using statistical software, such as R or Stata, is desired;
- Expertise using database software, such as Excel and Smartsheet, is preferred;
- Familiarity with PPMS (Program and Project Management Standards) and results-based management principles, tools, and techniques is preferred;
- Fluency in written and spoken English and relevant local languages is required;
- International, developing country field experience is preferred, especially in a monitoring and evaluation role in a development or conservation context.

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### **TOR: Community Engagement and Gender Officer**

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#### **Background**

Consistent with the country's 7th National Development Plan, National Policy on Environment (2007), Zambia's Land Degradation Neutrality (LDN) Targets of 2018, Nationally Determined Contributions (NDCs), and the National REDD Strategy, the Government of the Republic of Zambia (GRZ) through the Environmental Management Department under the Ministry of Water Development, Sanitation and Environmental Protection (MWDSEP) is promoting an integrated landscape approach for the Luangwa catchment area with funding from the Global Environment Facility (GEF). World Wildlife Fund Inc. (WWF) was designated by GRZ as the GEF Implementing Agency for Zambia's project: **Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management**. The project's objective is to reduce forest and land degradation of the Luangwa Upper Sub-catchment for enhanced protection of water resources, biodiversity and associated community livelihoods and has three key components: 1) Protected area management and establishment in the Luangwa headwaters; 2) Community management of the upper Luangwa Sub-Catchment (Mafinga District); and 3) Knowledge management and Monitoring and Evaluation (M&E). The project will be implemented over a 60 month timeframe starting in month/year (tbd).

#### **Major Functions**

Under the guidance and supervision of the Project Manager, the Community Engagement and Gender Officer (CEG Officer) will be responsible for leading the delivery of the stakeholder engagement plan, community engagement processes to achieve project outputs, and the gender action plan for the project. The position will also provide assistance with research projects on the ground; assist in day to day running of the Mafinga office; support the coordination of meetings and workshops with communities or other stakeholders in the landscape; implement initiatives to strengthen the

communities in project areas through sustainable resource uses of forests, water resources and wildlife; liaise closely with communities, traditional leaders, district and provincial offices and relevant government departments to ensure synergy and support for site activities to deliver gender equality and stakeholder inclusion across the project. 100% of the position's time will be devoted to the GEF project.

The CEG Officer will work in close collaboration with the project teams and implementing partners and external organizations, and will report to the Project Manager.

### **Responsibilities**

- Coordinate and track implementation of the stakeholder engagement plan, under the supervision of the Project Manager;
- Coordinate and track implementation of the gender action plan, under the supervision of the Project Manager;
- Assess knowledge and capacity needs of project staff and partners on stakeholder engagement and gender issues, concepts and mainstreaming at the onset of the project. Provide capacity building as needed over the life of the project on these issues and on how to support implementation of the stakeholder engagement plan and gender action plan;
- Support the coordination of meetings and workshops with communities and other stakeholders in the landscape;
- Implement initiatives to strengthen the communities in project areas through sustainable resource uses of forests, water resources and wildlife;
- Liaise closely with communities, traditional leaders, district and provincial offices and relevant government departments to ensure synergy and support for site activities;
- Work with the Project Manager to design methodologies and implementation plans for the execution of project Outputs and activities in close collaboration with technical specialists;
- Work with field teams and implementation partners to build understanding of project processes and technical requirements aligned with the project work plans;
- Record information on field activities and provide inputs to quarterly, semi-annual, and annual reports on project progress and impact in partnership with the PM;
- Provide inputs on the status of project activities to support Results Framework and Work Plan Tracking for the WWF-GEF Project at the end of each project year;
- Provide inputs to the development of project workplans and participate in project management meetings and annual reflection workshops to inform adaptive management of the project;
- Troubleshoot project delivery challenges in collaboration with the PM;
- Provide logistical support and technical inputs to project supervision missions and evaluations (by WWF-GEF Agency and external evaluators);
- Document project learning and provide inputs to knowledge products with relevant parties;

### **Qualifications and Requirements**

- A Bachelor's degree is required in social sciences, natural resource management or a related field;
- A Master's degree in the above-mentioned fields is desirable;
- Must have at least 3 years of relevant work experience of project management, planning and implementation including community mobilisation and engagement in Zambia;

- Must have experience of gender mainstreaming and women's empowerment, preferably in a natural resource management project setting;
- Ideally 2 of those years of experience will be in the execution of natural resource management projects implemented by national/international NGOs/agencies/government;
- Knowledge of the institutional and legal framework pertaining to land, forest and water resources management, as well as of relevant policy issues in Zambia.
- Proven leadership, facilitation and stakeholder engagement skills;
- Experience in working with traditional leaders and communities (including with more marginalized groups), and collaborating with multi-sectorial teams as well as government officials;
- Skills in project planning and implementation, monitoring, financing, management and reporting;
- Excellent inter-personal and lobbying skills, including the ability to develop and maintain strong relationships with stakeholders and partners at district and community levels;
- Excellent oral and written communications skills in English;
- Excellent conflict management and mitigation skills in local community environments;
- Knowledge of local languages spoken in Mafinga District an asset;
- Excellent organizational and logistical skills, and the ability to work in strenuous field conditions;
- Must be proficient in use of MS Office programmes; expertise using database and Excel preferred;
- Clean driver's license.

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**TOR: Luangwa Landscape Planning Advisor**

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**Location: WWF Field Office in the Luangwa Landscape**

**Reports to: Project Technical Committee/WWF GEF Agency**

Providing technical support to Sustainable Luangwa GEF Project, the Landscape Planning Advisor will be at 30% time and a position in WWF, based in the Luangwa Catchment in the WWF Field Office. The position will provide support to the PMU to develop technical scopes of work, terms of reference, plans and partnerships to implement project outputs, with the following technical inputs:

- Support boundary identification and demarcation and develop the general forest and fire management plan for the Mafinga Hills NFR to deliver Output 1.1.2.
- Support the WRPA development process and design the land cover land use (LCLU) surveys, and ecological and socio-economic assessments to support the delivery of Output 1.2.1.
- Advise the PMU on the setting up of citizen science networks across the landscape to monitor river health in the WRPAs and propose innovative ways to address degradation in WRPAs by drafting of Nature Based Solutions concept notes to support the delivery of Output 1.2.1.
- Support the PMU to design and develop desired landscape scenarios (visions) and engage with the local government, traditional leaders and communities to negotiate a designed outcome to support the delivery of Output 1.2.1.
- Support the PMU to design a roadmap to create the participatory landscape management plans (PLMPs) and support the drafting of the PLMPs to deliver Output 2.1.1.
- Facilitate and engage in strategic advocacy activities, representing the project on high governmental and traditional authority levels within the wider Luangwa Landscape.

- Provide comprehensive CBNRM (Community-Based Natural Resource Management) and social development guidance to the project on strengthening relationships, market-based incentives and community influence over the equitable and sustainable management of natural resources.

#### Working Relationships

- WWF Zambia: Interact on a regular basis with the Freshwater Team lead, Conservation Manager, Technical Teams and Finance Team. Engage with and support WWF Zambia staff to understand and contribute towards the landscape programme.
- WWF Network: Liaise with network partners, regional leads and the practice teams to mobilise support, technical expertise and guidance as required.

#### Qualifications:

- A MSc degree or higher in the field of natural resource management, Integrated Water Resources Management, Social Sciences and/or Development Studies
- At least 10 years relevant experience in natural resource management with a focus on governance, political science, CBNRM and landscape-based approaches.
- A minimum of 5 years professional experience as a project/programme manager and team leader of multidisciplinary teams.
- Experience in Strategic Environmental Assessments and government lobby, advocacy and in participatory and multi-stakeholder processes.
- Experience of building influential community institutions and supporting communities to derive equitable and sustainable economic benefits from natural resources.
- Broad knowledge of freshwater ecosystems, fisheries, wildlife and forest management with strengths in ecological and social research, fisheries/wildlife management operations, rural development and designing Nature Based Solutions;
- Strong affiliation with provincial land use planning processes and environmental assessments;
- Sound knowledge of CBNRM approaches in Zambia;
- Understanding of good governance principles and practices with regard to CBOs and grassroots organizations;
- Familiarity with key Zambian natural resource management policy, legislation and government departments, and good knowledge about the traditional systems in the Luangwa Landscape.

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#### **TOR: Water Resources Management Specialist**

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**Location: WWF Lusaka Office**

#### **Reports to: Project Manager / WWFZ Freshwater Programme Team Leader (Senior Hydrologist)**

Providing technical support to the Sustainable Luangwa GEF Project, the WRM Specialist will be at 20% time and a position in WWF, based in the WWF Zambia Office in Lusaka. The position will:

- Provide GIS expertise to deliver Output 1.1.1 and Output 1.2.1 activities including mapping of boundary demarcations for Mafinga Hills NFR and the WRPAs.
- Support the PMU with data and information collection for the water resource/hydro-geomorphology surveys, and surface water infrastructure assessments to deliver Output 1.2.1.
- Support the PMU with technical engagement with government agencies, NGOs, research agencies and private companies in systems planning approaches, hydrological modelling, water allocation regimes, impacts of land uses on water quality, quantity and distribution to deliver Output 1.2.1.



- Support the PMU to have a clear understanding of the basin's high water yielding areas and have them prioritised for protection in recognition of their role in 'driving' natural flows to deliver Output 1.2.1.

**Qualifications:**

- Master's degree in hydrology, hydropower development, natural and water resources management, fluvial geomorphology or in any other academic field relevant to water resources management.
- 7 years practical working experience in water resources management, and/or hydropower development/management and experience working with state agencies and NGOs;
- Good understanding of hydropower risks and opportunities in relation to hydrological, environmental, economic and social aspects;
- Experience with mapping tools such as QGIS, ARC GIS;
- Strong technical knowledge of Hydrology, Integrated Water Resource Management, Meteorology, Sediment transport
- Knowledge of environmental flow literature and modelling techniques required especially for Sub-Saharan region.
- Excellent adherence to WWF's working ethics of demonstrating reliability, communicating constructively, listening actively, sharing openly and willingly, cooperating and pitching in to help, exhibiting flexibility, showing commitment to the team, working as a problem-solver, and lastly, treating others in a respectful and supportive manner

Appendix 7: Site Selection

See separate Appendices file

Appendix 8: Detailed budget

See separate Excel file

## Appendix 9: Knowledge Management and Communications

The project will make use of best practices and lessons learned to inform project design and implementation processes in order to build on past experience and maximize sustainable conservation outcomes. Similarly, best practices and lessons learned from this project will be documented and shared by the Project Management Unit in order to inform replication and upscaling of the project approach in other river headwater areas. Knowledge management and communications activities are presented and budgeted in Component 3 of the project, and tracked in the Results Framework.

During the project development phase, lessons and best practices from project stakeholders and related initiatives were reviewed and used to inform the project design. These lessons and best practices have been summarized in **section 3.7**, with additional material presented in **Appendix 13**.

During project implementation and before the end of each project year, knowledge produced by or available to the Project will be consolidated from project stakeholders and exchanged with communities and other local and national stakeholders. This collected knowledge will be analyzed alongside project monitoring and evaluation data at the annual adaptive management meetings, where the project's theory of change will be reviewed, and modifications to the annual work plan and budget will be drafted. This adaptive approach to project management will ensure that it takes account of implementation experiences, stakeholder inputs, risk management and changes in situational context that reduce risks and improve the attainment of planned project outcomes.

Lessons learned and best practices from the Project will be captured from field staff and reports, peer-reviewed and other publications, stories, videos, case studies, stakeholder meetings and the annual adaptive management meetings. External evaluations will also provide lessons and recommendations. These available lessons and best practices will then be documented in the semi-annual project progress reports (PPR) (with best practices annexed to the report).

The PMU Project Manager will ensure that National Steering Committee members, project partners (technical service providers, partner NGOs, and others), donors, and other stakeholders as relevant are informed of, and where applicable invited to, the annual adaptive management meetings, formal evaluations, and any documentation on lessons and best practices. These partners will receive all related documents, such as Evaluation Reports and relevant knowledge products resulting from the project to ensure the sharing of important knowledge products.

A strategic communications plan has been budgeted for this Project and will include the following knowledge and communication products:

### **Component 3: Knowledge management and M&E**

Under Output 3.1.1, the Project will develop a communication strategy that defines the purpose of communications, the key messages and modes of communication to ensure that project implementation is efficient and well supported, and to guide knowledge management. The communication strategy will enable the project experiences and lessons learned to be applied in other headwater areas of the Luangwa, across Zambia, and in other Zambezi river basin countries. The project will identify suitable communications platforms for dissemination of information at different levels; implement the communication strategy; organize exchange visits for key stakeholders from other priority headwater areas in the Luangwa catchment to share lessons

learned and promote uptake and replication of the project approach; and share lessons internationally at Zambezi river basin level; and globally through platforms such as IW Learn<sup>86</sup> and WWF networks.

Under Output 3.1.2, the Project knowledge products will take diverse forms including technical reports, case studies, website articles and videos. These will cover technical issues and best practices experienced during project implementation, such as: a guiding manual for the WRPA development process, community-based management of miombo woodland, sustainable agriculture practices to replace chitemene practices, gender benefits from community-based management of water sources, and ecosystem service benefits from headwater protection. The Project Management Unit will document and disseminate best practices and lessons from project activities and stakeholder consultations; share traditional knowledge associated with natural resource management, and commission 3 short videos on project success stories. Documents will be made available through project-related websites and in other appropriate forms for targeted stakeholder groups.

Under Output 3.2.1, the Project will meet the reporting requirements of the WWF GEF Agency, producing the following reports: biannual Project Progress Reports (PPR) including the Project Closeout Report, annual work plan tracking and results framework tracking, annual Financial Progress Reports, Mid-term Review and a Terminal Evaluation. Knowledge capture, sharing and learning will be tracked during the above reporting and evaluations, including *Results Framework Indicator 3.1.1: No. of knowledge products to disseminate best practices*. The annual adaptive management / reflection meetings will provide the opportunity to review the knowledge sharing progress in the previous year and to ensure that this is fine-tuned and incorporated into the coming year's annual workplan.

		Budget (US\$)
Develop and implement communications strategy under Output 3.1.1 – time input from M&E, Safeguards & Learning Officer	Years 1-5	16,275
3 community meetings per ward to conduct awareness raising of Communications Plan (Output 3.1.1)	Year 2	1,600
Information exchange visits for key stakeholders from other priority headwater areas in the Luangwa catchment to share lessons learned and promote uptake and replication of the project approach under Output 3.1.1	Years 3-5	10,000
Coordination and logistics support for meetings and workshops with communities and other stakeholders in the landscape under outputs 3.1.1 and 3.1.2 – time input from Community Engagement and Gender Expert	Years 1-5	27,759
Share lessons locally, regionally and internationally through platforms and networks under Output 3.1.1	Years 3-5	25,000
Knowledge product production and dissemination under Output 3.1.2 – time input from M&E, Safeguards & Learning Officer	Years 2,3,4,5	16,275
Case studies and sharing of traditional knowledge on selected technical themes (5) under Output 3.1.2	Year 2, 3, 4, 5	6,000

<sup>86</sup> <https://iwlearn.net/>

WWF/GEF Project 10412 - Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management

Sub-granted production of 3 short videos on success stories under Output 3.1.2	Years 3, 4, 5	15,000
<b>Total</b>		<b>117,909</b>

Appendix 10: Site / Landscape Profile

See separate Appendices file

Appendix 11: GEF-7 METT

See separate Excel file

Appendix 12A: Gender Analysis report

See separate file

Appendix 12B: Gender Action Plan

See separate file

Appendix 13: Lessons from Related Projects

See separate Appendices file

Appendix 14: Table of Related GEF Projects

See separate Appendices file

Appendix 15A: PPG Stakeholder Engagement Plan

See separate Appendices file

Appendix 15B: Stakeholder Engagement Plan

See separate file

## Appendix 16: Climate Change Risk Screen

See Separate file

## Appendix 17: COVID-19 Analysis and Action Framework

### **Introduction**

This Appendix responds to the GEF paper on *Project Design and Review Considerations in Response to the COVID-19 Crisis and the Mitigation of Future Pandemics*, dated August 27, 2020. It presents an analysis and action framework for the Sustainable Luangwa project in Zambia. The analysis covers the risks associated with the global pandemic and identifies associated risk mitigation measures, and assesses potential opportunities under the project to strengthen environmental and socio-economic resilience as national and local governments move into recovery phases.

### **Situation analysis**

#### ***Public health situation***

The WHO was alerted of an increase in the number of pneumonia cases of unknown cause detected in Wuhan City, Hubei Province, China. The disease now called Coronavirus Disease 2019 (COVID-19) is caused by a new coronavirus named SARS-CoV-2. The WHO declared the outbreak a PHEIC on 30th January and further declared COVID-19 a pandemic on 12th March. Zambia recorded its first two cases of COVID-19 on 18th March 2020. The first 28 cases in Zambia all had a history of travel to Europe or Asia. Three weeks into the outbreak, cases were noted among people without history of travel but in contact with confirmed cases. By mid-June 2020, cases had been reported in all ten provinces, with Western province being the last to confirm cases of COVID-19. Generalised local person-person transmission is now established throughout the country.

In terms of public health coordination, Zambia hosts the Southern Africa Regional Collaborating Centre of the Africa CDC and has been coordinating the response at regional level. Zambia continues to participate in AU meetings to ensure continued regional and continental trade and strategies to stop transmission of COVID-19.

At the national level, the government continues to enforce measures and interventions to control the spread of COVID-19 countrywide as outlined in the Statutory instruments SI21 and SI22 of 2020 on COVID-19 and presidential directives. A COVID-19 contingency plan outlining the country's COVID-19 preparedness and response activities is available and continues to be regularly updated as the outbreak evolves. Technical co-ordinating meetings are held with cooperating partners and other stakeholders. The Incident Management System meets at ZNPHI twice weekly. The Ministry of Health unveiled the Zambia COVID-19 Emergency Response and Health Systems Preparedness Project Stakeholder Engagement Plan and the Environmental and Social Commitment Plan (ESCP) in June 2021. The Ministry of Health has applied for financial support from the International Development Association (IDA) towards Zambia COVID-19 Emergency Response and Health Systems Preparedness Project in order to prevent, detect and respond to the threat posed by COVID-19 in Zambia and strengthen national systems for public health

preparedness. Enhanced measures to prevent and mitigate the spread of COVID-19 were announced by the Secretary to Cabinet, with effect from 17th June 2021.

As of 13 July 2021, the total number of confirmed COVID-19 cases recorded in Zambia was 176,742 with 2,867 deaths reported and 147,220 vaccines administered (WHO website, 13 July 2021).

Zambia was late to start vaccinating, announcing plans on 25 March 2021 to vaccinate all people over 18, or 46% of the 18.3 million population against COVID-19, and launched on 14 April 2021. Health workers, the police, security officers, teachers, the clergy, cross-border traders, bus and truck drivers, and people over 65 - including those with chronic illnesses and their care givers – will be prioritised. Over 3.6 million people will be vaccinated voluntarily without charge under the COVAX vaccine-sharing scheme backed by the WHO and GAVI vaccine alliance for poor and middle-income countries. The remainder - more than 4.7 million people - will be covered by the government with support from other governments and donors using a basket of vaccines.

### ***Economic situation***

According to PwC (2020), economic growth is projected to contract 4.2% in financial year 2020 owing to the Covid19 pandemic and ongoing electricity shortages, putting the economy into recession for the first time in 22 years and raising questions about how Zambia will manage its large debt burden. Copper price volatility plus a sharply weakened kwacha are adding to Zambia's economic woes. With all sectors of the economy except agriculture and Information and Communication Technologies ("ICT") expected to register negative growth in 2020, the Zambian Government's revenue will fall 12% in 2020, pushing the fiscal deficit to 11.7% of GDP against a target of 5.5%. At the end of June 2020, Zambia's external debt stood at just under US\$12 billion, while domestic debt was US\$7.3 billion. This brought Zambia's total declared debt, excluding arrears, to US\$19.3 billion. In late 2020, the Zambian Government noted that a decline in revenues plus an increase in unbudgeted costs brought about by Covid-19 was affecting its ability to meet international debt obligations. Fitch ratings agency progressively reduced Zambia's credit rating from CCC in December 2019 to RD by November 2020. Furthermore, sharp declines in the kwacha have increased the cost of Zambia's external debt. The currency has fallen 42% since the start of 2020.

In terms of economic policy, the Government's focus is to enhance the welfare and livelihoods of the poor and vulnerable members of the community. The 2021 budget, entitled "Stimulate Economic Recovery and Build Resilience to Safeguard Livelihoods and Protect the Vulnerable", represents an Economic Recovery Programme designed to make Zambia's debt sustainable and to reinvigorate growth. In the 2021 budget, the Government intends to scale up social protection programmes and climate change interventions that focus around social cash transfer, food security pack, the emergency cash transfer scheme and supporting the women livelihoods programme. In this regard, K4.8 billion (2020: K2.6 billion) has been allocated to the Social Protection Sector reflecting an increase of 85.0% from the previous year.

The biggest allocation is towards the Social Cash transfer programme. The Social Cash transfer programme is targeted to reach 700,000 households while 80,000 beneficiaries were to be supported under the food security pack scheme in 2020. The women's empowerment programmes planned to support 75,000 women with training in life and business skills by 2020. The beneficiary numbers are forecasted to increase over the medium term. The key challenge going forward is expected to be the constrained fiscal space which will ultimately impact on the resources to be allocated to the social protection sector. The Covid-



19 pandemic has disrupted business activities and supply chains. The consequence has been job losses and the resultant loss of income resulting in the potential increase in the number of people in need of Government support. Targeted growth for FY 2021 has been set at 1.8%.

*Information sources for situation analysis*

Zambia National Public Health Institute. Zambia Covid-19 Situation Report No. 275

[http://znphi.co.zm/news/wp-content/uploads/2021/06/Zambia\\_COVID-Situational-Report-No-275\\_26June2021\\_Final.pdf](http://znphi.co.zm/news/wp-content/uploads/2021/06/Zambia_COVID-Situational-Report-No-275_26June2021_Final.pdf)

WHO: <https://covid19.who.int/region/afro/country/zm> (13 July 2021)

MRC Centre for Global Infectious Disease Analysis, Imperial College London. Situation Report for COVID-19: Zambia, 2021-07-09. <https://mrc-ide.github.io/global-lmic-reports/ZMB/>

UNHCR Southern Africa COVID-19 Response 1-28 February 2021

<https://reporting.unhcr.org/sites/default/files/UNHCR%20Southern%20Africa%20COVID%2019%20update%20-%20February2021.pdf>

<https://www.reuters.com/article/us-health-coronavirus-zambia-vaccine-idUSKBN2BH2NS>

PwC Limited Sept 2020. Navigating the new normal. 2021 National Budget Bulletin.

<https://www.pwc.com/zm/en/assets/pdf/zambia-budget-bulletin-2021.pdf>

<https://www.fitchratings.com/entity/zambia-90269061#ratings>

### **WWF COVID-19 Response in Zambia**

WWF Zambia has followed the Ministry of Health (MOH) guidance throughout the course of the pandemic, and has provided internal guidance to staff that is designed to ensure that WWF Zambia minimizes the risk of COVID-19 transmission to both partners and staff and works to support key measures by the MOH. WWF Zambia's Senior Management Team has periodically reviewed its Business Continuity Measures in response to developments in the COVID country context, most recently on 15 June 2021 following the formal declaration by government of the onset of a third wave of infections, including a sharp rise in case positivity rate to at least 22.4%, with significant transmission at community level and wide geographic coverage affecting all provinces. The guidance note of 15 June 2021 lists some 12 measures to be taken by WWFZ staff, which include informing all donor offices regarding the current COVID situation and implications for project delivery, coordination meetings with donors on COVID impacts, suspension of business travel and physical meetings, review of immediate priorities against workplans and online project coordination meetings, work from home and notification of positive test results, and weekly COVID updates for staff.

### Action Framework to respond to COVID-19 related risks to project implementation

The key risks presented by the COVID-19 pandemic towards the implementation of this project, and the achievement of its intended outcomes, include risks to community health and safe working conditions; risks to implementation (due to government regulations restricting public movement and assembly, and changes in the availability of human resources); and financial and other risks in the enabling environment. These risks are elaborated in **Table 1** below, along with the planned mitigation measures. These risks are also presented in the **section 3.4** of the project document.

#	COVID-19 Related Risk	Potential Consequence	Mitigation Measures
8	Risk of the ongoing COVID-19 Pandemic or other human disease outbreaks affecting project implementation	During project preparation, the COVID-19 pandemic halted all international travel and social distancing measures prevented most physical PPG stakeholder meetings taking place from March 2020. At the time of writing (March 2021), the scale, duration and impact of this pandemic upon project implementation cannot be confirmed, but it has the potential to be significant.	<ul style="list-style-type: none"> <li>• The project will comply with government directives in order to reduce health risks to project staff and stakeholders. Stakeholder /field activities must comply with WWF Zambia safety protocol/provision of PPE</li> <li>• Project start-up may be delayed or implementation may be paused if necessary in affected areas while government public health control measures are implemented, and resumed at a later time if feasible.</li> <li>• The original project duration of 48 months has been increased to 60 months to provide more flexibility to cope with such risks.</li> <li>• The Project Steering Committee will guide project responses for ongoing situations, as required.</li> <li>• Revision of the project workplan may be necessary, and an extension request may be required if implementation is substantially delayed.</li> <li>• Some adaptive adjustments may be needed to project strategy (eg on community livelihood development).</li> <li>• Project support for PPE and IT communications to facilitate remote working will be</li> </ul>

			provided in line with WWF Zambia requirements
9	Impacts of exchange rate fluctuations on the budget available to support implementation plans, and economic recession or changes in government priorities impacting delivery of cofinancing commitments for project implementation	The first year of the COVID-19 pandemic in 2020-21 saw the greatest disruption of financial markets and currencies in recent decades, including shifts in the value of the USD against local currencies, adding uncertainty to the budgeting of activities. There is a significant risk of global and national economic recession impacting cofinancing commitments for project implementation. The national government could change its priorities in relation to COVID-19 impacts on the national economy, for example to stimulate economic development.	<ul style="list-style-type: none"> <li>• The budget will be reviewed during project inception and any necessary measures taken to address any shortfalls due to exchange rate fluctuations between the GEF approved budget and project start up.</li> <li>• Annual budget reviews will track and respond to subsequent fluctuations.</li> <li>• Changes in the scope or timing of planned activities may be necessary through workplan adjustments.</li> <li>• The Project Steering Committee will monitor and address any significant financial constraints arising due to exchange rate fluctuations and any delays or failures in cofinancing delivery.</li> </ul>
10	Risk that livelihood incentives are insufficient to change behaviour towards achieving intended conservation outcomes, potentially exacerbated by COVID19 impacts	Project-supported CSA, community forestry and other sustainable livelihood activities may not gain the traction needed to actually reduce unsustainable land uses, deforestation and forest degradation, which could be exacerbated if economic hardship associated with COVID19 impacts occurs in this part of Zambia.	<ul style="list-style-type: none"> <li>• Incentives and technical assistance for sustainable livelihood activities will be targeted in specific areas where there are clear threats to resolve, including support for any COVID19 affected communities.</li> <li>• Further to PPG consultations and the Stakeholder Engagement Plan and Gender Action Plan, proposals for livelihoods will be based on consultation and agreement of local communities and traditional leaders, and socialized before uptake.</li> <li>• As far as possible, the project will seek to embed incentives and TA within government programmes and build local capacity for line agency support to strengthen sustainability of CSA,</li> </ul>

			Community Forestry and other livelihood support.
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### Opportunities for Support for COVID-19 Relief, Green Recovery and Resilient Communities

The GEF project alternative strategy integrates forest protection and management with sustainable land management in order to enhance management of the upper sub-catchment of the Luangwa River. This approach is strongly founded on community-based natural resource management (CBNRM), introducing climate-smart agriculture (CSA) and community forestry (CF) as key elements of sustainable, resilient livelihoods in the project target area. This approach includes certain activities that will provide short-term assistance to any COVID-affected communities in the area, while most will contribute to their longer-term socio-economic, ecological and climate resilience. These include project activities that will:

- Reduce the vulnerability of affected communities within the project landscape by introducing and supporting CSA, CF and other appropriate sustainable livelihood options that strengthen income streams and food security;
- Strengthen local capacity for forest protection, sustainable forest management, habitat restoration and fire management in order to improve the condition and extent of forest cover in the upper sub-catchment area, thereby protecting forest resources on which local nature-based livelihoods depend and which also protect vital water sources that benefit both local communities and downstream populations;
- Strengthen the local economy through developing a secure foundation for improved agricultural and forestry production, with support for processing and marketing of local produce; and
- Build local partnerships involving relevant government agencies, communities, the private sector, NGOs and donors in sustainable management of the Luangwa upper sub-catchment.

The model approach provided by the project for sustainable catchment management is intended to be replicable in other river headwaters, thus providing scalable environmental, socio-economic and climate resilience benefits over larger areas in due course. The opportunities to contribute towards green recovery, restoration of natural systems and their ecological functionality, delivery of GEBs and promote climate resilience are summarized in **Table 2** below.

Type of Opportunity	Project Contribution
Reduce the vulnerability of affected communities within the project landscape	The project will introduce and support CSA, CF and other appropriate sustainable livelihood options for targeted communities within the project landscape, including any communities affected by COVID-19. This will be framed through the development of community landscape management plans and conservation agreements (Output 2.1.1), and implemented through a series of Outputs in Component 2 that support the uptake of CSA (2.1.2, 2.1.3) and CF (2.1.2, 2.1.4, 2.1.5).
Strengthen local capacity for forest management, habitat rehabilitation and fire management, thereby protecting forest resources	The project will strengthen protection and management of Mafinga Hills NFR (through Outputs 1.1.1, 1.1.2 & 1.1.5), address fire management in the landscape in 1.1.3; and support the development of tree nurseries and habitat rehabilitation in 1.1.4 – all of which will be participatory activities involving local communities. The

	<p>development of a proposal for a WRPA 1.2.1 through a participatory process aims to demonstrate a model approach for managing sensitive headwater areas through sustainable land and forest management practices and locally-agreed protection measures. Collectively, these activities will improve the ecological condition of the upper sub-catchment area and strengthen ecosystem service provision, including water supply, forest resources and regulating functions that underpin local livelihoods and climate resilience. Local communities traditionally make use of forest resources for fuelwood, caterpillars and plants for food, honey, etc, which will be sustained with improved forest management.</p>
<p>Strengthen the local economy through developing a secure foundation for improved agricultural and forestry production, with support for processing and marketing of local produce</p>	<p>A significant part of the project investment focuses on developing sustainable land uses that will provide direct benefits to local communities as well as generate environmental benefits in the form of sustainable catchment management. Component 2 invests in providing technical support for CF and CSA (2.1.2), support for key CSA actions by farmers around the Mafinga Hills NFR their linkage to markets (2.1.3). It also supports the establishment of community woodlots and natural regeneration areas to reduce forest loss from wood fuel gathering within Mafinga Hills NFR (2.1.4); and the participatory designation and management of community forest areas undertaken with communities outside Mafinga Hills NFR (2.1.5).</p>
<p>Build local partnerships for sustainable management of the Luangwa upper sub-catchment</p>	<p>A key part of the project design is the development of local partnerships that can effectively coordinate the development and implementation of the proposed WRPA for key parts of the upper sub-catchment area, securing critical water resources for local and downstream use (1.2.1). In addition, the community-led approach towards sustainable land and forest management in the Upper Luangwa Sub-catchment will engage all affected communities including traditional leaders, relevant government agencies, NGOs and private sector service providers (2.1.1). The views of women and vulnerable groups will be specifically sought during these processes to ensure that the plans are gender-responsive and socially inclusive. The implementation of conservation measures within the wider scope of these plans will be supported by community conservation agreements, for example to reduce the impacts of certain community activities on natural habitats or to conserve a specific element of biodiversity. Finally, the cross-sectoral communication strategy (3.1.1) for sustainable catchment management in headwater areas will ensure that knowledge management and communications underpin partnership development and the collective capacity needed to achieve sustainable catchment management.</p>
<p>Develop a replicable model approach for sustainable catchment management that can provide scalable environmental, socio-economic and climate resilience benefits to other headwater areas</p>	<p>By making knowledge available to all stakeholders, the project will contribute towards the replication of the upper catchment management approach, including the WRPA model and community engagement in sustainable land and forest management, within the Luangwa catchment, across Zambia, and in other Zambezi river basin</p>

	<p>countries (3.1.1, 3.1.2). Sustainable catchment management will strengthen the provision of watershed ecosystem services as well as local natural resource-based livelihoods. Forested headwaters will contribute towards ecosystem-based adaptation, supporting the hydrological cycle through improved water retention, reduced flash-flooding, and reduced soil erosion in upper sub-catchment areas. Collectively these will contribute towards reduced land degradation and more secure living conditions for local communities.</p>
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### Multilateral and bilateral donor-supported recovery efforts

- The African Development Bank has mobilized \$ 10 billion to create the *COVID-19 Rapid Response Facility*. The overarching goal of the facility is to lessen the economic and social impact of the pandemic;
- The African Union (AU) has also raised \$25 million for the *COVID-19 Response Fund*.
- The African Export-Import Bank has pledged \$3 billion in resources to help member countries, including the private sector, respond to the crisis. The set of tools includes lines of credit, guarantees, or swaps, among others. Its focus is to relieve most of the indirect effects of the pandemic including high risks of debt distress;
- The European Union's contribution to the COVID-19 response in sub-Saharan Africa is estimated at over \$2 billion - including the funding from the European Commission and loans from the European Investment Bank;
- The United States Government has provided close to \$270 million to help countries across sub-Saharan Africa respond to the COVID-19 pandemic. This assistance will strengthen various aspects of pandemic response: risk communication, community outreach and public health messaging; the prevention and control of infections in health facilities; laboratory capacity and disease surveillance; and water, sanitation, and hygiene programs;
- Assistance also addresses the impacts of COVID-19. Official creditors of African government debt have mobilized up to \$57 billion - including upwards of \$18 billion from the IMF and the World Bank each - to provide front-line health services, support to the poor and vulnerable, and to keep African economies afloat.
- The United Nations Development Programme (UNDP) has further launched a *COVID-19 Rapid Response Facility*, funded by existing resources and capitalized with an initial \$20 million. This facility will provide up to \$250,000 per country for initial action, disbursed through a fast-track mechanism (with approval within one week);
- The UK's Foreign, Commonwealth and Development Office (FCDO), formerly Department for International Development (DfID), has launched a series of COVID-19 related grants, including a \$25 million "African Union COVID-19 Response fund" to provide health services and technical expertise, a \$257,000 grant for a more resilient health system available for technology platforms and process innovations and a \$55 million fund to help respond to the pandemic internationally — including \$23 million through the Rapid Response Facility, or RRF, and more than \$30 million through a hygiene program jointly funded with soap manufacturer Unilever; and
- The United Nations Environment Programme (UNEP) has been overseeing an initiative to streamline existing funding into support for pandemic impacted communities as well as delivering the Building Back Better programme.
- The German Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH are currently developing a package of support – with an estimated value of \$23 million - for those suffering the loss of nature-based tourism. As of June 2020, the German Government has allocated an additional \$18 million for COVID-19 relief efforts under the Financial Cooperation implemented by KfW in the community / tourism / conservation nexus in the Southern African Region (Angola, Botswana, Namibia, Malawi, Mozambique, Zambia and Zimbabwe).

### **Conservation and community COVID-19 information coordination initiatives**

- The Africa COVID-19 Situation Room has been developed to provide data coverage on the health, social and economic impacts of the Covid-19 pandemic in African countries.
- The IUCN WCPA Vice Chair for Eastern and Southern Africa ran an online survey of African protected areas and the impacts from the pandemic and produced a report on this in June 2020 entitled, *The Impact of COVID-19 Pandemic on Africa's Protected Areas Operations and Programmes*.
- The Green Growth Knowledge Partnership offers quick and easy access to the latest global research, case studies, toolkits, learning products, principles, and protocols to empower policy makers and advisors, small and medium-sized enterprises, and banks, insurance, and investment firms to make evidence-based decisions on COVID-19 responses.

Appendix 18. Legislation and policies relevant to the project

See separate Appendices file