

GEF-8 REQUEST FOR MSP (1-STEP) APPROVAL

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General Project Information

Project Information

Project Title:

Kafue Flats Climate Resilience and Adaptation Project (KaF-Adapt)

Region:

Africa

GEF Project ID:

11924

Country(ies):

Zambia

Type of Project:

MSP

GEF Agency(ies):

WWF-US

GEF Agency Project ID:

G0049

Project Executing Entity(s):

Ministry of Green Economy and Environment

International Crane Foundation

Project Executing Type:

Government

CSO

GEF Focal Area (s):

Climate Change

Submission Date:

3/27/2025

Type of Trust Fund:

LDCF

Project Duration (Months):

60

GEF Project Grant: (a)

2,432,110.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

218,890.00

Agency Fee(s) Non-Grant (d)

0.00

Total GEF Financing: (a+b+c+d)

2,651,000.00

Total Co-financing

5,587,200.00

PPG Amount: (e)

100,000.00

PPG Agency Fee(s): (f)

9,000.00

PPG total amount: (e+f)

109,000.00

Total GEF Resources: (a+b+c+d+e+f)

2,760,000.00

Project Tags

CBIT: No NGI: No SGP: No Innovation: No

Project Sector (CCM Only):

Climate Change Adaptation Sector

Taxonomy:

Focal Areas, Climate Change, Climate Change Adaptation, Livelihoods, Least Developed Countries, Private sector, Innovation, Ecosystem-based Adaptation, Disaster risk management, Climate resilience, Mainstreaming adaptation, Community-based adaptation, Influencing models, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Stakeholders, Civil Society, Community Based Organization, Non-Governmental Organization, Academia, Local Communities, Type of Engagement, Participation, Partnership, Consultation, Private Sector, SMEs, Capital providers, Individuals/Entrepreneurs, Large corporations, Communications, Awareness Raising, Education, Gender Equality, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Beneficiaries, Gender results areas, Capacity Development, Access to benefits and services, Participation and leadership, Capacity, Knowledge and Research, Learning, Adaptive management, Theory of change, Indicators to measure change, Knowledge Generation, Training, Workshop, Course, Knowledge Exchange, Field Visit, Peer-to-Peer

Rio Markers

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
No Contribution 0	Principal Objective 2	No Contribution 0	No Contribution 0

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

Zambia’s Ministry of Green Economy and Environment is Executing Entity for the KaF-Adapt project, supported by International Crane Foundation as financial administrator and executing partner, and WWF-GEF as GEF Agency. The project objective is to reduce vulnerability of communities to water scarcity, and promote adaptation through resilient livelihoods in the Kafue Flats, a region of Zambia with high vulnerability and exposure of agro-pastoralist communities to intensifying drought and flood hazards. Historical trends and future projections in the south of Zambia indicate a decline in rainfall and increase in temperature over the period to 2050, with more intense rainfall events and longer dry spells, increasing droughts and flash floods. The communities of the seven Kafue Flats chiefdoms are already experiencing negative impacts – reduced pasture, decreased water availability, lower crop yields, increase in pests, and poor livestock health. Reduced quality of grazing also affects wildlife such as the Kafue Lechwe, important for income from tourism and community based natural resource management.

The four project components address: (1) the enabling environment for climate change adaptation; (2) water security and holistic rangeland management; (3) climate-resilient livelihoods and value chains; and (4) knowledge and learning. Additional adaptation benefits include: 5,060 community members with more resilient assets and diversified livelihoods; 25,000 hectares of rangeland under climate-resilient management; climate change integrated into six district plans, and two climate-resilient enterprises incubated. The KaF-Adapt project has a “sister” project, the KaF-Wild project under the GEF-8 Global Wildlife Program, to be implemented in the same landscape and time-frame.

Project Description Overview

Project Objective

To reduce vulnerability of communities to water scarcity and promote adaptation through resilient livelihood development in the Kafue Flats

Project Components

Component 1: Enabling environment for climate change adaptation in Kafue Flats

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
206,579.00	507,643.00

Outcome:

Outcome 1.1 *Increased community awareness and empowerment on climate change adaptation and landscape management*

Output:

Output 1.1.1 Community dialogue on climate challenges and traditional knowledge to inform adaptation solutions

Output 1.1.2 Mainstreaming adaptation solutions into district and landscape management plans

Component 2: Water security and holistic rangeland management

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing (\$)	Co-financing (\$)
1,150,565.00	2,600,885.00

Outcome:

Outcome 2.1 *Improved access to water supply for community use and livestock in targeted chiefdoms*

Outcome 2.2 *Increased adaptive capacity of livestock farmers to climate change through enhanced pasture management*

Output:

Output 2.1.1 New solar-powered sustainable boreholes and water facilities for communities and livestock

Output 2.1.2 Doing earthworks for in-field rainwater harvesting in drought-vulnerable communities

Output 2.1.3 Rehabilitating dams, and constructing check dams on seasonal rivers and streams to enhance water availability, infiltration and flood control

Output 2.2.1 Establishing or strengthening resource management committees and planning for holistic, climate-resilient livestock farming

Output 2.2.2 Capacity development with pastoralists for climate-adaptive holistic rangeland management, incorporating traditional knowledge

Output 2.2.3 Training and technical assistance to grow fodder grass and reseed grasslands

Component 3: Climate resilient livelihoods and value chains in Kafue Flats GMA

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing (\$)	Co-financing (\$)
597,544.00	1,376,392.00

Outcome:

Outcome 3.1 *Increased resilience to climate change from diversified livelihoods*

Output:

Output 3.1.1 Empowerment of women's cooperatives to establish new climate-adaptive enterprises

Output 3.1.2 Development of livestock-based value addition enterprises for climate resilience

Component 4: Knowledge and learning

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
213,707.00	496,457.00

Outcome:

Outcome 4.1 *Knowledge on evolving climate hazards and solutions captured*

Outcome 4.2

Project learning captured and lessons exchanged

Output:

Output 4.1.1 Interviews and consultation on evolving climate change impacts

Output 4.1.2 Engaging youth to track indicators of resilience to climate change

Output 4.2.1 Capturing lessons learnt and facilitating knowledge exchanges between communities

M&E

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
147,900.00	339,765.00

Outcome:

Project monitoring and evaluation data contributes to efficient decision-making and adaptive project management

Output:

Effective M&E system including gender monitoring with data collection, reflection and timely reporting for result-based decision-making and adaptive management

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1: Enabling environment for climate change adaptation in Kafue Flats	206,579.00	507,643.00
Component 2: Water security and holistic rangeland management	1,150,565.00	2,600,885.00
Component 3: Climate resilient livelihoods and value chains in Kafue Flats GMA	597,544.00	1,376,392.00
Component 4: Knowledge and learning	213,707.00	496,457.00

M&E	147,900.00	339,765.00
Subtotal	2,316,295.00	5,321,142.00
Project Management Cost	115,815.00	266,058.00
Total Project Cost (\$)	2,432,110.00	5,587,200.00

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Key climate change problem

The Kafue Flats in Zambia's Lower Kafue Basin was selected as the project target landscape because of the high level of climate impact and risk of the area. The high level of climate change impact already felt and future climate risk are determined by a combination of hazard, vulnerability and exposure. The area is increasingly susceptible to drought and flood hazards (see detail below). The sensitive ecological sensitive floodplain and surrounding uplands are highly exposed to these hazards, as are the communities whose traditional way of life depends on natural resources – through cattle grazing, fishing and subsistence farming. Two of the target districts, Mumbwa and Mazabuka, are particularly highly exposed to periodic droughts, the severity of which increases with rising temperatures. Extensive droughts lead to water scarcity, lower crop yields, crop failures, low milk production, low cattle weight and even death of livestock. The level of economic development in villages of the 517,500 hectare Kafue Flats Game Management Area GMA and surrounding towns is low, and the GMA communities are amongst the poorest in Zambia, increasing their vulnerability to these impacts, since they have little to fall back on in terms of savings, paid work or diversified incomes. This combination of high hazard, exposure and vulnerability, causing high climate impact and risk, informed the choice of the target landscape.

The key climate change problem that the project will address is the vulnerability of farming communities in the Kafue Flats to drought. This is caused by elevated temperatures, which are combining with changing rainfall patterns and reduced rainfall overall, to create increased soil evapotranspiration and dry up water sources. This creates more frequent and more intense drought conditions that combine with directly human-caused land degradation to threaten livelihoods. Increased variability of rains, with more intense downpours interspersed with longer dry spells, sometimes also causes flash flooding, in which damage is done to homesteads and food gardens. The WWF Climate Crowd Survey, conducted with communities across the

seven chiefdoms of the Kafue Flats GMA during project development in late 2023, indicated that the changing climate is leading to: reduced availability of pasture for livestock, decreased water availability, reduced crop yields, increased prevalence of pests, more widespread hunger, poor livestock health, and reduced soil and land quality (see details below). Decreased productivity of grazing lands also negatively affects wildlife such as the Kafue Lechwe, important for income from tourism and community based natural resource management.

The Kafue Flats is home to a wide range of people, some traditional inhabitants of the area, and others relative newcomers, especially in the larger villages and towns. The Ila and Tonga peoples have strong customary ties to the land and combine subsistence (and some cash crop) agriculture with extensive livestock raising (cattle and goats) on communal grasslands and on the floodplain in the dry season, depending on the natural streams and wetlands and the Kafue River for water and fishing. Fishing communities include local Ila and Batwa peoples, and also people from other provinces of Zambia who have been migrating to seasonal and/or permanent fishing camps for decades. The project activities are centred on the Kafue Flats Game Management Area (GMA), which surrounds Blue Lagoon and Lochinvar National Parks (see maps in Annex E), and is made up largely of traditional communal lands that form part of seven chiefdoms falling within Southern and Central provinces: Mwanachingwala, Shakumbila^[1], Muwezwa, Mungaili, Nalubamba, Hamusonde^[2] and Choongo.

Zambia's Kafue Flats in the Southern and Central Provinces also has significant large commercial cattle ranches, in addition to the extensive grazing practised traditionally. The Lower Kafue Basin accounts for an estimated 20% of the national cattle herd, 50% of national hydropower, 7% of national fisheries, 44% of national water supply, and 64% of the total irrigated area nationally, including 40% of national sugar production and 25% of maize production (WWF 2019). Climate change impacts are combining with direct human causes of environmental degradation to lessen available water in the river system, and to reduce the carrying capacity of both the grasslands, and also the 225 km-long and 60 km-wide seasonal floodplain with its wetland ecosystem. The seasonal wetlands of the floodplain provide many ecosystem services that are important for the economy – including dry season grazing for cattle, and filtering out of contaminants in the river water, brought downstream from the Upper Kafue from mining in the Copperbelt. The Kafue Flats is part of the Greater Kafue Ecosystem and is an important habitat for wildlife, including several vulnerable and endangered species threatened by poaching and habitat loss. Kafue Flats is both a UNESCO Biosphere Reserve and a Ramsar Wetland of International Importance and includes two National Parks (Blue Lagoon and Lochinvar) and the Kafue Flats Game Management Area (GMA).

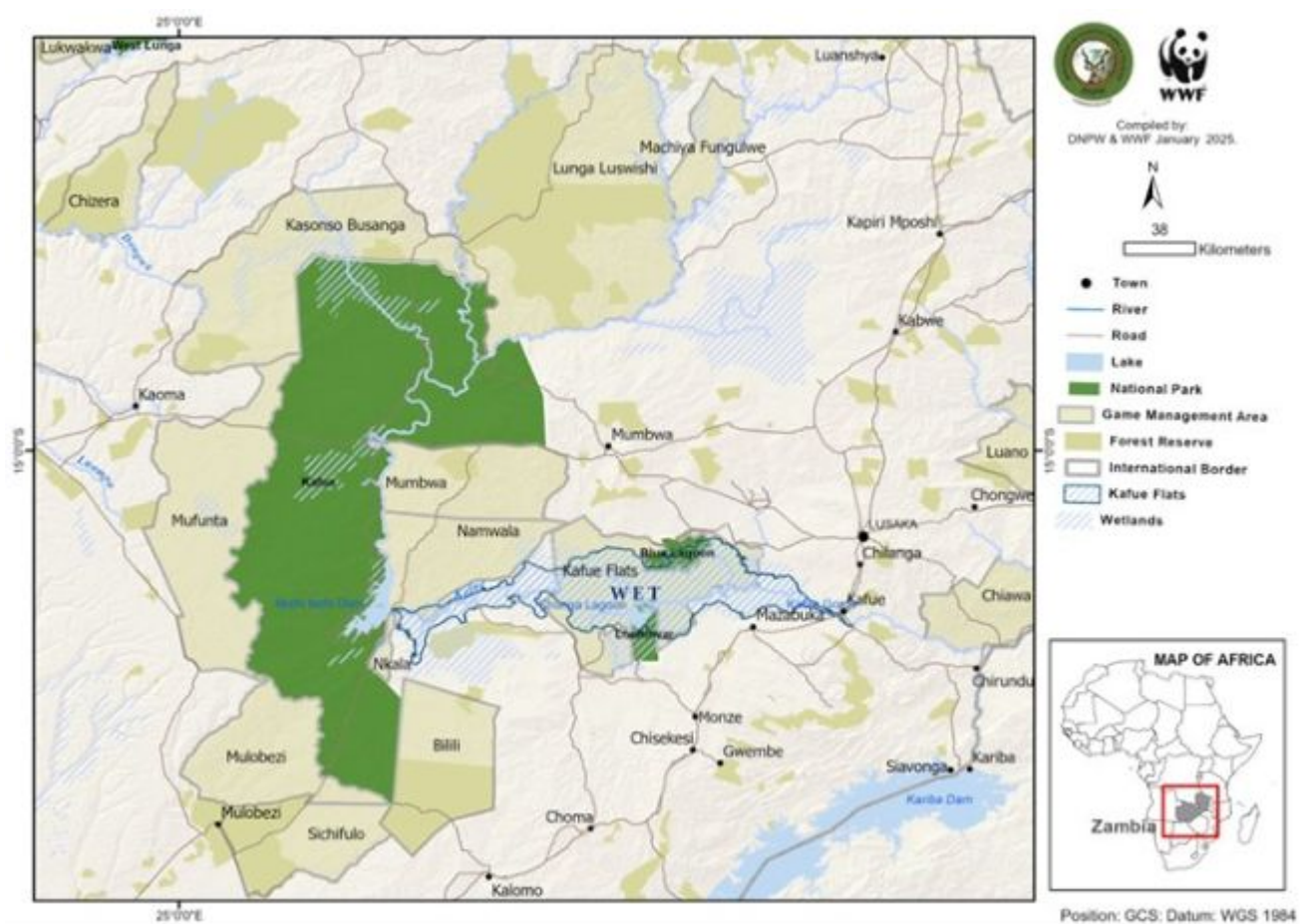


Figure 1: Greater Kafue Ecosystem

For agropastoral communities in the Kafue Flats GMA and surrounding chiefdoms, rising temperatures are placing stress on agricultural practices, reducing crop yields and cows' milk production. When the staple maize crop yield is threatened by delayed or patchy rains, communities lacking access to freshwater sources (e.g., streams, boreholes) are not able to do supplementary irrigation of their crop, and risk losing the entire crop and major food source. Hot, dry conditions also mean an increased risk of wildfires spreading out of control. Higher temperatures may also exacerbate evaporation rates from water bodies, further straining water availability for both humans and wildlife. Many of the tributary streams to the Kafue River, once considered perennial, have become seasonal in recent years. Reduced water availability can lead to increased competition among agricultural users, wildlife, and local communities.

Also at play are non-climate drivers of ecosystem degradation, including: upland deforestation for fuel wood and charcoal; erosion damage to river courses as a result of vegetation removal to maximize riverbank cultivation; and intentional setting of fires by fishermen and herders in camps on the floodplain, which then frequently get out of control. The traditional pattern of extensive grazing on the Kafue Flats, in which herds are moved from the uplands to the floodplain during the dry season, is coming under pressure, not only from climate change, but also from the growing number of cattle, resulting in areas being overgrazed and not allowed to recover^[3]. Additionally, changing vegetation patterns, including invasion by inedible shrubs and permanent inundation of former grassland, are contributing to reduced water and good quality pastures for livestock. The changing hydrology of the flats has allowed the invasive topical prickly shrub *Mimosa pigra* to

claim an estimated 56,000 hectares that is no longer available as grazing for cattle (or as grazing for antelope, or as feeding grounds for water birds).

A key non-climate driver of ecosystem degradation is the artificial flooding regime, combined with intensive abstraction of water from the river. Historically, the Kafue River would spill over its banks once a year, and this, combined with steady rainfall and flooding of tributaries, would result in a vast area remaining inundated from December to April. Since the 1970s, this regime has been altered by damming of the river at Itezhi-Tezhi for hydropower at the Lower Kafue Gorge, with insufficient artificial flood releases. The artificial flooding regime, in turn, has enabled the spread of invasive shrubs, reducing dry season floodplain grazing and water access for both livestock and wildlife. In the early 2000s, following engagement with WWF and ICF, the state electricity utility ZESCO agreed to a minimum flow release and an annual “ecological freshet”, typically in March, to some extent mimicking the natural flooding regime^[4]. But in drought years the freshet has not occurred, and this failure, combined with poor rains, has meant that vast areas of the floodplain that should be inundated for several months after the rainy season remain dry, with negative consequences for floodplain-dependent communities who are already vulnerable to the impacts of climate change.



Figure 2: Damming of the Kafue River for ZESCO hydropower production

Climate change has resulted in competition over resources, overgrazing, shifting livestock patterns, higher prevalence of diseases, rangeland degradation, lower livestock productivity and loss of livelihoods of community members in the Kafue Flats. This poses a cyclical problem, as the response to these threats are further leading to ecosystem degradation that in turn compounds the impacts of climate change. Additionally, adaptation to these climate and human induced threats is inadequate. Availability of water for livestock is constrained by low adoption levels of water harvesting techniques, and high cost of infrastructure for water supply. This is exacerbated by inappropriate grazing and rangeland practices as well as poor livestock service delivery. The unrestricted movement of livestock from one area to another, in search of pastures and water, allows domestic livestock to encounter wildlife, and this leads to spread of animal disease outbreaks, and increases in human-wildlife conflict. The decline in productivity of grazing, made worse by the spread of invasive *Mimosa pigra*, and combined with the expansion of the cattle herd, negatively affects availability of forage for wildlife such as the Kafue Lechwe, with the latter having a knock-on impact on potential income from tourism and from sustainable utilization of wildlife through community based natural resource management.

Climate Crowd survey

During a scoping mission in late 2023, the project team interviewed communities in the chiefdoms of and surrounding the Kafue Flats GMA, using the WWF [climate crowd](#) questionnaire^[5] to understand the impacts of climate change and how the community adapts to these impacts. The results showed that communities in

the Kafue Flats are recognizing changes in weather patterns over time, with negative effects on their livelihoods, health, welfare, migration, and increased conflict.

Results show that water-related extremes have been observed by the vast majority, with 87% observing increased drought (failure of rains during the expected growing season) as a significant change, and 70% observing increased floods (flash floods during heavy rainfalls) as a significant change. Additionally, 78% observed decreased rainfall and 65% stated that there had been changes in the timing of the seasons. Nearly half of the respondents noted heat waves and hotter days. Loss of water sources was noted by 11% of respondents. The frequency and intensity of drought and hotter temperatures have resulted in reduced availability of pasture for livestock, decreased availability of freshwater, and reduced crop yields. Agricultural productivity has not only been stunted by lack of water, heat, and soil quality, but also by an increased prevalence of pests (37%) which respondents have said has caused an increase in diseases and general poor health in livestock (30%). Consequently, 37% of respondents reported increased hunger, brought upon by this decline in agricultural yields and livestock productivity as well as reduced fish catches—reported by 61% of respondents—and a reduced availability of wild food (30%). Another result of decreased food production has been income shortage (15%) as many people make their living by selling crops, fish, and livestock products. In addition to livelihoods impact, respondents also cited impacts on property, assets and activities. These were typically attributed to the extreme weather events, including floods and severe winds, which reduce fishing activities (24%), damage property (22%) and sometimes lead to displacement of families (15%)^[6].

In response to these climate change impacts, the survey found that communities are beginning to adapt their lifestyles; for example, to cope with unproductive pastures, 76% of respondents reported that livestock owners have taken their cattle to new areas to graze, often far away or inside the two national parks. In response to water scarcity, 46% of those interviewed reported spending more time travelling further distances to access fresh water, particularly for women and children. 24% reported that people have drilled new boreholes and dug new wells, though other consultation meetings have reported that many are unsuccessful because of inappropriate siting and/or a falling water table. 57% of respondents noted that they have changed their livelihoods as a response to reduced agricultural productivity – including shifts to fishing and merchandising, while others mentioned having to sell their livestock and land (13%). Those community members who have been sensitized to climate change responded that they are switching to climate-smart agriculture, with 26% having switched to drought-resistant crop types and 11% to resilient livestock breeds, with others buying livestock feed to supplement poor grazing. These initiatives are themselves vulnerable to drought – as shown in failure of even “climate-resilient” crops like groundnuts and cowpeas in the 2023/24 drought.

The survey also found that, as people try to cope with climate change impacts, there can be negative repercussions on the surrounding biodiversity. For example, people have been turning to natural resource-intensive livelihoods, like logging for charcoal, timber, and firewood which has increased deforestation and degradation, a threat that will further reduce the water in the area by reducing the ability of the soil to retain the water. A related consequence of deforestation is the additional pressure of habitat loss in the Kafue Flats ecosystem, particularly the two national parks – Lochinvar and Blue Lagoon. Another example can be seen in people who have suffered crop and income losses turning to poaching of Lechwe and other wildlife to supply the illegal bushmeat trade in Lusaka. Community members also reported a perceived link between temperature increases and spread of diseases, and also the spread of invasive shrubs across the wetlands, reducing grazing for cattle (and wildlife) and access to water. In some communities living near streams and tributaries to the Kafue River, increasing frequency of intense downpours and flash flooding was reported, with damage to homes and crops.

The impacts of climate change are also experienced differentially depending on gender, age and social standing. Water shortages affect women and girls the most, as they must walk long distances to fetch water. Boys and male youth are also affected, as they have to miss school to take livestock to further areas in search of grazing and water^[7]. According to Zambia's Agriculture Analytical Report, one in five agricultural households nationally is female-headed, women have limited access to inputs and support services, and therefore have two-thirds the production and own half the amount of livestock compared to male-headed households. People without limited access to land or cattle have fewer choices for coping strategies in times of hardship.

Climate change background

Zambia has a very high vulnerability and low readiness score in relation to climate change, according to the ND GAIN Country Index rankings^[8]. Climate scenarios point to a significant decline of rainfall and an increase in temperature in the period 2021-2050 under both RCP 4.5 and RCP 8.5 scenarios, particularly in the Southern and Central Provinces of Zambia, where the project target landscape is situated. Climate change is predicted to also exacerbate rainfall variability, resulting in likely higher frequency and intensity of already occurring droughts and floods. Droughts are the most prevalent climate shock faced by rural smallholder farmers in Zambia^[9], with 76 percent of smallholder farmers considered vulnerable^[10]³, and with Southern Province one of the two worst affected provinces^[11]⁴. The effects of temperature and precipitation changes are projected to cause a decrease in river flow, with a slightly higher risk for the Kafue, Zambezi, and Luangwa River Basins^[12]⁵. Studies indicate that there is likely to be a 9% reduction in water resource availability in the overall Kafue River Basin by 2050^[13]⁶.

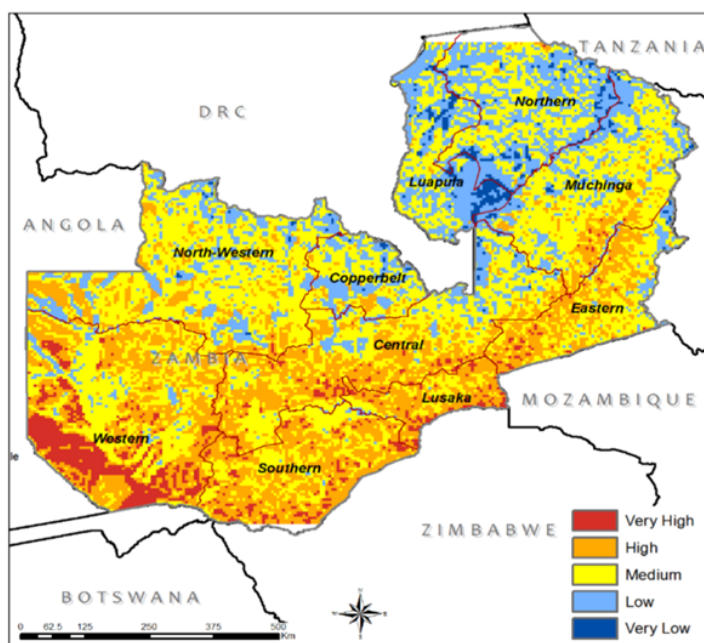


Figure 3. Vulnerability map for the water sector from the 2021 Climate Change Risk and Vulnerability Assessment Report, showing the area around the Kafue flats as rated “very high” for vulnerability [14]

Park	V.A Elements				Vulnerability Score (2=low, 3=medium, >5 high)
	Exposure Score (1=low, 2= medium, 3=high)	Sensitivity	Adaptive Capacity Score (1=low, 2= medium, 3=high)		
South Luangwa	3	3	2		5
North Luangwa	1	3	2		2
Lukusuzi	3	3	2		5
Luambe	3	3	3		5
Mweru Wantipa	1	4	1		4
Nsumbu	1	4	2		2
Lusenga Plains	1	4	1		4
Isangano	1	4	1		4
Lavushi Manda	1	3	1		3
Kasanka	1	3	2		2
Kafue	3	3	2		5
Nyika	1	3	2		2
Lochinvar	2	4	1		5
West Lunga	1	4	2		2
Sioma Ngwezi	3	3	2		5
Mosti- oa- Tunya	3	2	2		3
Blue Lagoon	2	4	2		4
Lower Zambezi	3	2	2		3
Lusaka	2	2	3		1
Liuwa Plains NP	2	2	2		2

<https://worldwildlifefund->

[my.sharepoint.com/personal/astrid_breuer_wwfus_org/Documents/GEF%208/Africa/Zambia/Zambia%20WCD%20LDCF%20PPG/KafAdapt%20Submission%20to%20GEF%20Sec/1%20-%20Feb%202025/KaF-Adapt%20Final%20CER_26%20March%202025_FV.docx](https://worldwildlifefund-my.sharepoint.com/personal/astrid_breuer_wwfus_org/Documents/GEF%208/Africa/Zambia/Zambia%20WCD%20LDCF%20PPG/KafAdapt%20Submission%20to%20GEF%20Sec/1%20-%20Feb%202025/KaF-Adapt%20Final%20CER_26%20March%202025_FV.docx) - ftn1

Figure 4: Table from the 2021 Climate Change Risk and Vulnerability Assessment Report rating Zambia’s national parks on a vulnerability score - Lochinvar National Park is highly vulnerable while Blue Lagoon National Park is medium vulnerable.

Climate change trends

Zambia has on average a sub-tropical climate with three main seasons historically: hot and dry from mid-August to mid-November, wet and rainy from mid-November to April, and cool and dry from May to mid-

August. Rainfall varies spatially from an annual average of 600mm in the south to 1300mm in the north. Rainfall is influenced by the movement of the InterTropical Convergence Zone (ITCZ) and this gives rise to significant inter-annual variability, against which it is difficult to discern trends. The project landscape is largely in Agro Ecological Region (AER) II(a) with a small portion in Agro Ecological Region I. AER I is semi-arid with low rainfall (average 600-800mm per year) with generally poor soil quality and a short growing season, whilst AER II has higher rainfall (800-1000mm per year) and more fertile soils with a longer growing season, and this area is home to most of the country's commercial farmers.

Key observed historical climate change trends, based on observational data and reanalysis, as reported in Zambia's Third National Communication on Climate Change, 2020, are related to temperature and rainfall, as outlined below.

Temperature: Mean annual temperature in Zambia has increased by 1.3°C since 1960, an average of 0.29°C per decade. The diurnal temperature range has increased in general across the country, with an increase in maximum temperature compared to minimum temperature. There has also been an increase in the occurrence of climate extremes, with an increase in the number of summer days with temperatures higher than 25°C, 30°C and 35°C. Kafue has had a statistically significant ($P < 0.05$) increase in various temperature indices, including the annual count of days with at least 6 consecutive days when temperature exceeds the 90th percentile, the percentage of days annually when temperature exceeds the 50th percentile, and the annual count of days when temperature exceeds 30°C, although the diurnal temperature range has not increased.

Rainfall: Precipitation in Zambia declined by 6% (58mm) from 1971 to 2005 relative to 1940 to 1970. The largest declines, and the biggest reduction in rainy season length, were in the southwest of the country. Prior to that, the period 1926-1970 had above average rainfall and the period 1886-1925 had below average rainfall. Against this variability, there have been changes in extremes, with examples of dry spells, droughts and floods. Extreme precipitation has increased, with a significant rate of change in R99pTOT (the annual percent precipitation from days with $P > 99$ th percentile) of 0.23mm at Kafue. Since 2000 there have been nearly annual occurrences of droughts and floods, with a national state of emergency declared in 2024 following critical low average rainfall during an El Niño year.

Climate change projections

Projections for future climate change, based on Global Circulation Models, [\[15\]](#) are reported in Zambia's Third National Communication on Climate Change, 2020, in relation to the same two key climate change parameters.

Temperature: Mean temperature change is projected to increase, with a greater extent of change under the extreme RCP8.5 scenario than under the RCP4.5 scenario. The ensemble mean temperature changes are projected to be 1.34°C (January-February-March), 1.50°C (April-May-June), 1.86°C (July-August-September) and 1.85°C (October-November-December) under RCP4.5, respectively; compared with 1.56°C, 1.82°C, 2.03°C and 2.11°C over the same time periods under RCP8.5. Both minimum and maximum temperatures are projected to increase, with higher changes anticipated in minimum temperatures (compared

to maximum temperatures) during January-February-March (JFM), April-May-June (AMJ) and October-November-December (OND) under both RCP4.5 and RCP8.5. The annual number of dates with at least six consecutive hot days is also anticipated to increase (i.e. an increase in heatwaves) from 2021-2050. AER I is projected to continue to be the warmest region, with the highest increase in both minimum and maximum temperatures.

Rainfall: Precipitation in AER I is expected to increase in January-February-March (JFM) and October-November-December (OND) under both RCP4.5 and RCP8.5 by 2050, but decrease in the winter months. Decreases over JFM and OND under the same RCPs are projected for both AER II (where the decrease is slight) and AER III over the same period. Looking at seasonal distribution, AERs I and II are likely to have the most rainfall in January under both scenarios, whilst in AER III the month with most rainfall is projected to be December. Despite the predicted changes and the increase foreseen for AER I, this region will remain the driest in the country. Annual mean total precipitation is projected to increase from 592mm at present to 630mm under RCP4.5 and 639mm under RCP8.5. Annual mean total precipitation in AER II is projected to decrease from 817mm at present to 800mm under RCP4.5, and to 805mm under RCP8.5. The only one of these projections that is significant, however, is the projected increase under RCP8.5 in AER I, as the other changes fall within one standard deviation of the current mean. Noting that the project landscape is largely in AER II, slight decreases in overall rainfall, with longer dry spells and a concentration of rain in January (late for crop planting) can be expected.

Climate hazards and impacts: Zambia experiences climate extremes on a regular basis. In the period 2000-2020, the country experienced floods in 13 years, impacting a total of over 3.7 million people. Over the same time period, droughts were less common, and affected fewer people overall (2.6 million), but the number of people affected by drought per year far exceeds the number of people affected per year by flooding[16]. There are implications of current and future increased climate change exposure and extremes for many sectors, including agriculture[17], livestock, fisheries, forestry, infrastructure, water, health, energy, mining and tourism. Potential negative impacts of changes in temperature and rainfall patterns for the Kafue Flats include: decreased crop and livestock production, reduction in fish production, reduced water availability with implications for hydroelectricity generation[18], disease outbreaks and food and nutrition insecurity, environmental degradation, and loss of revenue from nature-based tourism.

A note on the 2023/24 drought

During the project development phase, Zambia was undergoing one of the driest agricultural seasons in more than 40 years, causing major crop and livestock losses and severely affecting the well-being and livelihoods of communities nationwide, since 90% of cultivation in Zambia uses rain-fed agriculture. On 29 February 2024, the Zambian Government declared a state of disaster in response to an El Niño-induced drought during the 2023–2024 agricultural season. The drought significantly affected agriculture and electricity production, heightening food insecurity and affecting livelihoods in 84 out of 116 districts. The hardest-hit areas include Central, Eastern, Southern, and Western provinces (with the KaF-Adapt landscape falling into two of these provinces), which cumulatively account for over 58% of Zambia’s annual maize production over the past five years[19].

The severe crop failure during the 2023–2024 agricultural season significantly affected farmers, leaving many struggling to sustain their livelihoods after the losses. Maize is the most widely cultivated crop in Zambia, occupying over 65% of the country’s agricultural land. It serves as both a major food source for the population and a significant cash crop for the country. The crop has experienced widespread failure, leading to reduced production during the 2023–2024 agricultural season and affecting around 43% of the total cultivated hectares. Grain production has declined by around 53% compared to the previous season, making the 2023–2024 agricultural season output the lowest in five years. The drought has significantly affected Lake Kariba, decreasing electricity production through the lake’s dam, resulting in up to 21 hours per day of load shedding – the deliberate temporary shutdown of electric power supply. The drought has also affected businesses, as the country’s GDP growth projection for 2024 has been downgraded from an earlier estimate of 4.7% to 2.3% because of the adverse impact of power shortages on copper production, Zambia’s key export.

On 16 April 2024, a rapid needs assessment commissioned by the Agriculture and Food Security Cluster and the National Government Drought Response Appeal indicated that 6.6 million people, or 33% of the population, needed urgent humanitarian assistance. This included more than three million children under 18 years of age, mostly based in the provinces of Lusaka, Luapula, Western and Northwestern as well as the two provinces into which the project landscape falls – Southern and Central Provinces. According to the assessment report, the top three provinces with more than 1.3 million people in need were Western, Southern, and North-Western. The report also highlights that many households were struggling to meet their basic needs, including access to food, with many resorting to negative coping mechanisms. Although most of the surveyed households reported that they cultivated maize and other crops in the 2023/2024 season, projected production levels were minimal, and most households reported total crop failure, particularly due to the prolonged dry spells. Likewise, livestock and fisheries have been equally affected due to the drying of water sources – almost half of surveyed households that kept livestock reported a reduction of pastures especially for cattle, while 39 per cent indicated that distance to water points increased.[\[20\]](#)

Water and food scarcity has led to the displacement of households within and outside the country, mainly to Namibia. This trend has been observed in the Kafue Flats, with communities in the November 2024 project development field mission reporting people leaving the area to seek employment and better livelihoods in Lusaka and elsewhere. A January [2025 Update on the impact of drought](#) indicates that 5.8 million people (33% of the population) expected to face high food insecurity from October 2024 to March 2025, including 236,000 people at Emergency condition level (Phase 4 of the Integrated Food Security Phase Classification or IPC levels)[\[21\]](#). Year-on-year food inflation was recorded at 18.2% because of poor harvests and high staple prices. Malnutrition has also surged, with a global acute malnutrition rate of 25.2% among screened children and 7.2% of those children treated for severe acute malnutrition[\[22\]](#).

A note on the 2025 acid spill

On February 18, 2025 a tailings dam collapsed at the Chambishi copper mine (run by Sino-Metals Leach Zambia, which is majority owned by the China state-owned China Nonferrous Metals Industry Group), northwest of Kitwe in the Copperbelt Province.

Media reports cited an investigation by the Engineering Institution of Zambia which found that some 50 million litres of mining waste containing concentrated acid, dissolved solids and heavy metals made their way from the mine into the Mwambashi River, a tributary to the Kafue River.

According to Zambia's Centre for Environment Justice, the immediate consequences were severe, with reported pH levels between 1.8 and 3.5, endangering human lives, aquatic ecosystems and livestock that depend on these water sources in the upper stretch of the Kafue River.

Local fish populations were wiped out (with reports of dead fish over 100km downstream), maize crops were contaminated and residents across Kitwe, Kalulushi and Mpongwe were left without safe drinking water. Company and government representatives dosed the river with lime to neutralize the acid, and clean-up efforts are ongoing.

The entire Kafue River is 1,576km long, with a major hydroelectric dam, the Itzhi-tezhi Dam separating the Upper Kafue from the Lower Kafue. The proposed LDCF KaF-Adapt project is focused on a stretch of the 225km floodplain along the Lower Kafue River, many hundreds of kilometres South of the spill site, and on the other side of the dam.

The Project Development Team discussed whether the incident should affect the KaF-Adapt project and agreed that it should not, although WWF Zambia will maintain a watching brief.

Future narratives: context for problem

In understanding the climate change problem to be addressed through the project, it is important to consider also the wider drivers of environmental change, and how these may play out over the next two decades, since this will affect the ability of the project interventions to be effective in addressing the problem. In addition to climate change (with associated more frequent drought and fire), these drivers include economic development pressures on land use (including fenced cattle ranches, mining and human settlement), and pressure on the floodplain ecosystem (from the hydropower dams and invasive vegetation). The interventions planned through the project are robust to uncertainty around how these drivers will evolve over the next two decades, and should have a significant positive impact regardless of how the future unfolds.

Narrative 1: Delicate balance

In this possible future, where climate change is on the lower projected pathway and new economic development is minimal, the social-ecological system is in a precarious state of balance, with productivity of a variety of land and natural resource uses continuing. Climate change has a very gradual impact in the Lower Kafue Basin, with drought years occurring only occasionally, and no significant change in the frequency or extent of wildfires. In this scenario, local communities on the Kafue Flats who depend on livestock raising and subsistence farming are able to continue to make a living and there is some continued in-migration to the area. People without access to land continue to rely on illegal hunting in the Game Management Area (GMA), and there is a growth in temporary and more permanent fishing camps, putting pressure on wildlife and fish stocks. There is no increase in mining, and only a small increase in the number of fenced cattle ranches, such that large areas of grassland continue to be available for extensive cattle grazing in the uplands. With reasonable rainfall most years, grass productivity on the seasonal floodplain is sufficient to support grazing wildlife as well as livestock, and the hydropower utility is able to make an annual "freshet" release of water

from the upper hydropower dam to mimic the natural flooding regime, supporting wildlife and maintaining fish stocks. Grazing and water access are compromised by the continuing steady spread of invasive vegetation.

Narrative 2: System under pressure

In this possible future, with moderately high climate change trends and economic development, the social-ecological system is under significant pressure. Climate change has a marked impact in the Lower Kafue Basin, with drought years occurring with increasing frequency, which has multiple effects. Firstly, there is an increase in the frequency and extent of wildfires, which damages wildlife habitat and occasionally burns down villages. Secondly, water availability for hydropower is frequently constrained, with some years having no “freshet” release of floodwaters from the dam. Thirdly, reduced water availability from streams and boreholes leads to lower milk production and crop yields, with some areas experiencing crop failure. In this scenario, local farming communities experience hardship and hunger, and there is a small net out-migration to Lusaka and other towns as people abandon marginal farming areas. Struggling households increase engagement in poaching for consumption or sale, and unsustainable fishing methods like micro-nets are used. Unchecked spread of invasive plants combines with low rainfall years, and the aforementioned fires, to make landscapes less attractive for tourism, and reduce the productivity of grazing for livestock and wildlife. This calls into question the viability of the traditional extensive pastoralism system and opens the way for increased prospecting and mining in the GMA, and intensive cattle farming with more fenced farms – blocking wildlife dispersal. Grazing and water access are increasingly compromised by the spread of invasive vegetation, which spreads more quickly because of the absence of natural flooding.

Narrative 3: System breaking down

In this possible future, with both high climate change trends and maximum economic development, the social-ecological system is showing signs of breaking down. Climate change has a severe impact in the Lower Kafue Basin, with drought years occurring with increasing frequency, and significant increases in peak temperatures. The frequency and extent of wildfires continues to increase, causing loss of productive grazing for cattle and wildlife, and loss of life as well as property. There are more years without a “freshet” release of floodwaters from the hydropower dam than years with such releases, negatively affecting biodiversity, fishing and traditional pastoralism as the hydrological system dries out. More frequent crop failure is combined with poor livestock health, as cattle struggle to find water and grass, fetching low prices at market and producing less milk and fewer calves. Many households experience serious food and water shortages and there is a significant net out-migration. Uncontrolled poaching and overfishing reduce stocks below replacement level. With traditional extensive pastoralism less and less viable, large areas become fenced cattle ranches owned by outsiders using imported fodder, and ecotourism potential shrinks, as mining expands. Grazing and water access are increasingly compromised by the spread of invasive vegetation, which spreads more quickly because of the absence of natural flooding.

Project approach to addressing problem

The project aims to reverse this negative cycle by engaging communities, traditional leaders, district officials, civil society and private sector partners in collaborative efforts to adapt to climate change, increasing

community awareness and empowerment on climate change adaptation and landscape management, improving access to water supply for community use and livestock, increasing adaptive capacity of livestock farmers to climate change through enhanced pasture management, and enhancing resilience to climate change from diversified livelihoods. This will be done in close coordination with the “sister” Kafue Flats Wildlife, Habitat, Health and Livelihoods Project (KaF-Wild) to be implemented by GRZ through WWF as GEF Agency, with support from the GEF Trust Fund under the GEF-8 Wildlife Conservation for Development Integrated Programme, in the same geographical area and timeframe. The Kaf-Wild project will complement KaF-Adapt by working with the same communities to restore habitat and reduce poaching and other unsustainable use of natural resources, creating new opportunities for both nature-based livelihoods and enterprises, and sustainable financing mechanisms, in the process.

The KaF-Adapt project aims to reduce vulnerability of communities to water scarcity and promote adaptation through resilient livelihood development in the Kafue Flats. This will be achieved through capacity development with communities and district officials on developing adaptation solutions to increasingly frequent drought and mainstreaming these into development planning. Project support will enable water harvesting and sustainable groundwater extraction, and climate-resilient holistic rangeland management will allow for replenishment of aquifers and restoration of grazing carrying capacity for livestock and wildlife, thus supporting the objective of the KaF-Wild project. Provision of upland cattle watering points and production of supplementary fodder will help to reduce pressure on the sensitive floodplain ecosystem by providing alternatives in the dry season. The two projects combine to enable a multistakeholder dialogue on the future of the Kafue Flats – a future in which climate-resilient livelihoods based on agro-pastoralism are compatible with conservation of biodiversity and rebuilding of wildlife stocks to enable the growth of tourism and the wildlife economy. The selected KaF-Adapt project approaches of focusing on enhancing water access, improving rangeland management, and building climate-resilient livelihoods, are discussed in full below in relation to the project’s theory of change. The project will take an adaptive management approach, revisiting these interventions annually to explore whether or not the desired results are being achieved, and how they may need to be adjusted, to maximize their effectiveness in addressing the evolving climate hazards.

The objective of the KaF-Adapt project is complementary to the objective of the sister Kaf-Wild project, which is to secure key wildlife species of the Kafue Flats landscape and promote socio-economic benefits to local communities through wildlife-based economies. The “sister” KaF-Wild project approaches are as follows – habitat loss is addressed with wetland restoration, fire management and strengthening of park boundaries; poaching and the bushmeat trade are addressed through strengthening enforcement capacity and tackling consumer demand; spread of disease from livestock is tackled through coordination on a One Health approach, and managing critical interfaces with wildlife; ongoing human wildlife conflict is addressed through support to a relief mechanism as well as protection measures and rapid response capacity on the ground; and a lack of community engagement in the wildlife economy is addressed through support to new nature-based livelihoods and value chains.

The Kaf-Adapt project design is set out in full in Section B: Project Description, with the objectives, outcomes, outputs and activities, and how these are linked in causal pathways in a theory of change. The project has been designed to deliver outcomes that are resilient to future change, taking into account the drivers of environmental change discussed above in the three potential future narratives. The planned project approach is robust to uncertainty around how these drivers will evolve over the next two decades, and the

interventions become even more necessary as the challenges increase across the narratives. Interventions to develop nature-based and climate-resilient livelihoods, that are not water-intensive, and not dependent on unsustainable natural resource use, are important in all three futures. If the Kafue Flats were experiencing the serious ecosystem pressures in the narrative 2 scenario, interventions to enhance water access and supporting new climate- resilient livelihoods would become even more urgent than they would be in the more stable situation described in narrative 1. If it became clear that the Kafue Flats were on a trajectory towards the extreme scenario in narrative 3, interventions such as fire management and rotational grazing (along with removal of invasive vegetation through KaF-Wild) would need to be more rapidly scaled up, through leveraged funding. This would be necessary to prevent the floodplain ecosystem reaching a tipping point and no longer being able to serve as the basis for the globally important biodiversity of the Kafue Flats and the current way of life of its fishing and farming communities. All three narratives support the need for advocacy for a climate-resilient and nature-based economy with sustainable jobs and funding streams.

The proposed project is taking into consideration and addressing the barriers described below, which are currently inhibiting climate change adaptation by communities and local actors in the project landscape.

Barriers to adoption of climate change adaptation solutions

There are four main clusters of barriers that make it challenging to move from the problem situation to the solutions that will achieve effective climate change adaptation and global environmental benefits, even as the climate hazards and drivers of ecosystem degradation evolve. Each of these groups of barriers is discussed below, in relation to the project's four components, whose six intended outcomes (see theory of change in Section B below) are clustered for the analysis of barriers to achieving the outcomes of each component.

Table 3: Project components and outcomes

Component 1: Enabling environment for climate change adaptation in Kafue Flats	Outcome 1.1 <i>Increased community awareness and empowerment on climate change adaptation and landscape management</i>
Component 2: Water security and holistic rangeland management	Outcome 2.1 <i>Improved access to water supply for community use and livestock in targeted chiefdoms</i>
	Outcome 2.2 <i>Increased adaptive capacity of livestock farmers to climate change through enhanced pasture management</i>
Component 3: Climate resilient livelihoods and value chains in Kafue Flats GMA	Outcome 3.1 <i>Increased resilience to climate change from diversified livelihoods</i>
Component 4: Knowledge and learning	Outcome 4.1 <i>Knowledge on evolving climate hazards and solutions captured</i>

Outcome 4.2 *Project learning captured and lessons exchanged*

Barrier 1: Lack of awareness, knowledge and technical capacity for informed climate adaptation solutions. Although the Climate Crowd survey showed that many communities are spontaneously adapting to climate change impacts, the solutions chosen are not always well informed, and may have unintended negative impacts, and communities lack technical assistance to implement more effective solutions. Zambia's Eighth National Development Plan identifies a generally low level nationally of engagement of communities in adopting climate change adaptation solutions. Traditional knowledge on sustainable fishing and rotational grazing is being lost, and poverty exacerbated by losses from climate change-intensified drought and flood, is driving people to over-exploit natural resources. There is a need for systematic capacity development that draws on the experience of women and men, youth and elders, traditional and modern ways of approaching resource management, developing locally-led solutions that can help reduce vulnerability and enhance adaptive capacity, accompanied by the necessary technical and financial support to implement these solutions, share them and scale them up.

Barrier 2: Insufficient capital and knowledge for key adaptation strategies: enhancing water infrastructure and climate-resilient rangeland management. As rainfall decreases and surface water sources (like streams and ponds) disappear faster during the dry season, communities need financial and technical support to adapt so that they can have enough water for household use, crop irrigation and livestock. The current infrastructure for water collection and distribution is inadequate and dilapidated. Communities currently lack support for accessing groundwater on a significantly bigger scale – by drilling appropriately sited and managed boreholes, harvesting rainwater through rooftop tanks, and increasing infiltration in the rainy season through check dams and small reservoirs.

With climate change compounding unsustainable practices, livestock owners and herders lack the knowledge and technical support to achieve a holistic approach to rangeland management that maximizes grass and cattle productivity in the face of climate change. Maintaining large herd sizes remains important for social, cultural, political and economic reasons, and there is little incentive to sell when animals are in poor condition (diseased, low weight), prices are low, and abattoir facilities are distant. Effective adaptation to hotter, drier conditions with erratic rainfall may involve a set of complex interventions, for which little extension or technical support currently exists. There is a lack of support for expanding fodder production, switching cattle breeds, enhancing veterinary support in a One Health approach, and most crucially increasing productivity by restoring carrying capacity of grazing land (through rotational grazing, reseeding of grasses, infiltration of rainwater, and removal of invasives).

Barrier 3: Overreliance on livestock farming, with limited investment in new climate-resilient livelihoods. Livestock farming is the dominant small-scale economic activity in the Kafue Flats, together with crop production largely for subsistence, and both are vulnerable to the impacts of climate change, especially increasingly erratic rainfall and increased temperatures. Few opportunities exist – in terms of knowledge, technical support and access to markets and finance – for switching livestock and crop varieties to cope with reduced water availability, or for value addition and a shift away from reliance on farming. There has been

little support to small businesses and cooperatives to engage on value addition to natural resources, such as producing biochar from cleared invasive biomass, processing of sustainably harvested forest products, or processing of fish, meat and dairy products. The Constituency Development Fund (CDF)[\[23\]](#) is a useful mechanism to leverage finance for community projects including cooperative enterprises. However, the lack of knowledge on how to access the funds, lack of support to develop the necessary cooperative structures, and poor integration of climate change adaptation into the criteria for selecting projects, have all led to a situation in which very few communities have been able to access these funds to develop resilience to climate change.

Barrier 4: Effective adaptation solutions are not captured and shared. Where adaptation solutions are tried or tested by communities, non-governmental organizations (NGOs) or community-based organizations (CBOs), the results are often not systematically captured, nor are best practices codified and shared. There is a shortage of opportunities to share experience and knowledge, including traditional knowledge, between communities, and to feed lessons learnt back into work on the ground, through an adaptive management approach. In the Kafue Flats, there is also a lack of linkages by communities and even local government, to existing scientific monitoring programmes, and to weather and climate data, both observed and projected[\[24\]](#). Local communities are not engaged in monitoring of evolving climate change impacts and responses, and there are few opportunities for youth to access digital technology for monitoring and skills development. Without a system for monitoring indicators, tracking data, and sharing knowledge, it is difficult for effective locally-led climate change adaptation solutions to be scaled up and sustainable finance sources developed.

Baseline on which the project builds

This section outlines, for each component of the project, the baseline on which it builds, i.e., the related programmes, initiatives and projects from the Government of the Republic of Zambia (GRZ) and its technical and financial partners, as well as private sector and civil society actors, showing how what would be undertaken in the absence of the GEF investment in the KaF-Adapt project would be limited, and how the LDCF investment is needed in order to unlock significant global adaptation benefits.

Baseline for Component 1 – Enabling environment for climate change adaptation

The project interventions to enhance the enabling environment for climate change adaptation in Kafue Flats have been designed against the backdrop of Zambia's climate change policies, which are detailed in Section C. below, including the Nationally Determined Contribution (NDC) 2021, the National Adaptation Plan for Zambia (NAP) October 2023, the National Policy on Climate Change 2016 and the Climate Change Gender Action Plan of the Republic of Zambia, 2018.

In particular, the KaF-Adapt work on increasing community awareness and empowerment on climate change adaptation and landscape management builds on an initiative of the Ministry of Green Economy and Environment (MGEE), a EUR 17 million initiative funded by the German government's International Climate Initiative (IKI), and supported by GIZ, on the [Facility for Action for Climate Empowerment to Achieve](#)

[Nationally Determined Contributions \(FACE-NDC\)](#) launched in 2023. The 7-year-long FACE-NDC project is supporting the GRZ through a consortium of partners: the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Institute for Training and Research (UNITAR), the Copperbelt University, and the University of Zambia, and aims to strengthen Zambia's formal and non-formal education systems and build capacity for climate change action across the country. In November 2024, the Ministry of Education launched the National Education Curriculum Framework, integrating climate change education principles at all levels, supported by FACE NDC and the Food and Agriculture Organization of the UN (FAO).

Also part of the baseline is a global initiative with a presence in Zambia, called [Voices for Just Climate Action](#) (VCA), with elements carried out through WWF Zambia and supported by the Dutch government. VCA is an alliance bringing together global and local voices by connecting a diverse range of civil society organizations representing women, youth, indigenous people, urban poor, digital activists and more. The programme is implemented by an alliance led by four Southern CSOs including Akina Mama wa Afrika (AMWA) and two Global CSOs – Hivos and WWF-Netherlands – under the Dutch Ministry of Foreign Affairs' five-year strategic partnership: "Power of Voices". WWF Zambia has supported the Regional Conference of Youth Action on Climate Change, and carried out work in districts adjacent to the KaF-Adapt landscape – Chilanga and Kafue. This involves support, together with local NGOs (House of Ruth Foundation, Women's Life Wellness Foundation, Green Agriculture Youth Organization), to women farmers and youths on adaptation methods amidst climate change, and helping communities access the Constituency Development Funds (CDF).

There is little baseline for the KaF-Adapt work on integrating climate change into the six Kafue Flats districts' Integrated Development Plans (IDPs). The IDP is the principal planning and strategic instrument of a Local Authority that gives effect to its spatial development mandate as provided for in the Urban and Regional Planning Act No. 3 of 2015. Current IDPs have little mention of climate change integration of adaptation measures into plans for physical development initiatives and their budgets. Useful analysis has been done on [Mobilising investment for climate-compatible growth in Zambia](#) and the potential for communities to better utilize the Constituency Development Fund (CDF) for climate change adaptation.

In terms of other planning initiatives, the Kafue Flats GMA is in 2024/25 undertaking a public participation process for a General Management Plan (GMP), involving extensive consultation with community and other stakeholders. The GMP work is supported through a 20-year collaborative management partnership for the Kafue Flats between the Department of National Parks and Wildlife (DNPW), WWF Zambia and the International Crane Foundation (ICF). The GMP will include zoning and be used by communities and traditional authorities to guide decision-making on use of communal land, and will both feed into and be informed by the work of KaF-Wild on wetland restoration and the work of KaF-Adapt on rotational grazing. In August 2024 the Cabinet announced government's intention to declare Kafue Flats as a Beef Special Economic Zone, to commercialize livestock production and raise productivity. Concerns have been raised in the conservation sector that this could be implemented in a manner which blocks wildlife movement corridors through excessive fencing, or in a manner which elevates the interests of commercial cattle ranchers above those of traditional pastoralists, but the initiative also poses a significant opportunity for public and private sector investment in the heretofore neglected Kafue Flats, critical in the face of declining productivity with climate change.

Baseline for Component 2 - Water security and holistic rangeland management

In relation to KaF-Adapt's planned interventions for water security and holistic rangeland management, the most significant current donor-funded intervention in the Lower Kafue Basin is the implementation by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) of the second phase of the [Integrated Water Catchment Management and Landscape Protection in Zambia \(AWARE 2.0\)](#), a EUR14 million project funded from 2023 to 2028 by the German Federal Ministry for Economic Cooperation and Development, and the European Union, working with the Ministry of Water Development and Sanitation (MWDS) and MGEE. The AWARE 2.0 project objective is to improve the integrated management of water catchment areas upstream of the GMA – including landscape protection, with a focus on agriculture, forests, biodiversity, water and climate resilience. The AWARE 2.0 project is working through local NGOs including ICF, supporting sustainable grazing management (to be coordinated with KaF-Adapt), and wetland restoration (to be coordinated with KaF-Wild). It is also working to restore the banks of degraded and tributary rivers and streams that feed the Kafue River, and support community forestry to enhance infiltration of rainwater into groundwater and river base flow.

Also ongoing in a different part of the country but tackling some of the same challenges, is the GEF-funded WWF-supported project on “Sustainable Luangwa: Securing Luangwa's water resources for shared socioeconomic and environmental benefits through integrated catchment management”. Led by MGEE and running from 2022 to 2027, the Sustainable Luangwa project aims to ensure the long-term security of water flow and quality of the Luangwa River and its associated downstream ecosystems and ecosystem services. The project further seeks to address barriers to protection of the Luangwa River source through reduced forest and land degradation of the Luangwa Upper Sub-catchment in Mafinga District for enhanced protection of water resources, biodiversity and associated community livelihoods.

Another relevant initiative outside the KaF-Adapt landscape is the 2022-2026 [Eastern Kafue Nature Alliance](#), implemented by the US Agency for International Development (USAID) in collaboration with DNPW and The Nature Conservancy, as well as private sector partners Kashikoto Conservancy Limited and Amatheon AGRI Zambia Limited. This takes place in the Greater Kafue Ecosystem of which the Kafue Flats forms a part, including the Nkala GMA where some activities will be carried out in the “sister” KaF-Wild project. In addition to USAID funding of \$10 million^[25], the Alliance has received approximately \$11.3 million from these and other private sector partners, and is working with DNPW and local communities to address threats to biodiversity through four key strategic approaches: strengthening management and regulatory compliance to conserve forests and wildlife in GMAs; developing inclusive conservation-friendly agriculture and nature-based markets; improving community access to safe water and health care for mothers and children; and working with local community members to develop effective land and resource use plans, secure tenure of their land, and strengthen governance. The local NGO Game Rangers International has been engaged to employ Community Scouts to support anti-poaching enforcement in the Eastern Kafue GMAs and conservancies.

An important baseline initiative which provided data and information that the KaF-Adapt and KaF-Wild projects can build on, especially seeking long-term investment in solutions to water challenges, is the feasibility study carried out in 2024 in the Lower Kafue Basin, in which the [Nature for Water \(N4W Facility\)](#) – through The Nature Conservancy and Pegasys – supported the Zambian government's Water Resources

Management Agency (WARMA) on the feasibility stage of a watershed investment programme for the sub-catchment. This included supporting stakeholder dialogue and providing technical support to model the potential impact of a set of four nature-based solutions (NBS), building on years of previous work on Lusaka water security initiatives and funds. These four solutions are well aligned with both the AWARE 2.0 and the KaF-Adapt project: (i) sustainable grazing best management practices; (ii) agricultural best management practices (cover crops, trenches and soil bunds); (iii) wetland restoration through invasive species removal; (iv) forest protection and riverbank revegetation. The N4W initiative is now moving into the implementation phase and has some funding through the GIZ-supported AWARE 2.0 project (see above) to support the establishment of a watershed investment programme, working with multiple government, community, civil society and private sector partners. It is hoped that this study will be drawn on by a nascent baseline initiative by WWF-Netherlands and the International Federation of Red Cross (IFRC) to develop models for deploying nature-based solutions for disaster risk reduction in vulnerable landscapes around the world, including the Kafue Flats in Zambia, where the focus is on drought mitigation and flood reduction.

Baseline work in Zambia on water access for communities is carried out by the Department of Water Development in the Ministry of Water Development and Sanitation (MWDS), although investment in the Kafue Flats remains low, even after the devastating drought in what should have been the 2023/24 rainy season. The government has rehabilitated four dams in Southern Province to help provide water for irrigation to ensure food security in the province throughout the year, as an adaptation strategy against more frequent droughts. This has been achieved through an extension of the [Irrigation Development Support Project \(IDSP\)](#), in which government receives concessional loans from the World Bank. The dams are Ndondi and Nachiba Dam in Pemba, Nkolokozya Dam in Zimba, and Makala Dam in Namwala. Only the last-mentioned dam falls into a district which is involved in the KaF-Adapt project, and the November 2024 community field mission for the project found no other evidence of water infrastructure being installed as part of drought-relief efforts. A report on the matter is expected from MWDS soon, and every effort will be made to avoid overlap in siting of new boreholes through the KaF-Adapt project.

The KaF-Adapt interventions on climate-resilient holistic rangeland management will build on a baseline of work being carried out by local NGO Solidaridad in a few communities of the Kafue Flats, extending this to a greater area in response to the urgent need to enhance grazing productivity in the face of climate change impacts. The baseline ongoing [Hooves for Sustainability](#) project, launched in 2023 with support from The Leona M. and Harry B. Helmsley Charitable Trust promotes and implements sustainable livestock management practices in the Mazabuka, Monze and Namwala districts, which together are estimated to house over 20% of the nation's livestock herd. The project aims to enhance 2,000 livestock producers' resilience to the effects of climate change, with these indicators: improve productivity (i.e. the calving rate) by at least 80%, increase income by at least 30% and improve access to finance and productive assets for the targeted livestock producers. The organization's approach to climate-resilient rangeland management through rotational grazing and fire management is demonstrated in this [video on Solidaridad's approach](#), building on the lessons of the Nambola Livestock project conducted from 2106 to 2022 which restored 80,000 hectares of grassland in Southern Province (see Annex P on Lessons Learnt). Solidaridad will continue to explore value-addition opportunities, including training in leather production and fodder management, in order to ensure sustainable income streams for the farmers. The target districts of Hooves for Sustainability are amongst those involved in the KaF-Adapt project, so achieving complementarity and avoiding overlap with Solidaridad's existing work will be important – by selecting different district or village clusters in which to work.

Baseline for Component 3 - Climate resilient livelihoods and value chains

Part of the baseline for KaF-Adapt's work on climate resilient livelihoods and value chains in the Kafue Flats is the work of [Self Help Africa \(SHA\)](#), a key NGO with a presence on the ground in the Kafue Flats. SHA is a continent-wide NGO whose focus in Zambia is on three areas: rural enterprise development, nutrition security, and sustainable agricultural and rural livelihoods. Following the completion in 2022 of the [Protecting and Restoring the Environment and Supporting the Emergence of a Resilient and Vibrant Economy In Kafue \(PRESERVE\) project](#), with activities carried out in 12 wards in Mazabuka, Monze and Namwala Districts, a Phase II of the project has begun with support from Irish Aid. PRESERVE Phase II will improve the resilience, food, income and nutrition security of 4,500 households in these districts, involving regeneration of degraded land and afforestation, training of farmers to adopt climate-smart agricultural practices including agroforestry and soil and water conservation, and linking farmers to markets.

Another NGO present in the Kafue Flats is WorldFish, which works with traditional leaders and communities to improve the management of aquatic food systems in multifunctional landscapes in Zambia. WorldFish, together with the International Water Management Institute (IWMI), is implementing the [World Fish AquaPlans Project](#) on the Kafue River with the Aquatic Foods CGIAR research initiative, assisting the government and other stakeholders in responding to the vulnerability of the foodscapes to multiple stressors, including climate change, by assessing those risks and vulnerabilities through participatory scenario planning. Most of the fish farming initiatives that have taken place along the river over the past few decades have now closed., but aquaculture is an ongoing subject of interest to many stakeholders (though outside the scope of the KaF-Adapt project).

An important part of the baseline for enterprise development is the GRZ's Constituency Development Fund (CDF). Zambia is divided into 156 constituencies, each represented by a member of Parliament in the National Assembly. As of the 2024 budget, each constituency has 30.6 million kwachas (1.1 million dollars) per year, of which 20% is allocated to "women, youth and community empowerment" projects. Many communities in Zambia have successfully accessed funds for infrastructure such as school classrooms, though uptake is low in the Kafue Flats. To apply for funding for small businesses, applicants form cooperatives and submit business proposals, and submit their materials to the Ward Development Committee (a multi-stakeholder body responsible for community development) which forwards the applications to the Constituency Development Fund Committee, which in turn decides which applications to put forward to the Ministry of Local Government and Rural Development for final approval. NGOs like [Alliance for Community Action](#) are helping address the many [obstacles communities face](#) when applying to the fund.

The Ministry of Local Government and Rural Development has expanded its [Cash for Work \(CFW\)](#) programme in response to the 2023/24 drought, supported by the Government of the United Kingdom. With widespread crop failure and rising food prices, the programme targets vulnerable households in selected 123 constituencies in 87 identified districts who are not covered by the Social Cash Transfer (SCT) and Expanded Social Cash Transfer (ECT) programmes. The goal of CFW is to provide temporal income-generating opportunities to vulnerable individuals in exchange for cash wages, stimulate economic activity at the local community level and contribute to community infrastructure maintenance. Specifically, it offers K60 per day to each eligible individual for 10 days in a month. In the context of the 2024 drought response, the CFW programme seeks to: (i) Improve immediate access to food thereby saving lives and averting suffering; (ii) Maintain or build community assets while promoting their self-reliance through labour-based works; and (iii) Stimulate economic activity at the community level. Local government is responsible for implementing the programme in each constituency, utilizing existing structures at community level, such as Ward Development

Committees, (WDCs), Community Welfare Assistance Committees (CWACs), Satellite Disaster Management Committees (SDMCs), traditional leadership and community members. Engineers from the local authorities, with support from the Disaster Management and Mitigation Unit are expected to determine the value of the works and standardize payments to be made. GRZ has engaged banks and mobile service providers to provide cash-in-transit (CIT) services to all beneficiaries of CFW in areas with poor mobile network where there are difficulties to transact via phones.

Baseline for Component 4 – Knowledge and learning

This will build on work undertaken by ICF, in partnership with the Endangered Wildlife Trust, through ICF's internal Conservation Impact Fund and support from various Trusts and Foundations. The JRS Biodiversity Foundation contributed \$250,000 to ICF for a project from 2023 to 2026 on Designing and Implementing a Wetland Information System for the Kafue Flats Wetlands, Zambia. This project will implement an ecological monitoring, assessment, and management plan for the Kafue Flats with indicators including threatened and endangered species, mammals, waterbirds, wetland vegetation, and other wetland parameters, as well as human threats/management challenges such as invasive species, fire, water, and livestock density, which interact with climate change impacts to worsen ecosystem degradation and human livelihoods. The ecological monitoring plan will lead to a Kafue Flats Wetlands Information system, a comprehensive compilation of the ecological data and information generated from diverse local partners including local universities and with MGEE, as well as DNPW.

[1] The lands of Chief Shakumbila and his subjects are vast, and only a small part falls into the GMA, including the important ecologically sensitive floodplain land between the two Parks.

https://worldwildlifefund-my.sharepoint.com/personal/astrid_breuer_wwfus_org/Documents/GEF%208/Africa/Zambia/Zambia%20WCD%20LDCF%20PPG/KafAdapt%20Submission%20to%20GEF%20Sec/1%20-%20Feb%202025/KaF-Adapt%20Final%20CER_26%20March%202025_FV.docx - ftn1

[2] Hamusonde land is technically beyond the GMA, but borders Lochinvar, and is thus important. [3] https://www.researchgate.net/publication/237334736_Restoring_the_Kafue_Flats_A_Partnership_Approach_to_Environmental_Flo ws_in_Zambia

[4] The agreement was for a minimum flow release of 25 m³/s and an annual “ecological freshet” of 300 m³/s for a four-week period.

[5] The Climate crowd summary report can be accessed here: <https://wwfclimatecrowd.org/publication/kafue-flats-zambia/>

[6] <https://wwfclimatecrowd.org/publication/kafue-flats-zambia/><https://wwfclimatecrowd.org/publication/kafue-flats-zambia/>

[7] <https://www.mwds.gov.zm/wp-content/uploads/2023/11/20230314-Restoration-and-Protection-Plan-Magoye.pdf><https://www.mwds.gov.zm/wp-content/uploads/2023/11/20230314-Restoration-and-Protection-Plan-Magoye.pdf>

[8] <https://gainnew.crc.nd.edu/country/zambia#:~:text=The%20high%20vulnerability%20score%20and,the%20141st%20most%20ready%20count ry.>

- [9] Republic of Zambia, Ministry of Lands and Natural Resources, 2021. Climate Change Risk and Vulnerability Assessment Report: https://drive.google.com/file/d/1touJBcs1cX7h_AIOjF8O2GPwwhNuJLwq/view?usp=sharing
- [10] Hambulo Ngoma, Arden Finn & Mulako Kabisa (2023) Climate shocks, vulnerability, resilience and livelihoods in rural Zambia, Climate and Development, DOI: 10.1080/17565529.2023.2246031
- [11] <https://www.tandfonline.com/doi/full/10.1080/17565529.2023.2246031>
- [12] <https://reliefweb.int/report/zambia/climate-risk-resilience-unpacking-economic-impacts-climate-change-zambia-november-2023>
<https://www.mwds.gov.zm/wp-content/uploads/2023/11/20230314-Restoration-and-Protection-Plan-Magoye.pdf>
- [13] <https://www.canr.msu.edu/fsp/publications/research-papers/rp%20146.pdf>
- [14] Key data sets used include to determine Vulnerability were: Rainfall extremes (drought and floods), Average Temperature (maximum and minimum), Rainfall variability and Trend, Temperature variability and Trend, Available soil moisture, Slope, Water stress, Forest loss, Urban growth, Access to water, Water discharge (river specific), Wetlands, Population trends, and Forest resources.
- [15] Based on 3 GCMS (CanESM2, CNRM-CM5, MPI-ESM-MR) in CMIP5 run under two scenarios, RCP4.5 and RCP8.5 as reported in the Third National Communication on Climate Change, 2020
- [16] EM-DAT: The OFDA/CRED International Disaster Database – www.emdat.be – Université Catholique de Louvain – Brussels – Belgium
- [17] ACF and IFPRI, 2023. *From climate risk to resilience: Unpacking the economic impacts of climate change in Zambia*. <https://africanclimatefoundation.org/wp-content/uploads/2023/11/800835-ACF-Zambia-country-note-04.pdf>
- [18] WWF, 2018. Water Situational Analysis of the Lower Kafue Basin. Socio-Economic Development and Climate Change: Risks and Opportunities.
https://wwfint.awsassets.panda.org/downloads/water_situational_analysis_of_lower_kafue_river_basin.pdf
- [19] Statistics from <https://reliefweb.int/report/zambia/acaps-thematic-report-zambia-update-impact-drought-16-january-2025>
- [20] <https://reliefweb.int/report/zambia/zambia-africa-drought-response-emergency-appeal-operation-update-no-mdrzm022#:~:text=negative%20coping%20mechanisms,-.Although%20most%20of%20the%20surveyed%20households%20reported%20that%20they%20cultivated,to%20the%20prolonged%20dry%20spells.>
- [21] See above-mentioned ACAP report from January 2025
- [22] Statistics from <https://reliefweb.int/report/zambia/acaps-thematic-report-zambia-update-impact-drought-16-january-2025>
<https://reliefweb.int/report/zambia/acaps-thematic-report-zambia-update-impact-drought-16-january-2025>
- [23] See <https://ideas.repec.org/a/bcp/journl/v7y2023i6p138-152.html>
<https://reliefweb.int/report/zambia/acaps-thematic-report-zambia-update-impact-drought-16-january-2025>
- [24] The Development Bank of Southern Africa is working on a funding proposal to the Green Climate Fund for a Southern African Development Community (SADC) Climate Information and Early Warning System programme, including Zambia.
- [25] Future of this funding, scheduled to run until 2026, potentially subject to US President's January 2025 Executive Order on Reevaluating and Realigning United States Foreign Aid.

B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

In the context of these challenges to communities and the floodplain ecosystem on which they depend, this medium-sized project's objective is: to reduce vulnerability of communities to water scarcity, and promote adaptation through resilient livelihoods in the Kafue Flats. The project seeks to promote additional adaptation benefits through four components: (1) **Enabling environment for climate change adaptation in the Kafue Flats**, which aims for the outcome of increased community awareness and empowerment on climate change adaptation and landscape management; (2) **Water security and holistic rangeland management**, which will have two outcomes – improved access to water supply for community use and livestock in targeted chiefdoms, and livestock farmers more able to cope with climate change through enhanced pasture management; (3) **Climate resilient livelihoods and value chains**, aiming for the outcome of enhanced resilience through new climate-resilient livelihoods; and (4) **Knowledge and learning**, with two intended outcomes – Knowledge on evolving climate hazards and responses captured, and Project learning captured and lessons exchanged. Achievement of these outcomes, and well as the overall project objective, will be monitored through a set of indicators, as outlined in Annex C: Results Framework.

Activities of this LDCF project will be carried out within the same landscapes as the “Kafue Flats Wildlife, Habitat, Health and Livelihoods” Project (KaF-Wild), that is a country project under the GEF-8 Wildlife Conservation for Development Integrated Program (WCD IP). These two complementary “sister projects”, to be implemented in the same landscape and timeframe, together aim at promoting a transformational approach that not only preserves the ecosystem and wildlife habitat (KaF-Wild), but also make communities more adaptive and resilient (KaF-Adapt), incentivizing them to support conservation, which in turn promotes a healthy ecosystem needed to enable adaptation to climate change. The project will work at the landscape and ecosystem level and promote a whole-of-society approach with active participation of local communities, various levels of governance and across multiple sectors to address the challenges posed by climate change collaboratively and comprehensively.

The activities proposed build on the existing work of the government and partners in the Kafue Basin including the 20-year collaborative partnership in the Kafue Flats between the Zambia Department of National Parks and Wildlife (DNPW), the International Crane Foundation (ICF), and the Worldwide Fund for Nature (WWF) Zambia, to help restore and manage Blue Lagoon and Lochinvar National Parks and the surrounding Kafue Flats GMA. The project also aligns with many of the Government of Zambia's policies and strategies including the Eighth National Development Plan and the National Adaptation Plan – that aim to

support a low carbon, climate-resilient development pathway to attain the middle-income status envisioned in the country's Vision 2030. It is aligned with the Nationally Determined Contribution to the Paris Agreement, which highlights the importance of using countrywide vulnerability assessments to mainstream climate change adaptation into country development plans, and assessment and analysis of the effect of dry spells, floods and pest infestation on different strategies and sectors, including as indicators for success in these efforts the “level of resilience of natural or physical systems achieved” as well as the “level of adaptive capacity of human system attained”.

The project objective of this medium-sized project is to reduce vulnerability of communities to water scarcity, and promote adaptation through resilient livelihood development in the Kafue Flats. This is to be achieved through four components, each with one or more outcome, to be achieved through a set of activity clusters forming outputs. Each outcome has at least one indicator, as shown in the Results Framework in Annex C. The components are outlined below, with their outcomes, outputs and a set of planned and budgeted activities under each output.

Project theory of change

The theory of change for the project is shown in Figure 5 below, and can be summarized as follows:

IF the enabling environment for climate change adaptation on the Kafue Flats is enhanced, climate-adaptive water infrastructure and rangeland management are adopted, and climate-resilient livelihoods are promoted,

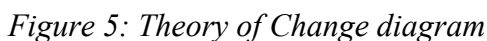
THEN the vulnerability of Kafue Flats communities to climate change-intensified water scarcity will be reduced, and their adaptive capacity will be enhanced,

BECAUSE communities will have increased awareness of and be empowered to generate adaptation solutions, will have more reliable access to water for themselves and their livestock, and better quality grazing that enhances cattle productivity, and will have diversified incomes, including nature-based livelihoods that are less dependent on water and spread household income risk.

The project has six intended outcomes, based on clusters of activities shown in Table 3 above as a set of outputs intended to achieve each outcome. The causal pathways leading from the planned activities to the achievement of these outputs, and from the outputs to the intended outcomes, depend on a set of assumptions that is included in Figure 5 and elaborated on below. The project components and outcomes are listed below, followed by a detailed discussion of the outputs and planned activities under each outcome. The indicators for each outcome are shown in the results framework attached to this document as Annex C.

Assumptions underlying the results chains: A number of assumptions underlie the causal pathways, and some of these are highlighted on the ToC diagram.

- Through capacity building, local communities and governance structures will have the knowledge, information, and the capacity to make climate-adaptive decisions and implement climate change adaptation solutions.
- Interventions to enhance water access are successful in increasing dry season water availability, resulting in successful cultivation of vegetables and crops, as well as water for household sanitation.
- Increased upland water availability through the provision of solar-powered boreholes and watering points lessens dry season livestock pressure on the floodplain.
- Introduction of climate resilient, holistic rangeland management practices is successful and allows blocks of grassland to recover full productivity before they are grazed again increasing the overall amount of grass available.
- Fodder pastures are successful in producing hay, which is fed to dairy cattle and successfully enhances their condition and milk yield.
- Fodder pastures are successful in producing seed, which is utilized by communities to reseed grasslands implemented carefully around the rotational grazing pattern and rainfall to allow for growth.
- Seed capital and technical assistance from the project is combined with co-investment by commercial partners to successfully establish at least two new climate-resilient enterprises focused on members of women's cooperatives, e.g. fruit orchards, mushroom cultivation, basketmaking, beekeeping, fish preservation, or mango drying.
- Women's business leadership training is successful in equipping women's cooperatives to become suppliers in the value chains of the new enterprises on a sustainable basis.
- Seed capital and technical assistance from the project is combined with co-investment by commercial partners to successfully establish at least two new enterprises based on livestock, e.g. dairy, abattoir, tannery.
- Participation in new enterprises and supply chains enhances household income, enabling purchase of supplementary food and other household items that improve resilience to external shocks including climate hazards.
- Support to communities to access the CDF is successful, enabling upscaling of interventions like water infrastructure and climate-resilient business enterprises.
- District and traditional authorities are supportive of the project and willing to contribute time and effort, and to integrate climate change adaptation approaches into by-laws and development plans as appropriate.
- The youth are interested to engage with climate change and resilience monitoring, and are able to benefit from cash-for-work opportunities associated with new infrastructure provided through the project.



With the project interventions, pathways to change are created, through which community vulnerability to drought, made more frequent and intense by climate change, is reduced. Communities of the Kafue Flats GMA and the surrounding seven chiefdoms will be empowered to seek adaptation solutions to climate change

challenges, including through landscape management and contributing to district development planning. Vulnerability of communities' vegetable and crop yields to failed rains will be reduced by project investments in solar-powered boreholes and in-field water harvesting, as well as rehabilitation of existing earth dams, and support to communities to upscale these investments through applications to the Constituency Development Fund. Vulnerability of pastoralists to declining livestock productivity will be reduced through support to holistic rangeland management, including integrated fire management and drawing on traditional knowledge to revive a system of rotational grazing that allows pasture to recover. This will be combined with enhanced water access for livestock through upland solar-powered watering points that also reduce pressure on the floodplain ecosystem. Fodder pastures at the watering points will allow for supplementary feeding to offset impacts of drought on rangeland productivity, and grasslands in the rotational grazing system will be reseeded at the start of the rainy season to increase their productivity.

These approaches and interventions are discussed in full below, showing the components of work in relation to the project's theory of change. The project will take an adaptive management approach, revisiting these interventions annually to explore whether or not the desired results are being achieved, and how they may need to be adjusted, to maximize their effectiveness in addressing the evolving drivers of biodiversity loss.

Component 1: Enabling environment for climate change adaptation in Kafue Flats

Outcome 1.1 Increased community awareness and empowerment on climate change adaptation and landscape management

This outcome will be achieved through two clusters of activities, as outlined in Outputs 1.1.1 and 1.1.2.

Output 1.1.1 Community dialogue on climate challenges and traditional knowledge to inform adaptation solutions

Understanding how climate change is unfolding in practice is crucial for ensuring that adaptation actions are effective in reducing vulnerability or exposure to particular hazards, or enhancing communities' adaptive capacity. Building on the results of the Climate Crowd Survey conducted in late 2023 in the Kafue Flats, the KaF-Adapt project will enable Climate Change Awareness dialogue sessions^[1]⁷ across the Kafue Flats GMA, with the seven chiefdoms, involving men and women, youth^[2]⁸ and elderly, and also community members with disabilities. Scientific knowledge about future projections of climate in the area will be

combined with discussion on observed changes and Zambian meteorological data. The Zambian Meteorological Department will engage with local stakeholders to understand how their experience of drought, flood, temperature and rainfall patterns correlates with meteorological data and climate change model projections.

To maximize the effectiveness of adaptation, efforts will also be made to draw on the traditional knowledge of older members of the community, particularly those with knowledge on the traditional way of life of Ila, Sala, Batwa and Tonga peoples, and customary ways of adapting to changes in weather patterns. This knowledge will be captured and fed into the awareness and training materials, as well as the design of project activities, through an ongoing adaptive management approach. Elders with special knowledge will be involved in an outreach programme with local primary schools, in which climate change challenges and adaptation solutions will be highlighted. Public awareness materials will also be produced and disseminated, including a series of mobile phone short message service (SMS) texts, pamphlets for distribution in schools and clinics, radio programming and public service announcements, and social media postings. The content of the awareness campaign will evolve over the course of project implementation to cover and reflect on project activities and how they are helping communities to adapt.

Planned activities are as follows:

1. Hold dialogue sessions with community organizations across the Kafue Flats Game Management Area (GMA) to understand evolving climate change challenges^{[3]⁹}
2. Capture local and traditional knowledge related to agriculture, water, livestock and grazing, and apply this to develop adaptation solutions
3. Disseminate awareness material on community-generated adaptation solutions, integrating traditional knowledge
4. Make presentations in local schools – involving elders with traditional knowledge, and youth engaged^{[4]¹⁰} in monitoring

Responsibility: This cluster of activities will be carried out by the Zambia Office of the International Crane Foundation (ICF), guided by the Ministry of Green Economy and Environment (MGEE). This will include a key role for the Zambia Meteorological Department (ZMD) within MGEE.

Related initiatives: This work will build on the Climate Crowd initiative of WWF which works with communities and local organizations, collecting data on climate change impacts on communities, analyzing

the data, presenting the data back to the communities, and working with communities and local partners to implement on-the-ground climate adaptation solutions. [\[5\]](#)¹¹

Output 1.1.2 Mainstreaming adaptation solutions into district and landscape management plans

As adaptation solutions are developed by communities and implemented through all of the project activities, it will be important to scale up those that prove to be effective, through their integration into district Integrated Development Plans (IDPs). The six districts which have territory inside the GMA are Mumbwa, Shibuyunji, Itezhi-tezhi, Namwala, Monze and Mazabuka. Support through the “sister” KaF-Wild project to training of Community Resource Boards (CRBs) and development of micro-zoning plans (in terms of the Kafue Flats GMA General Management Plan - GMP) will be reinforced here in the KaF-Adapt project through integration into those plans of climate change adaptation solutions at landscape scale. Workshops will be held to facilitate integration of adaptation solutions in the six district IDPs, as well as workshops with the Community Resource Boards to facilitate integration of adaptation solutions into micro-zoning plans in terms of the GMP. Adaptation solutions will also be written up and fed into the KaF-Wild CRB training course. Throughout this work, efforts will be made to ensure that the special needs of women, youth, disabled people, and the elderly, in relation to climate change challenges and solutions, are taken into account and included in all documents and plans.

Planned activities are as follows:

1. Hold 7 chiefdom workshops to develop and integrate climate change adaptation solutions into the micro-zoning plans, that include grazing plans, in terms of the Kafue Flats GMP
2. Hold 6 district workshops (and follow-up) to integrate adaptation solutions into Integrated Development Plans (IDPs) of the 6 districts into which the GMA falls
3. Feed solutions and plans into community leadership CBNRM training (in KaF-Wild Output 2.1.3) [\[6\]](#)¹²

Responsibility: This cluster of activities will be carried out by the Zambia Office of the International Crane Foundation (ICF), guided by the Ministry of Green Economy and Environment (MGEE), especially the Climate Change Department.

Related initiatives: This also builds on work through WWF Zambia supported by the Dutch government on Voices for Just Climate Action [\[7\]](#)¹³, an alliance that brings together global and local voices by connecting a

diverse range of civil society organizations representing women, youth, indigenous people, urban poor, digital activists and more.

Component 2: Water security and holistic rangeland management

Outcome 2.1 Improved access to water supply for community use and livestock in targeted chiefdoms

This outcome will be achieved through three clusters of activities, as outlined in Outputs 2.1.1, 2.1.2 and 2.1.3.

Output 2.1.1 New solar-powered sustainable boreholes and water facilities for communities and livestock

With increasingly erratic rainfall and increasingly frequent experience of drought, many of the streams and rivers of the Lower Kafue Basin which used to flow throughout the year, emptying into the Kafue River, have now become seasonal. This means that many communities in and around the Kafue Flats have to walk longer distances during the dry season to access water for household and sanitation use, and also for irrigation of vegetables at their homesteads, and for supplementary irrigation of crops when rains fail. Water sources for cattle during the dry season are also fewer, resulting in movement of cattle all the way down to the river in some cases, where there is a risk that they may get stuck in the mud, or may be taken by crocodiles. This output will install: (i) new solar-powered boreholes and irrigation schemes in village clusters in each of the 7 chiefdoms that are highly vulnerable to drought; (ii) new solar-powered boreholes and livestock watering points in key upland grazing areas in each of the 7 chiefdoms.

Siting of boreholes will be based on community consultations involving Ward Development Committees, with the needs of women taken into account, since they are central in the collection and distribution of water. Siting will also be based on existing mapping of groundwater resources by the Water Resource Management Agency (WARMA), which needs to give permits for any new extraction, and will include WARMA-supported geohydrological expertise where necessary. Governance and monitoring arrangements will be put in place to prevent over-extraction (see separate Annex F ESMF) – establishing a management committee (including women and youth) for each of the borehole facilities. The committees will participate in a capacity development programme to learn how to set pumping guidelines, monitor compliance, raise maintenance fees, and conduct maintenance. WARMA will be engaged throughout in monitoring groundwater levels and advising committees where necessary on additional restrictions needed.

Planned activities are as follows:

1. Decide locations^[8] through multi-stakeholder consultations (including women) involving Districts and Ward Development Committees

2. Install solar-powered boreholes and irrigation schemes in villages / village clusters that are highly vulnerable to drought – up to 2 per each of the 7 chiefdoms
3. Install solar-powered boreholes and livestock watering points^[9] in key upland grazing areas – up to 2 per each of the 7 chiefdoms
4. Establish a management committee (including women and youth) for each of the (up to 28) borehole facilities
5. Train the management committees to set pumping guidelines, monitor compliance, raise maintenance fees, and conduct maintenance

Responsibility: This work will be carried out by the Zambia office of the International Crane Foundation (ICF), a key partner to the 20-year agreement with Government and WWF to manage the Kafue Flats, with a track record in infrastructure development. Guidance will be provided on policy and regulatory requirements, as necessary by MGEE, Ministry of Water Development and Sanitation (MWDS), ZEMA and WARMA. Construction and drilling service providers will be sourced using ICF's procurement processes. ICF staff expertise will be used on monitoring, training and support to governance structures.

Related initiatives: The key related initiative here is the provision of drought relief in Southern and Central Provinces by MWDS, which involves dam rehabilitation and could involve provision of some boreholes in the Kafue Flats. Care will be taken to ensure that there is no geographical overlap, and that the KaF-Adapt project is complementary to, and fills gaps in, government's efforts in addressing climate change-induced water scarcity.

Output 2.1.2 Doing earthworks for in-field rainwater harvesting in drought-vulnerable communities

In addition to tapping into groundwater, the project will support the capture of rainwater for use in agriculture, through supporting small-scale farmers to do earthworks for in-field water harvesting. This will include provision of training and equipment through interested Village Action Groups (VAGs), to be selected by the Community Resource Boards. The VAGs will engage farmers to deepen existing ponds, and to dig swales and bunds to guide rainwater onto crops and allow it to infiltrate. In response to demand from communities during project preparation consultations, saplings of fruit trees will be provided to households who choose to participate. The fruit trees will utilize the additional water for production of fruit to supplement household nutrition, and will provide an incentive for the labour and time involved in carrying out the earthworks. A “training the trainers” approach will be used for conducting the earthworks and planting of trees, with members of VAGs and youth trained to train others. VAGs will coordinate the process, making sure that women, young people and the disabled are represented. A project nursery will be established for fruit tree sapling development, creating further work opportunities for women and youth.

Planned activities are as follows:

1. Hold “train-the-trainers” sessions for Village Action Groups on earthworks for in-field water harvesting
2. Provide spades and other equipment and do in-field earthworks: deepen existing ponds[\[10\]](#) and construct swales and contour bunds[\[11\]](#) to catch rainwater and allow infiltration
3. Establish a nursery for indigenous/suitable fruit trees involving women and youth, and distribute through VAGs as incentive.

Responsibility: This work will be carried out by the Zambia office of the International Crane Foundation (ICF), a key partner to the 20-year agreement with Government and WWF to manage the Kafue Flats, with a track record in community engagement and development. Necessary equipment will be sourced using ICF's procurement processes.

Related initiatives: A key related initiative is the work being done through GIZ on the AWARE 2.0 project in the Kafue Flats, which involves complementary Integrated Water Resource Management measures in the landscape. Care will be taken to ensure that there is no geographical overlap, and that the initiatives are complementary in addressing climate change induced water scarcity.

Output 2.1.3 Rehabilitating dams, and constructing check dams on seasonal rivers and streams to enhance water availability, infiltration and flood control

A number of small community earth dams in the uplands surrounding the Kafue Flats floodplain have become damaged or silted up as a result of heavy rainfall events and upstream erosion of riverbanks. The project will support rehabilitation of one dam in each of the seven chiefdoms of the Kafue Flats GMA, ensuring that the strengthened dams are strong and climate-resilient. Where appropriate, new check dams will be constructed by building weirs across the river with stone gabions that allow water to spill over when flow is heavy, and hold it back when flow is light, allowing irrigation of crops nearby, and also allowing water to seep gradually into the ground, to supplement the groundwater resource. Siting of new check dams and choice of existing damaged dams to rehabilitate will be done through Ward Development Committees, making sure that women's voice is represented. Cash-for-work will be used to compensate local youth for labour in dam rehabilitation and construction. Management committees will be established for each dam, including representation from women and youth, and capacity development conducted for each committee.

Planned activities are as follows:

1. Decide locations through multi-stakeholder consultations (including women) involving Districts and Ward Development Committees for rehabilitating existing dams or constructing new check dams[\[12\]](#)
2. Use cash-for-work to rehabilitate 1 existing damaged/silted up dam in each of the 7 chiefdoms

3. Use cash-for-work to construct gabion check dams[\[13\]](#) across rivers in areas vulnerable to flood and drought – 2 per each of the 7 chiefdoms
4. Establish a management committee (including women and youth) for each of the 21 rehabilitated dams / new dams with food gardens
5. Establish solar-powered irrigations systems and communal food gardens next to the 14 check dams
6. Train the management committees to monitor dam levels and condition, run food gardens, raise maintenance fees, and conduct maintenance

Responsibility: This work will be carried out by the Zambia office of ICF, a key partner to the 20-year agreement with Government and WWF to manage the Kafue Flats, with a track record in infrastructure development and community capacity development. Specifications for dams (new and rehabilitated) will be provided by the Department of Water Development in the MWDS. Guidance will be provided on policy and regulatory requirements, as necessary by MWDS, ZEMA and WARMA. Construction service providers will be sourced using ICF's procurement processes. ICF staff expertise will be used in relation to monitoring, training and support to governance structures.

Related initiatives: The key related initiative here is the provision of drought relief in Southern Province by MWDS, involving rehabilitation of dams. Four dams will be rehabilitated with World Bank funds, but only one in a project district – Makaba Dam in Namwala District. Care will be taken to ensure that there is no geographical overlap, and that the initiatives are complementary in addressing climate change-induced water scarcity.

Outcome 2.2 Increased adaptive capacity of livestock farmers to climate change through enhanced pasture management

This outcome will be achieved through three clusters of activities, as outlined in Outputs 2.2.1, 2.2.2 and 2.2.3.

Output 2.2.1 Establishing or strengthening resource management committees and planning for holistic, climate-resilient livestock farming

This output will help to develop a common approach for climate-resilient livestock farming in the Kafue Flats, in the context of the August 2024 Cabinet announcement of intention to declare part of the Kafue Flats as a Beef Special Economic Zone, to commercialize livestock production and raise productivity[\[14\]](#). The traditional extensive grazing system (outside of commercial cattle ranches) of Ila and Tonga pastoralists is vulnerable to the impacts of climate change, and also to blockage of movement by fencing. As temperatures increase and rainfall becomes more erratic, with more frequent drought years, a steady decline in grazing productivity is being experienced, leading to poor condition of cattle and low prices when herders decide to

sell animals. Increasing temperatures also increase pests and diseases to which cattle are susceptible. While fire has been used traditionally to stimulate growth of grasses, the changing climate means that these fires increasingly often spread out of control, damaging the ecosystem. This output will build on best practice in Zambia in promoting climate-resilient, holistic rangeland management, working with herders to establish natural resource management committees under the Community Resource Boards. Multi-stakeholder dialogues will be conducted to discuss the implications of the planned Special Economic Zone, in order to maximize benefits to pastoralist communities[15]. A technical workshop will be held between DNPW, ICF, and Ministry of Fisheries and Livestock (MFL) officials in the 6 districts - addressing climate resilient cattle breeds, management of diseases spread through climate change[16], supplementary feeding of livestock in times of drought, and climate-resilient rangeland management, including integrated fire management.

Planned activities are as follows:

1. Hold multi-stakeholder dialogues including livestock farmers and district MFL officials on climate-resilient livestock farming (breeds, vet support, pasture, fire, water, etc.) and pastoralists' needs
2. Hold technical workshop between DNPW, ICF, and MFL on: 1) pastoralists' needs in context of Beef Special Economic Zone, 2) impact of climate change on livestock farming, 3) results of the study (budgeted in KaF-Wild) on ecological and grazing carrying capacity
3. Establish (or strengthen) natural resource management committees under CRBs in up to 7 chiefdoms for climate-resilient holistic rangeland management.

Responsibility: This work will be led by MGEE, in collaboration with the Ministry of Fisheries and Livestock, and other key ministries, supported by a local NGO with experience in land use planning, community engagement, and climate resilient, holistic rangeland management. The work will be done in close collaboration with ICF, as it relates to Outputs 1.1.1 and 2.1.1 respectively and with WWF Zambia (as part of the baseline support).

Related initiatives: This work will build on ongoing support through the Department of Livestock in the Ministry of Fisheries and Livestock to pastoralists on the Kafue Flats, especially in terms of veterinary care for animals, as well as the One Health approach to containing the spread of disease. The One Health approach will be promoted through the “sister” KaF-Wild project with the same stakeholders.

Output 2.2.2 Capacity development with pastoralists for climate-adaptive holistic rangeland management, incorporating traditional knowledge

Building on the previous output in which resource management committees will be established and capacitated, this output will engage the committees and other associations of livestock farmers across the seven chiefdoms of the Kafue Flats GMA in a programme of capacity building around climate-resilient and holistic rangeland management. This programme will draw on traditional knowledge of transhumance and rotational grazing, to form actively managed “mega-herds”, and to establish spatial and temporal patterns which allow each area to be grazed thoroughly a single time, before the herd is moved on. The floodplain

grasses will remain important as supplementary feeding during the dry season, but grazing there needs to be carefully managed, particularly in the sensitive ecological core zone of the floodplain between Blue Lagoon National Park and Lochinvar National Park. The local NGO conducting this work will customize existing training curricula, and draw on traditional knowledge in carrying out the capacity development, both in classroom and in-field, collaborating with resource management committees and livestock owner associations. This will include fire management plans being produced by each natural resource management committee, with the Kaf-Adapt and “sister” Kaf-Wild projects between them providing equipment and training on integrated fire management, and using cash-for-work to do burning and maintenance of fire-breaks.

Planned activities are as follows:

1. Design training course (appropriate course content) with livestock farmer communities on adaptive holistic rangeland management, incorporating traditional knowledge[\[17\]](#)
2. Conduct continuous integrated training on interventions on rangeland and fire management with up to 7 natural resource management committees, and livestock farmers
3. Develop integrated fire management plan for each of up to 7 chiefdoms, integrated into micro zoning plan [\[18\]](#)
4. Supply 3 chiefdoms with basic fire-fighting equipment[\[19\]](#) and protective gear, and train on safe use (4 chiefdoms budgeted for in Kaf-Wild)
5. Use cash-for-work to burn and maintain firebreaks in 3 chiefdoms (4 chiefdoms budgeted for in Kaf-Wild)
6. Provide annual reports from natural resource management committees on the implementation of grazing & fire plans, and condition of rangeland (see also monitoring in Output 4.1).

Responsibility: This work will be carried out by a local NGO[\[20\]](#) with experience in supporting communities to undertake climate-resilient, holistic rangeland management, drawing on traditional knowledge, and achieving improvements in grazing productivity. The work will be guided by the Department of Livestock Development in the MFL and will link closely to the “sister” KaF-Wild project on One Health approaches.

Related initiatives: This work will build on ongoing support through the MFL to pastoralists on the Kafue Flats, and on work carried out by NGOs, including Solidaridad, on holistic rangeland management and support to livestock farmers. The “sister” KaF-Wild project will provide budget for fire-fighting equipment and training, and for burning fire-breaks, in the other 4 chiefdoms of the Kafue Flats GMA.

Output 2.2.3 Training and technical assistance to grow fodder grass and reseed grasslands

This output will build on Output 2.1.1 in which solar-powered boreholes and cattle watering points will be provided at strategic points in the uplands, reducing pressure on the floodplain during the dry season and

addressing climate change-intensified water scarcity. This output will establish irrigation systems to use the water at these watering points to irrigate special fenced pastures, run by resource management committees, including roles for women and youth. The pastures will produce fodder which will be distributed to dairy farmers and other herders to supplement the cattle's diet. The community will be trained to gather seed from the fodder pastures, conserve it and distribute (or sell) it to other members of the community. As part of the holistic rangeland management training in Output 2.2.2, resource management committees will be trained to utilize the seeds by sowing them in degraded grasslands at the start of the rainy season, integrated into the rotational grazing system to allow time for the new grass to grow. Irrigated vegetables and crops can also be grown in the fenced area, with locations for the watering points selected to be not too far from homesteads. Cash-for-work will be used for fencing and land preparation, with preference given to local youth. A management committee^[21] including women and youth will be established for each fodder pasture including irrigation systems, hay production and seed distribution. Dairy farmers will be asked to report on changes in milk production as a result of receiving additional fodder, which will be reported to the project.

Planned activities are as follows:

1. Conduct community and stakeholder engagement for site selection for pasture growing
2. Establish fenced pastures and irrigation systems at the up to 14 new watering points (see Output 2.1.1) to produce fodder (grass and legumes), fodder seed, and forage seed^[22] and grow vegetables
3. Establish a management committee (including women and youth) for each fodder pasture and garden
4. Set up a system for irrigation for each of the fodder pastures during dry season
5. Train committees / individuals on hay production and conserving, processing, packaging and labelling fodder and forage seeds
6. Committees / individuals to collect and distribute fodder seeds^[23] to households to grow their own fodder
7. Committees / individuals to distribute forage seeds (native grasses) to natural resource management committees for restoration^[24]
8. Sell or give fodder / hay to farmers, including those with dairy cattle (who should monitor changes in milk production)

Responsibility: This work will be carried out by a local NGO with experience in supporting communities to undertake climate-resilient, holistic rangeland management, fodder production, and seed multiplication. The work will be undertaken in collaboration with ICF and the relevant District officials.

Related initiatives: This work will build on ongoing support through the Department of Livestock in the Ministry of Fisheries and Livestock through District officials to livestock farmers on the Kafue Flats. The fodder pasture and seed multiplication interventions will be designed based on best practice in Zambia, including through the ESLIP programme.^[25]

Component 3: Climate resilient livelihoods and value chains in Kafue Flats GMA

Outcome 3.1 Increased resilience to climate change from diversified livelihoods

This outcome will be achieved through three clusters of activities, as outlined in Outputs 3.1.1, 3.1.2 and 3.1.3.

Output 3.1.1 Empowerment of women's cooperatives to establish new climate-adaptive enterprises

Household incomes in the Kafue Flats are vulnerable to crop losses and low yields as a result of flood damage and drought. By diversifying household incomes, farming families will be able to spread their risk and ensure other income streams in times of hardship, also reducing dependence on rain-fed agriculture. As shown in separate Annex H Gender Analysis and Action Plan, women in the Kafue Flats have limited spheres of economic activity over which they have control, but women's cooperatives are present in most villages. These cooperatives will be empowered through this output to develop new cooperative enterprises for livelihoods that will not be significantly negatively affected by climate hazards, including drought. Examples of such new climate-resilient livelihoods raised during stakeholder consultations with women in the project preparation phase include: fruit orchards, mushroom cultivation, basketmaking, beekeeping, fish preservation (cooling, freezing, smoking, drying) and drying of mangoes and other fruit.

The local NGO contracted to deliver this work will support women's cooperatives to develop business plans, and will design and deliver a woman's business leadership training course, to be conducted over a year as the new enterprises are established. Project funds will be used as seed capital to purchase equipment for cooperatives directly (up to 7 micro enterprises), with technical training on the technology and work process, as well as business training directly to the cooperatives and through a women's business leadership course. Care will be taken to create opportunities for disabled women wherever possible.

Planned activities are as follows:

1. Hold initial workshops with women's cooperatives to identify new enterprises that are climate-resilient and diversify income (one per chiefdom)
2. Develop a costed action plan for a set of popular options, e.g. mushroom cultivation, basketmaking, beekeeping, solar drying of fish, processing of mango and wild indigenous fruits
3. Hold follow-up workshops with 7 women's cooperatives to select preferred option

4. Supply infrastructure and equipment and set up 7 climate-resilient women's cooperative enterprises
5. Conduct technical training and support 7 cooperatives to develop business plans, and work/benefit sharing plans
6. Design and deliver joint women's business leadership training course, including literacy, financial literacy, bookkeeping, public speaking, business planning, marketing, cash flow management etc.
7. Provide ongoing technical assistance to each cooperative, including facilitating access to buyers and markets, cash flow support, business sustainability plan, and CDF applications.

Responsibility: This work will be carried out by a local NGO with experience in supporting communities on livelihoods and small and micro enterprise development, as well as experience in women's empowerment and women leadership training. An additional local partner (organization or consultant) may be brought in to work with the cooperatives where the NGO does not have the necessary connections, e.g. to facilitate offtake agreements with buyers.

Related initiatives: The output draws on experience from past and current livelihoods initiatives in the Kafue Flats and elsewhere in Zambia, for example through Self Help Africa, Solidaridad and COMACO, learning from the lessons of what has worked and what has not worked, especially in terms of supporting the transition from informal cooperatives to organized cooperative businesses, and long-term sustainability of livelihoods and enterprises.

Output 3.1.2 Development of livestock-based value addition enterprises for climate resilience

Building on the work in Component 2 to improve water access, grazing productivity, supplementary feeding, and water access during the dry season, this output will support farmers to increase and diversify income streams based on their livestock. This will help to buffer negative impacts of climate change and spread household risk, as part of diversifying household incomes in the face of climate change. Consultations will be held through resource management committees and herder organizations, in order to identify at least one livestock-based value addition enterprise north of the river and one south of the river, for example, abattoir, dairy, butchery, tannery etc. A full feasibility study will be conducted in each case, identifying upstream and downstream value chain linkages that maximize opportunities for community engagement and livelihoods, including input supply by women and youth. If appropriate, a request for proposals will be put out to engage a private sector partner and investor, with the project providing seed capital for the initial establishment of infrastructure and equipment. A local NGO will be engaged in supporting through entrepreneurship training, development of bankable business plans, support on accessing markets, and delivery of business advisory services. Support will also be provided to mobilize more funds/credit from the Constituency Development Fund (CDF), the Citizens Economic Empowerment Commission (CEEC), and local microfinance institutions / banks, to sustain and grow these businesses over time.

Planned activities are as follows:

1. Conduct multi-stakeholder consultations to identify 2 livestock-based enterprises, including livestock owners and herders, natural resource management committees, Chiefs, local entrepreneurs (e.g. milk centre), companies (e.g. Zambeef)
2. Identify two livestock-based value-addition enterprises (North and South of GMA) and potential roles of partners, e.g. (i) community abattoir with cold storage; (ii) tannery for hide and leather products; (iii) milk collection centre with cheese and yoghurt production
3. Conduct feasibility studies on selected priority enterprises including value chain linkages, potential buyers, market prices, road access, input supply, infrastructure, equipment and training needs and costs
4. Put out competitive call for local entrepreneur partners to co-invest in, profit from and run the two enterprises (with local employees)
5. Approach district council (or chief / headperson) to provide land for new enterprises
6. Supply infrastructure and equipment and set up two sustainable livestock-based enterprises, with co-investment by selected partners
7. Provide ongoing technical assistance through business advisory services, market access, and access to finance –including supporting applications for funding to the Constituency Development Fund.

Responsibility: This work will be carried out by a local NGO with experience in supporting communities on livelihoods and small and micro enterprise development, including work in livestock-based value chains. A local entrepreneur will be brought in as a commercial partner through a request for proposals for each of the 2 planned enterprises.

Related initiatives: The output will draw on experience from past and current livelihoods initiatives in the Kafue Flats and elsewhere in Zambia, for example through Self Help Africa, Solidaridad and COMACO, as well as from other donor-funded initiatives, learning from the lessons of what has worked and what has not worked, especially in terms of establishing solid market access, and long-term sustainability of enterprises.

Component 4. Knowledge and learning

Outcome 4.1 Knowledge on evolving climate hazards and solutions captured

This outcome will be achieved through two clusters of activities, as outlined in Outputs 4.1.1 and 4.1.2.

Output 4.1.1 Interviews and consultation on evolving climate change impacts

Building on the Climate Crowd initiative of WWF in Zambia and globally, this output will utilize the survey instrument as a community-informed adaptive project management tool. Drawing on the baseline to be developed in project preparation and the Climate Change Awareness dialogue sessions in Component 1, the climate crowd survey will be administered again at project mid- and endpoint to monitor and track the evolving climate hazards and their impacts on local communities. The same group that was interviewed in late 2023 will be involved throughout the process, if possible, to ensure continuity. A report will be produced summarizing the evolving climate hazards and also updating on trends in communities' vulnerability and adaptive capacity, including how project interventions have contributed.

Planned activities are as follows:

1. Customize survey instrument for Climate Crowd Survey follow-up
2. Conduct interviews at project mid- and endpoint to evaluate evolving climate hazards and impacts
3. Produce report on climate hazards and adaptation trends

Responsibility: This cluster of activities will be carried out by the Zambia Office of ICF, guided by the Ministry of Green Economy and Environment (MGEE), in particular the Zambia Meteorological Department (ZMD).

Related initiatives: This work will build on the ongoing monitoring work of the ZMD, and the Climate Crowd initiative of WWF. [\[26\]](#)

Output 4.1.2 Engaging youth to track indicators of resilience to climate change

As part of the project's investment in monitoring and evaluation, this output will develop the capacity of young people across the Kafue Flats to participate in monitoring indicators of climate change, e.g. rainfall patterns, and also indicators of enhanced resilience to climate change, e.g. enhanced water collection and use. Young people selected through the Community Resource Boards to participate in the monitoring initiative will be equipped with smartphones and a monitoring application customized for the project, and will be engaged in a training and capacity development programme over at least two years. As part of their work they will also participate in the outreach programme with local primary schools, in which climate change challenges and adaptation solutions will be highlighted (see Output 1.1.1). Efforts will be made to include disabled youth in this initiative as far as possible, and to ensure a balance between young men and young women. Participants will also be engaged in a portion of the leadership training programme for CRBs, headmen and headwomen in the KaF-Wild project.

Planned activities are as follows:

1. Train and equip youth on climate change adaptation and monitoring app customized for project, and equip with smartphone technology

2. Conduct regular surveys of key indicators of climate change and resilience, including stream flow on rivers with check dams, and vegetation in monitoring plots
3. Document community knowledge on indicators of ecosystem health and climate change

Responsibility: This work will be carried out by the Zambia office of the International Crane Foundation (ICF), a key partner to the 20-year agreement with Government and WWF to manage the Kafue Flats, with a track record in scientific monitoring and community engagement, with engagement of ZMD, MGEE, WARMA and other government and research and monitoring bodies as appropriate.

Related initiatives: This work will build on an initiative of MGEE, funded by the German government, and supported by GIZ, on the 'Facility for Action for Climate Empowerment to achieve Nationally Determined Contributions (FACE NDC)', launched in 2023.

Outcome 4.2 Project learning captured and lessons exchanged

This outcome will be achieved through a single cluster of activities, as outlined in Output 4.2.1.

Output 4.2.1 Capturing lessons learnt and facilitating knowledge exchanges between communities

As the project progresses, so it will be important to capture lessons being learnt and record these for sharing within the project landscape, and across Zambia, as well as in the global portfolio of projects supported by the Least Developed Countries Fund (LDCF). Throughout the project, the Monitoring and Evaluation and Learning (MEL) and communications staff in the Project Management Unit will work with communities to produce documentary and video evidence of progress and learning about what works and what does not. Knowledge management events will be held both online and face to face, and support will be provided to capture lessons learned in a series for wider dissemination. Community and local government participants, as well as staff of district line departments, will be eligible to participate in knowledge exchanges within the Kafue Flats and potentially with other parts of Zambia, on effective climate change adaptation solutions.

Planned activities are as follows:

1. Produce documentary and video evidence of project progress and learning
2. Facilitate knowledge exchanges within Kafue Flats GMA and with other parts of Zambia

3. Hold community-based knowledge management events (virtual and workshop) to track impacts of climate change on biodiversity, including water birds as indicators of ecosystem health and climate change

Responsibility: The Project Management Unit will oversee this work, with the Monitoring & Evaluation and Learning Officer responsible. Where necessary, specialist Zambian expertise on organization and facilitation of knowledge exchanges, and on production of documentary and video material, will be engaged.

Related initiatives: This output will build on lessons learned from related initiatives in Zambia and other African countries, on effective community-led solutions for climate change adaptation, with systematic engagement with ongoing initiatives.

Monitoring and Evaluation

Effective M&E system including gender monitoring with data collection, reflection and timely reporting for result-based decision-making and adaptive management.

The project Monitoring and Evaluation (M&E) Plan (Annex D) has been developed in coordination with the MGEE, and ICF. This includes regular monitoring at all levels – annual workplans and budgets, results framework, project progress reports, core indicators etc. – as well as facilitating independent evaluations at project mid-term and endpoint.

Planned activities are as follows:

1. Hold joint launch / inception workshop with KaF-Wild (40% of costs from KaF-Adapt, 60% budgeted in KaF-Wild)
2. Project M&E system developed for regular monitoring at all levels
3. Produce reports on key M&E milestones, including inception workshop report, quarterly field and financial reports, indicator tracking, annual reflection workshop report, WWF GEF project progress reports (PPR) with annual results framework and workplan tracking, supervision mission reports
4. Conduct ongoing safeguards and gender monitoring
5. Complete annual project audits and take action where necessary
6. Complete project mid-term and terminal evaluations (even though not compulsory for MSP, to match KaF-Wild).

Responsibility: The Project Management Unit will oversee this work, with the Monitoring & Evaluation and Learning Officer responsible, and oversight provided by WWF as the GEF Agency. Independent evaluators will be engaged to undertake the midterm and terminal evaluations.

Related initiatives: This output will build on the experience of MGEE and WWF-US as well as key implementing partner ICF, feeding learning in and adopting an adaptive management approach that makes necessary adjustments to deliver effective results in terms of the project objective and intended outcomes.

Table 4: Mandate and role of key stakeholders

Stakeholder Type	Name	Mandate and proposed role in project
Government of the Republic of Zambia	Ministry of Green Economy and Environment	Lead Executing Agency for KaF-Adapt project, ensuring project compliance with government policies and strategies. Both the environment and the planning departments have been involved in project development. MGEE is providing in-kind co-finance to link project with other government-supported climate change adaptation initiatives. The Ministry includes the Zambia Meteorological Department (ZMD), whose role is to produce and disseminate weather and climatic information to the aviation, agriculture and other sectors in order to facilitate informed decision making. ZMD will support related initiatives to get last mile information to farmers on long range weather forecasting and disasters, complementing KaF-Adapt support to farmers on water access and resilient pasture management. MGEE will be represented on the Project Steering Committee, and will be Co-Chairs with DNPW in the Ministry of Tourism. ZMD specifically will be represented on the Project Technical Committee for KaF-Adapt.
	Ministry of Tourism - DNPW	The Department of National Parks and Wildlife (DNPW), which replaced the Zambian Wildlife Authority, ZAWA from 2015, is Lead Executing Agency for the “sister” KaF-Wild project, and responsible for the management of Blue Lagoon and Lochinvar National Parks, south of the river. In terms of a Collaborative Management Partnership agreement signed in 2022, DNPW is supporting the conservation of the parks and the surrounding Game Management Area (GMA, i.e. buffer zones for Parks, with use rights for communities) in collaboration WWF Zambia and the International Crane Foundation (ICF) over a 20-year period, in cooperation with traditional authorities and local government. Providing co-finance to KaF-Wild project. Represented on Project Steering Committee.
	Zambia Environmental Management Agency (ZEMA)	ZEMA is responsible for enforcing environmental regulations and conducting environmental impact assessments when legally required; monitoring of production and industrial activities that could potentially threaten wildlife and natural resources. Any necessary applications will be made for project activities, including for use of herbicides in KaF-Wild wetland restoration for removal of invasive vegetation.

	Water Resource Management Agency (WARMA)	Through its Kafue Catchment Office, WARMA is the mandate holder on water resources management, including monitoring of ground and surface water, and permitting of abstraction. Will consider applications for permits for KaF-Adapt for dam refurbishment, construction of check dams, and drilling of boreholes, and guide on siting based on their geohydrological mapping work, also guiding water user association establishment / strengthening in GIZ AWARE 2.0.
	Ministry of Fisheries and Livestock	Department of Fisheries: Regulation of fishing, monitoring and enforcement of fishing bans – important for KaF-Wild work on Community Resource Boards' mandate to support community engagement on legal fishing. Department of Livestock: Works through district administrations on provision of veterinary support to pastoralists, and addressing key threats facing them. Key role-player in Kaf-Adapt work with pastoralist communities on climate-resilient holistic rangeland management. Represented on Project Steering Committee.
	Ministry of Water Development and Sanitation	Technical design specifications for drilling of boreholes, dams, water schemes for irrigation in chiefdoms/communities in KaF-Adapt; consultation on siting to avoid overlap with government infrastructure plans through Provinces, including through drought relief scheme. Represented on Project Steering Committee.
	Ministry of Local Government and Rural Development	Chiefs' arbitrator and coordinator – could be involved in discussions about the Beef Special Economic Zone, helping resolve any policy conflicts, and advocate for needs of pastoralist communities who are vulnerable to climate change
	Ministry of Agriculture	Key role-player in complementary related initiatives including GIZ AWARE 2.0. Can advise on vegetable gardens and fruit trees next to check dams and new boreholes through KaF-Adapt. Responsible for provision of farming inputs, resilient seed stock and promotion of climate-resilient farming practices – parallel actions to the KaF-Adapt project's focus on water infrastructure and rangeland management.
	Ministry of Small and Medium Enterprises	can support on registration and access to additional technical assistance for entrepreneurs and communities engaged in climate-resilient enterprises and livestock value chains (Kaf-Adapt) and nature-based livelihoods and biomass value chains (Kaf-Wild).
	Ministry of Community Development and Social services	Can offer guidance on engagement and capacity development of community structures, empowerment of women, youth, children and disabled members of the communities. Also a stakeholder in development of policy brief through KaF-Wild on environmental cash transfer programmes.
	Ministry of Commerce and Industry	Could be engaged on discussions around the Beef Special Economic Zone, and how to maximize job opportunities for local residents, including youth, women and disabled people.
	Ministry of Lands and Natural Resources	responsible for ecosystem stock-taking and protection of the status of the wetlands. Important in developing wetland policy brief in Kaf-Wild, providing guidance on holistic rangeland management approach in KaF-Adapt.
Utilities	Lusaka Water and Sewerage Company	A commercial utility owned by the Lusaka Municipality, responsible for the capital city's water supply and sanitation management, chlorination and treatment of water and sanitation mapping, water quality monitoring. Potential stakeholder in Kafue Flats Watershed Investment Programme.

	Southern Water and Sanitation Company	Privately owned company responsible for provincial rural commercial and town water supply and sanitation management, chlorination and treatment of water and sanitation mapping and water Quality monitoring. Potential stakeholder in Kafue Flats Watershed Investment Programme.
	Zambia Electricity Supply Commission (ZESCO)	State-owned Zambia Electricity Supply Commission (ZESCO) – At eastern edge of the Kafue Flats hosts largest hydropower station at the Kafue Gorge Dam, with an installed capacity of 900 MW at the Upper Gorge and 750 MW at the Lower Gorge, representing 50% of Zambia's hydropower supply, including serving industries and mines. The Itzhi Tezhi Dam was constructed about 450 km upstream of the Gorge as a storage reservoir to supply the Kafue Gorge dam and power plant, with has a maximum reservoir capacity of about 6,000 million m ³ , also with an installed capacity of 120 MW hydropower plant. The water demand for hydropower production in the flats is approximately 15,000 million m ³ per year. Critical to be engaged with the partners in the collaborative management partnership for the Kafue Flats – DNPW, ICF and WWF, as well as MGEE – on the artificial flooding regime and the impact on the area's ecology, cattle farming, and wildlife tourism potential, as these become more vulnerable to climate change. Potential stakeholder in Kafue Flats Watershed Investment Programme.
Traditional authorities	Muwezwa Chiefdom	The Kafue Flats GMA surrounds the two national parks and the remainder of the area is largely traditional communal lands falling into these seven chiefdoms – the traditional lands of people from within the clusters of tribes known as Ila and Tonga, as well as some Sala people. Hamusonde land is not technically part of the GMA, but borders Lochinvar National Park, and is thus important. Chief Shakumbila's lands are vast, and only a small part falls into the GMA, including the important ecologically sensitive floodplain land between the two Parks. Traditional authorities are central to both projects, and buy-in has been ensured through several engagements during project development. Chiefs / chieftainesses are key champions and motivators for new livelihoods, and influence natural resource management and land use – as they manage the land on behalf of their subjects (the Forest Department manages the trees, and DNPW manages the wildlife).
	Hamusonde Chiefdom	
	Choongo Chiefdom	
	Mungaila Chiefdom	
	Mwanachingwala Chiefdom	
	Shakumbila Chiefdom	
	Nalubamba Chiefdom	The two chiefdoms whose land the Nkala GMA falls into (human wildlife conflict hotspot). See above re chiefdoms and traditional authorities.
	Musungwa Chiefdom	
	Shezongo chiefdom	
	Headmen and headwomen	Headmen and Headwomen oversee villages. Specific plots of land are assigned by Chiefs, their <i>indunas</i> (advisors), and village headmen/women for cultivation and settlement, usually permanently, through a male head of a family, and without maps or signed documents. This includes allocation of communal land for new uses by individual households or commercial users.
Sub-national Government	Southern Province	Key role-players for alignment with provincial level policy, strategies and initiatives. Provincial Permanent Secretary to sit on Project Steering Committee.
	Central Province	Key role-players for alignment with provincial level policy, strategies and initiatives. Provincial Permanent Secretary to sit on Project Steering Committee.
	Mumbwa District	The main presence of government on the ground in the Kafue Flats is through the District Council administrations, overseen by District
	Shibuyunji District	

	Itezhi-tezhi District	Commissioners, which support elected District Councils in overseeing the six districts into which the Kafue Flats GMA and the Nkala GMA (at the western end of the flats), fall, i.e. Mumbwa and Shibuyunji Districts (in Central Province) and Itezhi-tezhi, Namwala, Monze and Mazabuka Districts (in Southern Province). Districts are responsible for policing, water and sanitation, fire services, roads, and agricultural support services. The KaF-Adapt and KaF-Wild projects will involve engagement with District Councillors, and critically with District Commissioners and officials in district-level line departments on: • Alignment with related government and donor-funded initiatives • Registration of cooperatives, societies and business ad needed for projects • Provision of land for climate-resilient and nature-based enterprises • Involvement of line department officials, e.g. water, agriculture and livestock, on implementation, enforcement and capacity development • Support to communities on accessing Constituency Development Fund (CDF) for water, livestock and livelihoods infrastructure • District Commissioners may sit on Project Steering Committee <table><tr><th>District</th><th>Province</th><th>Population (2022)</th></tr><tr><td>Mumbwa</td><td>Central</td><td>328,020</td></tr><tr><td>Shibuyunji</td><td>Central</td><td>97,151</td></tr><tr><td>Itezhi-tezhi</td><td>Southern</td><td>130,467</td></tr><tr><td>Namwala</td><td>Southern</td><td>168,715</td></tr><tr><td>Monze</td><td>Southern</td><td>267,840</td></tr><tr><td>Mazabuka</td><td>Southern</td><td>233,084</td></tr><tr><td colspan="2">TOTAL</td><td>1,225,277</td></tr></table>	District	Province	Population (2022)	Mumbwa	Central	328,020	Shibuyunji	Central	97,151	Itezhi-tezhi	Southern	130,467	Namwala	Southern	168,715	Monze	Southern	267,840	Mazabuka	Southern	233,084	TOTAL		1,225,277
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	Ward Development Committees																									
Community Based Organizations	Community Resource Boards (CRBs)	In each of the seven chiefdoms of the Kafue Flats, there is an elected CRB, mandated in terms of the 2015 Wildlife Act, which makes provision for community-based natural resource management, with representation from the Village Action Groups (VAGs). Each CRB should have a Natural Resource Committee whose leadership monitor, supervise and coordinate Resource Management Committees in the VAGs, and work closely with DNPW to fulfil the following roles: • managing the wildlife quotas allocated to the CRB; • monitoring of the use of the resources within the Chiefdom (including wildlife, fish, wood, land and water); • taking a leading role in employment matters in the CRB and ensuring fairness to employment opportunities for all qualified individuals living with the CRB; • together with their Patron (the Chief), leading CRB participation in land-use planning processes and compliance.																								

		CRBs and their sub-structures will be a major focus for capacity development, land use planning, livelihoods support, and community engagement and enforcement – through both KaF-Wild and KaF-Adapt.
	Village Action Groups	Decisions on land use may be informed by consultations with CRBs and Village Action Groups (as well as civic leaders from political structures in the chieftdom, e.g. District and Ward Councillors, and the Ward Development Committees, also Water User Associations where these exist). Members of VAGs should be involved in the long-term CRB leadership training initiative through the KaF-Wild project.
	Women's cooperatives	Women in most villages in the Lower Kafue Basin are organized into women's cooperatives, and may have associated village savings and loans schemes. Most of the cooperatives are engaged in activities like sewing or raising chicken and goats, but there is interest in new climate-resilient and nature-based livelihoods. The women's cooperatives will be key role-players for women's business leadership training (KaF-Adapt) and enterprise and value chain development (both projects).
	Natural resource committees	These exist in some areas as sub-structures of Community Resource Boards, sometimes with a particular mandate, e.g. holistic rangeland management. Such committees can be created / strengthened as appropriate for carrying out the climate-resilient holistic rangeland management work of the KaF-Adapt project.
NGOs	International Crane Foundation	Key executing partner for both KaF-Wild and KaF-Adapt. In terms of a Collaborative Management Partnership agreement signed in 2022, DNPW is supporting the conservation of the parks and the surrounding Game Management Area (GMA, i.e. buffer zones for Parks, with use rights for communities) in collaboration WWF Zambia and the International Crane Foundation (ICF) over a 20-year period, in cooperation with traditional authorities and local government.
	WWF Zambia	Working with WWF US as the project GEF Agency for project development and implementation support and supervision, for both KaF-Wild and KaF-Adapt. In terms of a Collaborative Management Partnership agreement signed in 2022, DNPW is supporting the conservation of the parks and the surrounding Game Management Area (GMA, i.e. buffer zones for Parks, with use rights for communities) in collaboration WWF Zambia and the International Crane Foundation (ICF) over a 20-year period, in cooperation with traditional authorities and local government.
	Solidaridad	Strong local NGO with presence on the ground and track record in supporting communities on rangeland management and improved livestock management, education and sensitization on environment and climate change, capacity building and training in various alternatives to livelihoods.
	Self Help Africa	Strong local NGO with presence on the ground in Kafue Flats GMA, and track record in supporting communities on livelihoods and agriculture.
	Bird Watch Zambia	Potential to support projects on development of training manuals with accredited institutions such as TEVETA, development of bird tourism products such as story maps, destination guides, bird routes. Can provide links to international partners for knowledge exchange and capacity development in community led ecotourism. Also promotes citizen science and data mapping of bird species (e.g. Merlin, E-Bird, and Bird Lasa, developed with the University of Cornell).

		For the Nkala GMA, and Blue Lagoon National Park, Bird Watch Zambia could explore potential sites and costings to establish community camping sites.
	Game Rangers International	Local NGO with presence on the ground and track record in supporting communities in Nkala GMA. Working with TNC on community engagement and anti-poaching enforcement, community outreach and education.
	GIZ AWARE 2.0	Supporting upland integrated water resource management and landscape restoration activities related to water infiltration and rangeland management. The KaF-Adapt and KaF-Wild projects will liaise with the AWARE 2.0 team to avoid overlap, and achieve synergy – jointly covering a wider area through activities.
	The Nature Conservancy (TNC)	TNC is supporting DNPW and African Parks on community engagement in all the GMAs surrounding Kafue National Park, including Nkala GMA. Liaison and coordination with TNC will be critical on all aspects of the Human Wildlife Conflict work in KaF-Wild – to ensure complementarity and avoid overlap, including on mitigation measures, warning systems, rapid response and a potential national insurance scheme.
	By Life Connected	NGO engaged in Mumbwa and Livingstone GMAs on comprehensive support to community leadership capacity development, agriculture, water and rangeland management- important model for KaF-Adapt project and potential partner for knowledge exchange.
	Balo	Youth NGO present in Kafue Flats, engaged in training of youth and support on access to Constituency Development Fund.
	African Parks	Has long term contract with DNPW to run the Kafue National Park. Key stakeholder and potential co-financier.
Private Sector	Service providers	Lusaka-based private companies will be engaged through a competitive tender process run by the International Crane Foundation in terms of their own procurement policies. This process will determine technical suitability, value for money and quality of after-sales service – including ability to train local youth to undertake maintenance of infrastructure installed through the project.
	Zambeef	Zambeef Products is involved in the production, processing, distribution and retailing of beef, pork, poultry, dairy products, eggs, edible oils, flour and bread. Zambeef raises feedlot cattle on three farms outside the Kafue Flats, and also purchases cattle from commercial farmers, especially in Namwala district, and sometimes from traditional pastoralists. Zambeef also has a tannery and shoe leather division called Zamleather, such as meat, hooves, leather. Potential stakeholder in Kafue Flats Watershed Investment Programme.
	Zambia Sugar	Major land and water user in the Lower Kafue Basin. Engaged in training of community members and CRBs working on established sugar plantations, and aggregation of cane products from out-growers. Potential co-financier and potential stakeholder in Kafue Flats Watershed Investment Programme.
	Kafue Sugar	Major land and water user in the Lower Kafue Basin. Potential co-financier and potential stakeholder in Kafue Flats Watershed Investment Programme.

	The Coca Cola Foundation (TCCF)	TCCF is a potential co-financier (match funding for Magoye catchment in the uplands).
	Zambian Breweries	Zambian Breweries is a subsidiary of Anheuser-Busch InBev (AB InBev), and is a major water user in the Lower Kafue Basin. Potential co-financier and potential stakeholder in Kafue Flats Watershed Investment Programme.
	Varun Beverages	Potential off-takers of milk products form community dairy schemes.
	Parmalat	Potential stakeholders in Kafue Flats Watershed Investment Programme.
	Dairy Gold	
	Kalahari Geothermal	Geothermal springs are present in Lochinvar National Park and provide an opportunity for renewable energy development, Initial exploration has been halted.
	Gypsum United Mining company	Small-scale gypsum (and coal) mining activities are present in the Kafue Flats, and are a source of air, water or noise pollution. Could be engaged in discussions around the Kafue Flats General Management Plan and the need for climate-resilient and biodiversity-compatible land and water uses – including the current major uses (for water provision, hydropower, sugar and crop irrigation, and livestock) as well as a growth in ecotourism.
Academia	Kafue Flats Joint Action Group	The KF-JAG brings together private sector actors in the Lower Kafue Bason, supported by WWF Zambia. This is a potential nucleus for the formation of a Kafue Flats Watershed Investment Programme (in terms of KaF-Wild support to sustainable financing mechanisms) and related to KaF-Adapt integration of adaptation needs into Integrated Development Plans of the six districts.
	University of Zambia	Potential to engage on ecological monitoring and developing a wetland restoration of natural systems.
	Jesuit Centre for Theological Reflection	Potential to engage on socio-economic and locally led community adaptation monitoring.

[1] The process will be kicked off at the Joint Project Inception Workshop (budgeted under the “sister” KaF-Wild project).

[2] Youth are defined as those from 15 years to 35 years old in Zambia, but for the purposes of the GEF project, young people aged 18 to 35 will be engaged, especially for paid labour.

[3] Building on the 2023 Climate Crowd Survey, and including differing impacts on men, women, youth, elderly, people with disability.

[4] Youth listening clubs may also be created.

[5] See <https://wwfclimatecrowd.org>

[6] Training in the “sister” project – the Kafue Flats Wildlife, Habitat, Health and Livelihoods Project (KaF-Wild)

[7] <https://voicesforjustclimateaction.org/about-us/>

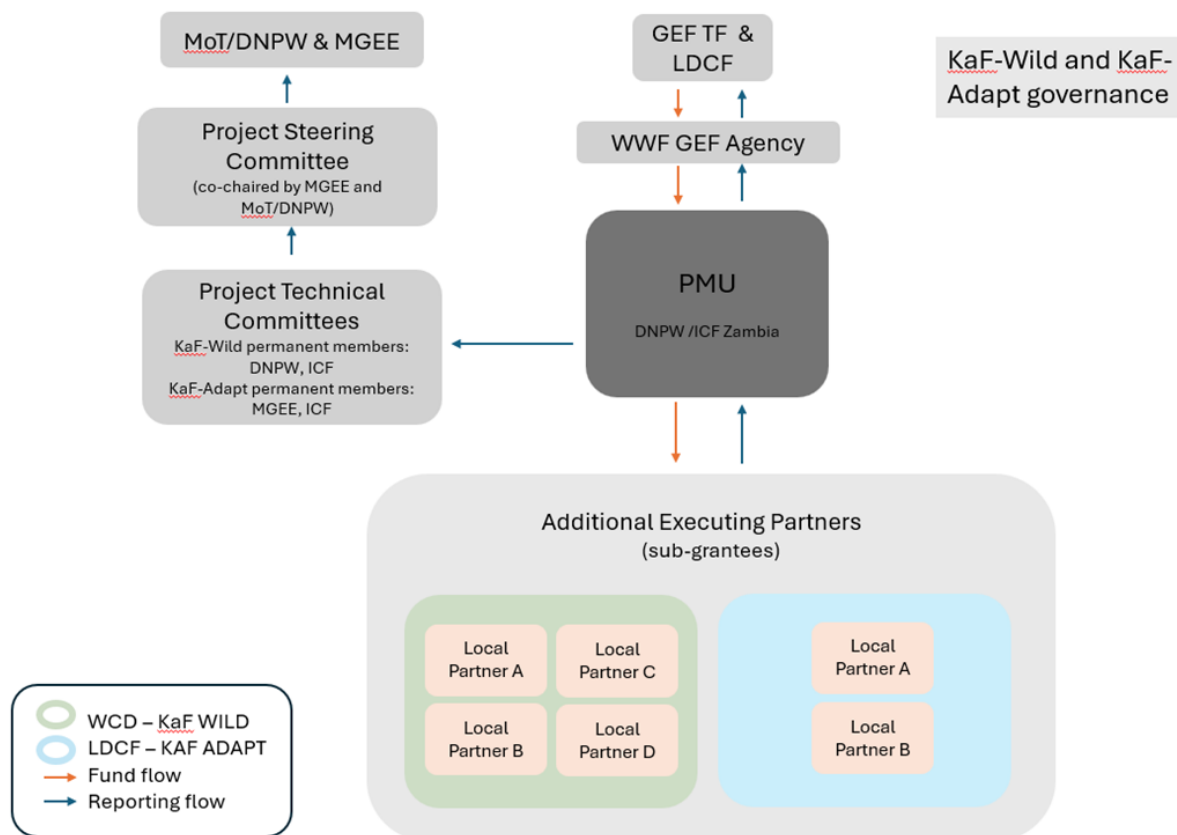
[8] Borehole siting process will build on existing aquifer mapping and include geohydrological assessments through WARMA (e.g. exploratory boreholes, remote sensing) to confirm suitability of selected locations. This must include women’s preferences on optimal siting /distance. Livestock watering points must be suitably located for taking care of the adjacent fenced fodder pastures and vegetables gardens also.

- [9] Following safeguards due diligence, these watering points will not include spray races for tick-borne disease control to be co-financed by Ministry of Fisheries and Livestock, as these could cause contamination of drinking and irrigation water.
- [10] Ponds and all the approaches in the project are fully aligned with Zambia's 2024 National Rainwater Harvesting Strategy.
- [11] Swales and bunds and all the approaches in the project are fully aligned with Zambia's 2024 National Rainwater Harvesting Strategy.
- [12] Check dams and all the approaches in the project are fully aligned with Zambia's 2024 National Rainwater Harvesting Strategy.
- [13] Reference for method used in KNP area <https://www.bylifeconnected.com/projects/mponda-dam-project/>
- [14] See Cabinet press release: https://www.cabinet.gov.zm/wp-content/uploads/2024/08/Cabinet-Resolution-August-232024_045404.pdf
- [15] While maintaining dispersal areas for wildlife – see “sister” KaF-Wild project.
- [16] And diseases spread through contact with wildlife – see “sister” KaF-Wild project.
- [17] Including reviving traditional seasonal movement of cattle to allow grazing recovery.
- [18] In terms of Kafue Flats General Management Plan (GMP).
- [19] For example fire beaters, and portable water sprayers. Note: safety is paramount and all committee members who will utilize equipment must be fully trained.
- [20] Discussions have been held with Solidaridad, an NGO with a strong local presence on the ground in the Kafue Flats and a successful track record in strengthening resource management committees and empowering them to carry out holistic rangeland management.
- [21] The “management committees” to be set up through the project (e.g. dam management committee, pasture management committee) are small, autonomous local structures designed to govern the sustainable use of project-initiated infrastructure (and will report to the local NGO carrying out the work, as part of project M&E). The Natural Resource Management Committees cover whole villages / village clusters, are under set up under the chiefdom Community Resource Boards, and should report to the CRB annually.
- [22] Fodder is feed that is harvested and taken to the animal, forage is browsed on by the animal while still on the land. Reference for this work in Zambia: <https://www.ccardesa.org/forage-production-enhances-livelihoods-zambia>
- [23] e.g. Rhodes grass, *Panicum maximum*; and fodder legumes, e.g. Velvet beans, Cowpea and Red sunhemp.
- [24] Restoration by broadcast sowing of seeds in communal grasslands at the start of rainy season, and once the area has been grazed (to protect new grass).
- [25] <https://eslipzambia.org>
- [26] See <https://www.fclimatecrowd.org>

Institutional Arrangement and Coordination with Ongoing Initiatives and Project.

Please describe the Institutional Arrangements for the execution of this project, including financial management and procurement. If possible, please summarize the flow of funds (diagram), accountabilities for project management and financial reporting (organogram), including audit, and staffing plans. (max. 500 words, approximately 1 page)

This project, the Kafue Flats Climate Resilience and Adaptation Project (KaF-Adapt), to be funded through the Least Developed Countries Fund (LDCF), has been designed with its “sister” project, the Kafue Flats Wildlife, Habitat, Health and Livelihoods Project (KaF-Wild), to be funded through the GEF Trust Fund under the Wildlife Conservation for Development (WCD) Integrated Programme. The two projects have been planned and designed to complement each other, and will be carried out in the same landscape during the same time frame. Close coordination will be achieved between the Ministry of Green Economy and Environment, who are responsible for the KaF-Adapt project, and the Department of National Parks and Wildlife (in the Ministry of Tourism), who are responsible for the KaF-Wild project. The two projects will share one single Project Steering Committee, with two Project Technical Committees underneath it, one for each project. The two projects will also share a Project Management Unit, with sharing of key staff posts to maximize cost-effectiveness. There will be systems and practices in place to ensure that the budget allocations of KAF-Wild and KAF-Adapt are treated separately and are separately reported to the WWF GEF Agency, and from WWF GEF to the GEF Secretariat. The International Crane Foundation will handle the financial administration for both the KaF-Adapt and KaF-Wild projects on behalf of the Ministry of Green Economy and Environment and the Ministry of Tourism, at the request of these two Ministries, as well as some technical delivery of the project.



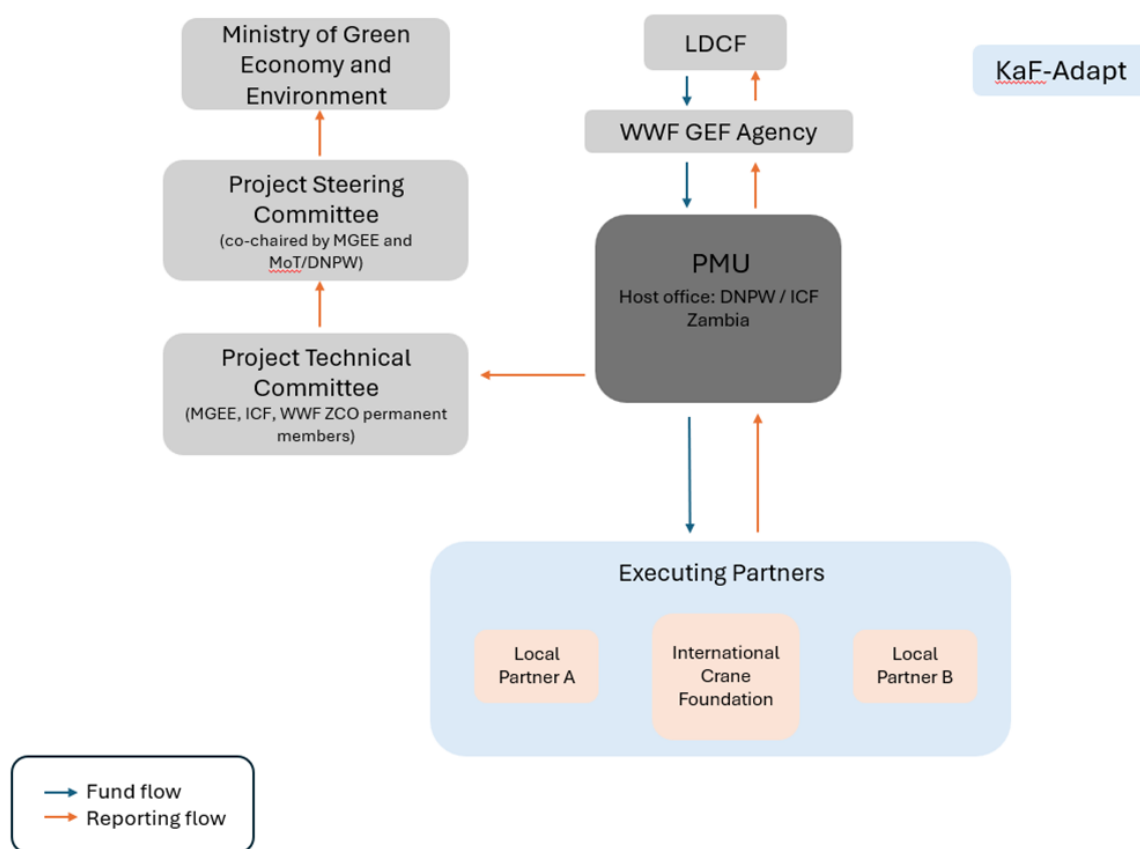


Figure 6: Diagrams of implementation arrangements

The proposed executing structure for KaF-Adapt (Figure 6) includes WWF as the GEF Agency, the Ministry of Green Economy and Environment (MGEE) as Lead Executing Agency, with ICF Zambia providing financial administration and procurement services, as well as some technical delivery of the project. In coordination with government, and with approval from the Project Steering Committee, ICF will sub-grant to project delivery partners, to be identified during project implementation.

MGEE and ICF will carry out due diligence of potential local sub-grant partners, reviewing their past performance and profiles before deciding whether or not to contract them, and based on GEF and WWF policy requirements and standards. The selected sub-grantee organizations will develop detailed work plans and budgets, to be reviewed and approved first by MGEE and ICF, and then by the Project Steering Committee. Contracts will then be developed with each sub-grant partner, countersigned by the partner, ICF and MGEE.

Project Management Unit

A joint Project Management Unit (PMU) will be established to conduct the day-to-day operations and coordination of the KaF-Wild and KaF-Adapt projects. The PMU will be housed in the project landscape, most likely in new DNPW offices at Blue Lagoon National Park that are currently under construction with co-finance to the project through ICF. The joint PMU will have a total staff of 8 people contributing to KaF-Adapt (and one exclusively for KaF-Wild). This includes 4 full-time staff members who will service both the KaF-Wild and the KaF-Adapt project functions, and will be recruited competitively: (1) Project Manager and Technical Coordinator, (2) Safeguards and Gender Officer, (3) Monitoring & Evaluation and Learning

Officer, (4) Finance & Administration Officer. In addition, the PMU will be supported by 3 part-time staff members: (5) Procurement Officer, (6) Communications Officer, and (7) Driver.

In addition, a Climate Officer will service the KaF-Adapt project (and a Wildlife Specialist will service the KaF-Wild project). TORs for PMU positions can be found in separate Annex K.

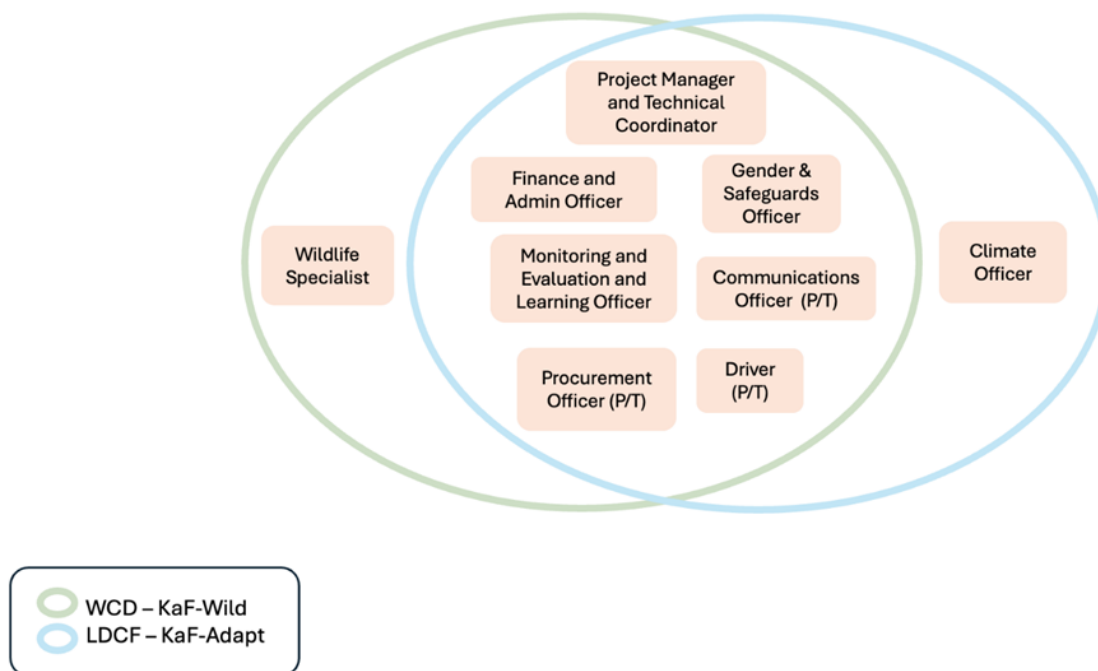


Figure 7: Diagram of Project Management Unit

The PMU will administratively and technically report to and be accountable to MGEE and will coordinate with the focal point in ICF. ICF will undertake the financial administration and procurement for the PMU, including making sub-grants to sub-grantees to be selected through a process facilitated by the Project Steering Committee. The Finance & Administration Officer, Procurement Officer and Communications Officer will be hosted by the ICF office in Lusaka. The structure of the joint PMU is shown in Figure 7.

In relation to the KaF-Adapt project, 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), Project Steering Committee (PSC) 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.

Project Technical Committee

A Project Technical Committee (PTC) will be constituted to provide technical expertise and inter-sectoral coordination at national level, for the KaF-Adapt project. The composition of the PTC shall include focal points from MGEE, ICF as permanent members, with technical experts from other relevant line ministries and partners, including WARMA, the Ministry of Fisheries and Livestock, the Ministry of Water Development and Sanitation, the Ministry of Lands and Natural Resources, and the Ministry of Small and Medium Enterprises, brought in as needed. WWF ZCO will join as observers. Also to be brought in as relevant to the project year shall be all local partners who are sub-grantees responsible for executing particular outputs of the project. This committee will review the Annual Workplan and Budgets, Procurement Plan and Annual Progress Reports for submission to the WWF GEF Agency for review and no-objection prior to submission to the Project Steering Committee for review and approval.

Project Steering Committee

A Project Steering Committee (PSC) will be constituted to serve as the oversight, advisory and high-level decision-making body for the project. The PSC will be co-chaired by the Permanent Secretary in charge of the Ministry of Green Economy and Environment (MGEE) and the Permanent Secretary in charge of the Ministry of Tourism. Core members will include the Director of Green Economy and Climate Change in MGEE, the Director of National Parks and Wildlife in the Ministry of Tourism, Provincial Permanent Secretary – Southern Province, Provincial Permanent Secretary – Central Province, GEF Operational Focal Point, Director of Livestock Development and Veterinary Services in the Ministry of Fisheries and Livestock, Director of Water Resource Development in the Ministry of Water Development and Sanitation, member of Academia (University of Zambia), the Provincial House of Chiefs Chair, Vice President International - Director of Africa of the International Crane Foundation, and WWF ZCO and GEF Agency as observers. Other members shall be co-opted from the government line ministries, cooperating partners, NGOs, CBOs and other institutions as project needs arise. The PSC will ensure that the project remains on course to deliver the desired outcomes of the required quality. The PSC provides overall guidance and policy direction to the implementation of the KaF-Wild and KaF-Adapt projects and provides advice on appropriate strategies for project sustainability. The PSC 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.

As shown in the table below, the International Crane Foundation (ICF) will be responsible for delivery of seven of the 13 planned KaF-Adapt project outputs. MGEE will provide guidance through the Project Steering Committee to ICF and local partners on their execution of outputs. Five outputs will be delivered by local partners as sub-grantees.

Table 5: Proposed roles in executing KaF-Adapt project outputs

Outputs	Executing partner / sub-grantee
1.1.1 Community dialogue on climate challenges and traditional knowledge to inform adaptation solutions	MGEE, with technical support from ICF
1.1.2 Mainstreaming adaptation solutions into district and landscape management plans	MGEE, with technical support from ICF
2.1.1 New solar-powered sustainable boreholes and water facilities for communities and livestock	MGEE, supported by ICF (with MWDS and WARMA)
2.1.2 Doing earthworks for in-field rainwater harvesting in drought-vulnerable communities	MGEE, supported by ICF
2.1.3 Rehabilitating dams, and constructing check dams on seasonal rivers and streams to enhance water availability, infiltration and flood control	MGEE, supported by ICF (with MWDS and WARMA)
2.2.1 Establishing or strengthening resource management committees and planning for holistic, climate-resilient livestock farming	MGEE, supported by Local NGO #1 (with MFL)
2.2.2 Capacity development with pastoralists for climate-adaptive holistic rangeland management, incorporating traditional knowledge	MGEE, supported by Local NGO #1 (with MFL)
2.2.3 Training and technical assistance to grow fodder grass and reseed grasslands	MGEE, supported by Local NGO #1
3.1.1 Empowerment of women's cooperatives to establish new climate-adaptive enterprises	MGEE, supported by Local NGO #2
3.1.2 Development of livestock-based value addition enterprises for climate resilience	MGEE, supported by Local NGO #2 (with MFL, and MSMED)
4.1.1 Interviews and consultation on evolving climate change impacts	MGEE, with technical support from ICF
4.1.2 Engaging youth to track indicators of resilience to climate change	MGEE, supported by ICF (with WARMA)
4.2.1 Capturing lessons learnt and facilitating knowledge exchanges between communities	PMU
M&E. Effective M&E system including gender monitoring with data collection, reflection and timely reporting for result-based decision-making and adaptive management	PMU

Implementing Agency

WWF-US, through its WWF GEF Agency and in coordination with WWF Zambia 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, and 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.

Will the GEF Agency play an execution role on this project?

No

If so, please describe that role here and the justification.

Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing (max. 500 words, approximately 1 page)

Coordination with co-financiers and key related initiatives will be undertaken through an annual meeting of all the donors, conservation agencies and NGOs working on conservation and development initiatives in the Lower Kafue Basin, to be facilitated by the International Crane Foundation. The annual meeting will have the following goals: (i) to share information about the various initiatives, progress and lessons learnt; (ii) to achieve coordination and synergy between the initiatives where there are shared objectives, themes or geographical areas; and (iii) to avoid unnecessary geographical overlap, duplication or even contradictory activities in the landscape. In addition, there will be quarterly engagement, through the joint Project Management Unit for the KaF-Adapt and KaF-Wild projects, with two key co-financed initiatives in the Kafue Flats – the work being done by GIZ through the EUR14 million AWARE 2.0 project, funded by the European Union and the German Government, in integrated water resources management across four sub-catchments in the Lower Kafue Basin, and the work of The Nature Conservancy (TNC) in Nkala and other GMAs, supporting DNPW and African Parks, through the USAID-funded^[1]¹⁴ \$21 million Eastern Kafue Nature Alliance.

^[1] Future of this funding, scheduled to run until 2026, potentially subject to US President's January 2025 Executive Order on Reevaluating and Realigning United States Foreign Aid.

Core Indicators

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

META INFORMATION – LDCF

LDCF true	SCCF-B (Window B) on technology transfer false	SCCF-A (Window-A) on climate Change adaptation false
Is this project LDCF SCCF challenge program? false		
This Project involves at least one small island developing State(SIDS). false		
This Project involves at least one fragile and conflict affected state.		

false

This Project will provide direct adaptation benefits to the private sector.

true

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).

false

This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund

Adaptation Fund

Pilot Program for Climate Resilience (PPCR)

false

false

false

This Project has an urban focus.

false

This project will directly engage local communities in project design and implementation

true

This project will support South-South knowledge exchange

false

This Project covers the following sector(s)[the total should be 100%]: *

Agriculture	20.00%
-------------	--------

Nature-based management	0.00%
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Climate information services	0.00%
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Coastal zone management	0.00%
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Water resources management	40.00%
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Disaster risk management	40.00%
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Other infrastructure	0.00%
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Tourism	0.00%
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Health	0.00%
--------	-------

Other (Please specify comments)	0.00%
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Total	100.00%
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This Project targets the following Climate change Exacerbated/introduced challenges: *

Sea level rise	Change in mean temperature	Increased climatic variability	Natural hazards
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false

true

true

true

Land degradation	Coastal and/or Coral reef degradation	Groundwater quality/quantity
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true

false

true

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1				
Total number of direct beneficiaries	7,560	3,903.00	3,657.00	48.37%
CORE INDICATOR 2				
(a) Area of land managed for climate resilience (ha)	25,000.00			
(b) Coastal and marine area managed for climate resilience (ha)	0.00			

CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	6.00			
CORE INDICATOR 4 Number of people trained or with awareness raised	2,920	1,480.00	1,440.00	49.32%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience	9.00			

SUB INDICATOR 1

	Total	Male	Female
1.1 Number of direct beneficiaries from more resilient physical and natural assets	4500	2,250	2,250
1.2 Number of direct beneficiaries with diversified and strengthened livelihoods and sources of income	3060	1,653	1,407
1.3 Number of direct beneficiaries from the new or improved climate information services including early warning systems	0	0	0
1.4 Number of youth (15 to 24 years of age) benefiting from the project	0	0	0
1.5 Number of elderly (over 60 years of age) benefiting from the project	0	0	0
1.6 Increased income, or avoided decrease in income (per capita in \$ across all relevant beneficiaries)	0		

SUB-INDICATOR 2

2.1 Hectares of agricultural land

0

2.2 Hectares of urban landscape

0

2.3 Hectares of rural landscape

25,000

2.4 Hectares of forests

0

2.5 Hectares of marine area

0

2.6 Hectares of freshwater area

0

2.7 Number of residential houses

0

2.8 Number of public buildings

0

2.9 Number of irrigation or water structures

0

2.10 Number of fishery or aquaculture ponds or cages

0

2.11 Number of ports or landing sites

0

2.12 Km of road

0

2.13 Km of riverbank

0

2.14 Km of coast

0

2.15 Km of stormwater drainage

0

2.16 Number of new adaptation technologies supported

0

SUB INDICATOR 3

3.1 Number of policies/plans developed and strengthened that will mainstream climate resilience
(regional, national, sub-national)

6

3.2 Number of systems and frameworks established for continuous monitoring, reporting and review of climate adaptation impacts

0

3.3 Number of national climate policies and plans enabled, including national adaptation planning processes

0

3.4 Number of institutional partnerships or coordination mechanisms established or strengthened

0

3.5 Number of institutions with increased capacity to plan, implement, monitor, and report for climate adaptation

0

3.6 Number of institutions with increased capacity to attract, and manage climate adaptation finance

0

3.7 Number of local community organizations benefitting from and/or engaged in institution strengthening, partnerships, or financing

0

3.8. Number of climate risk and vulnerability assessments conducted

0

SUB INDICATOR 4

4.1 Number of people trained or made aware of climate change impacts and appropriate adaptation responses	Total	Male	Female
a) National government	30	20	10
b) Local government	45	30	15
c) Local community organizations	700	350	350
d) Extension services	30	20	10
e) Hydromet and disaster risk management agencies	15	10	5
f) School children, university students, and teachers	2000	1,000	1,000
g) Youth	100	50	50

SUB INDICATOR 5

	Total	Male	Female
5.1 Amount of investment mobilized (US\$) from private sector sources	0		
5.2 Number of entrepreneurs supported for climate adaptation or resilience	72	1	71
5.3 Total financial value of lines of credit and/or investment funds	0		
5.4 Number of MSMEs incubated/accelerated with technical assistance, financial matchmaking, and/or direct financing	9		

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	Moderate	Even though the project itself is designed to address climate change impacts, there is a risk that climate change is even more severe than anticipated (see future narratives section) in the Lower Kafue Basin, with drought years occurring multiple times during project implementation, and significant increases in peak temperatures, leading to increased crop failure and poor livestock health. This could cause further drying up of water sources, which might mean the scale of the project interventions is insufficient, and additional co-funding needs to be leveraged. Increased wildfire risk could mean that project fire management activities need to be intensified on this and the KaF-Wild project. This risk will be managed through an adaptive management approach in a joint steering committee.
Environmental and Social	Moderate	Failure of communities to buy in to the project, or lack of support by local chiefs in the seven chiefdoms of the Kafue Flats would jeopardize the project's efforts to achieve behaviour change towards rotational grazing and fire suppression. There is, however, a strong project emphasis on community capacity building and creation of livelihood opportunities that mitigates this risk (in addition to extensive consultations conducted during project preparation indicating support.
Political and Governance	Low	While the country is expected to stay stable following elections in 2026, shifting political priorities could mean that biodiversity conservation is deprioritized in the Kafue Flats in favour of mining and widespread fenced intensive cattle-rearing, jeopardizing the position of traditional pastoralists, as well as potential for wildlife-based tourism for diversifying incomes. This risk will be mitigated by project activities to keep climate-adaptive livelihoods and conservation on the agenda, in terms of the government's stated commitment to biodiversity conservation on the Kafue Flats as a Ramsar Site and Biosphere Reserve, and the collaborative management partnership agreement.
INNOVATION		
Institutional and Policy	Moderate	There is some uncertainty around how the Kafue Flats Beef Special Economic Zone will unfold, and the project makes provision to engage with all relevant stakeholders if and when this is implemented, making sure that communities' adaptation needs are on the table, especially need for additional veterinary support to cope with the increasing burden of livestock disease with climate change.
Technological	Low	There is a small risk of inappropriate approaches and techniques being used in the earthworks being constructed for in-field water harvesting, or in the provision of water infrastructure for climate change adaptation, including boreholes, earth dam refurbishments and construction of gabion check dams, resulting in a lack of success in harvesting additional water for the community.

		This risk is mitigated, however by the availability of recent examples of best practice that can be emulated and from which lessons can be learned (WWF, ISDP, By Life Connected, MWDS).
Financial and Business Model	Moderate	The business model proposed for the two livestock-based enterprises to be established through the project has not been tested by the implementing partners before, and runs the risk of not succeeding in setting up a sustainable business (and jobs) that last beyond the period of subsidy by the project. This is mitigated by the competitive selection of a local entrepreneur as a business partner who will co-invest alongside the GEF seed funding, with a real stake in the survival of the business post-project.
EXECUTION		
Capacity	Low	The risk of insufficient capacity in government to deliver on the project outcomes is mitigated through the project set-up, building on the collaborative management partnership of MGEE, WWF and ICF, whereby MGEE is supported in implementation of many of the project outputs by the International Crane Foundation, which has a proven track record in on-the-ground implementation with communities, traditional authorities and local government, as well as by local NGOs with good track record on implementation.
Fiduciary	Low	The risk of inadequate fiduciary standards or practice is mitigated through the project set-up, with MGEE supported on financial administration by ICF, which has a track record in execution of donor-funded projects, including GEF projects.
Stakeholder	Low	There is a risk that not all relevant stakeholders are engaged in project implementation, but this is mitigated by the project creating many opportunities for multi-stakeholder dialogue, with engagement of local government, traditional authorities communities, research institutes and the private sector at relevant points throughout the project, and the involvement of local sub-grant NGOs with existing track records and trust relationships with the communities, in carrying out the outputs on climate-resilient livelihoods and rangeland management.
Other		
Overall Risk Rating	Moderate	There are some risks to successful achievement of the project's outcomes, but there are mitigation measures built into the project's design to address all of these, and the project will take an adaptive management approach, adjusting activities as needed to achieve the intended outcomes in the face of evolving external drivers of climate change and biodiversity loss, as well as socio-economic shocks and stresses and political changes.

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Explain how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this. (max. 500 words, approximately 1 page)

Alignment with LDCF programming strategies

The proposed project is aligned with the GEF Programming Strategy on Adaptation to Climate Change for the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) for the GEF-8 period. The KaF-Adapt project tackles three of the four themes that are highlighted in the strategy as of particular interest to LDCF and SCCF, in that they “build on areas of high impact, articulated national priorities, and experience of the two funds, with potential for transdisciplinary interventions that can catalyse change and enable systemic shifts. These themes also recognize the interdependency between human well-being and a healthy environment, well-aligned with the framework of Healthy Planet, Healthy People proposed in the GEF-8 programming directions of the GEF Trust Fund”.

Theme 1: Agriculture, Food Security, and Health

In line with the GEF-8 LDCF heightened focus on community well-being, the KaF-Adapt project focuses on vulnerable agro-pastoralist communities in the Kafue Flats landscape. The project supports adaptation in the context of food security and health, aligned with the concept of agroecological transformation, including improvements in ecosystem management (through in-field water harvesting and climate resilience livestock and rangeland management), food value chains (through support to women's cooperatives on planting of fruit trees, and processing of fish and other food products), and livelihoods (through enhancing household incomes from cash-for-work opportunities and jobs in livestock based enterprises).

Theme 2: Water

The GEF-8 LDCF/SCCF strategy highlights that ensuring sufficient, timely and reliable access to water is a key element of adaptation, with pressure on the global water cycle intensifying – as global temperatures rise, with precipitation and surface water flows projected to become more variable over most land regions within seasons, and from year to year. The KaF-Adapt project has as a key strategy the enhancement of freshwater quality and quantity via integrated water resources management interventions that mainstream climate resilience, including support for ways to capture and store water in the landscape, e.g. ponds, swales, dams; and enable easier and more reliable access to water (solar boreholes, low-tech check dams). The project's focus on integrated water resources management, includes interventions in the landscape to help replenish ground water levels and ensure sustainability of water and grazing resources in this region.

Theme 3: Nature-Based Solutions

Nature-based solutions (NBS) have been a cornerstone of the GEF's adaptation portfolio since inception, with high potential to contribute to resilience of people and ecosystems, as well as to biodiversity conservation and climate change mitigation. Interventions to promote climate-resilient holistic rangeland management in the KaF-Adapt project, including restoring the quality of grazing through reseeded grasslands with palatable species, as well as interventions on wetland restoration in the sister KaF-Wild project, will together enhance ecosystem resilience and reduce vulnerability to droughts and floods that are induced or exacerbated by climate change. The project's support to communities to establish new climate-resilient nature-based livelihoods, and scale these up through accessing the Constituency Development Fund, can also be seen as a nature-based solution to climate change challenges.

Facilitating transformational adaptation

In terms of the LDCF/SCCF strategy, enabling “transformational adaptation” is seen as depending on levers which can catalyze action through identified entry points, themes and scales of interventions across vulnerable systems. The strategy emphasizes three key transformation levers, which the KaF-Adapt project addresses as follows:

Policy coherence and mainstreaming of climate adaptation: Mainstreaming adaptation and climate resilience in national and subnational policies, plans and budgets has been an important focus of preceding phases of LDCF and SCCF programming, and remains an important thrust for adaptation support in GEF-8. Through the KaF-Adapt project and its sister KaF-Wild project, emphasis will be placed on policy coherence for maximizing Community-based Natural Resource Management (CBNRM) approaches. Climate change adaptation solutions developed and tested by the community, will be mainstreamed into the Integrated Development Plans of the six districts into which the Kafue Flats Game Management Area (GMA) falls. The project will also work to achieve policy coherence between Zambia's stated goals for biodiversity conservation and climate change adaptation in the Kafue Flats on the one hand, and the objectives of a recent Cabinet announcement of intention to declare the Kafue Flats as a Beef Special Economic Zone, to commercialize livestock production and raise productivity.

Strengthened governance for adaptation: The KaF-Adapt project will tackle adaptation action primarily at local scale – developing capacity of community groups including women's cooperatives, herders' associations, Village Action Groups and Community Resource Boards, as well as leaders such as headmen and headwomen, and chiefs. It will also promote strengthened governance through developing capacity of Ward Development Committees, which will have a say on the siting of water infrastructure (dams, boreholes, ponds, swales etc). The project will enhance community engagement with officials in the district administrations, especially from the water and livestock line departments. Strengthening of governance will include establishment of dam and borehole management committees, including women and youth, and resource management committees for overseeing the climate-resilient holistic rangeland management work.

Knowledge exchange and collaboration: Since the KaF-Adapt project is a medium-sized project with limited resources, establishing pathways for replication and scale-up is essential to achieving a lasting effect. This will be achieved through sharing of knowledge, through stimulation of further collaboration, and through leveraging of additional resources, for example, through the Constituency Development Fund (CDF). The importance of knowledge exchange as a key vehicle for innovation and technology transfer is acknowledged, with project budget provided for communities to visit and learn from each other on best practice adaptation solutions, pioneering approaches and experience of what works and what does not. Collaboration between communities, local government and local entrepreneurs will be promoted through formation of new partnerships for enterprise and livelihood development.

Alignment with country priorities

The KaF-Adapt project contributes to Zambia's fulfilment of a number of the Sustainable Development Goals (SDGs). SDG 1 (no poverty) will be supported through Component 2 and 3, SDG 2 (zero hunger) will be supported through livestock value chains and access to climate-resilient livelihoods, SDG 6 (clean water and sanitation) will be supported through investments in water infrastructure, SDG 13 (climate action) will be supported through the project's overall goal of promoting locally-led solutions for climate change adaptation, and SDG 15 (life on land) will be supported indirectly by reducing pressure on wildlife habitat near the two national parks.

The project is well aligned with country priorities for climate change adaptation and sustainable development, as set out in relevant national policies, strategies and plans. Key elements of the policy and legislative framework that are of most direct relevance for the project are highlighted here:

Zambia Vision 2030: The National Long Term Vision 2030, developed in 2006, was Zambia's first ever written long-term plan, expressing the Zambian people's vision to become "a prosperous middle income nation by 2030". It stated that by 2030, Zambians aspire to live in 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. Targets are set out for accelerated economic growth, moderated inflation, decelerated population growth, reduced income inequality, and improved access to water and sanitation. Strategies to eliminate hunger, food insecurity and malnutrition are set out; to make agriculture, forestry and fisheries more productive and sustainable; to reduce rural poverty; and to promote gender equality, including economically empowering women through acquisition and ownership of titled land.

8th National Development Plan (2022-2026): The Eighth NDP provides an avenue for catalyzing the nation's response to addressing the developmental challenges over the 2022-2026 period in the quest to attain the Vision 2030, SDGs and other regional and international commitments. Recognizing the many causes of environmental degradation, but also the opportunities for green growth, the Government of Zambia has placed environmental sustainability as one of four focus areas of the Plan, which recognizes that there is a growing

opportunity to sustainably develop the nature-based economy to generate revenues, jobs and investments in the country. The KaF-Adapt project is supporting all three Strategic Development Areas (SDAs) as follows:

SDA 1: Economic Transformation and Job Creation

- Water is a key sector prioritized within the 8th NDP. The project is investing in the water sector.
- *Strategy 1: Increase agricultural production and productivity.* The project aims to increase livestock productivity through establishing community-managed rangeland management, and extension services.
- *Strategy 3: Promote value chains and manufacturing.* The project is laying the groundwork for climate resilient value chains.
- *Strategy 8: Enhance management and productive use of water resources.* The project will align to two out of six programmes identified in the plan i.e. water harvesting, aquifer and water source protection. It may indirectly also contribute to the program on groundwater resources development and management.

SDA 2: Human and Social Development

- *Development outcome 3, Strategy 1- Improved water supply and sanitation.* The project will improve access to water through climate resilient water supply infrastructure development and maintenance. The project will also build capacity for communities and local governance structures to access the Constituency Development Fund (CDF).

SDA 3: Environmental Sustainability.

- *Development outcome 1, Strategy 1 Strengthen climate change adaptation.* The project will include communities in activities such as water harvesting and integrated water resource management, nature-based value chains and livelihoods.
- *Development outcome 2, Strategy 2- Enhance natural resource management.* The project will align itself with government programs in sustainable land management and community based natural resource management.

National Decentralization Policy, 2023: Zambia's National Decentralization Policy involves devolution, a form of decentralization which entails the transfer of rights, functions and powers or an office from the central government or State institution to a sub-national authority, or the bringing of a service that is provided at central government level to the sub-national level. The policy aims to improve service delivery and citizen participation in sustainable development through decentralization, and was first approved in 2002, revised in 2016, and most recently in 2023. The Policy envisions “citizen-driven local governance within a unitary State for sustainable development”, and provides for a devolved system of participation in local development. It highlights the role of Ward Development Committees in providing the institutional arrangement for depoliticized community engagement, in setting local investment priorities and facilitating economic activities at the grassroots, and the importance of mobilizing and engaging stakeholders and the community,

particularly women, youths and the vulnerable, in programme implementation and public service delivery. The KaF-Adapt project will be developing the capacity of Ward Development Committees to support the siting and maintenance of water infrastructure, and will be promoting access by communities on the Kafue Flats to the Constituency Development Fund, whose expansion from 2022 forms a key pillar of the policy.

Nationally Determined Contribution (NDC) 2021: Zambia's NDC to the Paris Agreement is a revised and updated version of the first NDC, submitted in 2016, and includes both mitigation and adaptation components. Adaptation actions in this NDC are focused on strategic productive systems (agriculture, wildlife and water); strategic infrastructure and health systems; and enhanced capacity building, research, technology transfer and finance for adaptation. The report states that the country requires substantial resources to meet the means of implementation of these interventions. The KaF-Adapt project is working in two of the three strategic productive systems – agriculture (through livestock related activities), and water, and its “sister” KaF-Wild project is working in the third system – wildlife. The KaF-Adapt project will integrate adaptation practices into the livestock sector, protecting and conserving water catchment areas including investment in water capture and storage. The project will take an ecosystem-based approach in the Lower Kafue which fits the landscape approach at the watershed level mentioned in the NDC 2021.

National Adaptation Plan for Zambia (NAP) October 2023: Zambia completed its NAP in late 2023. The plan recognizes the vulnerability of the economy to climate change and sets out adaptation actions that Zambia must take in response to four climate hazards: droughts, floods, high temperatures and windstorms. The NAP highlights drought-influenced vulnerabilities across different categories, those relevant to this project area – **environment** – loss of natural resource base, **social** – reduced water quality and quantity because of drought, **human** – reduced water availability, increased incidence of climate-sensitive disease, and increased human-wildlife conflict, **financial** – loss of income from agriculture, livestock, and fisheries due to reduced productivity. In relation to flood damage to water sources, the NAP mentions the threat of increased personal risk for women and adolescent girls in search for clean water. The NAP emphasizes an entry point in integrating climate change adaptation and gender in annual budgeting and sectoral plans. The KaF-Adapt project is undertaking actions described in the NAP to increase climate change adaptation. It is also addressing the vulnerabilities to drought and recommended actions including rangeland management, water catchment protection and conservation, and promoting artificial groundwater recharge, to tackle environmental vulnerability to drought. Additionally, to address social vulnerabilities related to water insecurity, the project will support the construction of new and rehabilitation of existing dams in accordance with climate-smart codes and standards, enhance water management and improve water harvesting techniques. The project will also support the development of participatory village/ chiefdom land use plans and provision of water points for communities which is also an importation action mentioned in the NAP. On integrating climate change adaptation into the broader policies and sectoral plans, the project will facilitate awareness and capacity building at the local level and integration of adaptation actions into Integrated Development Plans at district level.

National Policy on Climate Change, 2016: This policy has been developed to support and facilitate a coordinated response to climate change issues in the country, enabling Zambia to re-align its climate-sensitive sectors of the economy and its society to meet its development goals through adaptation and mitigation interventions. The policy highlights how floods and droughts have increased in intensity and frequency, leading to food and water insecurity, water quality, energy, and sustainable livelihoods of rural communities.

The policy conducts a situation analysis of the sectors in Zambia impacted by climate change including water, agriculture, forestry, wildlife, tourism, mining, energy, and health. The KaF-Adapt project is supporting communities in the Kafue Flats to address water insecurity and sustainable livelihoods, which are both hindered by climate hazards. Doing so, it will contribute to the Vision under this Policy of “A prosperous and climate resilient economy by 2030”. The measures highlighted in the policy that will be included in the project include promoting sustainable land use plans, promoting a landscape/ ecosystem-based approach, and improving fodder quality (as well as reducing human-wildlife conflict – tackled through the “sister” KaF-Wild project). The project will promote the protection of water catchment areas, including the development of water infrastructure storage, management, and utilization of water resources. Finally, the project will also promote communication and dissemination of climate change information to enhance awareness of the impacts. It will improve the participation of women and youth in climate change programmes and promote gender equity in access to climate finances.

Climate Change Gender Action Plan of the Republic of Zambia, 2018: The priority sectors of this Plan include Sustainable agriculture and food security; Health; Forests, including, Protected Areas, REDD+, biodiversity and wildlife; Water security, Disaster risk reduction, preparedness and resilience; Infrastructure; Energy; and Tourism. Key activities that support gender mainstreaming in the strategy that also align with the KaF-Adapt project include developing the capacity of women and women’s organizations to be able to access climate finance. Additionally, the strategy talks about how women are responsible to collect water and through the project’s activities, and the importance of ensuring easy access to water, such that the time it takes to collect water is reduced, freeing up time for relaxation, or to pursue school or other income generation activities.

Water Resources Management Act of 2011: This Act helped establish the Water Resources Management Authority (WARMA). The Act devolves authority to Catchment Management Councils (CMCs), Sub-Catchment Councils (SCCs), and Water Associations (WUAs). Many of these structures are yet to be in effect, but the 1.0 phase of the GIZ-supported AWARE project did facilitate the creation and capacity development of four WUAs in the Lower Kafue Basin. The Policy sets clear and coherent measures to guide the development and implementation of national strategies and programmes to achieve improved water supply and sanitation. Although the KaF-Adapt project does not have capacity building initiatives at the national level with WARMA, since other initiatives are already undertaking such work, the project will work closely with WARMA prior to the installation of the water infrastructure, drawing on WARMA’s hydrological expertise, and applying to WARMA for permits wherever necessary. It will also help improve access to water for rural communities which is one of the strategies of the Act.

Water Investment Program 2022-2030: The goal of the Zambia Water Investment Programme (ZIP), a deliverable of the Eighth NDP, is to transform and improve the investment outlook for water security and sustainable sanitation in Zambia. The KaF-Adapt project supports ZIP’s two investment focus areas: (i) resilience building through water investment and (ii) water governance and institutional strengthening. Within the investment focus areas, this project supports:

- Component 3: Sustainable water supply and sanitation for community resilience – through investments in water supply infrastructure.

- *Component 4: Building climate resilience* – through improving water storage and artificial recharge to support livelihoods.
- *Component 5: Environmental Sustainability* – through protection and conservation of water catchment areas (Kafue) and preserving and conserving wetlands.

Ministry of Fisheries and Livestock Strategic Plan 2020-2021: The Strategic Plan was aligned to the 7th NDP and serves as a building block for the attainment of Vision 2030. It also served as the basis for the development of the 8th NDP. The plan lays out the mandate of the Ministry of Fisheries and Livestock (MFL) as well as the challenges and national programmes relevant to these economic sectors. The plan highlights the comparatively good performance of the livestock sector relative to other parts of the economy around that time, as a result of favourable government policies such as enhanced extension services, improved animal disease control and the introduction of climate smart breeds, although these have not been widely achieved in the Kafue Flats. The plan lays out some challenges related to declining Ministry budget in completing fisheries and livestock infrastructure development such as dip tanks, checkpoints, milk collection centres, and others. It also suggests actions that it can take to help the livestock sector deal with the challenges related to climate change, especially drought. In alignment with the plan, the KaF-Adapt project will guide animals in search of water away from game areas (a problem identified in the Plan) through providing additional upland watering points, and support the participation of women in the sector by aligning to the National gender policy. It will also work with commercial partners to support value addition, and project co-finance will support marketing for livestock. Finally, the project will enhance sensitization of sustainable livestock management practices to build capacity on climate change adaptation, which is also an important aim of the Ministry.

National Livestock Development Policy 2020: The Government has developed a National Livestock Development Policy, which outlines the vision of the Government and its aspiration to be “a smart and value-centered livestock industry”. The Policy states that livestock production systems predominantly are smallholder systems constrained by poor access by animals to watering points, diseases, and poor animal husbandry practices, compounded by climate change. The Policy provides a mechanism to strengthen the management of rangelands and livestock water resources through the promotion of extension services and good grazing practices. The KaF-Adapt project will support many of the mechanisms provided in the strategy with the most important being the sustainable, climate resilient management of rangelands and livestock water resources. The project will build resource management committees and other means to support good grazing practices, including exchange visits between communities in the target landscape participating in activities to build climate-resilient holistic rangeland management.

Zambia’s Second National Biodiversity Strategy and Action Plan (NBSAP-2): This sets out Zambia’s plan for achieving its commitments to the United Nations Convention on Biological Diversity (CBD) and the Kunming-Montreal Global Biodiversity Framework, for the period 2015-2025. Its main goal is to achieve that, by 2025, biodiversity is valued, conserved, restored and wisely used, as well as maintaining ecosystem services, sustaining a healthy environment and delivering benefits essential for all Zambians and the Zambian economy. This involves actions to address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society; to reduce the direct pressures on biodiversity and promote

sustainable use improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity; and to enhance the benefits to all from biodiversity and ecosystem services. KaF-Adapt will indirectly support the NBSAP's Strategic goal D.15 "By 2025, Zambia takes deliberate actions to protect critical ecosystems of the Zambezi, Kafue, Chambeshi, Bangweulu and Luangwa watersheds".

Zambia's Land Degradation Neutrality Targets: As set out in Zambia's National Report to the United Nations Convention on Combating Desertification (UNCCD), Zambia aims to achieve land degradation neutrality by 2030, in other words a balance between degradation and restoration whereby there is no net loss of land productivity. This involves targets that by 2030 Zambia will: reduce the deforestation rate by at least 50%; maintain or improve soil organic carbon (no net loss); increase good agricultural practices from 600,000 ha in 2015 to 1,000,000 ha; integrated land use planning adopted and practiced across the nation; catchment management plans developed for the six major catchments incorporating measures to prevent land degradation; production of timber wood fuel, including charcoal, strengthened and regulated compared to 2015. Most critical for the KaF-Adapt project is the target that by 2030, Zambia "shall seek to halt land use change of wetlands and ecologically sensitive areas (no net loss)".

National Policy on Wetlands: Wetlands in Zambia are currently threatened with degradation. The policy explains the threats to Kafue Flats by mentioning the invasive plant *Mimosa pigra* that has spread and occupies significant proportions of the floodplains resulting in the displacement of animal species, blocking of waterways and reducing the availability of food for wildlife and domestic animals, as well as impeding access to fishing grounds. The activities in the KaF-Adapt project on holistic rangeland management are complemented by wetland restoration and invasive removal (as well as value chains based on the cleared biomass) through the "sister" KaF-Wild project. Wetlands mitigate the impact of climate change and thus aligning to the National Wetland Policy is important to the project.

Additionally, the project contributes to:

- Objective 6.1.1: To conserve wetland ecosystems so as to ensure their integrity, productivity and sustainability. This will be done through the land use / zoning plan per chiefdom.
- Objective 6.1.2: To protect the wetlands and their catchment areas and improve the resilience of wetland systems to natural and anthropogenic shocks. This will be achieved through investment in rangeland management and water supply to livestock away from the threatened wetland ecosystem.
- Objective 6.2.1: To promote and support sustainable livelihood options in order to ensure productivity while protecting wetland resources. This will be done through the clearing of *Mimosa pigra* in KaF-Wild, but also through encouraging communities in small and medium nature-based enterprises in Kaf-Adapt, including the option of basketmaking with invasive reeds by women's cooperatives.
- Objective 6.2.2: To promote stakeholder participation in effective management of wetlands and ensure equitable sharing of benefits. This will be achieved through supporting traditional leadership in encouraging participation of community members in climate adaptation.

Other relevant pieces of national legislation include:

- **Environmental Management Act, 2011.** Promotes best practices in environment and natural resources management.
- **Tourism and Hospitality Act, 2015.** The Act provides for sustainable development of tourism and environmental management and protection.
- **National Heritage Conservation Commission Act, 1989.** Provides for protection, conservation and management of fauna and flora.
- **Forests Act, 2015.** Promotes conservation and management of forests and trees. Rationalization of exploitation of forest resources and promotion of sustainable forest management.
- **Energy Regulation Act, 1995.** Regulates energy use, which also includes charcoal and forest products and promotes renewable energy.
- **Mines and Mineral Development Act, 2008.** Safe and environmentally-friendly mining.
- **Agricultural Lands Act (Cap. 187).** Makes provision on practices, development, investment and management of cropland.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed during Project Preparation as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

1) Does the project expect to include any gender-responsive-measures to address gender gaps or promote gender equality and women's empowerment?

Yes

If the project expects to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment, please 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

Yes

Generating socio-economic benefits or services for women.

Yes

2) Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during Project Preparation as required per GEF policy, their relevant roles to project outcomes has been clearly articulated in the Project Description (Section B) and that a Stakeholder Engagement Plan has been developed before CEO endorsement.

Yes

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier; Yes

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor; Yes

Other (Please explain)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided information regarding Environmental and Social risks associated with the proposed project or program, including risk screenings/ assessments and, if applicable, management plans or other measures to address identified risks and impacts (this information should be presented in Annex E).

Yes

Please provide overall Project/Program Risk Classification

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described during Project Preparation in the Project Description and that these activities have been budgeted.

Yes

Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate and these benefits translate in supporting the achievement of global environmental benefits (GEF Trust Fund) or adaptation benefits (LDCF, SCCF). This section identifies the direct beneficiaries from the project.

The project description outlines the socio-economic benefits to be delivered by the project, which will be monitored and reported on during project implementation (through the annual project progress reports and mid-point and terminal evaluations). Socio-economic benefits will derive from social inclusion, as women and youth are involved in decision-making and new livelihoods opportunities. Economic benefits will be derived from engagement by youth in cash-for-work opportunities, and involvement by women's cooperatives in new nature-based livelihoods. Larger scale enterprises based on livestock value chains will also create jobs and bring economic growth to the area. New diversified income streams for households will enhance their resilience in the face of external shocks and stresses, and improved incomes should also enhance nutrition and health status to an extent.

ANNEX A: FINANCING TABLES

GEF Financing Table

Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional / Global	Focal Area	Programm ing of Funds	Grant / Non- Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
WWF-US	LDCF	Zambia	Climate Change	LDCF Country allocation	Grant	2,432,110.0 0	218,890 .00	2,651,000.00
Total GEF Resources (\$)						2,432,110.0 0	218,890 .00	2,651,000.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

100000

PPG Agency Fee (\$)

9000

GEF Agency	Trust Fund	Country/ Regional / Global	Focal Area	Programming of Funds	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
WWF-US	LDCF	Zambia	Climate Change	LDCF Country allocation	100,000.00	9,000.00	109,000.00
Total PPG Amount (\$)					100,000.00	9,000.00	109,000.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
Total GEF Resources (\$)					0.00

Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCA-1-1	LDCF	2,432,110.00	5,587,200.00
Total Project Cost (\$)		2,432,110.00	5,587,200.00

Confirmed Co-financing for the project, by name and type

Please include evidence for each co-financing source for this project in the tab of the portal

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Green Economy and Environment	In-kind	Recurrent expenditures	1,566,000.00
Recipient Country Government	Ministry of Water Development and Sanitation	Grant	Investment mobilized	500,000.00
Recipient Country Government	Ministry of Water Development and Sanitation	In-kind	Recurrent expenditures	1,000,000.00
GEF Agency	WWF-US	In-kind	Recurrent expenditures	331,200.00
Civil Society Organization	WWF Zambia	Grant	Investment mobilized	200,000.00
Civil Society Organization	WWF Zambia	In-kind	Recurrent expenditures	500,000.00
Civil Society Organization	International Crane Foundation	Grant	Investment mobilized	600,000.00
Civil Society Organization	International Crane Foundation	In-kind	Recurrent expenditures	100,000.00

Civil Society Organization	Solidaridad	Grant	Investment mobilized	290,000.00
Civil Society Organization	Self Help Africa	Grant	Investment mobilized	500,000.00
Total Co-financing (\$)				5,587,200.00

Please describe the investment mobilized portion of the co-financing

Investment mobilized was identified as follows:

The Government of Zambia, through the Ministry of Water Development and Sanitation will be spending approximately \$500,000 over the five-year project implementation period (mid-2025 to mid-2030), on the sinking of boreholes, the construction of new dams, and the rehabilitation of damaged earth dams in the Mazabuka, Mumbwa, Monze, Namwala, Shibuyunji, and Itezhi-tezhi districts where the project is taking place, including through the World Bank-supported Irrigation Development and Support Project (IDSP). These investments will complement KaF-Adapt project investments and avoid overlap.

WWF Zambia will be investing \$200,000 (approximately \$50,000 per annum) on climate adaptation work under its Water Stewardship Project which focusses on farmer managed natural regeneration and soil erosion control in the face of climate change.

The International Crane Foundation (ICF), as executing partner with ongoing activities in the Kafue Flats and a long-term commitment under the Kafue Flats Restoration Partnership (based on a 20-year collaborative management agreement between the Department of National Parks and Wildlife, ICF and WWF), will be investing a total of US\$700,000 in support of the KaF-Adapt project objectives during the implementation period. This will entail US\$600,000 of ongoing investments in community engagement and ecological monitoring.

Solidaridad will be investing in the Hooves for Sustainability project, with support from the Helmsley Charitable Trust, promoting and implementing sustainable livestock management practices in the Mazabuka, Monze and Namwala districts. The investment will enhance 2,000 livestock producers' resilience to the effects of climate change, through holistic rangeland management, promoting access to finance and pricing information, and training on value addition opportunities for sustainable income.

Self Help Africa will be investing in Phase II of the 'PRESERVE Kafue' project, supported by Irish Aid, to improve the resilience, food, income and nutrition security of 4,500 households in the Monze, Namwala and Mazabuka districts of Zambia. This investment will facilitate the regeneration of degraded land, afforestation and tree planting, training of farmers to adopt climate-smart agricultural practices, and linkage to markets. The co-financing which shall be provided towards KaF-Adapt will be drawn from the activities being implemented under the 'PRESERVE Kafue' project in the three districts.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	3/26/2025	Astrid Breuer		astrid.breuer@wwfus.org

Project Coordinator	7/15/2025	Astrid Breuer		astrid.breuer@wwfus.org
Project Coordinator	7/22/2025	Astrid Breuer		astrid.breuer@wwfus.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name of GEF OFP	Position	Ministry	Date (Month, day, year)
Richard Mfumu Lungu	Operational Focal Point	Ministry of Green Economy and Environment	2/3/2025

ANNEX C: PROJECT RESULTS FRAMEWORK

Please indicate the page number in the Project Document where the project results and M&E frameworks can be found. Please also paste below the Project Results Framework from the Agency document.

#	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes/ Assumptions
	Project Objective: To reduce vulnerability of communities to water scarcity and promote adaptation through resilient livelihood development in the Kafue Flats									

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsib le	Frequenc y	Disaggregati on	Baselin e	Target Mid-term	Target Close	Notes/ Assumptions
A	Number of direct beneficiaries from more resilient physical and natural assets (LDCF Core Indicator 1, Sub-indicator 1.1)	<i>Direct beneficiaries</i> : This includes all members of households benefitting from more resilient assets <i>More resilient physical and natural assets</i> : Physical assets are in the form of infrastructure to improve water access; natural assets are in the form of grazing lands managed for climate resilience CUMULATIVE	Beneficiary registers for 1) water infrastructure provision and 2) natural resource management committee members, 3) livestock owners participating in capacity development on rangeland management	PMU MEL Officer with ICF	MEL Officer tracks and includes annual totals in PPRs, and then reports cumulative totals for mid-term and close	50% males 50% females in beneficiary households	0	1,800 (900 males; 900 females)	4,500 (2,250 males; 2,250 females)	Assumes that improved water infrastructure including boreholes and check dams, is appropriately sited and enhances community resilience in the face of drought, through enhancing water access for household use, irrigation of vegetable gardens and fodder pasture, and watering of livestock. Assumes that agreement is reached between pastoralists on how to manage grazing lands for drought resilience, including agreement on rotational grazing, active management of herds and prevention of unplanned fires, and reseedling of grasslands with palatable species. Also assumes this approach leads to enhanced rangeland productivity, even in the face of drought.

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsib le	Frequenc y	Disaggregati on	Baselin e	Target Mid-term	Target Close	Notes/ Assumptions
B	Number of direct beneficiaries with diversified and strengthened livelihoods (LDCF Core Indicator 1, Sub-indicator 1.2)	<i>Direct beneficiaries</i> : This includes both adults actively participating in livelihoods-related activities, and all members of their households. (excludes beneficiaries with improved livelihoods from greater rangeland productivity or water access) <i>Diversified and strengthened livelihoods</i>: This includes members of women's cooperative enterprises and staff of livestock-based enterprises, and participants in cash-for-work CUMULATIVE	Participant registers for 1) women's business leadership course, 2) payroll for cash for work opportunities, 3) Member list of women's cooperative enterprises and 4) payroll for new livestock-based enterprises	PMU MEL Officer with sub-grantee NGO	MEL Officer tracks and includes annual totals in PPRs, and then reports cumulative totals for mid-term and close	46% females, 54% males 612 adults: 7 women's coops with 10 members each (including 30% youth, and at least one disabled member in each) 2 livestock-based value addition enterprise with staff of 21 each (at least 30% youth, at least 30% women, at least one disabled member in each) 500 adults participating in cash-for-work opportunities (at least 20% women)	0	750 (345 females; 405 males)	3,060 (1,407 females; 1,653 males)	Assumes women participating in cooperative climate-resilient livelihoods, and people working for livestock-based enterprises have increased incomes and diversified income streams (see Indicator G below). Assumes 70 women cooperative members, and 42 enterprise staff (of which 13 female) Assumes 500 people participating in cash-for-work opportunities – for fire suppression and fire-breaks, fencing and land preparation, earth dam rehabilitation and check dam construction. Assumes with average household size of 5 (612 adults x 5 = 3,060) Of the 612 adults, 183 are women (70 members of coops, 13 enterprise staff, 100 in cash for work). Of the additional 2,448 household members, half are women or girls, i.e. 1,224. 183 + 1,224 = 1,407 females in total (46%) and 1,653 males (54%) – males slightly more because much

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes/ Assumptions
										of cash for work involves heavy physical labour
Total number of direct beneficiaries (A + B)								2,550 (1,245 males; 1,305 females)	7,560 (3,903 males; 3,657)	This is the number of direct beneficiaries from more resilient physical and natural assets. added to the number of direct beneficiaries with diversified and strengthened livelihoods Note: For Indicators A and B, if appropriate, registers can include National Registration Number, so that total number of unique individual direct adult beneficiaries can be checked.
Outcome 1.1 Increased community awareness and empowerment on climate change adaptation and landscape management										

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions																							
C	Number of people trained or with awareness raised on climate change impacts and appropriate adaptation actions (LDCF Core Indicator 4, Sub-indicator 4.1)	People: Adults from community organizations in the Kafue Flats Game Management Area (GMA) - including women and men, and youth, i.e. adults under 35) as well as relevant line department staff of the 6 District Administrations Trained or with awareness raised: Having participated fully in effective training, awareness and/or capacity development initiatives CUMULATIVE	Activity Tracking section of Project Progress Report (PPR)	Climate Officer in PMU, with Ministry of Green economy & Environment (MGEE)	Climate Officer makes semi-annual reports, aggregated by MEL Officer for annual totals in PPRs, who then reports cumulative totals for mid-term and close	Baseline: 0 Disag: 2,920 people made up of 1,480 male and 1,440 female, disaggregated by sector: <table><tr><td></td><td>M</td><td>F</td></tr><tr><td>*National govt</td><td>20</td><td>10</td></tr><tr><td>*Local govt</td><td>30</td><td>15</td></tr><tr><td>*Community orgs</td><td>350</td><td>350</td></tr><tr><td>*Extension services</td><td>20</td><td>10</td></tr><tr><td>*Hydromet/diaster risk agencies</td><td>10</td><td>5</td></tr><tr><td>*Scholars, students, and teachers</td><td>1,000</td><td>1,000</td></tr><tr><td>*Youth (15 to 35 years of age)</td><td>50</td><td>50</td></tr></table>		M	F	*National govt	20	10	*Local govt	30	15	*Community orgs	350	350	*Extension services	20	10	*Hydromet/diaster risk agencies	10	5	*Scholars, students, and teachers	1,000	1,000	*Youth (15 to 35 years of age)	50	50	800	2,920	Assumes training and awareness interventions are well designed and respectful of local and traditional knowledge. Assumes participants in capacity development on climate change and adaptation solutions, and monitoring of climate change impacts, as well as the training on livelihoods, rangeland management and infrastructure maintenance are fully committed to learning and applying learning. Assumes "community organizations" includes resource management committees under Community Resource Boards, Ward Development Committees, and women's cooperatives.
	M	F																															
*National govt	20	10																															
*Local govt	30	15																															
*Community orgs	350	350																															
*Extension services	20	10																															
*Hydromet/diaster risk agencies	10	5																															
*Scholars, students, and teachers	1,000	1,000																															
*Youth (15 to 35 years of age)	50	50																															

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
D	Number of plans that will have climate resilience mainstreamed into them (sub-national) (LDCF Core Indicator 3, Sub-indicator 3.1)	Plans: District-level Integrated Development Plans (IDPs) Mainstream: Include climate change impacts and community-led adaptation solutions CUMULATIVE	IDP documents from Itezhi-tezhi, Mumbwa, Shibuyunji, Mazabuka, Monze and Namwala Districts	Climate Specialist in PMU with MGEE	Climate Specialist tracks and reports progress for PIRs, mid-term and close	6 Districts: Itezhi-tezhi Mumbwa Shibuyunji Mazabuka Monze Namwala	0	2	6	Assumes district governments are willing to work with communities to integrate climate change impacts and adaptation solutions into the Integrated Development Plans, such that they can be scaled up across the districts.
Outcome 2.1 Improved access to water supply for community use and livestock in targeted chiefdoms										

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
E	Percentage of households reporting significant improvements: a) reduced time to collect water, or b) increased dry season water availability for agriculture and/or livestock	Households: Households benefitting from new water infrastructure Reporting: In annual project community beneficiary survey¹⁵ Significant improvements: At least 20% reduction in time to collect water, or 20% increase in dry season water availability PERCENTAGE INCREASE	Water section of Project Community Beneficiary Survey	MEL Officer in PMU administers survey, co-designed with ICF, Safeguards & Gender Officer and Climate Officer	Survey administered quarterly, with annual results reported in PPR, and relevant parts extracted for this indicator at mid-term and close	Community survey to be conducted with 50% men, 50% women beneficiaries of water infrastructure	Year 1 survey baseline: current time to collect water, availability in last dry season 0% of beneficiary households reporting significant improvements	20% of beneficiary households reporting significant improvements	60% of beneficiary households reporting significant improvements	Assumes that beneficiaries of specific infrastructure are identified and at least a representative sample surveyed, and repeated each year. Assumes that beneficiaries use and maintain the new infrastructure, and that it is beneficial in one or more of the ways described in reducing vulnerability to climate change-intensified water scarcity. Assumes that water infrastructure includes community boreholes, livestock boreholes, ponds and check dams. Assumes the annual rainy season replenishes water reserves sufficiently for boreholes to operate

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
										Details to be further defined in survey instrument ²¹ 16
Outcome 2.2 Increased adaptive capacity of livestock farmers to climate change through enhanced pasture management										
F	Area of land managed for climate resilience – hectares of rural landscape (LDCF Core Indicator 2a, Sub-indicator 2.3)	<i>Rural landscape:</i> Area of communally owned grassland used for grazing in Kafue Flats GMA <i>Managed for climate resilience:</i> Brought under rotational grazing by pastoralists, with fire management, and areas reseeded with palatable native grass species CUMULATIVE	Activity Tracking section of Project Progress Report, Rangeland Map	PMU MEL Officer, with Climate Officer and sub-grantee NGO	MEL Officer works with Climate Officer and resource management committees to track progress, produce and update map, and report annual hectare totals in PPRs, and reports cumulative totals for mid-term and close	Targets for each of 7 chiefdoms to be established in Year 1, working with resource management committees	0	10,000 ha	25,000 ha	Assumes natural resource committees are formed by pastoralists and well capacitated. Assumes active herd management by participating pastoralists guided by committees. Assumes committees are trained to report spatially enabling production of map
Outcome 3.1 Increased resilience to climate change from diversified livelihoods										

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
G	Percentage of households reporting new income streams through livelihoods support	Households: Households benefitting from women's cooperative climate - resilient livelihoods or livestock-based enterprises Reporting: In annual project community beneficiary survey New income streams: Receipt of cash income from participation in these new activities over the past year Livelihoods support: Support to cooperative enterprises e.g. processing of crops or fruit; support to livestock-based enterprises, e.g. dairy, fodder production PERCENTAGE INCREASE	Livelihoods section of Project Community Beneficiary Survey	MEL Officer in PMU administers survey, co-designed with Safeguards & Gender Officer, Climate Officer and sub-grantee NGO	Survey administered annually, results reported in PPR, relevant parts extracted for this indicator at mid-term and close	Community survey to be conducted with 50% men, 50% women beneficiaries	Year 1 baseline: define current income streams 0% of beneficiary household s reporting new income streams	20% of beneficiary household s reporting new income streams	60% of beneficiary household s reporting new income streams	Assumes at least a representative sample of livelihoods beneficiaries surveyed, repeated each year. Assumes that 7 women's coops with 10 members each undertake new climate-resilient livelihood activities (including 30% youth) that become self-sustaining by project end. Assumes that 2 livestock-based value addition enterprises are established and become self-sustaining by project end, with staff of 20 each (including at least 30% youth, at least 30% women). Assumes income from new livelihoods spreads risk and enhances capacity to adapt to climate change.

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
H	Number of entrepreneurs supported for climate adaptation and resilience (sex-disaggregated) (LDCF Core Indicator 5, Sub-indicator 5.2)	<i>Entrepreneurs</i> : Local entrepreneurs who bid successfully to run the livestock-based enterprises supported through the project, and members of women's cooperatives who receive support on new climate-adaptive enterprises <i>Supported</i> : engaged as participants in Output 3.1.1 or 3.1.2 CUMULATIVE	Register of participants in livestock-based joint ventures, and women's cooperatives	PMU MEL Officer and sub-grantee NGO	MEL Officer tracks and reports progress at mid-term and close	71 women 1 man	0	21	72	Assumes 72 entrepreneurs, including 70 women (10 * 7 cooperatives) in 3.1.1, and 1 male and 1 female (CEOs) of the two livestock-based value addition enterprises in 3.1.2.

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
I	Number of MSMEs incubated with technical assistance, direct financing and financial matchmaking (LDCF Core Indicator 5, Sub-indicator 5.4)	<i>MSMEs:</i> Two new joint ventures between pastoralist communities, e.g. represented by resource management committees, and local entrepreneurs 7 women's cooperatives running new climate-adaptive enterprises <i>Incubated:</i> having been set up and being fully operational <i>Technical assistance:</i> To include entrepreneurship training, development of bankable business plans, and delivery of business advisory services <i>Direct financing:</i> Provision of seed capital for infrastructure, equipment and first two years' working capital <i>Financial matchmaking:</i> Support to access growth funding from CDF and CEEC (see notes) CUMULATIVE	Register of participants in joint ventures, signed agreements and contracts	PMU MEL Officer and sub-grantee NGO	MEL Officer tracks and reports progress at mid-term and close	One enterprise in or near GMA, north of Kafue River One enterprise in or near GMA, south of Kafue River 7 climate-adaptive women's cooperative enterprises, one in each chiefdom	0	3	9	Assumes that 7 new climate adaptive enterprises are established through existing / strengthened women's cooperatives, engaged in potentially profitable activities such as mushroom cultivation, basketmaking, beekeeping, solar drying of fish, processing of mango and wild indigenous fruits. Assumes that 2 livestock-based value addition enterprises are established and fully operational by project end, with staff of 20 each (including at least 30% youth, at least 30% women). Assumes these will be potentially profitable enterprises based on livestock, e.g. community abattoir with cold storage; tannery for hide and

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
										leather products; milk collection centre with cheese and yoghurt production. Assumes that additional finance can be leveraged from Constituency Development Fund (CDF) and other sources e.g. Citizens Economic Empowerment Commission (CEEC).
Outcome 4.1 Knowledge on evolving climate hazards and solutions captured										

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
J	Number of Climate Crowd Surveys tracking evolving climate impacts and responses	<i>Climate Crowd Surveys:</i> Survey to be conducted by ICF at project mid-term and close <i>Evolving climate impacts:</i> As experienced and reported by baseline participant group <i>Responses:</i> Adaptation actions – distinguishing between those directly benefitting from project and those not CUMULATIVE	WWF Climate Crowd Survey, administered with original 46 participants from across Kafue Flats	ICF with Climate Officer	Once at project mid-term, once at project end	Baseline survey participants : 20 women and 26 men	0	1	2	Assumes same 46 participants are involved (otherwise new group for new baseline to be developed, with 50% men and 50% women) Assumes application of Climate Crowd Survey methodology for follow-up on 2023 survey across Kafue Flats to determine trends in climate impacts and responses. Assumes that participants' comments on adaptation responses may differ for those who are benefitting directly from project – to be tested.

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
K	Number of young people trained, equipped and participating in Kafue Flats monitoring initiative	<i>Young people:</i> Female and male Kafue Flats residents between the ages of 18 and 35 (including disabled youth as far as possible) <i>Trained:</i> Having attended theoretical and practical sessions on monitoring indicators of climate change and community resilience <i>Equipped:</i> supplied with smartphones and a monitoring application customized for the project <i>Kafue Flats monitoring initiative:</i> Initiative coordinated by ICF to monitor indicators of climate change, e.g. rainfall patterns, and indicators of enhanced resilience to climate change, e.g. enhanced water collection and use; as well as specialized monitoring, e.g. stream flow on rivers with check dams, and vegetation in monitoring plots	Beneficiary registers for youth monitoring initiative	MEL Officer with Climate Officer	Annual reporting, fed into mid-term and end evaluations	100% Youth (age 18-35) 50% Women 50% Men	0	15	40	Assumes that Community Resource Boards are able to nominate young people from the local community (who are not currently not in education, training or employment) to be part of this initiative.

	Indicator / unit	Definition (note if cumulative)	Method/ source	Responsible	Frequency	Disaggregation	Baseline	Target Mid-term	Target Close	Notes / Assumptions
Outcome 4.2 Project learning captured and lessons exchanged										
L	Number of Annual Project Progress Reports reflecting adaptive management based on learning	<i>Annual Project Progress Reports:</i> Section of reports reflecting recommendations based on learning <i>Adaptive management:</i> Adjustments to project strategies, approaches or activities, reflecting learning and improving chance of success in reaching planned outcomes CUMULATIVE	Knowledge exchange reports Lessons learnt section of Project Community Beneficiary Survey Lessons learnt section of Partners Survey (National & local government, sub-grantees, co-financiers)	Community Engagement & Safeguards and Gender Officer in PMU administers annual Community and Partner Surveys and analyzes lessons learnt, working with MEL Officer	MEL Officer facilitates annual discussion in PMU of adaptive measures needed, prepares recommendations for Draft PPR and Project Steering Committee (PSC) consideration	Adaptive management actions for each project output in PIRs for Years 1-5	0	2 or 3	5	Assumes lessons learnt from knowledge exchanges, and from surveys of community and local government beneficiaries and partners are captured annually. Assumes that all beneficiaries feel free to participate and speak their minds, including women and youth. Assumes Project Steering Committee is willing to approve adaptive management measures to course-correct where necessary, to stay on track to achieve project outcomes, while discussing any adjustments with the GEF Agency and Secretariat as needed.

[1] Survey tool to be customized based on WWF survey instrument:

<https://docs.google.com/document/d/1WsdgYXHg3U7gr85MtH84xDQT2GeAiimD/edit>

[2] To be designed based on WWF water monitoring tool:

https://docs.google.com/spreadsheets/d/1_hQ12XcgWISKRAAjOeXMbUC1YFKxX_PY/edit?gid=471310723#gid=471310723

ANNEX D: STATUS OF UTILIZATION OF PROJECT PREPARATION GRANT (PPG)

Provide detailed funding amount of the PPG activities financing status in the table below:

Project Preparation Activities Implemented	GETF/LDCF/SCCF Amount (\$)		
	Budgeted Amount	Amount Spent To date	Amount Committed
Project Development and Design	58,163.00	21,618.00	36,545.00
Stakeholder Engagement	25,473.00	9,620.00	15,853.00
Safeguards Assessment	8,182.00	3,337.00	4,845.00
Gender Analysis	8,182.00	1,872.00	6,310.00
Total	100,000.00	36,447.00	63,553.00

ANNEX E: PROJECT MAP AND COORDINATES

Please provide geo-referenced information and map where the project interventions will take place

Location Name	Latitude	Longitude	GeoName ID
Blue Lagoon National Park	-15.4894	27.4022	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Lochinvar National Park	-15.8794	27.2382	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
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Kafue Flats Game Management Area	-15.6443	27.2482	
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Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Shakumbila Chiefdom	-15.4212	27.6136	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Mwanachingwala Chiefdom	-15.7822	27.6136	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Chongo Chiefdom	-16.0350	27.4058	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Siamasonde Chiefdom	-16.1817	27.2157	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Nalubamba Chiefdom	-16.0786	26.8854	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Mungaila Chiefdom	-15.7998	26.7050	

Location Description:

Activity Description:

Location Name	Latitude	Longitude	GeoName ID
Chiliabufu Chiefdom	-15.6081	26.6469	

Location Description:

Activity Description:

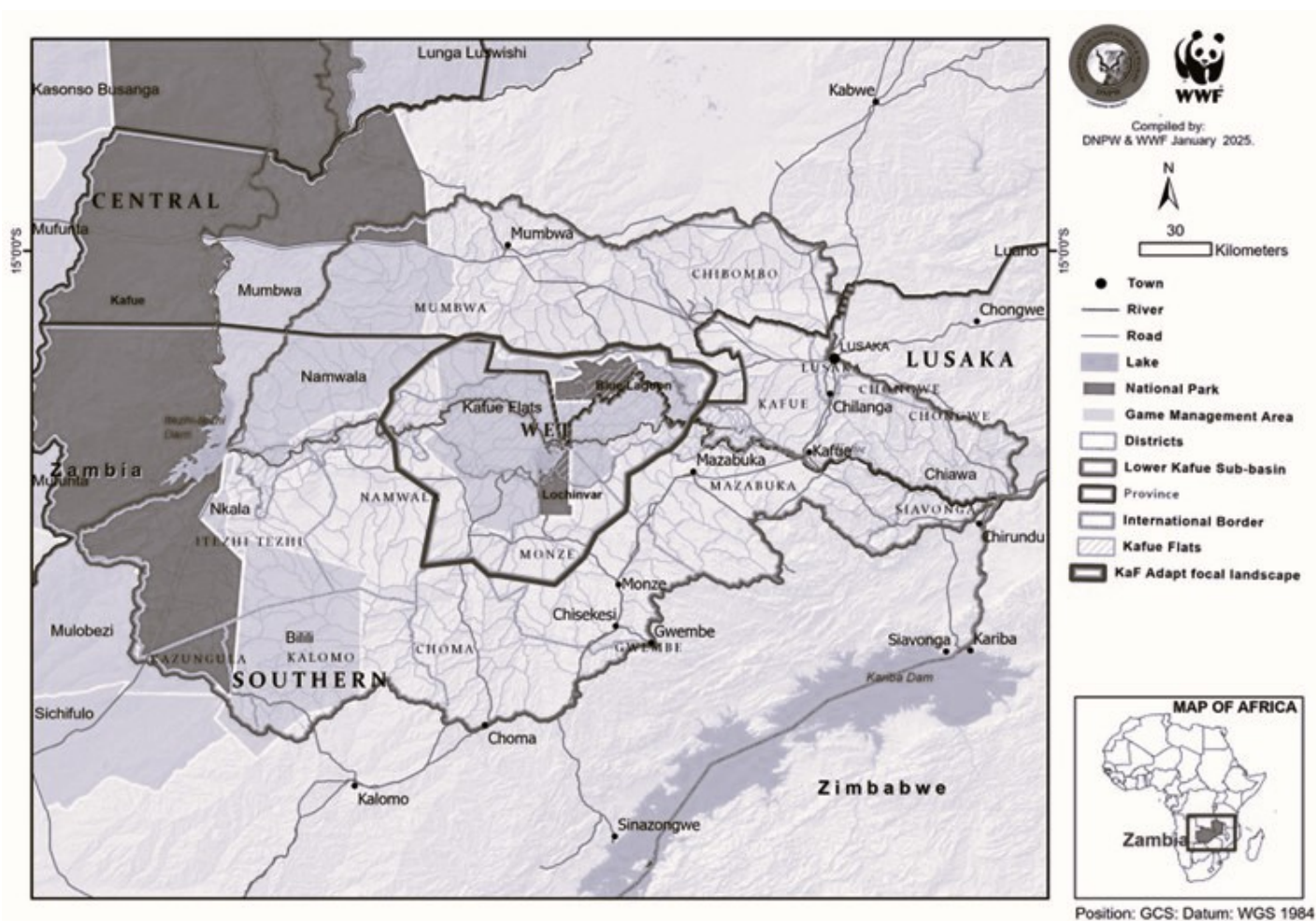
Location Name	Latitude	Longitude	GeoName ID
Muwezwa Chiefdom	-15.4277	26.8113	

Location Description:

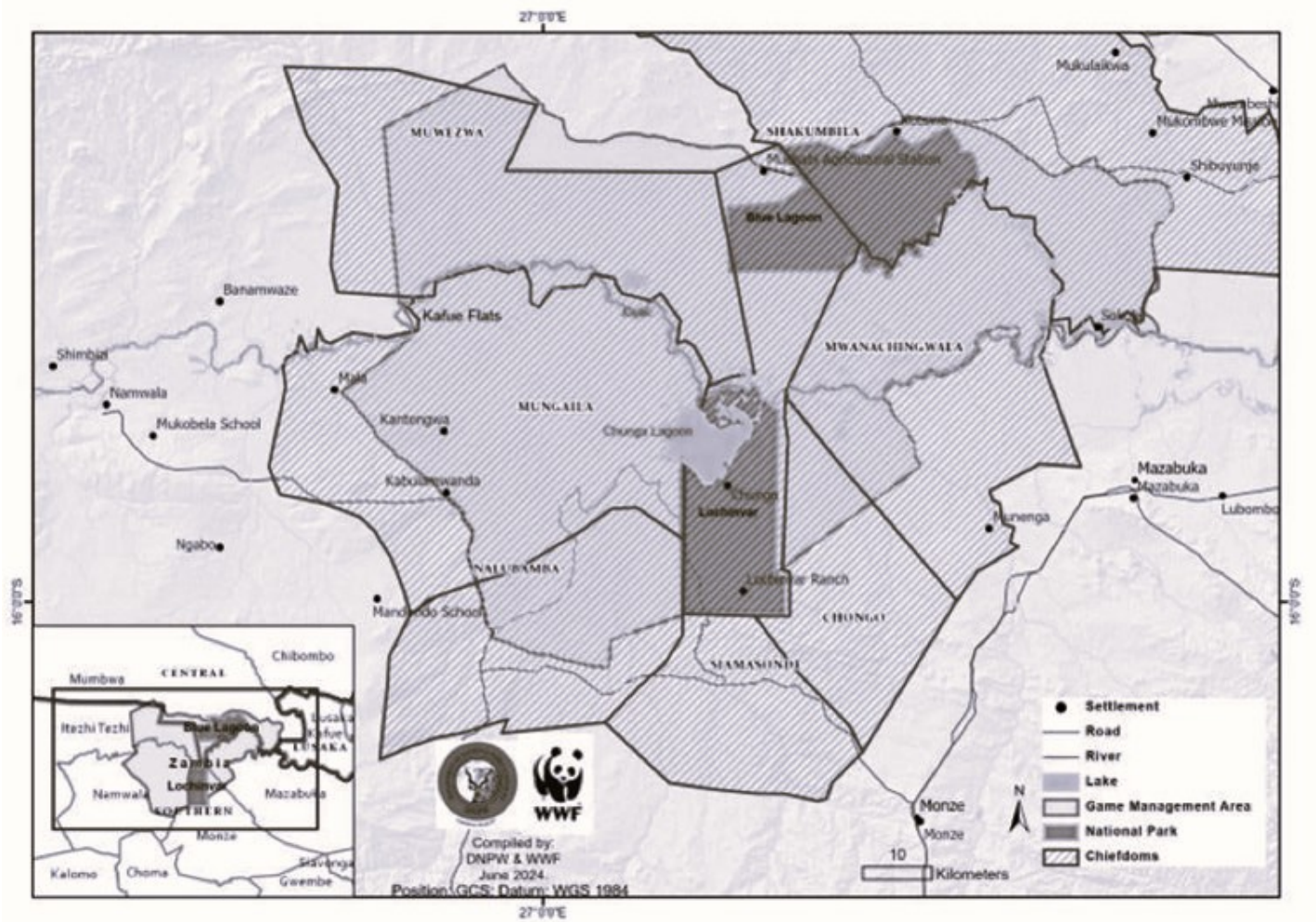
Activity Description:

Please provide any further geo-referenced information and map where project interventions are taking place as appropriate.

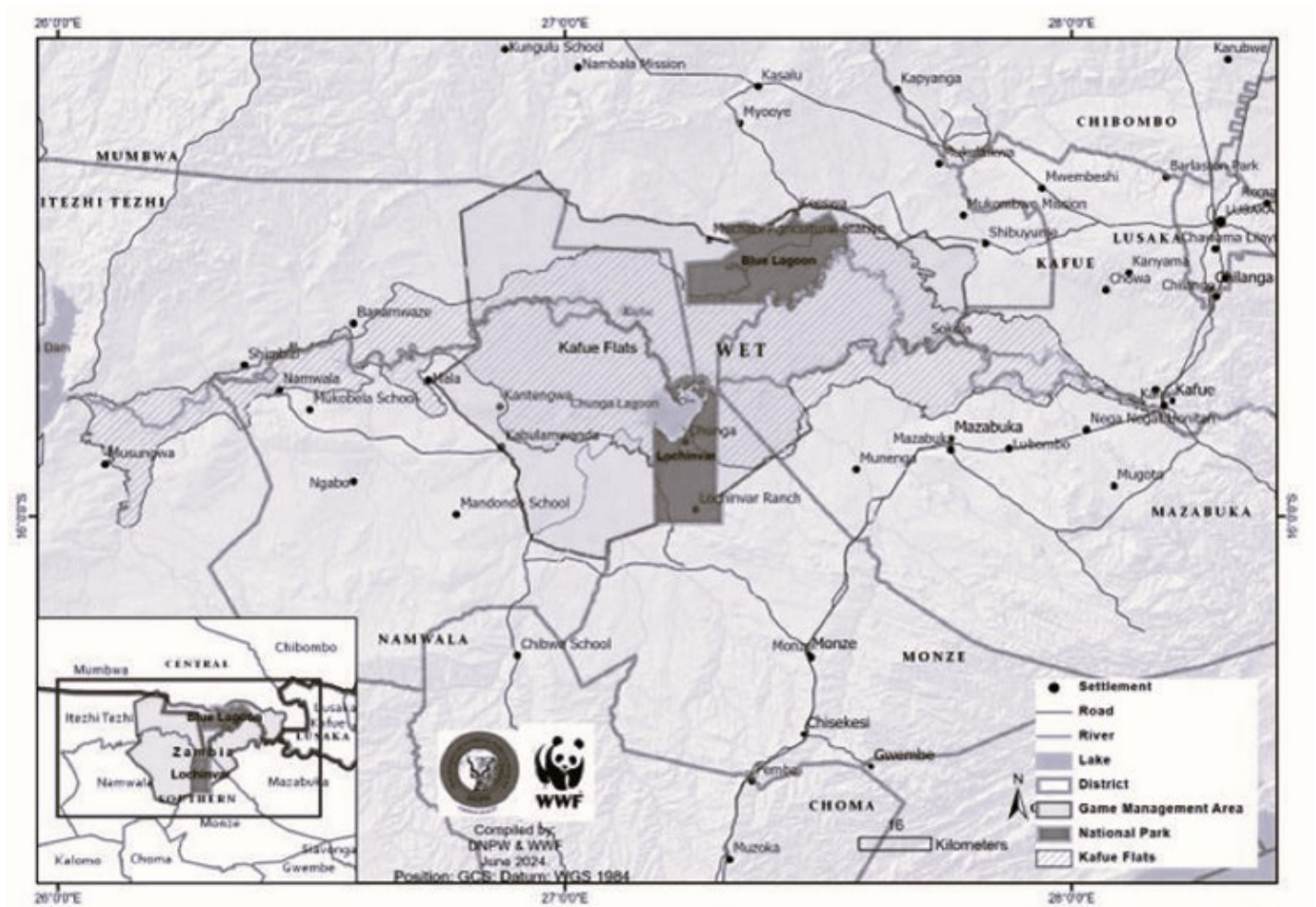
MAP 1: Project landscape in Lower Kafue Basin



MAP 2: Kafue Flats Chiefdom boundaries



MAP 3: Kafue Flats GMA and District Boundaries



ANNEX F: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

Attach agency safeguard screening/assessment report(s), including ratings of risk types and overall project/program risk classification as well as any management plans or measures to address identified risks and impacts.

Title

KaF-Adapt ESMF_Feb 2025

ANNEX G: BUDGET TABLE

Please explain any aspects of the budget as needed here

Budget Notes

1	Drill, install, and commission 2 solar powered boreholes per chiefdom @\$8,000. Cost (drilling, submissible pump with accessories, tank, tank stand, transport). 2 Person supervision (\$1,680 & \$600 fuel)
2	Drill, install, and commission 2 solar powered boreholes per chiefdom @\$15,163. Cost (drilling, submissible pump with accessories, tank, tank stand, transport, irrigation equipment)
3	Construct swells in the landscape to slow water runoff and improve water retention for groundwater recharge using cash for work. Environmental project brief to be conducted suitable areas
4	Renovate existing dams that would be selected through a consultative process to increase water availability for livestock and communities. Using gender balanced cash for work model @ \$3 per session as per government rate
5	Construct check dams in suitable areas selected through a consultation process
6	Provide water pumps and seed starter packs
7	Procure 4 laptops for PMU @1.6k for their daily operations. 4 laptops budgeted under KAF-Wild
8	Procure 15 tablets @\$160 each and configure them with the climate crowd survey Application for data collection
9	Procure 4 phones for PMU staff @1.0k each. The other four will be procured from KAF-Wild
10	Produce a documentary in year 1, 3 & 5 @15k (5k each year). Consultative @4.5k (1.5k each year). Fuel @2,250 and newsletters @480 across the 3 years.
11	PMU to conduct local knowledge capturing sessions with various communities
12	The Project and Technical coordinator will be responsible for the overall coordination of the project and PMU. He/she will equally provide technical expertise on all outcomes of the project in ensuring that technically the project delivers climate solutions that are transformational to local communities and enables the environment to thrive.
13	The Climate Change Officer will constantly liaise with the manager and be the convener of various interests in government, NGO partners, local communities and supporting functions in PMU. The position will be solely focused on delivering LDCF project outcomes and ensuring that other support PMU staff such as finance, Safeguards & Gender, M&E, Communications and Community engagement efforts are supported with technical input
14	The Finance and Admin Officer will provide overall financial and Admin support to the PMU and all implementing partners. He/she will support the day to day running of the project by ensuring partner grants and PMU inputs are processed on time. Ensure projects are implemented in compliance with both WWF regulations as well as specific donor requirements. Take charge of liquidations and timely submission of financial reports, and take lead during audits. This project would contribute 40% of staff cost to this position (60% under Kaf Wild).
15	The M&E officer will coordinate monitoring, evaluation and learning/knowledge management functions. Ensuring successful assessment and monitoring of project activities and processes to ensure diverse data collection and analysis of highlights project activities, outputs, and outcomes; maintaining the M&E results frameworks of the project; and assisting the Project Manager and PIU in preparing semi-annual, and annual reports.
16	The Safeguards and Gender Officer will provide oversight on all elements of project safeguards, deliver on the developed ESMF, and ensure that the Gender Action Plan is actualized and that gender streaming receives the attention throughout the project and structures that perpetuate. The position will ensure conformity with WWF ESS Standards and the effective delivery of the ESMF/GAP and SEP for the project
17	This position will ensure timely procurement of goods and services according to set international and country standards. The post is a shared position at 50%, and this project is contributing 40% of the other 50%.
18	The comms officer will ensure the correct visibility of the project. Leading in coordinating communication materials from partners and other PMU technical staff.
19	The Project driver will be responsible for vehicle and other logistics to ensure the PMU functions uninterrupted
20	Conduct community engagement and allow borehole beneficiary communities to select gender balanced management committees to maintain the infrastructure
21	Train selected committees with basic record keeping and equipment use
22	Democratic selection of committees by fellow community members
23	Facilitate basic information sharing about good dam management practices
24	Procure venue for 150 people in 3 locations, logistical costs
25	Facilitate workshop for M&E, and other technical units, with stakeholders.
26	Facilitate community meetings
27	Organize community roadshows, radio time and social media
28	Identify tree planting champions to benefit from saplings as a benefit from their contribution to earthworks
29	Facilitate community participation guided by PMU
30	Facilitate logistics and organize exchange meetings
31	Renting of a vehicle to carry out project activities estimated at kilometer \$0.8 by estimated 12500 kilometers for 5 years

Annex G. 11924 - KaF-Adapt Project Budget – 22 July 2025

Expenditure Category	Detailed Description	Footnotes	C1	C2	C3	C4	M&E	Sub-Total	PMC	Total (USDeq.)	Responsible Entity
Works	...										

Solar-powered boreholes	Install solar-powered boreholes & irrigation schemes in villages/clusters that are highly vulnerable to drought – 2 per each of the 7 chiefdoms	1	-	114,280	-	-	-	114,280	-	114,280	ICF
Livestock watering points	Install solar-powered boreholes, livestock watering points & irrigation schemes in key upland grazing areas – up to 2 per each of the 7 chiefdoms	2	-	106,140	-	-	-	106,140	-	106,140	ICF
Deepen existing ponds	Do in-field earthworks: deepen existing ponds and construct swales and contour bunds to catch rainwater and allow infiltration	3	-	50,400	-	-	-	50,400	-	50,400	ICF
Renovate existing dam	Use cash-for-work to renovate one existing damaged /silted up dam in each of 7 chiefdoms	4	-	153,960	-	-	-	153,960	-	153,960	ICF
Construct check dams	Use cash-for-work to construct gabion check dams across rivers in areas vulnerable to flood and drought – 2 per each of the 7 chiefdoms	5	-	63,920	-	-	-	63,920	-	63,920	ICF
Irrigation systems	Establish solar-powered irrigations systems and communal food gardens next to check dams	6	-	13,060	-	-	-	13,060	-	13,060	ICF
Total Works			-	501,760	-	-	-	501,760	-	501,760	
Goods (Equipment)			-	-	-	-	-	-	-	-	
Laptops for PMU staff	Procure 4 laptops for PMU staff	7	-	-	-	-	-	-	6,000	6,000	ICF
Computer tablets	Customize survey instrument for Climate Crowd Survey follow-up	8	-	-	-	2,400	-	2,400	-	2,400	MGEE
Phones	Four phones for PMU staff.	9	-	-	-	-	-	-	4,000	4,000	ICF
Total Good (Equipment)			-	-	-	2,400	-	2,400	10,000	12,400	

Grants/ Sub-grants			-	-	-	-	-	-	-	-	
Sub-grant	Local Partner A			291,729		-		291,729			ICF
	Local Partner B			-	521,676	-		521,676			ICF
Total Sub-grant			-	291,729	521,676	-	-	813,405		813,405	
Contractual Services – Company			-	-	-	-		-		-	
Documentary & Video	Produce documentary and video evidence of project progress and learning	10	-	-	-	22,230		22,230		22,230	MGEE
Total Contractual Services – Company			-	-	-	22,230	-	22,230	-	22,230	
International Consultants			-	-	-	-		-		-	
	MTE/terminal evaluations		-	-	-	-	64,700	64,700		64,700	MGEE
Total International Consultants			-	-	-	-	64,700	64,700	-	64,700	
Local Consultants			-	-	-	-		-		-	
Local Consultants	Capture local and traditional knowledge related to agriculture, water, livestock and grazing, and suggested adaptation solutions	11	10,000	-	-	-		10,000		10,000	MGEE
Total Local Consultants			10,000	-	-	-	-	10,000	-	10,000	
Staff costs			-	-	-	-		-		-	
Salary and benefits	Project Manager & Technical Coordinator	12	22,688	68,065	22,688	34,033		147,474	17,858	165,332	ICF
Salary and benefits	Climate Change Officer	13	31,222	93,666	31,222	46,833		202,944		202,944	ICF
Salary and benefits	Finance and Administration Officer	14	-	-	-	-	-	-	59,200	59,200	ICF
Salary and benefits	Monitoring and Evaluation Officer	15	-	-	-	-	59,200	59,200		59,200	ICF
Salary and benefits	Safeguards and Gender Officer	16	9,749	29,247	9,749	14,623		63,368		63,368	ICF
Salary and benefits	Procurement Officer	17	-	-	-	-	-	-	17,997	17,997	ICF
Salary and benefits	Communications Officer	18	4,874	14,623	4,874	7,312		31,684		31,684	ICF
Salary and benefits	Driver	19	5,535	16,604	5,535	8,302		35,975		35,975	ICF
Total Salary and benefits / Staff costs			74,068	222,205	74,068	111,103	59,200	540,645	95,055	635,699	
Trainings, Workshops, Meetings	e.g. Inception Workshop		-	-	-	-		-		-	

Meetings	Hold dialogue sessions with community organizations across the Kafue Flats Game Management Area (GMA) to understand evolving climate change challenges (in line with SEP and GAP in each of the 7 chiefdoms)		14,000	-	-	-		14,000		14,000	MGEE
Meetings	Make presentations in local schools (schools engaged in Output 2.1.2) involving elders with traditional knowledge, and youth involved in monitoring (in line with SEP and GAP)		13,000	-	-	-		13,000		13,000	MGEE
Workshop	Hold 7 chiefdom workshops to develop and integrate climate change adaptation solutions into the micro-zoning plans that include grazing plans in terms of the Kafue Flats GMP		60,000	-	-	-		60,000		60,000	MGEE
Workshop	Hold 6 district workshops (and follow up) to integrate adaptation solutions into Integrated Development Plans (IDPs) of the 6 districts into which the GMA falls (in line with the SEP and GAP)		28,710	-	-	-		28,710		28,710	MGEE
Meetings	Decide borehole locations through multi-stakeholder consultations (including women) involving districts and ward development committees in the 7 chiefdoms		-	4,660	-	-		4,660		4,660	ICF
Meetings	Establish a management committee (including women and	20	-	4,660	-	-		4,660		4,660	ICF

	youth) for each of [up to 28] borehole facilities										
Meetings	Train the management committees to set pumping guidelines, monitor compliance, raise maintenance fees, and conduct maintenance	21	-	33,470	-	-		33,470		33,470	ICF
Workshop	Hold "train-the-trainers" sessions for Village Action Groups on earthworks for in-field water harvesting		-	32,030	-	-		32,030		32,030	ICF
Meetings	Decide locations through multi-stakeholder consultations (including women) involving districts and ward development committees for rehabilitating existing dams or constructing new check dams		-	4,660	-	-		4,660		4,660	ICF
Meetings	Establish a management committee (including women and youth) for each of the renovated dams / new dams with food gardens	22	-	4,100	-	-		4,100		4,100	ICF
Training	Train the management committees to monitor dam levels and condition, run food gardens, raise maintenance fees, and conduct maintenance	23	-	26,810	-	-		26,810		26,810	ICF
Training	Train and equip youth on climate change adaptation and monitoring app customized for project, and equip with smartphone technology		-	-	-	38,195		38,195		38,195	ICF

Workshop	Hold community-based knowledge management events (virtual and workshop) to track impacts of climate change on biodiversity, including water birds as indicators of ecosystem health and climate change		-	-	-	11,700		11,700		11,700	MGEE
Meetings	Hold joint Launch with KaF-Wild (40% of costs from KaF-Adapt, 60% budgeted in KaF-Wild)	24	-	-	-	-	14,000	14,000		14,000	MGEE
Workshop	Project M&E system developed for regular monitoring at all levels (annual workplans and budgets, results framework, project progress reports, core indicators)	25	-	-	-	-	10,000	10,000		10,000	MGEE
Meetings	Document community knowledge on indicators of ecosystem health and climate change	26	-	-	-	5,560		5,560		5,560	ICF
Total Trainings, Workshops, Meetings			115,710	110,391	-	55,455	24,000	305,556	-	305,556	
Travel			-	-	-	-		-		-	
Travel	Disseminate multi-media awareness material on community-generated adaptation solutions, integrating traditional knowledge	27	5,000	-	-	-		5,000		5,000	MGEE
Travel	Establish a nursery for indigenous/suitable fruit trees (involving women and youth), and distribute saplings as an incentive for households contributing to earthworks.	28	-	19,080	-	-		19,080		19,080	ICF

Travel	Conduct regular surveys of key indicators of climate change, e.g. stream flow on rivers with check dams, and plots for vegetation monitoring	29	-	-	-	6,620		6,620		6,620	MGEE
Travel	Facilitate knowledge exchanges within Kafue Flats GMA and with other parts of Zambia	30	-	-	-	14,100		14,100		14,100	MGEE
Total Travel			5,000	19,080	-	20,720	-	44,800	-	44,800	
Other Operating Costs			-	-	-	-		-		-	
Bank charges	Monthly bank charges at \$75.00 per month		-	-	-	-		-	4,500	4,500	ICF
Telecommunication/inter net	Airtime and internet for four PMU staff		-	-	-	-		-	5,760	5,760	ICF
Photocopying	Photocopying when away from the office		-	-	-	-		-	500	500	ICF
Vehicle hire	Vehicle hire	31	1,800	5,400	1,800	1,800		10,800		10,800	ICF
Total Other Operating Costs			1,800	5,400	1,800	1,800	-	10,800	10,760	21,560	
Grand Total			206,579	1,150,565	597,544	213,708	147,900	2,316,295	115,815	2,432,110	

Footnotes

1	Drill, install, and commission 2 solar powered boreholes per chiefdom @\$8,000. Cost (drilling, submissible pump with accessories, tank, tank stand, transport). 2 Person supervision (\$1,680 & \$600 fuel)
2	Drill, install, and commission 2 solar powered boreholes per chiefdom @\$15,163. Cost (drilling, submissible pump with accessories, tank, tank stand, transport, irrigation equipment)
3	Construct swells in the landscape to slow water runoff and improve water retention for groundwater recharge using cash for work. Environmental project brief to be conducted suitable areas
4	Renovate existing dams that would be selected through a consultative process to increase water availability for livestock and communities. Using gender balanced cash for work model @ \$3 per session as per government rate
5	Construct check dams in suitable areas selected through a consultation process
6	Provide water pumps and seed starter packs
7	Procure 4 laptops for PMU @1.6k for their daily operations. 4 laptops budgeted under KAF-Wild
8	Procure 15 tablets @\$160 each and configure them with the climate crowd survey Application for data collection
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10	Produce a documentary in year 1, 3 & 5 @15k (5k each year). Consultative @4.5k (1.5k each year). Fuel @2,250 and newsletters @480 across the 3 years.
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13	The Climate Change Officer will constantly liaise with the manager and be the convener of various interests in government, NGO partners, local communities and supporting functions in PMU. The position will be solely focused on delivering LDCF project outcomes and ensuring that other support PMU staff such as finance, Safeguards & Gender, M&E, Communications and Community engagement efforts are supported with technical input
14	The Finance and Admin Officer will provide overall financial and Admin support to the PMU and all implementing partners. He/she will support the day to day running of the project by ensuring partner grants and PMU inputs are processed on time. Ensure projects are implemented in compliance with both WWF regulations as well as specific donor requirements. Take charge of liquidations and

	timely submission of financial reports, and take lead during audits. This project would contribute 40% of staff cost to this position (60% under Kaf Wild).
15	The M&E officer will coordinate monitoring, evaluation and learning/knowledge management functions. Ensuring successful assessment and monitoring of project activities and processes to ensure diverse data collection and analysis of highlights project activities, outputs, and outcomes; maintaining the M&E results frameworks of the project; and assisting the Project Manager and PIU in preparing semi-annual, and annual reports.
16	The Safeguards and Gender Officer will provide oversight on all elements of project safeguards, deliver on the developed ESMF, and ensure that the Gender Action Plan is actualized and that gender streaming receives the attention throughout the project and structures that perpetuate. The position will ensure conformity with WWF ESS Standards and the effective delivery of the ESMF/GAP and SEP for the project
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19	The Project driver will be responsible for vehicle and other logistics to ensure the PMU functions uninterrupted
20	Conduct community engagement and allow borehole beneficiary communities to select gender balanced management committees to maintain the infrastructure
21	Train selected committees with basic record keeping and equipment use
22	Democratic selection of committees by fellow community members
23	Facilitate basic information sharing about good dam management practices
24	Procure venue for 150 people in 3 locations, logistical costs
25	Facilitate workshop for M&E, and other technical units, with stakeholders.
26	Facilitate community meetings
27	Organize community roadshows, radio time and social media
28	Identify tree planting champions to benefit from saplings as a benefit from their contribution to earthworks
29	Facilitate community participation guided by PMU
30	Facilitate logistics and organize exchange meetings
31	Renting of a vehicle to carry out project activities estimated at kilometer \$0.8 by estimated 12500 kilometers for 5 years

Annex G. 11924 - KaF-Adapt Project Budget – 14 July 2025

Expenditure Category	Detailed Description	Footnotes	C1	C2	C3	C4	M&E	Sub-Total	PMC	Total (USDeq.)	Responsible Entity
Works	...										
Solar-powered boreholes	Install solar-powered boreholes & irrigation schemes in villages/clusters that are highly vulnerable to drought – 2 per each of the 7 chiefdoms	1	-	114,280	-	-		114,280		114,280	ICF
Livestock watering points	Install solar-powered boreholes, livestock watering points & irrigation schemes in key upland grazing areas – up to 2 per each of the 7 chiefdoms	2	-	106,140	-	-		106,140		106,140	ICF
Deepen existing ponds	Do in-field earthworks: deepen existing ponds and construct swales and contour bunds to catch rainwater and allow infiltration	3	-	50,400	-	-		50,400		50,400	ICF

Renovate existing dam	Use cash-for-work to renovate one existing damaged /silted up dam in each of 7 chiefdoms	4	-	153,960	-	-	-	153,960	-	153,960	ICF
Construct check dams	Use cash-for-work to construct gabion check dams across rivers in areas vulnerable to flood and drought – 2 per each of the 7 chiefdoms	5	-	63,920	-	-	-	63,920	-	63,920	ICF
Irrigation systems	Establish solar-powered irrigations systems and communal food gardens next to check dams	6	-	13,060	-	-	-	13,060	-	13,060	ICF
Total Works			-	501,760	-	-	-	501,760	-	501,760	
Goods (Equipment)			-	-	-	-	-	-	-	-	
Laptops for PMU staff	Procure 4 laptops for PMU staff	7	-	-	-	-	-	-	6,000	6,000	ICF
Computer tablets	Customize survey instrument for Climate Crowd Survey follow-up	8	-	-	-	2,400	-	2,400	-	2,400	ICF
Phones	Four phones for PMU staff.	9	-	-	-	-	-	-	4,000	4,000	ICF
Total Good (Equipment)			-	-	-	2,400	-	2,400	10,000	12,400	
Grants/ Sub-grants			-	-	-	-	-	-	-	-	
Sub-grant	Local Partner A			291,729	-	-	-	291,729	-	-	ICF
	Local Partner B			-	521,676	-	-	521,676	-	-	ICF
Total Sub-grant			-	291,729	521,676	-	-	813,405	-	813,405	
Contractual Services – Company			-	-	-	-	-	-	-	-	
Documentary & Video	Produce documentary and video evidence of project progress and learning	10	-	-	-	22,230	-	22,230	-	22,230	ICF
Total Contractual Services – Company			-	-	-	22,230	-	22,230	-	22,230	
International Consultants			-	-	-	-	-	-	-	-	
	MTE/terminal evaluations		-	-	-	-	64,700	64,700	-	64,700	ICF
Total International Consultants			-	-	-	-	64,700	64,700	-	64,700	
Local Consultants			-	-	-	-	-	-	-	-	

Local Consultants	Capture local and traditional knowledge related to agriculture, water, livestock and grazing, and suggested adaptation solutions	11	10,000	-	-	-	-	10,000	-	10,000	ICF
Total Local Consultants			10,000	-	-	-	-	10,000	-	10,000	
Staff costs			-	-	-	-	-	-	-	-	
Salary and benefits	Project Manager & Technical Coordinator	12	22,688	68,065	22,688	34,033	-	147,474	17,858	165,332	ICF
Salary and benefits	Climate Change Officer	13	31,222	93,666	31,222	46,833	-	202,944	-	202,944	ICF
Salary and benefits	Finance and Administration Officer	14	-	-	-	-	-	-	59,200	59,200	ICF
Salary and benefits	Monitoring and Evaluation Officer	15	-	-	-	-	59,200	59,200	-	59,200	ICF
Salary and benefits	Safeguards and Gender Officer	16	9,749	29,247	9,749	14,623	-	63,368	-	63,368	ICF
Salary and benefits	Procurement Officer	17	-	-	-	-	-	-	17,997	17,997	ICF
Salary and benefits	Communications Officer	18	4,874	14,623	4,874	7,312	-	31,684	-	31,684	ICF
Salary and benefits	Driver	19	5,535	16,604	5,535	8,302	-	35,975	-	35,975	ICF
Total Salary and benefits / Staff costs			74,068	222,205	74,068	111,103	59,200	540,645	95,055	635,699	
Trainings, Workshops, Meetings	e.g. Inception Workshop		-	-	-	-	-	-	-	-	
Meetings	Hold dialogue sessions with community organizations across the Kafue Flats Game Management Area (GMA) to understand evolving climate change challenges (in line with SEP and GAP in each of the 7 chiefdoms)		14,000	-	-	-	-	14,000	-	14,000	ICF
Meetings	Make presentations in local schools (schools engaged in Output 2.1.2) involving elders with traditional knowledge, and youth involved in monitoring (in line with SEP and GAP)		13,000	-	-	-	-	13,000	-	13,000	ICF
Workshop	Hold 7 chiefdom workshops to develop and integrate climate change adaptation		60,000	-	-	-	-	60,000	-	60,000	ICF

	solutions into the micro-zoning plans that include grazing plans in terms of the Kafue Flats GMP										
Workshop	Hold 6 district workshops (and follow up) to integrate adaptation solutions into Integrated Development Plans (IDPs) of the 6 districts into which the GMA falls (in line with the SEP and GAP)		28,710	-	-	-		28,710		28,710	ICF
Meetings	Decide borehole locations through multi-stakeholder consultations (including women) involving districts and ward development committees in the 7 chiefdoms		-	4,660	-	-		4,660		4,660	ICF
Meetings	Establish a management committee (including women and youth) for each of [up to 28] borehole facilities	20	-	4,660	-	-		4,660		4,660	ICF
Meetings	Train the management committees to set pumping guidelines, monitor compliance, raise maintenance fees, and conduct maintenance	21	-	33,470	-	-		33,470		33,470	ICF
Workshop	Hold "train-the-trainers" sessions for Village Action Groups on earthworks for in-field water harvesting		-	32,030	-	-		32,030		32,030	ICF
Meetings	Decide locations through multi-stakeholder consultations (including women) involving districts and ward development		-	4,660	-	-		4,660		4,660	ICF

	committees for rehabilitating existing dams or constructing new check dams										
Meetings	Establish a management committee (including women and youth) for each of the renovated dams / new dams with food gardens	22	-	4,100	-	-		4,100		4,100	ICF
Training	Train the management committees to monitor dam levels and condition, run food gardens, raise maintenance fees, and conduct maintenance	23	-	26,810	-	-		26,810		26,810	ICF
Training	Train and equip youth on climate change adaptation and monitoring app customized for project, and equip with smartphone technology		-	-	-	38,195		38,195		38,195	ICF
Workshop	Hold community-based knowledge management events (virtual and workshop) to track impacts of climate change on biodiversity, including water birds as indicators of ecosystem health and climate change		-	-	-	11,700		11,700		11,700	ICF
Meetings	Hold joint Launch with KaF-Wild (40% of costs from KaF-Adapt, 60% budgeted in KaF-Wild)	24	-	-	-	-	14,000	14,000		14,000	ICF
Workshop	Project M&E system developed for regular monitoring at all levels (annual workplans and budgets, results framework, project progress	25	-	-	-	-	10,000	10,000		10,000	ICF

	reports, core indicators)										
Meetings	Document community knowledge on indicators of ecosystem health and climate change	26	-	-	-	5,560		5,560		5,560	ICF
Total Trainings, Workshops, Meetings			115,710	110,391	-	55,455	24,000	305,556	-	305,556	
Travel			-	-	-	-		-		-	
Travel	Disseminate multi-media awareness material on community-generated adaptation solutions, integrating traditional knowledge	27	5,000	-	-	-		5,000		5,000	ICF
Travel	Establish a nursery for indigenous/suitable fruit trees (involving women and youth), and distribute saplings as an incentive for households contributing to earthworks.	28	-	19,080	-	-		19,080		19,080	ICF
Travel	Conduct regular surveys of key indicators of climate change, e.g. stream flow on rivers with check dams, and plots for vegetation monitoring	29	-	-	-	6,620		6,620		6,620	ICF
Travel	Facilitate knowledge exchanges within Kafue Flats GMA and with other parts of Zambia	30	-	-	-	14,100		14,100		14,100	ICF
Total Travel			5,000	19,080	-	20,720	-	44,800	-	44,800	
Other Operating Costs			-	-	-	-		-		-	
Bank charges	Monthly bank charges at \$75.00 per month		-	-	-	-		-	4,500	4,500	ICF
Telecommunication/Internet	Airtime and internet for four PMU staff		-	-	-	-		-	5,760	5,760	ICF
Photocopying	Photocopying when away from the office		-	-	-	-		-	500	500	ICF

Vehicle hire	Vehicle hire	31	1,800	5,400	1,800	1,800		10,800		10,800	ICF
Total Other Operating Costs			1,800	5,400	1,800	1,800	-	10,800	10,760	21,560	
Grand Total			206,579	1,150,565	597,544	213,708	147,900	2,316,295	115,815	2,432,110	

Footnotes

1	Drill, install, and commission 2 solar powered boreholes per chiefdom @\$8,000. Cost (drilling, submissible pump with accessories, tank, tank stand, transport). 2 Person supervision (\$1,680 & \$600 fuel)
2	Drill, install, and commission 2 solar powered boreholes per chiefdom @\$15,163. Cost (drilling, submissible pump with accessories, tank, tank stand, transport, irrigation equipment)
3	Construct swells in the landscape to slow water runoff and improve water retention for groundwater recharge using cash for work. Environmental project brief to be conducted suitable areas
4	Renovate existing dams that would be selected through a consultative process to increase water availability for livestock and communities. Using gender balanced cash for work model @ \$3 per session as per government rate
5	Construct check dams in suitable areas selected through a consultation process
6	Provide water pumps and seed starter packs
7	Procure 4 laptops for PMU @1.6k for their daily operations. 4 laptops budgeted under KAF-Wild
8	Procure 15 tablets @\$160 each and configure them with the climate crowd survey Application for data collection
9	Procure 4 phones for PMU staff @1.0k each. The other four will be procured from KAF-Wild
10	Produce a documentary in year 1, 3 & 5 @15k (5k each year). Consultative @4.5k (1.5k each year). Fuel @2,250 and newsletters @480 across the 3 years.
11	PMU to conduct local knowledge capturing sessions with various communities
12	The Project and Technical coordinator will be responsible for the overall coordination of the project and PMU. He/she will equally provide technical expertise on all outcomes of the project in ensuring that technically the project delivers climate solutions that are transformational to local communities and enables the environment to thrive.
13	The Climate Change Officer will constantly liaise with the manager and be the convener of various interests in government, NGO partners, local communities and supporting functions in PMU. The position will be solely focused on delivering LDCF project outcomes and ensuring that other support PMU staff such as finance, Safeguards & Gender, M&E, Communications and Community engagement efforts are supported with technical input
14	The Finance and Admin Officer will provide overall financial and Admin support to the PMU and all implementing partners. He/she will support the day to day running of the project by ensuring partner grants and PMU inputs are processed on time. Ensure projects are implemented in compliance with both WWF regulations as well as specific donor requirements. Take charge of liquidations and timely submission of financial reports, and take lead during audits. This project would contribute 40% of staff cost to this position (60% under Kaf Wild).
15	The M&E officer will coordinate monitoring, evaluation and learning/knowledge management functions. Ensuring successful assessment and monitoring of project activities and processes to ensure diverse data collection and analysis of highlights project activities, outputs, and outcomes; maintaining the M&E results frameworks of the project; and assisting the Project Manager and PIU in preparing semi-annual, and annual reports.
16	The Safeguards and Gender Officer will provide oversight on all elements of project safeguards, deliver on the developed ESMF, and ensure that the Gender Action Plan is actualized and that gender streaming receives the attention throughout the project and structures that perpetuate. The position will ensure conformity with WWF ESS Standards and the effective delivery of the ESMF/GAP and SEP for the project
17	This position will ensure timely procurement of goods and services according to set international and country standards. The post is a shared position at 50%, and this project is contributing 40% of the other 50%.
18	The comms officer will ensure the correct visibility of the project. Leading in coordinating communication materials from partners and other PMU technical staff.
19	The Project driver will be responsible for vehicle and other logistics to ensure the PMU functions uninterrupted
20	Conduct community engagement and allow borehole beneficiary communities to select gender balanced management committees to maintain the infrastructure
21	Train selected committees with basic record keeping and equipment use
22	Democratic selection of committees by fellow community members
23	Facilitate basic information sharing about good dam management practices
24	Procure venue for 150 people in 3 locations, logistical costs
25	Facilitate workshop for M&E, and other technical units, with stakeholders.
26	Facilitate community meetings
27	Organize community roadshows, radio time and social media
28	Identify tree planting champions to benefit from saplings as a benefit from their contribution to earthworks
29	Facilitate community participation guided by PMU
30	Facilitate logistics and organize exchange meetings
31	Renting of a vehicle to carry out project activities estimated at kilometer \$0.8 by estimated 12500 kilometers for 5 years

Expenditure Category	Detailed Description	Footnote s	C1	C2	C3	C4	M&E	Sub- Total	PMC	Total (USDeq.)	Responsible Entity
Goods (Equipment)			-	-	-	-		-		-	
Laptops for PMU staff	Procure 4 laptops for PMU staff	1	985	2,954	985	1,477		6,400		6,400	MGEE
Computer tablets	Customize survey instrument for Climate Crowd Survey follow-up	2	-	-	-	2,400		2,400		2,400	WWF ZCO
Phones	Four phones for PMU staff.	3	615	1,846	615	923		4,000		4,000	MGEE
Total Good (Equipment)			1,600	4,800	1,600	4,800	-	12,800	-	12,800	
Grants/ Sub-grants			-	-	-	-		-		-	
	Local NGO #1	4		271,230		-		271,230		271,230	Local NGO #1
	Local NGO #2	5		-	523,476	-		523,476		523,476	Local NGO #2
Sub-grant	International Crane Foundation	6	22,710	633,931	-	51,275		707,916		707,916	ICF
Total Sub-grant			22,710	905,161	523,476	51,275	-	1,502,622		1,502,622	
Contractual Services – Company			-	-	-	-		-		-	
Documentary & Video	Produce documentary and video evidence of project progress and learning	7	-	-	-	22,230		22,230		22,230	MGEE
Total Contractual Services – Company			-	-	-	22,230	-	22,230	-	22,230	
International Consultants			-	-	-	-		-		-	
	MTE/terminal evaluations		-	-	-	-	64,700	64,700		64,700	MGEE
Total International Consultants			-	-	-	-	64,700	64,700	-	64,700	
Local Consultants			-	-	-	-		-		-	
Local Consultants	Capture local and traditional knowledge related to agriculture, water, livestock and grazing, and suggested	8	10,000	-	-	-		10,000		10,000	WWF ZCO

	adaptation solutions										
Total Local Consultants			10,000	-	-	-	-	10,000	-	10,000	
Staff costs			-	-	-	-	-	-	-	-	
Salary and benefits	Project Manager & Technical Coordinator	9	22,688	68,065	22,688	34,033		147,474	17,858	165,332	MGEE
Salary and benefits	Climate Change Officer	10	31,222	93,666	31,222	46,833		202,944		202,944	MGEE
Salary and benefits	Finance and Administration Officer	11	-	-	-	-	-	-	59,200	59,200	MGEE
Salary and benefits	Monitoring and Evaluation Officer	12	-	-	-	-	59,200	59,200		59,200	MGEE
Salary and benefits	Safeguards and Gender Officer	13	9,749	29,247	9,749	14,623		63,368		63,368	MGEE
Salary and benefits	Procurement Officer	14	-	-	-	-	-	-	17,997	17,997	MGEE
Salary and benefits	Communications Officer	15	4,874	14,623	4,874	7,312		31,684		31,684	MGEE
Salary and benefits	Driver	16	5,535	16,604	5,535	8,302		35,975		35,975	MGEE
Salary and benefits	Admin Intern		12,799	-	-	-		12,799		12,799	
Total Salary and benefits / Staff costs			86,867	222,205	74,068	111,103	59,200	553,443	95,055	648,498	
Trainings, Workshops, Meetings	e.g. Inception Workshop		-	-	-	-		-		-	
Meetings	Hold dialogue sessions with community organizations across the Kafue Flats Game Management Area (GMA) to understand evolving climate change challenges[1] (in line with SEP and GAP in each of the 7 chiefdoms)		14,000	-	-	-		14,000		14,000	WWF ZCO
Meetings	Make presentations in local schools (schools engaged in Output 2.1.2) involving elders with traditional knowledge, and youth involved in monitoring (in line with SEP and GAP)		13,000	-	-	-		13,000		13,000	WWF ZCO

Workshop	Hold 7 chiefdom workshops to develop and integrate climate change adaptation solutions into the micro-zoning plans that include grazing plans in terms of the Kafue Flats GMP		60,000	-	-	-		60,000		60,000	WWF ZCO
Workshop	Hold 6 district workshops (and follow up) to integrate adaptation solutions into Integrated Development Plans (IDPs) of the 6 districts into which the GMA falls (in line with the SEP and GAP)		6,000	-	-	-		6,000		6,000	WWF ZCO
Workshop	Hold community-based knowledge management events (virtual and workshop) to track impacts of climate change on biodiversity, including water birds as indicators of ecosystem health and climate change		-	-	-	11,700		11,700		11,700	MGEE
Meetings	Hold joint Launch with KaF-Wild (40% of costs from KaF-Adapt, 60% budgeted in KaF-Wild)	17	-	-	-	-	14,000	14,000		14,000	MGEE
Workshop	Project M&E system developed for regular monitoring at all levels (annual workplans and budgets, results framework, project progress reports, core indicators)	18	-	-	-	-	10,000	10,000		10,000	MGEE
Total Trainings, Workshops, Meetings			93,000	-	-	11,700	24,000	128,700	-	128,700	
Travel			-	-	-	-		-		-	

Travel	Disseminate multi-media awareness material on community-generated adaptation solutions, integrating traditional knowledge	19	5,000	-	-	-	5,000	5,000	WWF ZCO
Travel	Facilitate knowledge exchanges within Kafue Flats GMA and with other parts of Zambia	20	-	-	-	14,100	14,100	14,100	MGEE
Total Travel			5,000	-	-	14,100	-	19,100	
Total Office Supplies			-	-	-	-	-	-	
Other Operating Costs			-	-	-	-	-	-	
Bank charges	Monthly bank charges at \$75.00 per month		-	-	-	-	-	4,500	MGEE
Telecommunication/internet	Airtime and internet for four PMU staff		-	-	-	-	-	5,760	MGEE
Photocopying	Photocopying when away from the office		-	-	-	-	-	500	MGEE
Insurance	Insurance to cover laptops and other equipment		-	-	-	-	-	10,000	MGEE
Vehicle hire	Vehicle hire	21	1,800	-	-	900	2,700	2,700	MGEE
Total Other Operating Costs			1,800	-	-	900	-	2,700	
Grand Total			220,977	1,132,166	599,144	216,108	147,900	2,316,295	

Footnotes

1	Procure 4 laptops for PMU @1.6k for their daily operations. 5 laptops budgeted under KAF-Wild
2	Procure 15 tablets @\$160 each and configure them with the climate crowd survey Application for data collection
3	Procure 4 phones for PMU staff @1.0k each. The other five will be procured from KAF-Wild
4	Sub-grant to Local NGO #1 for delivery of outputs 2.2.1 (Hold multi-stakeholder dialogues including livestock farmers and district MFL officials on climate-resilient livestock farming (breeds, vet support, pasture, fire, water, etc) and pastoralists' needs in line with GAP and SEP; Hold technical workshop between DNPW, ICF, WWF and MFL on: 1) pastoralists' needs in context of Beef Special Economic Zone, 2) impact of climate change on livestock farming, 3) results of the study (budgeted in Kaf-Wild) on ecological and grazing carrying capacity; and Establish (or strengthen) natural resource management committees under CRBs in up to 7 chiefdoms for climate-resilient holistic rangeland management); 2.2.2 (Supply 3 chiefdoms with basic fire-fighting equipment[11] and protective gear (4 chiefdoms budgeted for in Kaf-Wild). This includes supply of Equipment as well as professional training on safe usage of the equipment; Design training course (appropriate course content) with livestock farmer communities on adaptive holistic rangeland management, incorporating traditional knowledge; Conduct continuous integrated training on interventions on rangeland and fire management with [up to 7] natural resource management committees and livestock farmers; Develop integrated fire management plan for each of [up to 7] chiefdoms; Use cash-for-work to burn and maintain firebreaks in 3 chiefdoms (4 chiefdoms budgeted for in Kaf-Wild)) and 2.2.3 (Use cash-for-work to establish fenced pastures & irrigation systems at new watering points [up to 14] (see Output 2.1.1) to produce fodder (grass and legumes), fodder seed, and forage seed[13] and grow vegetables. This includes Community and stakeholder engagement for site selection for pasture growing in line with GAP and SEP;

	Establish a management committee (including women and youth) for each fodder pasture and garden; Train committees/ individuals on hay production, and on conserving, processing, packaging & labelling fodder and forage seeds) and vehicle hire. Sub-grantees will be selected through a process facilitated by the Project Steering Committee early in project implementation.
5	Sub-grant to Local NGO #2 for delivery of outputs 3.1.1 (Supply infrastructure and equipment and set up 7 climate-resilient women's cooperative enterprises; Develop a costed action plan for a set of popular options, e.g. mushroom cultivation, basketmaking, beekeeping, solar drying of fish, processing of mango and wild indigenous fruits; Hold initial workshops with women's cooperatives to identify new enterprises that are climate-resilient and diversify income (one per chiefdom); Hold follow-up workshops with 7 women's cooperatives to select preferred option; Conduct technical training and support 7 cooperatives to develop business plans, and work/benefit sharing plans; Design and deliver joint women's business leadership training course, including literacy, financial literacy, bookkeeping, public speaking, business planning, marketing, cash flow management etc.; and Provide ongoing technical assistance to each cooperative, including facilitating access to buyers and markets, cash flow support, business sustainability plan, and CDF applications) and 3.1.2 (Supply infrastructure and equipment and set up two sustainable livestock-based enterprises, with co-investment by selected partners; Conduct feasibility studies on selected priority enterprises including value chain linkages, potential buyers, market prices, road access, input supply, infrastructure, equipment and training needs and costs; Conduct multi-stakeholder consultations to identify 2 livestock-based enterprises including herder associations, natural resource management committees, Chiefs, local entrepreneurs (e.g. milk centre), companies (e.g. Zambeef); Approach district council (or chief / headperson) to provide land for new enterprises; Provide ongoing technical assistance, including applications for funding to the Constituency Development Fund to scale up the enterprises; Put out competitive call for local entrepreneur partners to co-invest in, profit from and run the two enterprises (with local employees)) and vehicle hire. Sub-grantees will be selected through a process facilitated by the Project Steering Committee early in project implementation.
6	Sub-grant to ICF for delivery of outputs 2.1.1 (Install solar-powered boreholes & irrigation schemes in villages/clusters that are highly vulnerable to drought – 2 per each of the 7 chiefdoms; Install solar-powered boreholes, livestock watering points & irrigation schemes in key upland grazing areas – up to 2 per each of the 7 chiefdoms; Decide borehole locations through multi-stakeholder consultations (including women) involving districts and ward development committees in the 7 chiefdoms; Establish a management committee (including women and youth) for each of [up to 28] borehole facilities; and Train the management committees to set pumping guidelines, monitor compliance, raise maintenance fees, and conduct maintenance); 2.1.2 (Do in-field earthworks: deepen existing ponds[5] and construct swales and contour bunds[6] to catch rainwater and allow infiltration; Hold "train-the-trainers" sessions for Village Action Groups on earthworks for in-field water harvesting; Establish a nursery for indigenous/suitable fruit trees (involving women and youth), and distribute saplings as an incentive for households contributing to earthworks); 2.1.3 (Use cash-for-work to renovate one existing damaged /silted up dam in each of 7 chiefdoms; Use cash-for-work to construct gabion check dams[9] across rivers in areas vulnerable to flood and drought – 2 per each of the 7 chiefdoms; Establish solar-powered irrigations systems and communal food gardens next to [14] check dams; Decide locations through multi-stakeholder consultations[7] (including women) involving districts and ward development committees for rehabilitating existing dams or constructing new check dams[8]; Establish a management committee (including women and youth) for each of the [21] renovated dams / new dams with food gardens and Train the management committees to monitor dam levels and condition, run food gardens, raise maintenance fees, and conduct maintenance); and 4.1.2 (Train and equip youth on climate change adaptation and monitoring app customized for project, and equip with smartphone technology; Document community knowledge on indicators of ecosystem health and climate change and Conduct regular surveys of key indicators of climate change, e.g. stream flow on rivers with check dams, and plots for vegetation monitoring) including vehicle hire.
7	Produce documentaries in years 1, 3 & 5 @15k (5k each year). Consultative @4.5k (1.5k each year). Fuel @2,250 and newsletters @480 across the 3years.
8	PMU to conduct local knowledge capturing sessions with various communities
9	The Project and Technical coordinator will be responsible for the overall coordination of the project and PMU. He will equally provide technical expertise on all outcomes of the project in ensuring that technically the project delivers climate solutions that are transformational to local communities and enables the environment to thrive.
10	The Climate Change Officer will constantly liaise with the manager and be the convener of various interests in government, NGO partners, local communities and supporting functions in PMU. The position will be solely focused on delivering LDCF project outcomes and ensuring that other support PMU staff such as finance, Safeguards & Gender, M&E, Communications and Community engagement efforts are supported with technical input
11	The Finance and Admin Officer will provide overall financial and Admin support to the PMU and all implementing partners. He/she will support the day to day running of the project by ensuring partner grants and PMU imprests are processed on time. Ensure projects are implemented in compliance with both WWF regulations as well as specific donor requirements Take charge of liquidations and timely submission of financial reports, and take lead during audits. This project would contribute 40% of staff cost to this position (60% under Kaf Wild).
12	The M&E officer will coordinate monitoring, evaluation and learning/knowledge management functions. Ensuring successful assessment and monitoring of project activities and processes to ensure diverse data collection and analysis of highlights project activities, outputs, and outcomes; maintaining the M&E results frameworks of the project; and assisting the Project Manager and PIU in preparing semi-annual, and annual reports.
13	The Safeguards and Gender Officer will provide oversight on all elements of project safeguards, deliver on the developed ESMF, and ensure that the Gender Action Plan is actualized and that gender streaming receives the attention throughout the project and structures that perpetuate. The position will ensure conformity with WWF ESS Standards and the effective delivery of the ESMF/GAP and SEP for the project
14	This position will ensure timely procurement of goods and services according to set international and country standards. The post is a shared position at 50%, and this project contributes 40% of the other 50%.
15	The comms officer will ensure the correct visibility of the project. Leading in coordinating communication materials from partners and other PIU technical staff.
16	The Project driver will be responsible for vehicle and other logistics to ensure the PIU functions uninterrupted
17	Procure venue for 150 people in 3 locations, logistical costs

18	Facilitate workshop for M&E, and other technical units, with stakeholders.
19	Organize community roadshows, radio time and Social Media
20	Facilitate logistics and organize exchange meetings
21	Per kilometer \$0.8 by estimated 12500 kilometers for 5 years