

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

TABLE OF CONTENTS

GENERAL PROJECT INFORMATION	3
Project Summary	4
Indicative Project Overview	6
PROJECT COMPONENTS	6
PROJECT OUTLINE	9
A. PROJECT RATIONALE	9
B. PROJECT DESCRIPTION	34
Project description	34
Coordination and Cooperation with Ongoing Initiatives and Project	60
Core Indicators	60
Key Risks	63
C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES	65
D. POLICY REQUIREMENTS	66
Gender Equality and Women’s Empowerment:	66
Stakeholder Engagement	66
Private Sector	67
Environmental and Social Safeguard (ESS) Risks	67
E. OTHER REQUIREMENTS	67
Knowledge management	67
ANNEX A: FINANCING TABLES	67
GEF Financing Table	67
Project Preparation Grant (PPG)	68
Sources of Funds for Country Star Allocation	68
Indicative Focal Area Elements	68
Indicative Co-financing	68
ANNEX B: ENDORSEMENTS	69
GEF Agency(ies) Certification	69
Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):	69
ANNEX C: PROJECT LOCATION	70
ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING	71
ANNEX E: RIO MARKERS	71
ANNEX F: TAXONOMY WORKSHEET	72

General Project Information

Project Title

Strengthening Zambezi River Basin Management towards Climate Resilience and Ecosystem Health.

Region

Regional

GEF Project ID

11572

Country(ies)

Regional

Angola

Botswana

Malawi

Mozambique

Namibia

Zambia

Zimbabwe

Tanzania

Type of Project

FSP

GEF Agency(ies):

AfDB

GEF Agency ID

Executing Partner

Zambezi Watercourse Commission (ZAMCOM)

Executing Partner Type

Others

GEF Focal Area (s)

International Waters

Submission Date

3/20/2024

Project Sector (CCM Only)

Mixed & Others

Taxonomy

Focal Areas, Climate Change, Climate Change Adaptation, Ecosystem-based Adaptation, Climate resilience, Climate information, Mainstreaming adaptation, Climate finance, Integrated and Cross-sectoral approach, Sustainable Land Management, Land Degradation, Drought Mitigation, Ecosystem Approach, Food Security, Wetlands, Biomes, Biodiversity, Rivers, Conservation Trust Funds, Financial and Accounting, Payment for Ecosystem Services, International Waters, Pollution, Nutrient pollution from Wastewater, Strategic Action Plan Implementation, Transboundary Diagnostic Analysis and Strategic Action Plan Preparation, Freshwater, River Basin, Influencing models, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Transform policy and regulatory environments, Stakeholders, Beneficiaries, Participation, Type of Engagement, Consultation, Partnership, Information Dissemination, Education, Communications, Behavior change, Strategic Communications, Indigenous Peoples, Private Sector, Large corporations, Capital providers, Capacity, Knowledge and Research, Knowledge Generation, Workshop, Knowledge Exchange, Field Visit, Peer-to-Peer, Capacity Development

Type of Trust Fund

Project Duration (Months)

GET	48
GEF Project Grant: (a) 9,450,000.00	GEF Project Non-Grant: (b) 0.00
Agency Fee(s) Grant: (c) 897,750.00	Agency Fee(s) Non-Grant (d) 0.00
Total GEF Financing: (a+b+c+d) 10,347,750.00	Total Co-financing 320,150,001.00
PPG Amount: (e) 200,000.00	PPG Agency Fee(s): (f) 19,000.00
PPG total amount: (e+f) 219,000.00	Total GEF Resources: (a+b+c+d+e+f) 10,566,750.00
Project Tags	
CBIT: No NGI: No SGP: No Innovation: No	

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)

The proposed GEF project seeks to enhance the capacity of ZAMCOM and its subsidiary riparian state entities to institutionalize multi-sector systems for implementing actions that catalyze inclusive and resilient transboundary management in the Zambezi basin. The overall goal is to enhance multi-sectoral collaborative water, energy, food and environment planning, coordination and application in decision making processes to achieve sustainable transboundary water resources management in the Zambezi River basin.

The profile of the Zambezi Watercourse can be categorized into three distinct stretches (upper, middle, and lower regions) which are composed of the 13 sub-basins that represent its major tributaries. The main stem of the Zambezi originates from the Kalene Hills in northwest Zambia and after about 2,600 km of total run, the river reaches the Indian Ocean at the Zambezi Delta in Mozambique. The river basin covers 8 countries namely: Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe. The Zambezi River Basin is the fourth largest in Africa – and has rich terrestrial and aquatic biodiversity of global significance. It covers the miombo woodlands in Zambia, the Angolan Highlands a critical water tower, the Barotse floodplains, the Kavango-Zambezi TFCA, the Victoria Falls, Lake Nyasa/Malawi, and the mangrove forests in the Zambezi Delta. These critical ecosystems are under threat from land degradation, poaching, artisanal mining, pollution from agriculture and urban areas and illegal activities like logging due to limited historical oversight. Issues of physical water scarcity have a huge impact on food and energy security.

The project will enhance inter-sectoral cooperation and collaboration basin wide and among riparian state institutions in addressing environmental threats to water, food, and energy security. This will be done by supporting the review of relevant guidelines, strategies and policies, facilitate dialogue and consensus building among water, energy, food and environment (WEFE) nexus sectors informed by prior studies and new propositions and development of agreed basin-wide standards, strategies and policy frameworks to enable

inclusive multi-sectoral cooperation at the national and basin levels. Through promoting multi-sector collaboration, the project aims to establish a truly integrated governance framework that will drive joint planning for the water, food, energy and environmental (WEFE) sectors.

The focus of the project is to enhance explicitly the cooperation across sectors that will lead to the implementation of WEFE nexus interventions and investments. These sectors include, the departments and ministries of water, the dam operators including the Zambezi River Authority (ZRA), the departments and ministries of energy, agriculture and food security and ministries of environment dealing with land, biodiversity (flora and fauna) and climate change. In order to ensure alignment with national planning and development processes, the departments and ministries of finance and planning, urban and rural development will also need to be engaged and critical cross cutting sectors such as ministries of gender and youth. Other important stakeholders include private sector, community-based organizations (CBO's) and non-governmental organizations (NGO's) among others. Although this may appear to be a complicated task, ZAMCOM has already laid the foundation through the multi-sector Zambezi National Stakeholder Coordination Committees (NASCCs) have already been established and are operational however in order to fulfill WEFE nexus coordination and operationalization, their terms of reference and composition will need to be reviewed, revised and enhanced through support from this project.

Improved inter-sectoral cooperation will provide the enabling environment to enhance the development of science-based transboundary river basin management instruments. The project will support the enhancement of ZAMWIS to ensure data collected enables the countries to make informed decisions to achieve water, energy, food and environmental security building on the existing studies, tools and instruments. Consultations with the eight riparian states will be undertaken to agree on development of Basin wide environmental data collection and monitoring framework and protocols that will be integrated into ZAMWIS/DSS and operationalized. Basin specific ESA and WEFE guidelines will be developed, and their implementation promoted at basin, sub-basin and national levels. At the same time, dam releases will be synchronized, and their operation rules revised to ensure environmental flows are maintained. With these actions the overall basin climate resilience will be improved and the infrastructure climate proofed.

The project will also focus on addressing pollution flows, a key environmental threat through determining and operationalizing environmental flow requirements. An environmental framework that supports the monitoring of key parameters supported by the data sharing protocol will be developed to enhanced to support science-based decision-making.

A key action will be on strategies to reduce dependency on external funding sources by exploring and promoting alternative sustainable basin funding mechanisms. The project will complement baseline investments by the AfDB, GCF, CIF and CAW that will be implemented at the national and local levels as well as the Southern Africa Great Green Wall Investment Plan. All these are guided by the Zambezi Watercourse Strategic Plan (ZSP) and the SADC instruments for cooperation including the Regional Indicative Strategic Development Plan (RISDP).

Knowledge Management in the management of basin resources is a key component of the project and it will invest substantially into peer-to-peer learning, knowledge and information sharing as well as mainstreaming science-based decision-making in the management and development of basin resources.

The Zambezi Watercourse Commission (ZAMCOM) will be the executing agency for the project, and it will work through its existing structures to implement the project with technical support from relevant cooperating partners.

Indicative Project Overview

Project Objective

To improve collaborative water, energy, food and environmental planning and management in the Zambezi River Basin.

Project Components

Component 1: Strengthening institutional capacity and inclusive collaborative mechanisms for multi-sector transboundary basin management..

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
818,182.00	27,545,455.00

Outcome:

Outcome 1.1: A joint WEFE basin planning & development system is established and operationalized.

Output:

Output 1.1.1:

Regional WEF guidelines are adapted and contextualized for basin-wide planning.

Output 1.1.2:

ZAMSEC and national agency staff are trained in the application of ZAMCOM instruments and tools.

Output 1.1.3:

Multi-sector, multi-stakeholder dialogues are organized and made sustainable.

Output 1.1.4:

Inter-sector development plans are prepared, and pilot tested in selected sub-basins.

Component 2: Basin wide planning tools are developed and mainstreamed into ZAMCOM riparian states operations..

Component Type	Trust Fund
Technical Assistance	GET

GEF Project Financing (\$)	Co-financing (\$)
2,454,545.00	83,636,364.00

Outcome:

Outcome 2.1: Tools and instruments for collaborative transboundary planning and management are operationalized.

Output:

Output 2.1.1: A basin wide inter-sectoral data sharing mechanism is established.

Output 2.1.2: Guidelines for basin wide environmental impact assessments are developed and operationalized at national level.

Output 2.1.3: Development of basin wide climate risk management and early warning systems.

Component 3: Enhancing transboundary environmental health and climate risk monitoring.

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
3,272,727.00	110,181,818.00

Outcome:

Outcome 3.1: Water-energy-environment management data repository and operation guidelines are agreed and implemented.

Output:

Output 3.1.1: Basin wide Transboundary Diagnostic Assessment and Environmental Monitoring Framework agreed and operationalized.

Output 3.1.2: Basin wide pollution source hotspots are identified and prioritized for remedial actions.

Output 3.1.3: Preliminary basin wide e-flow requirements are agreed and applied in selected priority sub-basins of the Zambezi.

Output 3.1.4: Zambezi dam operations rules are reviewed and synchronized to meet EFRs at the Delta.

Component 4: Exploring alternative financing mechanisms for ZAMCOM core functions basin investment planning.

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
1,636,364.00	55,090,909.00

Outcome:

Outcome 4.1: Alternative financing mechanism for ZAMCOM core functions are defined and operationalized.

Output:

Output 4.1.1: A financing strategy for mobilizing finance from public and private operators is developed and adopted.

Output 4.1.2: A strategy for mobilizing finance from non-traditional funding sources is developed and adopted.

Output 4.1.3: Private sector & user engagement strategy is prepared and rolled out.

Component 5: Knowledge management and information sharing.

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
518,182.00	24,545,455.00

Outcome:

Outcome 5.1: Transboundary WEFE knowledge and information is widely shared and used for decision-making at regional, RBO and national levels.

Output:

Output 5.1.1: Basin knowledge exchange programs are planned & implemented.

Output 5.1.2: ZAMCOM internship program is designed and implemented.

Output 5.1.3: Basin information is widely publicized and broadcasted.

Output 5.1.4: Project monitoring and evaluation.

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
300,000.00	4,000,000.00

Outcome:

Outcome: Project monitoring and evaluation.

Output:

Output 1: A participatory project M&E system is designed and implemented

Output 2: 2-3 basin institutions providing input for M&E reporting

Output 3: 8 (at least one per country) M&E reports produced

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1: Strengthening institutional capacity and inclusive collaborative mechanisms for multi-sector transboundary basin management..	818,182.00	27,545,455.00
Component 2: Basin wide planning tools are developed and mainstreamed into ZAMCOM riparian states operations..	2,454,545.00	83,636,364.00
Component 3: Enhancing transboundary environmental health and climate risk monitoring.	3,272,727.00	110,181,818.00
Component 4: Exploring alternative financing mechanisms for ZAMCOM core functions basin investment planning.	1,636,364.00	55,090,909.00
Component 5: Knowledge management and information sharing.	518,182.00	24,545,455.00
M&E	300,000.00	4,000,000.00
Subtotal	9,000,000.00	305,000,001.00
Project Management Cost	450,000.00	15,150,000.00
Total Project Cost (\$)	9,450,000.00	320,150,001.00

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

Background and significance of the Zambezi Basin

The Zambezi River is the fourth largest river in Africa and the biggest in southern Africa (Lugomela et al, 2020). It drains 1.4 million square kilometers and discharges a mean annual runoff (MAR) of about 130 km³/year into the Indian Ocean (Beilfuss 2012). The Zambezi Basin is shared by eight out of 15 mainland states in the sub-region being Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe. These countries are home to over 173 million or 47% of the entire Southern Africa Development Community (SADC) population.

These goods and services of the basin come mainly as hydroelectric power generation, irrigation, domestic and industrial supply, and mining as well as tourism, navigation, transport, and support of unique aquatic ecosystems and wildlife habitat in several wetlands and the delta. These services, especially hydropower, serve the entire sub-region. In fact, Tilmant and Namara (2017) estimated the total GDP of the Zambezi Basin at USD22 billion in 2015 and projected it to be around USD66 billion 2025, which is equivalent to USD1,500 per capita and about 10% of the GDP of the entire Southern Africa Development Community (SADC). This is despite the basin being largely undeveloped with limited major infrastructure and current total water withdrawals amounting to only 15% of the total average flow (ZSP, 2019). The basin's potential for catalytic development in the region is therefore enormous. A map of the basin is presented below.



Key system drivers in the basin

The basin experiences pressure from population growth, climate change, river damming, and pollution from industry, mining, and invasive species.

The climate of the basin varies from the dry Kalahari Desert in the south to wet tropical rainforests in the north. Rainfall is seasonal but of late the rainfall season has become shorter, with the rains coming much later than October, and ending much earlier than April (Lugomela et al, 2020). Evaporation rates from the wetlands and rivers are relatively high leaving only 10% of the runoff to reach the Indian Ocean (Beilfuss 2012). This runoff is predicted

to decrease by 26-40% by 2050 due to climate change impacts (IPCC, 2014).

The basin is also highly vulnerable to the impacts of climate change and adverse weather events, which by themselves can cause serious environmental, economic, and social damages. Historical records indicate that extensive droughts affected the Zambezi Basin in 1981-82, 1986-87, 1991-92, 1994-95, 2001-02 and 2012-13, while floods ravaged parts of the Basin in 1999-2000, 2005-06, 2007- 09 and 2014-15 (SADC and SARDC and others 2008, ZAMCOM and SARDC 2015) and in 2019. The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) released in 2021 confirms that the Zambezi Watercourse exhibits the 'worst' potential effects of climate change and variability among 11 major African watercourses. These climate induced changes will likely have a negative impact on the availability of water resources and livelihoods in the basin and therefore call for preemptive measures to be taken.

Besides climate, the human footprint in the basin is notable. The human population living within the basin and wholly depend on its goods and services for their livelihood was estimated at 47 million people or 28% of total in the riparian states (World Bank, 2017). Whilst population distribution is uneven, with large areas uninhabited and reserved for wildlife, its impact on the basin is profound partly because livelihoods are subsistence. Fore example, smallholder rain-fed agriculture accounts for 96% of agricultural activity. Consequently, poverty-induced degradation has resulted in 51% of land in the basin becoming moderately degraded and 14% highly degraded, with growing negative impacts on the population and on water resources (ZSP, 2019). The table below summarizes the population distribution in the basin (ZAMCOM, SADC AND SARDC, 2015).

Country	Country area within Watercourse	Area of Watercourse occupied by country	Total country population (million)	Population in Watercourse (million)	Rural population (country)	
					2007	2017
Angola	20.5%	18.5%	30	0.9	62%	54%
Botswana	3.3%	1.4%	2.3	0.02	44%	42%
Malawi	93.4%	8.0%	19	16.6	85%	83%
Mozambique	20.5%	11.8%	30	6.5	70%	67%
Namibia	2.1%	1.2%	2.5	0.08	61%	51%
Tanzania	2.9%	2.0%	57	2.1	74%	67%
Zambia	76.8%	41.6%	17	10.6	63%	58%
Zimbabwe	55.2%	15.6%	17	10.5	66%	68%
TOTALS			174	47.3	69.9%	65.3%

The population age structure of the basin displays the classic “youth bulge” characteristic of developing countries with relatively high birth rates and, on average, just above half of the population are female and about 43% are children under 18 (OneWorld, 2012). As many as 80% of the women are engaged in agriculture (World Bank, 2010) and therefore responsible for family food security mostly met through subsistence and rainfed agriculture but due to traditions and customary laws women do not own the land they work and therefore have neither the decision-making powers nor the financial means to try new farming methods, or to diversify and thereby stabilize their family income (UNECA, 2011). By contrast, men take responsibility for cash crops through direct production or sale of labour to commercial enterprises which give them dominance in the household at the same time being active participants in the transgressions of the enterprises they work for, especially mining.

Mining activities are responsible for the elevated input levels of suspended sediment and hazardous metals into the riverine ecosystems. including physical impacts such as salinization, siltation, changed patterns of water use, excavation of large pits, diversion of river streams and deforestation (Ashton and others 2010) and chemical impacts like changes in acidity or alkalinity, and release of arsenic, mercury and other heavy metals (Euroconsult-Mott MacDonald 2008). Here again, men tend to be culpable whilst women are victims. Men migrate from rural homes to the mines but return with both earnings and disease, including HIV. The burden of care falls on the women. Also, the number of orphaned children in the basin is on the rise with UNICEF estimating 20-25% of all children in the basin to have lost one or both parents by 2030. The risk of chronic poverty, child labour and illiteracy remain high in the basin.

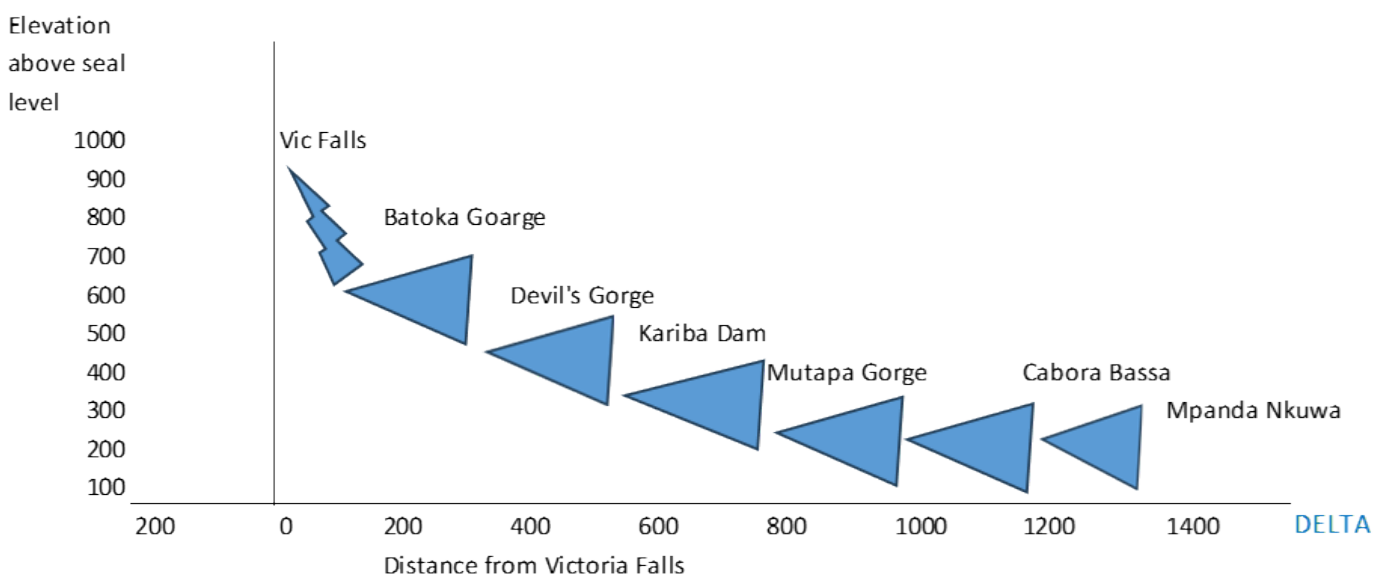
Mining also threatens biodiversity and ecosystems. Lower Zambezi Conservation (LZC) reported in 2021 that the Kangaluwi open-cast copper mine proposed in Lower Zambezi National Park (LZNP), an International Conservation Union (IUCN) category II protected area in South-Eastern Zambia, will endanger globally threatened wildlife species such as Elephants and Wild Dogs and as well as unique vegetation types that include Zambezi endemics and the only protected and intact lowland deciduous thickets in the Southern African region.

Besides agriculture and mining human settlement is impacting the water resources and ecology of the basin negatively. The Zambezi Basin countries are rapidly urbanizing, and this has resulted in an increase in industrial activities, leading to generation of waste discharges into river systems, thereby compromising receiving water quality. Although it is difficult to assess the amount of pollution originating from industries on the Zambezi tributaries, there is clear evidence that highly urbanized sub-basins such as Kafue and Manyame are discharging waste into the Zambezi River system (Euroconsult-Mott-MacDonald 2008). In Zambia alone, annual waste generation from industrial, commercial, and domestic activities was estimated at 2 million tons in December 2006 (Environmental Council of Zambia 2008). Effluent discharge is also a matter of concern in the Zambezi Delta where the Sena Sugar industry at Marromeu releases high amounts of biodegradable waste and high amounts of wastewater into the Zambezi water system in addition to all the pollution conveyed downstream by the Zambezi and its tributaries.

Besides the generation of pollution, studies have shown that there are more male migrants to cities than females, especially in the 16-to-30-year age group due to structural challenges and patriarchal values. Thus, with increased urbanization, gender inequities and inequalities intensify due to unequal access to goods and services and to basic

social and economic services available in cities compared to rural areas. However, urban infrastructure development and services in the basin generally fail to keep up with population growth and when services are inadequate, women and girls bear the brunt of this failure as they find themselves burdened with the same challenges prevalent in rural settings such as fetching water from boreholes, cleaning pit latrines, etc.

Lastly, the demand for energy is creating challenges in the basin. The Zambezi River has the potential to produce 20,000 MW of hydropower when fully developed. So far just under 25% of that capacity is installed at Kariba and Cahora Bassa. The below diagram shows the existing and planned dams on the Zambezi River, SADC/ZRA (2013).



The completed dams, affect the flow regime and ecosystem, and hence the aquatic resources, of the Zambezi River especially downstream. For example, as early as 1970,

Attwell, noted that the Kariba impoundment brought about marked changes in the biotic communities of the floodplain downstream due to changes in the flood régime. The artificial lake impoverished, and continues to impoverish, the downstream alluvium by removing silt deposits from the Zambezi water before it reaches the floodplain, and by tending to stabilize flow which reduces the ecological dynamism of the river thus affecting the reproductive success and behavior patterns of fauna of the riverbanks and plain areas, because the discharges are, ecologically, no longer naturally timed. OneWorld (2012) also confirmed that the Zambezi river's biological characteristics in Mozambique have been similarly modified by the Cahora Bassa Dam. The impact on riverine communities has been, and remains, profound. For example, Kaluba & Makupe (2021) illustrated that construction of Kariba Dam forced migration on the Tonga people and during the exodus most people lost their belongings and their way of life and experienced hardships in the new resettlement areas including perpetual water shortages and minimal access to the dam's fisheries (Mashingaidze, 2019).

Humans have also introduced invasive plant and animal species which are a form of pollution that has hitherto received limited attention. One such aquatic invasive plant species found in the Zambezi River Basin is the water hyacinth (*Eichhornia crassipes*) which is most prolific on,

the Kafue Flats (Zambia), Lakes Chivero (Zimbabwe) and Kariba, and the Lower Shire (Malawi). If left uncontrolled these invasive plants can spread to all connected watercourses via water flow and eventually reach the Delta. In addition, there are real negative economic, livelihood and social consequences of inaction or uncoordinated response to invasive species. For example, Kasulo (2000) estimated the cost due to the invasion of water bodies by water hyacinth in Zambia and Zimbabwe at USD71.4 million/year as they can block water channels, cause mortality of aquatic life forms, and provide suitable breeding grounds for bilharzia-carrying snails and mosquitoes. Rural livelihoods are also affected. For instance, aquatic weed infestation around Lake Malawi/Niassa/Nyasa and the Shire sub-basin, has made lagoons and marshes dry out faster, exacerbating low water-levels during droughts. This has led to reduced fish stocks and deprived local people of a major source of livelihood. The weed mats also harbour crocodiles and snakes, making it difficult for women to fetch water and do washing in infested places.

There are also invasive animal and fish species that have been introduced in the basin and observed to cause irreparable damage to basin resources. Crayfish, for example, are a particularly dangerous invasive fish species that have no natural predators. The crayfish is not only highly invasive but also has high rates of dispersal, often

up to 111 km per year downstream, partly due to passive transport on floating vegetation (Douthwaite et al, 2018). A salient threat is competing water uses in the basin. Current consumptive demands, ZSP (2019), are illustrated in the Table below.

Water use	Annual Volume (bcm)	% of Consumptive use	Source
Available runoff	105.0		World Bank, 2010
Urban, rural, industrial, mining	0.34	2.71%	SADC & ZRA, 2008
Irrigated agriculture and livestock	1.59	12.69%	SADC & ZRA, 2008
Net reservoir evaporation	10.6	84.60%	Calculated: Total-rainfall=net
Total consumption	12.5	100%	calculated

Current total water withdrawals amount to approximately 12% of the total average flow, suggesting that the basin is largely undeveloped. However, Tamatamah & Mwedzi (202) building on the work of Cohen (2013) reported that the impacts of decreasing flows due to rising water demand and long—term river regulation on aquatic ecosystems are becoming increasingly evident in the Zambezi River Basin thus suggesting that the basin is vulnerable even at low withdrawal levels. Furthermore, the basin water uses are also non-consumptive. Increasingly, tourism is playing a prominent role in the basin economy and the requirements to maintain pristine basin conditions, limit human-wildlife conflict, limit excessive water withdrawals as well as safeguard ecological integrity are becoming prominent as reflected in the establishment of Transfrontier Parks, e.g.,

Kavango-Zambezi Transfrontier Conservation Area (KAZA TFCA).

Baseline futures

Balancing ecosystem requirements and human needs for livelihoods and economic development remains a critical challenge in the Basin. Thus, the key strategic issue for the basin is achieving a balance between economic growth inclusive of environmental sustainability against the risk of droughts and floods due to highly variable climate predicted to worsen due to climate change. Available studies (Zambezi Environmental Outlook, 2015) predicted that temperatures in the basin will increase in the range of +0.3 °C to +0.6 °C per decade, summer temperatures will increase by a maximum of +0.8 °C per decade, rainfall will decrease by 10 - 15%, with high occurrence of extremes, i.e., droughts will be drier and wet years will be wetter, and evaporation will increase by 10% to 25% by 2050. .. The population growth shows no signs of slowing down, SADC IMERSA (2015) projected it to grow at an average rate of 2.9% per year to reach 51 million by 2025 and then double to 110 million by 2050. Economic growth does exhibit the capacity to move a significant number of people from poverty, and rural subsistence, in the near future. Accelerated basin wide environmental degradation cannot therefore be ruled out.

The challenges noted above will likely be exacerbated by the fact that, despite the existence of relevant institutions, the riparian states do not yet have fully coordinated and harmonized policies and strategies for managing the basin resources. For example, water quality and effluent standards are not integrated which makes monitoring and policing at the transboundary level problematic.

Meanwhile, hydropower generation is not balanced with the sustainability requirements for other nature dependent life forms. Invasive species, initially introduced as micro level actions, have the potential to spiral out of control and

accumulate into major environmental disasters once they breach their original control boundaries.

The need for basin support

The above presentation shows that the Zambezi basin has an increasingly fragile environment and is also prone to climate induced disasters, yet it has insufficient capacity to tackle these challenges. The region is therefore in need of external support for:

- **Institutional strengthening for climate responsive planning and management, leveraging additional green blended finances from the private sector and investors to scale up adaptation and mitigation initiatives, promoting the growth of green agribusiness opportunities, and scaling up resilient agroecological practices and innovations to support adaptation and mitigation initiatives in the respective countries, and Basin.**

The proposed GEF project builds on these lessons and specifically targets institutional strengthening. Cognizant of the multi-sector, multi-stakeholder nature and already established institutional arrangements in the basin, the GEF project seeks to facilitate consensus building and targeted capacity enhancement that promotes collaborative basin planning and management.

The proposed project will work with, and strengthen, initiatives, structures and tools already established for Zambezi basin management namely ZAMCOM and its structures, Zambezi River Authority (ZRA) and the Zambezi Dam Operators (ZAMDO), ZSP, ZAMWIS/DSS and the SADC WEF Nexus. The key stakeholders in these

initiatives have been consulted and contributed in the formulation of the proposed project. Notable contributors were ZAMSEC, ZAMTEC, the AfDB and the country GOFP who all endorsed the project. In addition, contributions were received from the UNCCD and there were exchanges with the design teams from prior projects in the basin especially for environmental flows, development of the ZAMWIS/DSS and dam synchronization studies.

The institutional setting in the basin

In response to the ever-changing dynamics in the basin, the riparian states have established various institutional arrangements for joint management of the basin. These institutional arrangements involved various organizations, agreements, and mechanisms that contribute to improved collaborative basin management and stakeholder engagement. Two types of transboundary agreements exist in the basin, bilateral agreements between riparian states on specific issues (e.g., hydropower projects, environmental flow requirements) and a broader basin wide multilateral agreement. This proposal deals with the latter.

The Zambezi Watercourse Agreement (ZAMWA) was signed in 2004 to provide a legal framework for cooperation and equitable sharing of water resources in the basin. The ZAMWA addresses the scarcity and the value of basin water resources; their conservation, protection and sustainable utilization; the sustainable development and management of the basin and strengthens relations and good neighbourliness amongst the Riparian States.

To realize the above goals, the ZANWA of 2004 established the Zambezi Watercourse Commission (ZAMCOM) in June 2011. ZAMCOM is not an authority, so its role is mostly supporting the cooperation and knowledge exchange across countries. The functions of ZAMCOM include the following:

- **Promote, support, coordinate and harmonize the management and development of the water resources of the Zambezi Watercourse.**
- **Collect, evaluate and disseminate all data and information on the Zambezi Watercourse as may be necessary for the implementation of the Agreement.**
- **Advise Member States on measures necessary for the avoidance of disputes among Member States with regard to planning, management, utilization, development, protection and conservation of the Zambezi Watercourse; and**
- **Foster greater awareness among the inhabitants of the Zambezi Watercourse regarding the equitable and reasonable utilization and efficient management and sustainable development of the resources of the Zambezi Watercourse.**

To implement its mandate, ZAMCOM established three key organs and subsidiary stakeholder institutions. The three organs are the Council of Ministers, the Zambezi Technical Committee (ZAMTEC) and its various sub-committees (hydrology, etc.) and the ZAMCOM Secretariat. The key organs are supported by project specific, non-permanent, implementing units and working groups. The stakeholder institutions include the National Stakeholder Committees (NASCs), Watercourse Stakeholder Committee (WASC) and the Watercourse-wide Stakeholder Forum. The ZAMCOM institutional structure is presented below.

Council of Ministers

**Technical Committee
ZAMTEC**

**ZAMCOM Secretariat
ZAMSEC**

**Implementing Units
(Project Specific Management)**

**Working Groups
(Specific Issue Secondments)**

Basin-wide Stakeholders Coordination Committee (BASC)

National Stakeholders Coordination Committee (NASC)

The Council of Ministers is the primary governance structure of the Commission and is made up of the Ministers responsible for water resources management and development from each of the Member States. The ZAMCOM Technical Committee (ZAMTEC) is made up of up to three representatives, led by the water ministry, from each Member State and is responsible for developing and recommending the Strategic Plan for the Zambezi Watercourse to the Council and for assigning tasks to, and supervising the work of, the Secretariat. The ZAMTEC will be the anchor organ for the proposed GEF project with its composition expanded to include representatives of the ministries of energy, agriculture and environment to complete the WEFES set-up.

The ZAMCOM Secretariat (ZAMSEC) provides technical and administrative services to the Council under the supervision of Technical Committee. It facilitates the implementation of the Strategic Plan, annual work programmes, plans, studies, assessments, and other activities required for the implementation of the ZAMWA. ZAMSEC will manage the finances of the proposed GEF project.

From the set-up of the key organs as presented above the bias of ZAMCOM towards the water sector is evident. The proposed project, therefore, without seeking to change the established order, aims to integrate the work of other WEFES sectors (energy, agriculture, environment) into the operations of ZAMCOM.

The key ZAMCOM organs, particularly ZAMTEC, have non legal working linkages with partner institutions for the operation of major water infrastructure such as the Zambezi River Authority (ZRA) for power generation, Zambezi Dam Operators (ZAMDO) for dam operations and the SADC Ground Water Institute (GMI) for the management of transboundary aquifers in the basin with whom they convene regular consultative meetings.

Furthermore, ZAMCOM recognizes that stakeholder participation is critical to ensure ownership and legitimacy of outputs, products and outcomes in the context of sustainable cooperation and therefore has formalized its subsidiary stakeholder institutions to support the key organs. National Stakeholder Coordination Committees (NASCs) are platforms for national consultations for inputs for basin-wide processes. They draw members from government, non-governmental organizations, academia, civil society, traditional leadership. While the NASCs play a critical role in supporting planning and implementation of actions to address the transboundary challenges they have limited capacity to drive implementation, and this has an impact on enhancing transboundary water cooperation. The Basin-wide Stakeholder Coordination Committee (BASC) coordinates NASC inputs into basin-wide ZAMCOM processes and is made up of NASC focal points and regional and international cooperating partners active in the basin, e.g. IUCN, WWF, SARDC and GWPSA, Waternet. The BASC is as robust and as effective as the NACS that constitutes it.

These stakeholder committees and fora were established to facilitate multi-stakeholder engagement which provide a foundation for implementing the WEFE nexus approach in the basin but will require review of their role and terms of reference and strengthening to enable WEFE nexus planning, coordination and implementation.

While ZAMCOM recognizes the pivotal role of women as providers and users of water and guardians of the living environment and acknowledges that they play a major role in natural resource management and utilization in the basin, it is concerned by their constrained participation. It therefore prioritises gender mainstreaming in its stakeholder institutions and deliberately encourages the involvement of women in leadership and decision-making positions within the NACS and BASC. Indeed, the ZAMCOM Gender Mainstreaming Strategy and Implementation Plan (2018) expresses ZAMCOM's commitment to promoting the goal of gender equality in the planning, development, management, and utilization of the Watercourse's resources. Success of the strategy is, however, hampered by community traditions that tend to confine women to subsistence roles, i.e., tending the fields, fetching water, feeding the family, caring for the sick and selling goods at local markets. Illiteracy among women which is approximately 60%, versus 30% for men (Sarapura, 2019) further inhibits the ability of women to meaningfully contribute to the stakeholder institutions.

Furthermore, ZAMCOM respects Indigenous knowledge Systems (IKS) and raises awareness of these in stakeholder activities. Traditional ceremonies such as the Kuomboka in upper Zambezi, the Nyaminyami in Kariba as well as the traditional management of wetlands throughout the basin (Matowanyika 1991) are acknowledged. However, similar acknowledgement does

not seem to extend to the role of the private sector in the basin. The private sector features neither in the ZAMCOM institutions nor in the processes that ZAMCOM engages in. This is therefore an area that needs improvement especially if more resources are to be mobilized. Currently, resources mobilization is skewed towards engagement of international cooperating partners and is generally project specific.

In addition to basin wide institutions bilateral agreements have established key institutions in the Zambezi Basin. The Zambezi River Authority (ZRA) is a corporation jointly and equally owned by the governments of Zambia and Zimbabwe to operate and maintain the Kariba Dam. It plays a major role in implementation of strategic climate investments in the Zambezi Watercourse. The Zambezi Dam Operators Joint Operations Technical Committee Joint Operations Technical Committee (JOTC) on the other hand provides a framework for collaboration between institutions in Mozambique, Zambia and Zimbabwe responsible for water management and dam operations in the Zambezi River Basin. It provides a platform for exchange of hydro-meteorological and dam information to facilitate improved and informed management of the water resources, in accordance with the respective Member Institution's policies on data. The JOTC aims to achieve better control of flood and drought situations in the basin, reduce the negative effects of floods and droughts in the three countries, and network for future projects. These institutions carry national mandates and cannot be excluded from any development planning in the basin even though they represent only three out of four riparian states.

Indeed, Magadza (2010) reviewed the appropriateness of administrative structures intended to manage the environment in the Zambezi River Basin, particularly Lake Kariba, and concluded that the management protocol is institutionally a non-inclusive process lacking the capacity to involve other stakeholders in managing the lake's resources, and even less so in the integrated management of the basin. As such substantial work is required to improve the institutional effectiveness of the Basin's institutions, especially the coordination across sectors. Furthermore, a notable feature of the ZAMCOM institutional set-up and future scenarios planning is its bias towards water and association with water related structures at the expense of other sectors needed for holistic and inclusive basin development. A further weakness is that it has relied exclusively on project financing and funding by well-wishers. The proposed project aims to address these weaknesses.

ZAMCOM has developed the Strategic Plan for the Zambezi Watercourse (ZSP) for 2018 – 2040) to guide sustainable development and efficient management of the Zambezi Basin. The ZSP seeks to facilitate regional co-operation, sustainable and ecologically sound development, development of climate resilient infrastructure, improved livelihoods and the mobilization of capital and investment finance whilst ensuring that development is undertaken in a planned and mutually agreed fashion which equitably reflects the needs and aspirations of all the Member States and to which all parties consent. A budget of USD28 billion is envisaged for the ZSP to finance infrastructure development, for non-infrastructure activities such as environmental monitoring and funding the core functions of ZAMCOM.

The ZSP identifies pathways for future basin development as water utilization, sector competition, sub-basin competition, safeguarding environmental needs, protection against floods and droughts and reducing infrastructure deficits. ZAMCOM is not an infrastructure implementing agency. As such it will provide a range of specialized support to Member States for national, joint and watercourse-wide projects. The role of ZAMCOM in ZSP programs is summarized in the table below. The GEF support is intended to enhance ZAMCOM capacity to support the ZSP.

ZSP Component	ZAMCOM Support
Infrastructure Investment	Economics of transboundary water • Support project design and preparation • Support project financing and packaging • Transaction management support
Livelihoods Support	• Poverty ‘hot-spot’ identification • Livelihood research and analysis • Livelihood project support
Environmental Resources Protection and Utilization	Watercourse-wide monitoring • Sensitive areas (wetlands, delta, headwaters etc.) • Degradation hot-spots
Water Resources Management	Water data capture, and management including ZAMWIS • Decision Support Systems • Knowledge management; Notification coordination and support System operational oversight to promote coordinated energy production Policy and legislation support & harmonization Disaster risk management Climate change monitoring
Institutional Foundation	Governance, co-operation and regional integration Communications Gender mainstreaming Capacity development.

Mobilizing the required resources for funding the core functions of ZAMCOM remains a challenge. A key source of funds, the private sector in the basin, is generally low in productivity and competitiveness, and is dominated by individual entrepreneurs and micro-enterprises with few SMEs mostly in the agriculture sector (World Bank, 2018).

Little financial support can be expected from this sector. In the hydropower, tourism, mining and commercial agriculture and fisheries sectors the situation is different since big corporations come into play. The annual value of energy generation in the basin is close to USD2 billion (Tilmant and Namara, 2017) and the basin is one of the top-ranking tourist destinations in Southern Africa blessed with diversified wildlife and offers tourist stopovers at Caprivi, Victoria Falls and Livingstone, Kariba, Kafue, Mana Pools, Cahora Bassa and Zambezi Delta (Baipai et al, 2020). Estimated revenue from tourism in the basin was just over USD440 million in 2010 and projected to double by 2025 (World Bank 2010). Mining revenues are not in the public domain but are considered substantial. Fishing, in the Lower Zambezi alone, was worth USD66.5 million per year in 2015 (Fanaina et al. 2015). These figures suggest that if a mechanism existed for tapping a fraction of these revenues for ZAMCOM operations the organization will not face liquidity challenges to the same extent they do now.

In addition to the ZSP, a basin-wide Zambezi Water Resources Information System (ZAMWIS) and Decision Support System (DSS) has been established by ZAMCOM. ZAMWIS is an interactive, web-based data and information portal based on contemporary and historical spatial data, hydrological time series, earth observation information and other related information. Currently, it has contemporary and historical

hydrometeorological data and information from strategic river gauging stations in the Basin as well as GIS/spatial data including remote sensing products such as land cover, rainfall, evaporation, land use, and other hydrological characteristics of the basin. It is also a repository for knowledge products such as studies, reports, water master plans, policies and IWRM plans.

The criticism leveled against ZAMWIS, besides accessibility, was that it was heavily biased towards water resources management and was therefore, in its original form, not quite suitable for broader multi-sectoral planning as required under a WEF framework. Subsequently, ZAMCOM embarked on further enhancing the ZAMWIS to include a Decision Support System (DSS) with further integration of flow forecasting and monitoring tools, multi-objective optimization, multi-criteria decision analysis, environmental and socio-economic analysis and determination of e-flows. This work is on-going and will be supported by the proposed GEF project.

Barriers, and entry points, to collaborative basin planning and management.

The execution of the ZAMCOM mandate and effective implementation of its initiatives remain hamstrung by several barriers to effective basin management which have so far proven difficult for ZAMCOM to fully overcome. The barriers include institutional deficiencies, weak sectoral coordination, a fragmented legal and policy framework, underutilized information management systems, limited knowledge management and inadequate funding.

Barrier 1: Insufficient institutional and human capacity to promote transboundary water governance.

The human capacity in ZAMCOM, both people and skills, remains inadequate to effectively implement the ZAMCOM mandate. At the same time, the ZAMCOM Secretariat has a relatively small staff compliment of Executive Secretary, professional and support staff, against mounting responsibilities. ZAMSEC will do with more staff. At riparian state level, the lack necessary resources (financial, human, or technological), insufficient funding and inadequate staffing in sector departments has often been cited. Importantly, however, national agencies' staff still need training in the use of basin management tools such as ZAMWIS.

Barrier 2: Limited inter-sectoral coordination in transboundary planning and.

Basin development plans are sector specific and skewed towards energy generation. On the other hand, ZAMCOM and its subsidiary structures exhibit a bias towards the water sector. As such, the basin global environment benefits are not fully realized since the cause-and-effect relationships and positive or negative feedback mechanisms, including those between the biophysical and socioeconomic features of the system are not fully understood, or are ignored, by the different sector players. For example, those tasked with energy generation in the basin rarely consider environmental flows when operating the dams. There currently is no structured system for data exchange where different sectors can access data from another sector. In some instances, water resources data is classified as sensitive information or is sold.

Barrier 3: Gaps in the development and implementation of Legal and Policy Frameworks.

In the management of the basin, the Zambezi riparian states are guided by the ZAMCOM-Agreement which itself derives from the Revised SADC Protocol on Shared Watercourses. For collaborative planning the SADC Water, Energy & Food (WEF Nexus) guidelines are referenced. While these two establish the core principles for the management and development of the basin, more context specific guidelines are needed to ZSP objectives. The SADC WEF Nexus, especially, does not incorporate the environmental requirements and needs to be re-purposed for the Zambezi to address environmental issues.

At the basin level, ENSafrica and OneWorld (2017) in the “Equivalence Assessment of National Water Laws among Riparian States in the Zambezi River Basin” noted that within the national laws, the empowering nature of critical provisions, rather than their mandatory aspects, are highlighted. As such riparian states are given the power to generate and provide information to ZAMCOM, but this is discretionary, and they are not mandated to do so. As a result, the riparian states do not explicitly mandate their relevant departments or Ministers to submit information to ZAMCOM, nor do national data collection systems necessarily align with the depth and format required under ZAMCOM.

Barrier 4: Lack of consolidated information and mainstreaming into ZAMWIS Decision Support System.

The information and data that is central to effective and equitable transboundary resource management and decision making, is not streamlined, or standardized across the basin. Thus, the management, storage and sharing of environmental data and information in the basin is hamstrung by the lack of Integrated Data Platforms. The available data is stored in fragmented systems, consisting of separate and unconnected databases across agencies and sectors.

Barrier 5: Inadequate finance for core functions and joint investment planning.

The ZAMCOM core functions budget is dependent on contributions by riparian member states. The riparian states often experience difficulties paying their dues, which then creates cashflow issues for the Secretariat. International cooperation programs (ICPs) sometimes augment riparian states contributions. However, overreliance on ICPs is risky because of the ICPs' changing priorities and availability. Consequently, ZAMCOM is not able to meet the financial needs for upstream investment studies which feed into the planning processes such as environmental impact assessments, joint basin assessments, etc.

Barrier 6: Limited access to, and application of, scientific knowledge for evidence-based decision-making.

The knowledge and information needed to adapt to climate change and manage the environment and natural resources remains in the preserve of national agencies, dedicated research institutes, academic institutions, and time-bound project initiatives whose findings and recommendations seldom find their way into the public domain and basin wide policy discourses. Similarly, open access global databases, such as HydroSHEDS which gives access to hydrographic data products including catchment boundaries, river networks, and lakes at multiple resolutions and scales, are not fully utilized by decision-makers in basin management.

Project Justification

The importance of this project to ZAMCOM is that it (1) seeks operationalise the frameworks that have been agreed but have not progressed further such as e-flow and dam synchronisation studies and (2) aims to integrate several elements of basin management into an integrated system (WEFE approach and associated data and information management). It therefore differs from other initiatives that have essentially tackled one element at a time. On top of this, the project builds on, and ties together, prior initiatives. It therefore essentially builds capacity and improves the operations of ZAMCOM in a manner that no other project can match.

While there is some capacity in the ZAMCOM Secretariat to maintain and operate the WIS/DSS, counterpart

capacity in the Riparian States is underdeveloped. To fully materialize the benefits of the substantial investments made in the WIS/DSS and for it to become widely used for country-level decision-making that adequately considers transboundary impacts, it is critical that Riparian States capacity for WIS/ DSS use is strengthened and maintained at a sufficiently high standard for sustainable and collaborative basin management to be realized.

The proposed project supports the implementation of policy frameworks agreed at the SADC level, notably Regional Indicative Strategic Development Plan (RISDP) which sets out the region’s agenda for sustainable and inclusive socio-economic development, SADC Regional Strategic Action Plan (RSAP V) which spells out the priority areas for development and, Revised Water Protocol which lays out the principles for water resources sharing in the region. It also contributes to the implementation of the Southern Africa Great Green Wall Initiative. At the transboundary level - it responds to the ZAMCOM agreement and more importantly the ZSP.

SADC, working with the Member States, has developed a Nexus Framework – that promotes natural resource efficiency whilst simultaneously achieving water, food, and energy security. SADC has further developed guidelines to support planning and preparation of WEF Nexus investment plans, programs and projects. This project will therefore adopt and customize the SADC guidance to the Zambezi Basin context and implement pilots to test and demonstrate WEF nexus planning and implementation. The project will also consider other recommendations in WEF nexus planning and implementation which applicable such as the Nexus Methodology developed under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention).

To achieve all the above the project can only involve all stakeholders and all sectors hence it has been fully embedded into the ZAMCOM approach for engaging with all stakeholders in the basin. Any other approach will only maintain the “silo mentality” and maintain the status quo of non-inclusion.

B. PROJECT DESCRIPTION

Project description

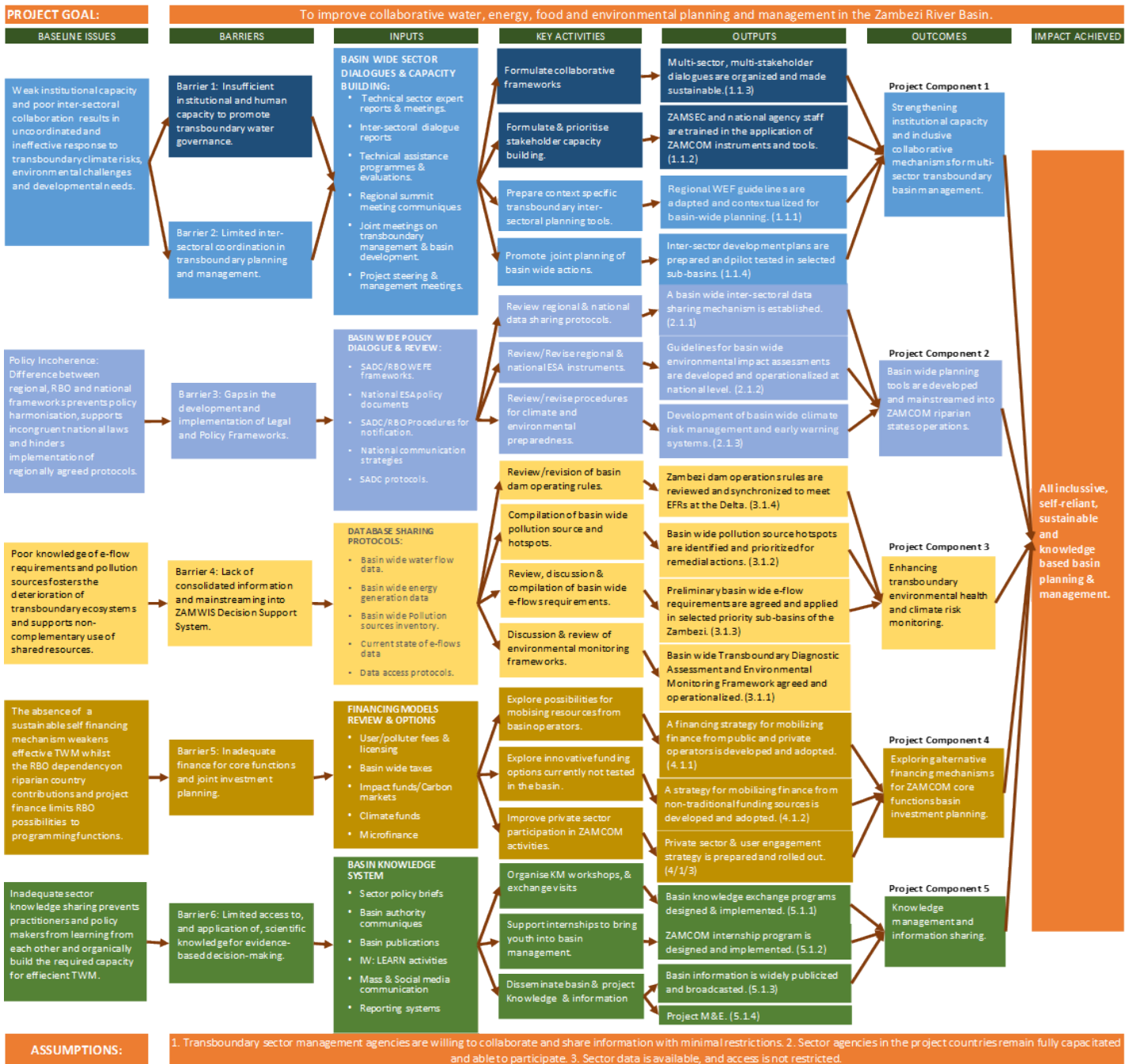
This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF’s policy requirements on gender, stakeholders, private 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

Project Theory of Change

This project is designed to help th Zambezi basin realize a sustainable future and enduring outcomes by better coordinating multi-sector and multi-stakeholder interactions that help realize transformational change, policy reform and knowledge-based decision-making building on the stakeholder endorsed and politically sanctioned Zambezi Basin Strategic Plan (ZSP).

The proposed project starts by elaborating the key challenges impeding the basin from fully realizing its goals as stated in the ZSP. It then identifies the key impediments making the attempts at resolution futile before proposing the activities and outputs needed to achieve change and the outcomes that will likely ensue.

The project components are interconnected and feed into each other. The project starts off by improving the human capacity and institutional base (Component 1), then rides on the newly built capacity to tackle issues of policy coherence (component 2), the adoption of a robust environment and climate monitoring framework (component 3), devising of self-financing mechanisms for sustainability (component 4) and tying it all together through basin wide knowledge management and sharing initiatives to improve future actions and safeguard both basin investments and ecosystems. The project Theory of Change (ToC) and intervention logic is summarized in the diagram below:



Assumptions and future project drivers

The underlying assumptions for project success are that the key sector agencies (water, energy, food and environment) will positively engage and agree on joint basin planning; the riparian governments have the political will to follow through on project recommendations and that increased stakeholder awareness will result in more effective and result oriented stakeholder participation.

COMPONENT 1: Strengthening institutional capacity and inclusive collaborative mechanisms for multi-sector transboundary basin management.

OUTCOME 1.1	A joint WEF basin planning & development system is established and operationalized.
BARRIERS	Barrier 1: Insufficient institutional and human capacity to promote collaborative transboundary water planning and management.

This component seeks to strengthen the technical and institutional capacities of ZAMCOM to effectively implement agreed basin planning and management strategies. Deliberate effort will be made to favour women participants to improve gender balance in basin management.

Output 1.1.1: Regional WEF guidelines are adapted and contextualized for basin-wide planning.

INDICATOR: The set of Zambezi basin WEF guidelines are adopted by ZAMCOM.

This output aims to mainstream the WEF approach in ZAMCOM planning and operations. SADC is promoting the development of integrated water, energy and food projects (WEF Nexus). With support from the AfDB and UNECA, the regional body will launch the Regional Development Fund in 2024. This fund will use the SADC WEF Nexus approach to guide project preparation. The timing is opportune for ZAMCOM to develop its own set of basin specific WEF guidelines as a tool for investment planning in the basin.

Focusing on basin planning, the proposed project will adopt and adapt the SADC WEF by incorporating environmental requirements to create Zambezi basin specific guidelines. Activities will include:

- Review of SADC WEF wide guidelines (and other relevant frameworks).
- Modelling and evaluating basin growth trajectories under different climate and water demand scenarios.
- Designing basin-specific Water, Environment, Food, Energy (WEFE) nexus implementation guidelines
- The developed WEFE guidelines are adopted and mainstreamed into basin wide plans and riparian state policy frameworks.
- Enhancing WEFE trade-off and synergy building instruments to support decision-making.

The project will build on the work done for ZAMCOM by the Integrated Solutions for Water, Energy, and Land (ISWEL) which generated a number of future basin scenarios and policy tools to explore alternative options to achieve the water-energy-land development targets, assuming different country priorities and future climate and socioeconomic changes. A core team of participants, with bias towards female participants, will be selected from the water, energy, agriculture and environment sectors from the riparian states and be trained in the WEFE principles. The exact team set up and its ToRs will be defined during the PPG stage. The core team will be engaged in role playing and interactive modelling in workshop environments before being requested to craft the basin specific guidelines that will then be discussed at wider basin platforms several times before being finalized. Professional technical assistance will be sought for this work. The original core team will form a training-of-trainers team to cascade subsequent training basin wide.

Output 1.1.2: ZAMSEC and national agency staff are trained in the application of ZAMCOM instruments and tools.

INDICATOR: Gender aggregated no of basin staff able to use ZAMWIS/DSS in their day-to-day work.

This output focuses on enhancing ZAMCOM's technical capacity in areas that are key for effective delivery of the Commission's mandate. The capacity enhancement will focus on the ZAMCOM Secretariat (ZAMSEC, BASC, NASCs and Technical Committees) and the relevant Riparian States' agency staff to ensure consistent and comparable capacity levels at both regional and national levels. Primarily, the project will capacitate practitioners on the ZAMCOM WEF E guidelines developed in output 1.1.1 and the use of the revamped ZAMCOM WIS/DSS which will be expanded to include WEF E elements. A secondary focus is on implementing capacity building in priority areas identified in the ZAMCOM capacity development plan with particular attention to gender aspects of the plan.

The project will facilitate a review of the existing capacity building plan in line with the newly agreed WEF E framework and invite development assistance partners in the basin and the region with requisite competencies and capacity to help design and execute the required training for ZAMCOM. Some of the critical areas where capacity is required include:

- **Determining of environmental flows (WWF has prior experience in the Kafue Basin).**
- **Basin wide investment planning (WB has done extensive work in the basin in the past while more recently AfDB, UNCCD and CRIDF have supported the preparation of PIDACC Zambezi and the CIF NPC Investment Plan application and implementation process).**
- **Basin wide water research and training (Waternet spearheads a SADC wide IWRM training program).**
- **Decision support systems (Nordic support has been visible in the basin).**
- **Gender transformation approaches (GWP SA has been working with ZAMCOM and gender focal points to address gender inequalities)**
- **Project preparation and resource mobilization (UNCCD, CRIDF and more recently Commonwealth Secretariat have supported the preparation of PIDACC Zambezi and its related project pipeline as a flagship initiative for the Southern Africa Great Green Wall Initiative).**

Output 1.1.3: Multi-sector, multi-stakeholder dialogues are organised and made sustainable.

INDICATOR: No of gender balanced and self-financed all sector meetings.

The aim here is to create stakeholder driven and self-financed dialogues that become a permanent feature of basin management.

The proposed project will design a long-term and sustainable system for implementing multi-sector, multi-stakeholder dialogues building on the ZAMCOM institutional framework and focusing on the capacity issues aligned to outcomes 1.1.1 and 1.1.2. The aim is to facilitate open and honest discussions

on the benefits of multi-sector, multi-stakeholder approaches, including gender and youth, **and the extent to which such approaches can be used effectively to improve basin management** using WEFE approaches. **Key actions will include:**

- Define and agree a meeting schedule based on specific issues of concern in the Zambezi and key stakeholders required. Each meeting will have a theme, e.g., water scarcity and allocation, pollution, environmental flow requirements, power generation, etc).
- Ensure all stakeholders are included – strategies to include women groups, youth, community members and marginalized groups will need to be developed and implemented.
- Organize annual face-to-face workshops alternating between all riparian states (These will be supplemented by online meetings to be organized by the ZAMCOM secretariat to handle any random topic that may require stakeholder input).
- Explore ways for making the dialogues self-sustaining (e.g., having co-hosting arrangements between riparian governments and the private sector in the basin, setting up a fund to which voluntary contributions can be made, etc.)

To foster inclusivity and active participation, especially of women and youth, **the format of these dialogues will be changed from time to time. In some cases, renown facilitators will be engaged, in some cases the host countries will be requested to facilitate and at other times sector leads will facilitate.**

Output 1.1.4: Inter-sector development plans are prepared, and pilot tested in selected sub-basins.

INDICATOR: No of WEFE guided sub-basin management plans being implemented.

In the Zambezi basin all sectors have development plans that cascade to the sub-basin level. However, these tend to be stand-alone sector plans with minimal integration across sectors. The proposed project will seek to practically demonstrate use of the WEFE Nexus methodology/guidelines developed in output 1.1.1. The project will support Investment Planning and Project Preparation at sub-basin level by applying it to agreed sub-basins in the basin before upscaling it to the wider basin. This will entail:

- Identifying intersectoral synergies in the selected sub-basins.
- Building on previous work on WEF Nexus modelling carried out during the development of the ZSP (e.g. application of the hydro economic model WHATIF based on building synergies and tradeoffs on the WEFE sectors).
- Zambezi WEFE Nexus guidelines mainstreamed into basin wide plans and riparian state policy frameworks.
- Determining and agreeing policy measures to alleviate tensions related to multiple resource needs.
- Enhancing efficiency and co-management across sector players.

- **Building the requisite capacity to address intersectoral impacts.**

Effort will be made to tie the selection of sub-basins with the identified pollution hotspots and EFRs sub-basins. The actual basins to be tackled will be identified and agreed through stakeholder consultations in the PPG stage. **The participation of women will be particularly encouraged.**

COMPONENT 2: Basin wide planning tools are developed and mainstreamed into ZAMCOM riparian states operations.

OUTCOME 2.1	Tools and instruments for collaborative transboundary planning and management are operationalized.
BARRIERS	Barrier 2: Limited inter-sectoral coordination in driving transboundary water governance and management in the basin. Barrier 3: Gaps in the development and implementation of Legal and Policy Frameworks.

This component seeks to address barriers on gaps in the legal and policy frameworks that may retard the effective implementation of the WEF E Nexus. Furthermore, various environmental principles need to be translated into actionable guidelines, notably on environmental flows management, basin-wide water quality management, transboundary ESA, and the application of the WEF E nexus. All the tools and instruments under this component will be pilot tested on actual situations in the basin before being formally adopted.

Outcome 2.1.1: A basin wide inter-sectoral data sharing mechanism is established.

INDICATOR: The number of inter-connected data repository systems.

ZAMCOM has a Data sharing Protocol that was adopted by the countries, and this will form the basis for implementation of data sharing mechanisms. There is need to implement the Data Sharing Protocol within the WEF E nexus context which will require buy in and commitment from all the relevant sectors.

The project output aims to help ZAMCOM establish a formal system for WEF E relevant data exchange by building on the existing ZAMCOM data sharing agreements and mechanisms and customizing and adapting global state of the art basin data exchange structures where relevant that emphasize data exchange

commitments in transboundary basin settings. Likely actions include:

- **Building consensus on common thresholds for agreed parameters (e.g. biological dissolved oxygen (BDO) for wastewater discharge)**
- **Agreement on the platforms format in which data can be stored and accessed.**
- **Defining a system for continuous monitoring and sharing of real-time data.**
- **Draft required binding instruments to facilitate cross-sector, cross-country data exchange where they do not exist.**

The project will assess the existing status to ensure that data sharing exists for basic baseline parameters (water quantity, water quality, and water use) and gradually build to more sophisticated parameters as prescribed by the stakeholders and taking into consideration current relevant SDG targets and monitoring already taking place within each country. Issues of data access and manipulation by the marginalized segments of society will be given special attention to improve inclusivity. In addition, the project will promote application of the newly established data sharing mechanism by encouraging practical use of the data by the various sectors in the basin (e.g., modeling dam operations, assessing water quality risks, and estimating environmental flow requirements).

Output 2.1.2: Guidelines for basin wide environmental impact assessments are developed and operationalized at national level.

INDICATOR: Basin wide Tb-ESA guidelines are tested and adopted by ZAMCOM.

As explained earlier, ZAMCOM requires any riparian state to inform all other members of developments it plans to undertake in the basin. That notification should be accompanied by an environmental impact assessment report. However, there is no guidance on how such an EIA should be prepared.

The proposed project will support ZAMCOM to draft a set of guidelines for undertaking environmental and social impacts, considering the special needs of women, the youth and indigenous communities, that will be presented to the Council of Ministers to adopt. Key actions will be:

- **Assessment of riparian states' environment guidelines to determine equivalences and critical discrepancies.**

- Convening relevant riparian states agencies to deliberate on the findings on equivalence (legal experts, environmentalists, sector agencies, etc.).
- Preparing draft guidelines for riparian states input
 - Drafting final Transboundary Environmental and Social Assessment (Tb-ESA) guidelines
 - Testing guidelines for selected and agreed developments in the basin.
 - Supporting the adoption of guidelines by riparian states.
 - Supporting the harmonization of National ESA regulations and practices in the riparian states.

As there are several projects planned by riparian state governments in the basin the project will support the application of the developed guidelines on some priority projects to test their applicability and relevance for Procedures for Notification of Planned Measures. The pilot testing results will be used to further improve the guidelines.

Output 2.1.3: Development of basin wide climate risk management and early warning systems.

INDICATOR: (1) Zambezi basin specific climate proofing guidelines. (2) A climate risk EWS adopted by ZAMCOM.

Part of the broader suite of instruments for decision-making and notification is the development of a climate early warning system, especially focusing on flood and drought risk assessment and early warning. To this end ZAMCOM aims to translate the existing information and tools into a practically relevant climate risk management system, including an early warning system. This system is expected to be of use for climate risk assessment in mid- and long-term basin development and management planning. At the same time, the early warning component will be of immediate and direct use to disaster response authorities and affected Watercourse stakeholders alike and will support to preventing, or at least mitigating, the severe impacts on human life and property commonly associated with the severe floods in the basin.

The GEF will focus on the development of climate proofing guidelines for the basin. Actions will include:

- Determine priority investments that require in-depth climate risk screening and climate proofing.

- Defining protocols for data and information gathering for climate proofing.
- Modelling and assessing short-, medium- and long-term climate impacts.
- Drafting procedure guidelines for the basin

Technical assistance will be mobilized for this work as it is specialized, but sector practitioners will be engaged throughout to ensure ownership, internalization, and uptake and uptake. Women practitioners will be given preference in the capacity building initiatives. The early warning work is being spearheaded by the Climate Action Window (CAW) for the Zambezi basin. Therefore, the GEF project will support the CAW as necessary. The working arrangements between the CAW and GEF actions will be further elaborated at the PPG stage.

COMPONENT 3: Enhancing transboundary environmental health and climate risk monitoring.

OUTCOME 3.1	Water-energy-environment management data repository and operation guidelines are agreed and implemented.
BARRIERS	Barrier 4: Lack of consolidated information and mainstreaming into ZAMWIS Decision Support System.

This component contributes to addressing the barriers that limit ZAMCOM and the Riparian States’s ability to apply transboundary management tools and ensure science-based decision-making using the ZAMCOM WIS/DSS tools. Because of the all-inclusive nature of this component, formal collaboration between ZAMCOM, Zambezi River Authority (ZRA) and Zambezi Water Managers and Dam Operators (ZAMDO) will be a pre-requisite and will be sought at the onset of the project.

Output 3.1.1: Basin wide Transboundary Diagnostic Assessment and Environmental Monitoring Framework agreed and operationalized.

INDICATOR: Number of riparian states adopting and using the basin wide environmental monitoring framework.

The proposed EMF will need to be adopted and institutionalized by key basin managers and practitioners as well as WEF nexus related sectors which are normally organized at different geographic scales. For this reason, the EMF will be developed with the full participation and collaboration of ZAMCOM, Zambezi River Authority (ZRA) and Zambezi Water Managers and Dam Operators (ZAMDO) as well as energy sector, agriculture sector and environment sector representation at the right technical levels. The EMF will therefore entail elaboration and agreement on:

- Transboundary Diagnostic Assessment for the Zambezi Watercourse developed to fill information gaps in the Environment and Water Components of the ZSP. Considering the vast studies that have already been done, this will entail a consolidation of the existing information as a starting point.
- Watercourse-wide environmental water quality guidelines, and the ecological health of the basin and monitoring system developed and adopted.

The developed EMF will complement the ZSP areas of Environment and Water Management through consultative process, taking into consideration updated and anticipated impacts from climate variability and change as well as integrating the sector specific frameworks that currently exist. Gender considerations will also be ensured where applicable.

Through this outcome the project intends to build on, and consolidate, existing related TDA/SAP work done for the ZSP and other similar studies. The proposed GEF work is therefore predominantly an exercise of consolidating existing information into a TDA format following the GEF methodology, complemented by the targeted filling of data and information gaps but also taking into consideration studies being undertaken through PIDACC Zambezi and the CIF, NPC Investment Plan preparation.

Output 3.1.2: Basin wide pollution source hotspots are identified and prioritized for remedial actions.

INDICATOR: (1) No of priority pollution hotspots. (2) Agreed set of critical pollution parameters for regular monitoring. (3) No of sites where pollution is being addressed.

To address environmental degradation due to pollution ZAMCOM needs both information on pollution sources and water quality data for the receiving waters. The proposed project aims to assist in the former. The planned actions include:

- Identifying and establishing a basin wide inventory of pollution hotspots in the basin.
- Agreeing the set of priority parameters (and possible thresholds) for basin-wide pollution monitoring.
- Developing basin wide water pollution management guidelines (Building on observations in the hotspots).
- Proposing critical basins to pilot test guidelines and mitigate against observed pollution.
- Addressing (tackling) water pollution in identified and agreed hotspots through engaging with public, private sector and community stakeholders (towards promoting stewardship).
- (Where feasible) Promoting local level community pollution monitoring and management.

It is envisaged that some of the pollution hotspots will be tied to community livelihood issues. These may include deforestation leading to siltation and loss of habitat and water sources, overuse of wetlands and adjacent rangeland ecosystems due to growing human and livestock populations, and artisanal mining where toxic

chemicals such as mercury are sometimes employed. In such cases the project will seek to educate communities on pollution issues and gender roles, including how to mitigate against them as well as support the communities to adopt alternative and integrated livelihood options that use natural resources sustainably. The exact activity locations will be determined during the PPG stage.

Output 3.1.3: Preliminary basin wide e-flow requirements are agreed and applied in selected priority sub-basins of the Zambezi.

INDICATOR: (1) The number of sub-basins in which EFR are set and used in water resources allocations. (2) The flow reaching the Zambezi delta.

The project proposes to bring together key stakeholders and specialists in EFRs, including, hydrologists, ecologists, environmentalists, water law experts, and prominent users to discuss, propose and corroborate a preliminary set of EFRs for the basin considering flow variability, seasonal needs, and specific ecosystem requirements. This set of EFRs will be entered into the ZAMWIS Decision Support System and updated as more refined data becomes available. Project activities will include:

- **Determining pre-liminary basin-wide environmental (instream) flow requirements and identifying critical sub-basins.**
- **Developing a basin specific methodology for determining environmental flows building on existing studies (such as by WWF in the Kafue Flats)**
- **Determining the EFRs for the Zambezi Delta.**

It is anticipated that data availability will be an issue given the current state of environmental monitoring in the basin. The project strategy is to initially use available datasets, recommend improvements in monitoring and refine the e-flows over time. Environmental flow experts will be engaged to guide this process.

Output 3.1.4: Zambezi dam operations rules are reviewed and synchronized to meet EFRs at the Delta.

INDICATOR: (1) The number of revised dam operation rules being applied by the dam operators in the basin. (2) The flow reaching the Zambezi delta.

Building on the work on EFRs, and prior studies on Dam Synchronization, the project will propose a new set of operation rules for existing and planned dams on the Zambezi. Key actions to be supported will include:

- **Development of hydrological and hydraulic models that simulate Zambezi River flow, reservoir behavior, and downstream impacts under scenarios for droughts, floods, and extreme events. (Use of state-of-the-art modelling tools for river routing will be adopted).**

- Creation of a platform where dam operators, governments, and environmental agencies collaborate. (to specifically discuss and agree on operational strategies, release schedules, and emergency responses and propose the operating rules for water availability, energy demand, and ecological needs).

The project will focus primarily on the Zambezi channel targeting the operations of Kariba and Cabora Bassa and other planned dams. Dam operators from all riparian states will be involved in the modelling process as part of capacity building. It is expected that external sector expertise will be engaged to lead the exercise.

COMPONENT 4: Exploring alternative financing mechanisms for ZAMCOM core functions basin investment planning.

OUTCOME 4.1	Alternative financing mechanism for ZAMCOM core functions are defined and operationalized.
BARRIERS	Barrier 5: Inadequate finance for core functions and joint investment planning.

The objective of this component is to formulate sustainable financing mechanisms for ZAMCOM core operations and upstream assessments to aid joint investment planning in line with the WEF Nexus approach. The feasibility and acceptability of such proposals will be discussed with the stakeholders and tabled for approval and adoption by the Council of Ministers.

In order to build on the ongoing support and efforts made to develop a pipeline of projects from the PIDACC Zambezi baseline operation, ZAMCOM will be supported by the UNCCD to implement this component. UNCCD is mandated to support its country Parties to mobilize resources to implement projects that contribute to addressing desertification, land degradation and drought. In addition, the GM of the UNCCD was requested to support the development of integrated large scale multi-country projects and programmes and support country Parties to work with other sectors. In addition to providing technical and financial resources for project preparation, the GM of the UNCCD has been forging strategic partnerships to support project preparation. The GM of the UNCCD established the Land Degradation Neutrality Fund an impact investment fund blending resources from the public, private and philanthropic sectors to support achieving LDN through sustainable

land management and land restoration projects implemented by the private sector. which was managed by Mirova. A new Sustainable Land Management Fund is currently under discussion with GCF led by Mirova.

The GM of the UNCCD signed a Memorandum of Understanding with SADC Secretariat and is also supporting the implementation of the Southern Africa Great Green Wall Initiative and ZAMCOM has been actively participating in the consultations held and PIDACC Zambezi and its related pipeline are considered as a flagship for the Southern Africa GGW Initiative which has 5 investment pillars which also facilitate the implementation of the WEFE nexus approach.

The UNCCD has also supported the preparation of a Drought Strategy available at <https://www.unccd.int/resources/publications/drimms-vol-3-drought-risk-management-and-mitigation-strategy-2022-2032> and the Global Land Outlook for the SADC region available at <https://www.unccd.int/resources/global-land-outlook/southern-africa-leveraging-land-water-and-energy-nexus-sadc>

Output 4.1.1: A financing strategy for mobilizing finance from public and private operators is developed and adopted.

INDICATOR: The number of institutions that agree and start contributing finances to ZAMCOM.

The project will assess the feasibility of creating a broader revenue base for the ZAMSEC to augment member state contributions and project financing. Currently, ZAMCOM is not entitled to taxes, fees, charges, and fines since they are the preserve of legally mandated authorities such as the ZRA, national governments, catchment councils, intergovernmental agencies such as trans frontier parks and local authorities. A case can be made for a fraction of the payments made to any of these authorities to be set aside as basin fees for use by ZAMCOM.

The project will identify the likely sources of revenue in the basin and propose mechanisms for collecting these funds. These will likely include:

- Water user fees for local authorities in the basin (in conjunction with, or as a contribution from, catchment councils responsible for water management in the basin).
- Pollution charges or rates on local authorities and mines that discharge effluent into the basin waters.

- Operation licenses from safari operators in the wildlife reserves in the basin.
- Surcharge on sector authorities (for example \$0.01 for every KWh of hydropower generated each by the ZRA and HCB)

The project will facilitate discussions with non-basin management authorities such as rural district councils (RDCs) which are mandated to collect such fees but may not be willing to share with ZAMCOM. The legal requirements will also need to be discussed with riparian state governments.

In addition, close coordination will be sought with regional ongoing initiatives implemented through the TFCAs to ensure complementarity with those initiatives and building on existing successful private sector engagement approaches. Regular information exchange with other regional RBOs (such as in the Orange-Senqu, ORASECO, Limpopo, LIMCOM, and Cuvelai Watercourse CUVECOM) who might have better experience, and success, with private sector engagement will be sought to share and build on experiences and lessons learnt.

Output 4.1.2: A strategy for mobilizing finance from non-traditional funding sources is developed and adopted.

INDICATOR: (1) No of funding schemes contributing to the ZAMCOM revenue base. (2) Percentage contribution to the ZAMCOM operational budget.

The project aims to assess the feasibility of adopting innovative financing models in the Zambezi. The project will support pilot demonstration of these approaches and seek agreement with stakeholders on the most applicable ones given the basin context. The PPG stage will further elaborate on this approach. The options to be assessed will include, but will not be limited, to the following:

Blended Finance (BF): This option combines public and private sector resources to support water projects. The project will analyze how public funds may be blended with private capital to create a more attractive investment proposition for basin development. This will likely target large scale infrastructure developments in the basin. An agreed surcharge, as a percentage of total investment and to be administered through ZAMCOM, could then be set aside for basin

management operations. It is hoped this will attract funding from large scale private investors, e.g., mining operations, large irrigation schemes, hydropower generation, etc.

Social Impact Bonds (SIBs): These incentivize efficient project delivery and risk-sharing by focusing on outcomes and linking funding to project success. For example, investors will be required to provide upfront capital for which clear outcomes and targets will be agreed and indicators measured. If the predefined targets are met the investors will receive returns. Investments in public services such as water supply and sanitation in urban areas lend themselves favourably to this approach. The approach can target investments in urban areas and mines that are responsible for pollution of the basin water resources. A hybrid system that links investments to polluter pays principles can be worked out. In such a system, the pollution charge can be reduced based on investments made towards pollution reduction.

Public-Private Partnerships (PPPs): These involve direct collaboration between public and private entities to leverage private sector expertise, improve service quality, and share risks. For example, private companies are allowed to invest in water infrastructure (e.g., treatment plants, distribution networks) and operate them under long-term contracts. As with SIBs, PPPs are well suited to investment in public service delivery and can be a viable solution for the urban settlements in the basin.

Microfinance: At the community level, SMEs and households may borrow funds for water and environmental related activities and repay the loans over time. Women especially are adept at running such schemes as “savings clubs” for household needs. They can therefore be encouraged to lead such initiatives for basin resources management. This approach may help promote community participation in basin initiatives. The Microfinance route may be used to provide small loans to individuals or community groups willing to engage in alternative livelihood initiatives that contribute to global environmental benefits in the basin. ZAMCOM could then manage this funding modality at the basin scale and charge token fees to be used in basin management.

Green Bonds: These are in vogue and can be used to raise funds for environmentally friendly projects, including water infrastructure. Individual and institutional investors can be encouraged to buy bonds and proceeds used to finance sustainable projects that support

climate-resilient water systems and ecosystem protection. As with microfinance initiative, ZAMCOM could set up a basin wide market for Green Bonds and charge a nominal admin fee or similar.

Technology Transfer: ZAMCOM could explore technology transfer initiatives that promote the sharing of innovative water technologies across regions. The commission could deliberately target technology players from basins in developed countries to transfer knowledge, expertise, and technologies to the Zambezi on a pilot basis on the premise that once there is commercial uptake ZAMCOM will receive a commission.

Climate Funds: ZAMCOM could develop a program for targeting the numerous climate funds that currently exist and claim a portion of the project management costs for its own operations.

Output 4.1.3: Private sector & user engagement strategy is prepared and rolled out.

INDICATOR: (1) No of private sector organizations actively participating in ZAMCOM activities. (2) Percentage of private sector contributions to the ZAMCOM operations budget.

For ZAMCOM to generate more revenue for itself it needs to go beyond the public sector and recognize that engaging the private sector in river basin management is crucial requirement. The proposed GEF project aims to support ZAMCOM develop a comprehensive strategy to foster private sector involvement in basin management. The proposed strategy will be discussed and endorsed by key stakeholders including the private sector players themselves. It is anticipated that the strategy will include, but not limited to:

- **Setting up a private sector representative body to be part of the ZAMCOM institutional architecture similar to the NASCs and BASC (e.g., ZACMO Business Form).**
- **Selling ZAMCOM knowledge products to private operators (mostly the outputs of ZAMWIS Decision Support System).**
- **Inviting private sector organizations to sponsor, and participate in, ZAMCOM Stakeholder Forums**
- **Making private sector players champions for Advocacy and Policy Influence on selected basin issues (e.g., water companies will champion pollution issues, agriculture companies champion catchment management, fisheries environmental flows, tourism companies will champion conservation, etc.**

The project will further support ZAMCOM to improve private sector engagement designing systems for “incentives and recognition” for those companies that prove to be fully compliant with the ZAMCOM agenda, e.g., companies implementing water-efficient technologies and conservation measures, or importantly those promoting women in their water management and conservation work. **Communication experts will be engaged on behalf of ZAMCOM for this specific purpose.**

COMPONENT 5: Knowledge management and information sharing.

OUTCOME 5.1	Transboundary WEFE knowledge and information is widely shared and used for decision-making at regional, RBO and national levels.
BARRIERS	Barrier 6: Limited application of science-based knowledge to enhance decision-making capacity and strengthen institutional mechanisms.

Knowledge management in river basin organizations (RBOs) is essential for effective water resource governance since by leveraging knowledge, RBOs can make informed decisions for sustainable water management. Such decisions are best informed by robust scientific knowledge that is institutionalized and internalized throughout the river basin. For this reason, the proposed project will allocate at least 1 % of the grant to active participation in GEF IW:LEARN which promote this lesson learning. Furthermore, all-inclusive stakeholder engagement, capacity building, effective data utilization, and collaborative learning will be encouraged. Notably, training institutions in the basin and sub-region will be engaged. The project will ride on the **existing ZAMCOM knowledge systems and seek to improve them by supporting, among other actions:**

- Conducting knowledge exchange workshops/seminars.
- Organizing exchange visits for key country agency actors.
- Organizing exchange visits with other RBOs in the region and beyond
- Participation in regional and international RBO related forums.
- Participation in GEF IW: LEARN (International Waters Learning and Resource Network.
- - Engaging training institutes in the basin and sub-region.
- Publication of project policy/technical briefing notes.
- Liaison with water management training institutes.

Output 5.1.1: Basin knowledge exchange programs are planned & implemented.

INDICATOR: (1) No of learning visits to other RBOs. (2) No of mission briefing notes disseminated.

The aim of this output is to encourage river basin practitioners to avoid working in silos and learn from each. Exchange visits will be organized between sector organizations, for example, catchment councils to power generation companies, upstream sub-catchments to downstream catchments, country sector ministries to country sector ministries, ZAMCOM delegations regional SADC RBOs such as ORASECOM or outside the region such as the Lake Victoria Basin Commission (LVBC) or Lake Tanganyika Basin Commission, etc. Funds permitting, international visits will be organized to basins outside the continent such as the Danube in Europe or the Mekong in Asia.

The project will organize workshops and seminars for relevant river basin practitioners from the project countries to facilitate professional interaction and peer learning. The target stakeholders will include water management departments, research and training institutions, local government officials, civil society organizations and the private sector players. Quarterly workshops are envisaged and will be rotated among the riparian countries. The topics for discussion will be coordinated by the ZAMCOM Secretariat in consultation with riparian state governments and river basin authorities. International and regional cooperating partners WWF, FAO, UNDP, etc., are expected to participate and give expert input to the workshops.

Output 5.1.2: ZAMCOM internship program is designed and implemented.

INDICATOR: (1) Gender aggregated number of participating students. (2) No of interns expressing interest to work with ZAMCOM after internship.

Under this output partnerships with training and research institutions will be supported with the aim to involve and capacitate the youth in sustainable basin management. The project will support students in three levels of education, primary, secondary and tertiary level.

Simple tours and competitions will be promoted for primary level students. They will be taken to water bodies near them and encouraged to write essays and poems on water and nature with the winners given “water/environment” themed prizes.

Willing secondary school pupils will be attached with catchment management councils during their vacations to acquaint them with IWRM in practice. Those who present prepare “good attachment” reports will be supported to present them at the ZAMCOM Stakeholder Dialogues.

The tertiary level (university and technical college) students will be attached with riparian state institutions and ZAMSEC where they will spend time interacting with the ZAMWIS/DSS under guidance. They will be expected to learn how to input data into the system, retrieve required and also model climate and development scenarios. They too will prepare reports and the best will be supported to participate in IW:LEARN workshops and similar conferences such as the COP. The Internship Program will be elaborated fully during the PPG phase.

Output 5.1.3: Basin information is widely publicized and broadcasted.

INDICATOR: No of knowledge products produced and disseminated.

The aim of this output is to encourage dissemination of basin publications to a broader audience through regional data sharing platforms, IW: LEARN, education establishments, RBOs, selected public media, etc.

The project will promote IWLEARN activities with the view to showcase to a wider audience the progress and lessons from implementation of the project. Several knowledge products, in addition to formal GEF reporting requirements such as project implementation reports (PIRs) and evaluation reports, will be developed and disseminated within ZAMCOM and the SADC region as well as the wider transboundary management community. These knowledge products will be tailor-made to suit different audiences, among them policy makers, the scientific community, institutions of learning (both primary and tertiary) as well as communities. Project brochures, briefing notes will be prepared and distributed at relevant fora including the GEF Expanded Constituent Workshops, SADC technical working group sessions, etc. Funds permitting, a project website will also be maintained, and topic specific webinars regularly organized.

Output 5.1.4: Project monitoring and evaluation.

INDICATOR: (1) A participatory project M&E system is designed and implemented. (2) No of basin institutions providing input for M&E reporting. (3) No of M&E reports produced.

The aim of this output is to monitor and evaluate project progress with the view to improve project implementation. A first step will be to design an all-inclusive monitoring system building on the outcome indicators suggested for each component and agreeing on performance targets.

Together with the core indicators for the project, and gender monitoring this will constitute the results framework for the project to be fully developed during the project PPG phase. The monitoring framework will be discussed with key stakeholders and endorsed by them before being adopted for the project. Key players from the riparian government agencies, local government institutions, educational institutions (including education institutions in the basin) and specially trained community groups in the sub-basins will be trained in the monitoring system so that it is wholly participatory and transparent. The framework will also be discussed with the other co-financing projects to improve coordination and avoid duplication of effort.

Some of the key deliverables will include a project baseline report, mid-term review report and terminal evaluation. These reports, together with periodic project implementation reports (PIRs) will feed into mandatory GEF reporting.

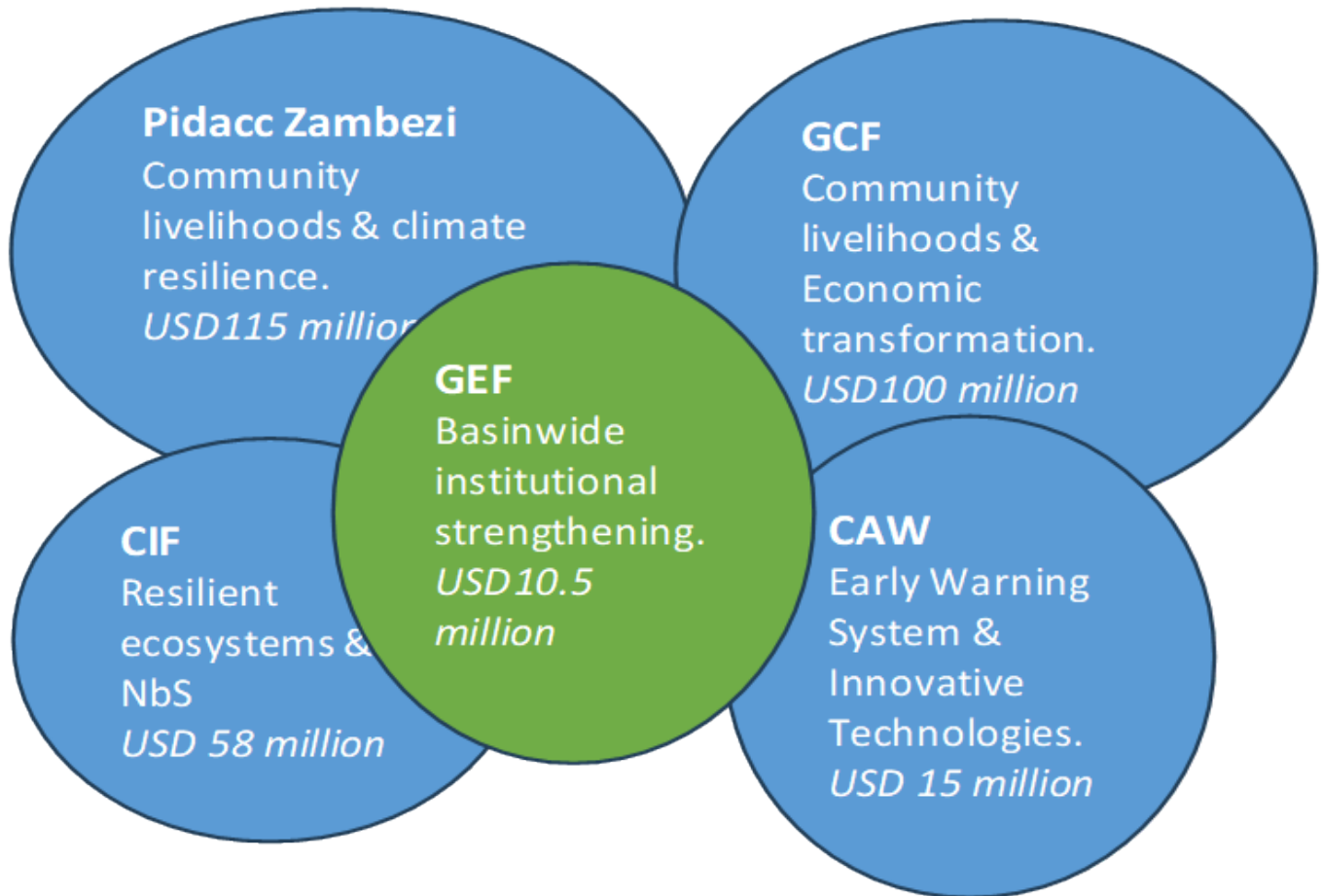
Complementarity and incremental cost reasoning

The project has strong synergies with previous work in the basin, among them:

- Several studies on environmental flow requirements have been undertaken including studies by the World-Wide Environmental Fund for Nature (WWF) and the GIZ funded Synchronization and Flood Release in the Zambezi Basin (2011) study.
- At the basin level, a number of activities and studies have been undertaken related to climate change related disaster risk management, including: 1) The Zambezi Multi-Sector Investment Opportunities Analysis (World Bank, 2010); 2) The Dam Synchronization and Flood Release in the Zambezi River Basin Project (SADC, 2011); 3) Rehabilitation work on Kariba Dam (ongoing); and 3) Dam Break Analysis for the Batoka Gorge hydropower project (ongoing).
- With support from development partners (predominantly Danida) a functioning WIS/ DSS was established at the ZAMCOM Secretariat. The WIS/ DSS is a critical tool to aide science-based decision-making about future management and investment decision concerning the basin.

The project will build on these initiatives, consolidating the baseline work, filling existing gaps, and translating the results into operational tools and guidelines for the basin.

In addition, the project will be implemented as part of a package with four other initiatives by AfDB, the GCF, CIF, and Climate Action Window (CAW). The total co-financing from these initiatives amounts to USD303 million of which 95% will be investment mobilized and the remainder will be in-kind contributions from ZAMCOM and the riparian member states. All the initiatives address the priorities of the ZSP and contribute the implementation of the Southern Africa Great Green Wall. The synergies and complementarity are summarized in the figure below.



Whilst the proposed GEF support is targeting institutional strengthening (“software”) at national and river basin level the other initiatives are pushing the climate agenda through investments (“hardware”) at the national and local levels. As such the GEF project is enhancing the enabling environment for the other initiatives to realize improved impact.

PIDACC Zambezi II

The AfDB is allocating USD115 million to the Programme for Integrated Development and Adaptation to Climate Change in the Zambezi River Basin (PIDACC Zambezi). PIDACC Zambezi is being led by ZAMCOM with a broad objective to build strong communities that are resilient to climatic and economic shocks in the Zambezi Watercourse, through promoting inclusive transformative investments, job-creation,

and ecosystem-based solutions. The PIDACC project investment has four components mainly targeting interventions at the community level:

Component 1: Strengthening Integrated Natural Resources Management.

This component seeks to establish an Integrative Landscape Management Approach from the basin down to sub-catchment protection and restoration. It aims to achieve Land Degradation Neutrality (LDN) targets for the riparian states.

Component 2: Building Communities' Resilience to Climate Change

The component is supporting Climate Resilient and Low Carbon Emission through Community-level Demand-driven Infrastructure Development, including social protection measures. It will focus on agribusiness and SME development, as a form of job-creation, thus promoting investments to climate proof water, energy, social, and agriculture.

Component 3: Supporting Adaptive Capacity and Institutional Capacity Development

The component aims at strengthening Climate Adaptive Capacity of Communities by strengthening the Institutional Foundation for climate resilience and low carbon emission development.

Green Climate Fund (GCF)

The GCF is planning to invest USD100 million in support of the AfDB PIDACC of which 40% will be a grant. The GCF funding is expected to directly benefit about 3.79 million smallholder farmers (SHFs) who will be organized into Farm-based Associated (FBAs), agricultural cooperative society (ACS): agro-dealer (AD), producers organizations (PO), and micro, small & medium enterprises (MSMEs). It will also indirectly benefit over 65.17 million people, of which 50% will be women and 50% youths. Other beneficiaries include: 16,000 MSMEs/FBAs, youth-led MSMEs/FBAs ACSs, and other Agribusiness MSMEs, and at least eight commercial banks, and more than 200 institutions.

Furthermore, about 8 Technologies for African Agricultural Transformation (TAAT) COMPACT technologies and innovative solutions will be transferred to support climate resilient, low emission development during the implementation of the programme which will have three components, viz:

Component 1: Building Communities' Resilience

This will focus on climate Resilient Infrastructure Development and Reinforcing Inclusive Livelihoods.

Component 2: Strengthening Integrated Landscape Management

This will focus on Promoting Integrative Landscape Management Approach (ILMA) and Strengthening Adaptive Capacity of Communities.

Component 3: Supporting Adaptive Capacity and Institutional Capacity Development

This will focus on Strengthening adaptive capacity within country communities as well as strengthening the institutional foundation, capacity building, knowledge management and technology transfer targeting ‘Hotspot’ Communities.

Climate Investment Funds (CIF)

The CIF is planning to invest USD 58 million and USD 6 million for the Dedicated Grant Mechanism (DGM), in support of the AfDB PIDACC Zambezi. The CIF Nature, People and Climate (NPC) Programme was conceived to promote and protect natural environments known to be integral in addressing climate change, specifically, it aims to scale up Nature-based Solutions (NbS), sustain food supply, and build resilient coastal systems across the developing world. The Program was designed to address the multiple drivers and impacts of climate change, resulting from human activities on land resources and ecosystem services. The Program will deploy concessional resources towards NbS that recognize the interdependence among land use, climate-change mitigation and adaptation, and improvement of sources of livelihoods of rural communities and indigenous people.

CIF activities will commence with preparation of Investment Plan (IP) with several core interlinked assessments, namely: (1) Inclusive and Sustainable Land Management Diagnosis Assessment; (2) Integrated inclusive Water Management Analysis; (3) Livelihoods and Gender Mainstreaming Analysis; and (4) Private Sector Engagement/Market Analysis. The data from these assessments will be integrated into the ZAMWIS/DSS under the GEF project.

Climate Action Window (CAW) Adaptation sub-window

The CAW plans to invest USD 15 million in direct support to Component 4 of the PIDACC Zambezi II, and will itself have four components.

Component 1: Strengthening Integrated Natural Resources Management,

This will support the establishment of an Integrative Landscape Management Approach, from basin to sub-catchment protection and restoration, and promoting Integrated Water Resources Management in order to refine and ultimately achieve Land Degradation Neutrality (LDN) targets set by the individual countries and restoring ecosystem services at catchment level.

Component 2: Building Resilience of Agricultural Value Chains within the Zambezi River Basin.

This will aim at strengthening the resilience of agropastoral production systems through climate-resilient infrastructure development and facilitating access to innovative technologies and digital solutions, and reinforcing Inclusive and Diversified Climate Resilient Livelihoods Support, through enhanced agribusiness and Small & Medium Enterprises (SME) development, as a form of job-creation, facilitating access to market, innovative financing and renewable energy sectors taking into consideration the welfare of the ecosystem, as well as catchment and natural asset management.

Component 3: Supporting Adaptive Capacity and Institutional Skills Development

This aims at strengthening Climate Adaptive Capacity of Communities, and Strengthening Institutional Foundation, Capacity Building, Knowledge Management and Technology Transfer, which will include building capacities of key stakeholders to mainstream and monitor climate resilience and transition to low carbon emission investment, develop climate adaptive capacity, strengthening climate risk management to reduce vulnerabilities, and to ensure good governance and management, harmonization of policy and legislation, strengthening co-operation, communication, ensuring social inclusiveness through gender transformative approaches, and building partnerships to mobilize additional resources;

Component 4: Enhancing Access to Early Warning Information and Innovative Technologies,

This component aims at strengthening the Regional Early Warning Information System and Climate Services, as well as support the Dissemination of Innovative Technologies and Best Practices that promote adaptation to climate change and climate variability, build resilience to climate related shocks and extreme climate events, integrates gender,

youth and underserved communities. It will also focus on strengthening the resilience and adaptive capacity of agricultural production systems through facilitating access to innovative technologies and digital solutions and developing the adaptive capacities at community levels.

The project will deliver tangible global environmental benefits In that the WEF E planning guidelines will contribute to a harmonization of management approaches and ensure that a balance is struck between economic interests (water, energy and food) and environmental/ecological requirements in basin resources.

The development and implementation of a basin-wide environmental flow regime in particular is expected to greatly contribute to addressing the many environmental and social problems associated with the changing hydrological regime of the Zambezi River as the implementation of a coherent, basin-wide e-flows regime will allow for much more coordinated management that improves the ecological functioning of critical habitats and ecosystems throughout the basin, including the delta.

Likewise, the transboundary ESA guidelines are an important tool to ensure that any planned developments are premised on adequate and comprehensive information uniformly understood by all sectors and stakeholders that are involved. The guidelines will help facilitate the harmonization of transboundary EIA/ESA processes and ensure that future basin infrastructure is properly climate proofed.

The project will benefit several key players and beneficiaries. The primary institutional stakeholders are Riparian States of ZAMCOM as well as the Commission itself. At present ZAMCOM serves as a technical advisory body to the Parties, on matters relating to the development, utilization and conservation of the water resources of the Zambezi. The project builds strongly on the ZSP for which extensive consultations throughout the basin were held during its development. Throughout the development of the various transboundary management instruments (i.e., Tb-ESA guidelines,

environmental flow regime and guidelines, WEF E guidelines, water quality guidelines) it is expected that a wide range of relevant ministries will be consulted and engaged, given the intersectoral nature of several of these instruments. Local governments and communities will be key stakeholders in specifying policy implications on the ground. Specifically, the ministries and agencies responsible for water, energy, agriculture and the environment in the riparian states will be targeted. International and regional organizations will be requested to contribute with their knowledge and expertise. Critical water user associations, the private sector and relevant basin entities will provide recommendations and inputs to project activities and outputs through the stakeholder dialogues. A preliminary table of stakeholder consultations is provided in the attached annex and a more detailed Stakeholder Analysis and Engagement Plan will be prepared during the PPG. Similarly, a more detailed Private Sector Analysis and Engagement Plan will also be developed at the PPG stage.

Knowledge management and best practice exchange is an important element of the project and has been directly incorporated into several of the project outcomes/ outputs, notably those on WIS/ DSS application. Knowledge products and communication materials produced by the project will be widely shared through the project and/or the ZAMCOM websites. In particular, at least 1% of total project budget will be set aside for knowledge management and information exchange activities organized by IW:LEARN (e.g., IWC participation, information dissemination through IW:LEARN platforms and networks, twinning exercises).

The project will work closely with related projects in the basin/ region and produce knowledge exchange products on key innovations developed and carried out by the project. These will likely include lessons from applying EFRs at basin scale, benefits and challenges of basin wide dam synchronization and the challenges of

multi-sector, multi-stakeholder collaboration in implementing the WEFE Nexus.

The project is fully consistent with the ZSP and national development and sector plans. During the development of the ZSP all relevant regional and national and sectoral strategies and plans were extensively reviewed and incorporated into the ZSP. Consequently, the ZSP is well aligned with the countries' national development and sector plans, as well as the institutional frameworks at regional, national, and local level. During the ZSP development, its alignment with national strategic policy documents, such as national development plans, sector-based strategies, and national obligations to MEAs were fully ensured in each country.

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. 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

The AfDB will not have an execution role in the proposed GEF project.

The GEF project is part of the on-going Pidacc Zambezi project for which co-financing includes the GCF, CF and CAW as described above. It is planned that the detailed synergies of these projects are elaborated in the PPG %stage of the GEF project. Further, the working arrangements are expected to be better defined. Notably, quarterly coordinated meetings with a joint steering committee for countries and ZAMCOM are anticipated. At the meetings the various project teams will report on progress, steps and gaps and for and put forward any proposals for coordination with other funding streams. These steering arrangements will be defined in conjunction with the other co-financing projects during the PPG stage.

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4000	0	0	0

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,000.00			

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,000.00			

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Document(s) that justifies the HCVF)

Title

Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,400.00			

Indicator 5.1 Fisheries under third-party certification incorporating biodiversity considerations

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Type/name of the third-party certification

Indicator 5.2 Large Marine Ecosystems with reduced pollution and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

LME at PIF	LME at CEO Endorsement	LME at MTR	LME at TE

Indicator 5.3 Marine OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Indicator 7 Shared water ecosystems under new or improved cooperative management

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Shared water Ecosystem	Zambezi			
Count	1	0	0	0

Indicator 7.1 Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Zambezi	1			

Indicator 7.2 Level of Regional Legal Agreements and Regional management institution(s) (RMI) to support its implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Zambezi	3			

Indicator 7.3 Level of National/Local reforms and active participation of Inter-Ministerial Committees (IMC; scale 1 to 4; See Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Zambezi	1			

Indicator 7.4 Level of engagement in IWLEARN through participation and delivery of key products(scale 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
Zambezi	1			

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Female	52,000			
Male	48,000			
Total	100,000	0	0	0

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

(4) Sum total of areas where the WEFE planning, and implementation will be piloted including communal livelihoods areas with improved management and the area of national parks within the Zambezi that will be included in the piloting phase of the project. The area of wildlife parks is assumed to be less than 1% of the total area of national parks in the Basin.

(5) The area of the delta and surrounding marine habitat that is likely to be influenced by the application of e-flows and dam synchronization in the Zambezi and other changes in the management of the basin, assumed to be less than 20% of total Delta area and its marine environs.

(7) The entire Zambezi Basin where an agreement and a management institution, ZAMCOM, already exists.

(11) The population estimate is based on the likely number of people who will participate in the trainings from government departments and in stakeholder dialogues based on current ZAMCOM records of participation. 1000 participants from each riparian state is anticipated. The ratio of 52% female which is average for SADC countries is used to determine the split between males and females.

Key Risks

	Rating	Explanation of risk and mitigation measures
CONTEXT		
Climate	High	The frequency of cyclones is increasing in the Indian Ocean and the risk of at least one cyclone event occurring during the project lifespan is real. Interruptions to project activities are thus anticipated. Some countries, especially Malawi, Mozambique and Zimbabwe are highly fragile and will need special attention to address fragility issues during the project implementation. MITIGATION: The project will encourage more widespread use of the EWS that are nationally managed by the project countries. Special attention, and more detailed assessment, will be given to highly fragile countries in the design of mitigation measures during the PPG stage. ZAMCOM will be encouraged to work closely with the SADC Climate Services Centre (CSC) so that climate information is mainstreamed in project activities. The design of the project outputs (EFRs, ESA guidelines) will also include climate proofing measures.
Environmental and Social	Moderate	The issue of pollution is broad and agreement on which pollution parameters to measure and which thresholds to apply may not generate consensus. MITIGATION: Technical expertise will be engaged to lead this process to make it as objective as possible.
Political and Governance	Moderate	A lack of political will to implement the instruments (guidelines) at national level in the Watercourse countries and to integrate Watercourse-wide management/ monitoring frameworks into administrative procedures at national level. MITIGATION: The project will be executed

		through ZAMCOM working through existing national institutions to spread benefits, costs, and basin wide responsibilities. The Zambezi Watercourse countries have a long history of coordination and willingness to implement joint management activities. The proposed activities of developing Watercourse-wide frameworks are proposed by the countries themselves and have involved stakeholders from a wide variety of sector, consulted during the ZSP development. It is therefore assumed that there is an ongoing willingness to develop and implement Watercourse-wide joint management frameworks and the project will provide the necessary technical support to strengthen these frameworks.
INNOVATION		
Institutional and Policy	High	Riparian States and ZAMCOM have capacity challenges with regard to manpower, skillsets, equipment and finances. If these are not addressed early the project might not realize its objectives. MITIGATION: The project has a component for capacity building and institutional strengthening. It will plug capacity challenges through seconding of staff across institutions and technical assistance from external experts. Also peer-to-peer learning and training of trainers approaches are intended to cover these deficiencies.
Technological	High	Riparian agencies may not have access and knowledge of state-of-the art technologies for basin management such as modelling tool. MITIGATION: The project proposes to acquire such technologies and train the project beneficiaries in their application. s
Financial and Business Model	Low	Economic performance in riparian states is likely to be depressed in the project period making it difficult for these states to meet their obligations to the project. MITIGATION: Country obligations are limited to in-country contributions premised on existing structures.
EXECUTION		
Capacity	Substantial	Deficient technical and institutional capacity in ZAMCOM and riparian state institutions. Poor coordination among various projects supported by different entities, leading to sub-optimal results delivery or duplication or work. MITIGATION: The project will finance priority capacity-building activities at the basin and national levels and also engage external expertise for technical assistance.
Fiduciary	Moderate	The riparian states and ZAMCOM have no resources to augment the requested grant financing and implement project activities beyond the funded phase. MITIGATION: The PIU for the project which will be under the Pidacc Zambezi project will add manpower to the ZAMCOM secretariat. The capacity that will be built during the project implementation will remain inhouse.
Stakeholder	Moderate	It is important to note that communication and stakeholder participation will pose a significant challenge when working across the extensive basin, especially due to the different languages, many country contexts

		and expensive travel logistics. MITIGATION: No new engagement strategy will be adopted. Instead, the project will existing ZAMCOM arrangements and their current operational modalities. With respect to language barriers as much as necessary formal translation services will be engaged to ensure no one is left behind.
Other	Moderate	The potential impacts of global geo-politics (e.g., Russo-Ukraine war) and disease pandemics should not be discounted as these affect the availability of external funds. MITIGATION: The project focus is on self-reliance, diversification of funding sources and engagement of local income sources.
Overall Risk Rating	Low	Most of the risks identified can be mitigated against.

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

Describe 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.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

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. (max. 500 words, approximately 1 page)

The proposed project aligns well with GEF 8 programming strategies. Particularly it focusses on

Objective 3 (Enhance water security in shared freshwater ecosystems) by supporting transboundary priority setting and associated strategic planning in:

- Policy reforms and improved management strategies to address loss of connectivity and freshwater biodiversity and to support sustainably management of freshwater fisheries.
- Including the ecosystems thinking into the water, energy, food nexus at river basin level.
- Advancing nature-based solutions to improve water quality, freshwater ecosystem health, including wetlands and curb floods, droughts, climate change impacts and river/lake shoreline deterioration.

The project also addresses issues under Objective 1 (Accelerate joint action to support a Sustainable Blue Economy) by supporting:

- The development of sustainability indicators and monitoring systems in respect to the local ecological carrying capacities, considering observed and projected impacts of climate change, biodiversity loss, natural disasters, overfishing and pollution.
- The collection and sharing of reliable data to inform policy and decision making, capacity building, policy reform and piloting of innovative approaches.

The SADC region has adopted IWRM as the guiding principle for managing regional water resources and all riparian countries are in the process of integrating this approach in their national statutes. The Zambezi River

Basin itself has developed Zambezi Basin Strategy guided by IWRM principles. Therefore, country, and regional policies are not expected to contradict with intended outcomes of the proposed project.

In addition to meeting GEF targets the project also addresses several Global Biodiversity Framework (GBF) targets:

TARGET 1: Plan and Manage all Areas To Reduce Biodiversity Loss.

TARGET 7: Reduce Pollution to Levels That Are Not Harmful to Biodiversity.

TARGET 8: Minimize the Impacts of Climate Change on Biodiversity and Build Resilience.

TARGET 19 (b,c,d): Mobilize \$200 Billion per Year for Biodiversity From all Sources, Including \$30 Billion Through International Finance.

TARGET 20: Strengthen Capacity-Building, Technology Transfer, and Scientific and Technical Cooperation for Biodiversity.

TARGET 21: Ensure That Knowledge Is Available and Accessible To Guide Biodiversity Action.

TARGET 22: Ensure Participation in Decision-Making and Access to Justice and Information Related to Biodiversity for all.

The project therefore does not only promote sustainable management, but it also safeguards environmental and ecological security.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

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

Yes

Stakeholder Engagement

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

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

The lists of consulted stakeholders are presented in the attached annexes.

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

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 indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Low			

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative 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	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
AfDB	GET	Regional	International Waters	International Waters: IW-1	Grant	9,450,000.00	897,750.00	10,347,750.00
Total GEF Resources (\$)						9,450,000.00	897,750.00	10,347,750.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

200000

PPG Agency Fee (\$)

19000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
AfDB	GET	Regional	International Waters	International Waters: IW-1	Grant	200,000.00	19,000.00	219,000.00
Total PPG Amount (\$)						200,000.00	19,000.00	219,000.00

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

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
IW-1-1	GET	9,450,000.00	320150001
Total Project Cost		9,450,000.00	320,150,001.00

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co- financing	Investment Mobilized	Amount(\$)
GEF Agency	African Development Bank	Grant	Investment mobilized	132150001

Donor Agency	GCF	Grant	Investment mobilized	10000000
Donor Agency	CIF	Grant	Investment mobilized	6400000
Donor Agency	CAW	Grant	Investment mobilized	1500000
Recipient Country Government	Botswana	In-kind	Recurrent expenditures	100000
Recipient Country Government	Angola	In-kind	Recurrent expenditures	100000
Recipient Country Government	Namibia	In-kind	Recurrent expenditures	100000
Recipient Country Government	Zambia	In-kind	Recurrent expenditures	100000
Recipient Country Government	Zimbabwe	In-kind	Recurrent expenditures	100000
Recipient Country Government	Malawi	In-kind	Recurrent expenditures	100000
Recipient Country Government	Mozambique	In-kind	Recurrent expenditures	100000
Others	ZAMCOM	In-kind	Recurrent expenditures	100000
Recipient Country Government	Tanzania	In-kind	Recurrent expenditures	100000
Total Co-financing				320,150,001.00

Describe how any "Investment Mobilized" was identified

These are projects earmarked for the Zambezi Basin which are already committed but not yet disbursed. "Investment Mobilized" are linked to baseline investments by the AfDB, GCF, CIF and CAW that will be implemented at the national and local levels in contribution to the AfDB funded Programme for Integrated Development and Adaptation to Climate Change in the Zambezi River Basin (PIDACC Zambezi).

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Ayanleh Daher Aden	3/20/2024	Yappy Silungwe		

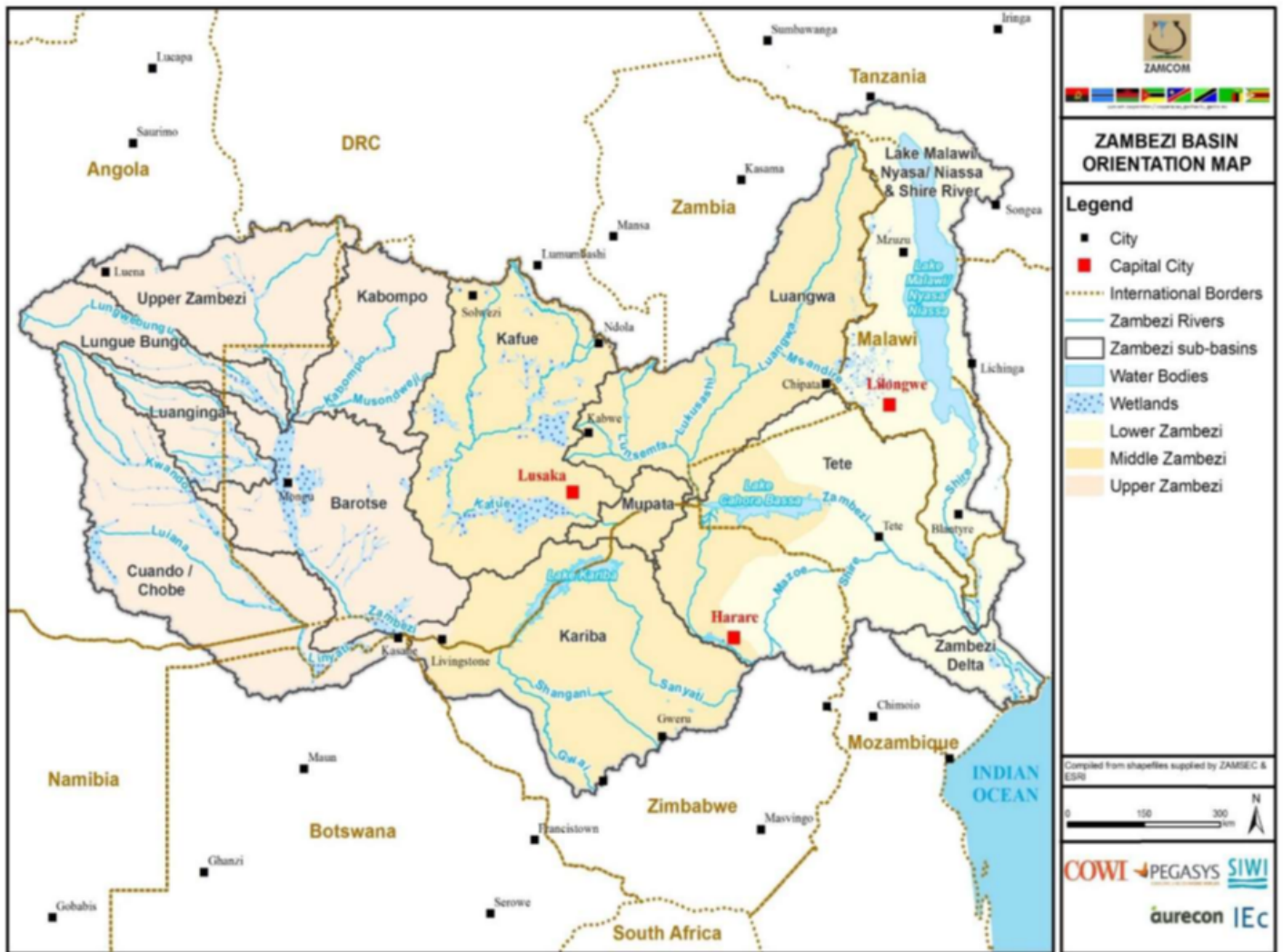
Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Godwin Fishani Gondwe	Director, Environment Management Department	Ministry of Green Economy and Environment	3/15/2024
Teofilus Nghitila	Executive Director	Ministry of Environment, Forestry and Tourism.	3/18/2024
Eduardo Baixo	Head of Department of Mitigation and Low Carbon Development	Ministry of Land and Environment.	3/18/2024
Mr Evans Njeva	Chief Environment Officer	Ministry of Natural Resources and Climate Change	3/19/2024
Mr Tanyaradzwa Mundoga		Ministry of Environment, Tourism & Hospitality Industry.	3/19/2024
Ms Malebogo Somolekae	Deputy Director Department of Environmental Affairs		3/20/2024
Ms Kemilembe Mutasa	Director of Environment		4/15/2024
Mr Joao Nelson Katinda	Director of Studies, Planning and Statistics Cabinet		3/19/2024

ANNEX C: PROJECT LOCATION

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

The Zambezi River Basin is located between 8–20° S latitude and 16.5–36° E longitude in southern Africa (Chenje 2000).



ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

Appendix 1: Stakeholder Consultation & Participation

ZAMTEC November list of participants.pdf

ZAMCOM Council of Ministers 2023 List of Participants.pdf

Pidacc Zambezi 2_Preliminary safeguard screening_Mar24.docx

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
No Contribution 0	Significant Objective 1	Significant Objective 1	Significant Objective 1

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing models			
	Transform policy and regulatory environments		
	Strengthen institutional capacity and decision-making		
	Convene multi-stakeholder alliances		
	Demonstrate innovative approaches		
	Deploy innovative financial instruments		
Stakeholders			
	Indigenous Peoples		
	Private Sector		
		Capital providers	
		Financial intermediaries and market facilitators	
		Large corporations	
		SMEs	
		Individuals/Entrepreneurs	
		Non-Grant Pilot	
		Project Reflow	
	Beneficiaries		
	Local Communities		
	Civil Society		
		Community Based Organization	
		Non-Governmental Organization	
		Academia	
		Trade Unions and Workers Unions	
	Type of Engagement		
		Information Dissemination	
		Partnership	
		Consultation	
		Participation	
	Communications		
		Awareness Raising	
		Education	
		Public Campaigns	
		Behavior Change	
Capacity, Knowledge and Research			
	Enabling Activities		
	Capacity Development		
	Knowledge Generation and Exchange		
	Targeted Research		
	Learning		
		Theory of Change	
		Adaptive Management	
		Indicators to Measure Change	
	Innovation		
	Knowledge and Learning		
		Knowledge Management	
		Innovation	
		Capacity Development	
		Learning	
	Stakeholder Engagement Plan		
Gender Equality			
	Gender Mainstreaming		
		Beneficiaries	
		Women groups	
		Sex-disaggregated indicators	
		Gender-sensitive indicators	
	Gender results areas		
		Access and control over natural resources	
		Participation and leadership	
		Access to benefits and services	

		Capacity development	
		Awareness raising	
		Knowledge generation	
Focal Areas/Theme			
	Integrated Programs		
		Commodity Supply Chains ([1]Good Growth Partnership)	
			Sustainable Commodities Production
			Deforestation-free Sourcing
			Financial Screening Tools
			High Conservation Value Forests
			High Carbon Stocks Forests
			Soybean Supply Chain
			Oil Palm Supply Chain
			Beef Supply Chain
			Smallholder Farmers
			Adaptive Management
		Food Security in Sub-Sahara Africa	
			Resilience (climate and shocks)
			Sustainable Production Systems
			Agroecosystems
			Land and Soil Health
			Diversified Farming
			Integrated Land and Water Management
			Smallholder Farming
			Small and Medium Enterprises
			Crop Genetic Diversity
			Food Value Chains
			Gender Dimensions
			Multi-stakeholder Platforms
		Food Systems, Land Use and Restoration	
			Sustainable Food Systems
			Landscape Restoration
			Sustainable Commodity Production
			Comprehensive Land Use Planning
			Integrated Landscapes
			Food Value Chains
			Deforestation-free Sourcing
			Smallholder Farmers
		Sustainable Cities	
			Integrated urban planning
			Urban sustainability framework
			Transport and Mobility
			Buildings
			Municipal waste management
			Green space
			Urban Biodiversity
			Urban Food Systems
			Energy efficiency
			Municipal Financing
			Global Platform for Sustainable Cities
			Urban Resilience
	Biodiversity		
		Protected Areas and Landscapes	
			Terrestrial Protected Areas
			Coastal and Marine Protected Areas
			Productive Landscapes
			Productive Seascapes
			Community Based Natural Resource Management
		Mainstreaming	

			Extractive Industries (oil, gas, mining)
			Forestry (Including HCVF and REDD+)
			Tourism
			Agriculture & agrobiodiversity
			Fisheries
			Infrastructure
			Certification (National Standards)
			Certification (International Standards)
		Species	
			Illegal Wildlife Trade
			Threatened Species
			Wildlife for Sustainable Development
			Crop Wild Relatives
			Plant Genetic Resources
			Animal Genetic Resources
			Livestock Wild Relatives
			Invasive Alien Species (IAS)
		Biomes	
			Mangroves
			Coral Reefs
			Sea Grasses
			Wetlands
			Rivers
			Lakes
			Tropical Rain Forests
			Tropical Dry Forests
			Temperate Forests
			Grasslands
			Paramo
			Desert
		Financial and Accounting	
			Payment for Ecosystem Services
			Natural Capital Assessment and Accounting
			Conservation Trust Funds
			Conservation Finance
		Supplementary Protocol to the CBD	
			Biosafety
			Access to Genetic Resources Benefit Sharing
	Forests		
		Forest and Landscape Restoration	
			REDD/REDD+
		Forest	
			Amazon
			Congo
			Drylands
	Land Degradation		
		Sustainable Land Management	
			Restoration and Rehabilitation of Degraded Lands
			Ecosystem Approach
			Integrated and Cross-sectoral approach
			Community-Based NRM
			Sustainable Livelihoods
			Income Generating Activities
			Sustainable Agriculture
			Sustainable Pasture Management
			Sustainable Forest/Woodland Management
			Improved Soil and Water Management Techniques
			Sustainable Fire Management
			Drought Mitigation/Early Warning

		Land Degradation Neutrality	
			Land Productivity
			Land Cover and Land cover change
			Carbon stocks above or below ground
		Food Security	
	International Waters		
		Ship	
		Coastal	
		Freshwater	
			Aquifer
			River Basin
			Lake Basin
		Learning	
		Fisheries	
		Persistent toxic substances	
		SIDS : Small Island Dev States	
		Targeted Research	
		Pollution	
			Persistent toxic substances
			Plastics
			Nutrient pollution from all sectors except wastewater
			Nutrient pollution from Wastewater
		Transboundary Diagnostic Analysis and Strategic Action Plan preparation	
		Strategic Action Plan Implementation	
		Areas Beyond National Jurisdiction	
		Large Marine Ecosystems	
		Private Sector	
		Aquaculture	
		Marine Protected Area	
		Biomes	
			Mangrove
			Coral Reefs
			Seagrasses
			Polar Ecosystems
			Constructed Wetlands
	Chemicals and Waste		
		Mercury	
		Artisanal and Scale Gold Mining	
		Coal Fired Power Plants	
		Coal Fired Industrial Boilers	
		Cement	
		Non-Ferrous Metals Production	
		Ozone	
		Persistent Organic Pollutants	
		Unintentional Persistent Organic Pollutants	
		Sound Management of chemicals and Waste	
		Waste Management	
			Hazardous Waste Management
			Industrial Waste
			e-Waste
		Emissions	
		Disposal	
		New Persistent Organic Pollutants	
		Polychlorinated Biphenyls	
		Plastics	
		Eco-Efficiency	
		Pesticides	
		DDT - Vector Management	
		DDT - Other	
		Industrial Emissions	
		Open Burning	
		Best Available Technology / Best Environmental Practices	
		Green Chemistry	
	Climate Change		
		Climate Change Adaptation	

			Climate Finance
			Least Developed Countries
			Small Island Developing States
			Disaster Risk Management
			Sea-level rise
			Climate Resilience
			Climate information
			Ecosystem-based Adaptation
			Adaptation Tech Transfer
			National Adaptation Programme of Action
			National Adaptation Plan
			Mainstreaming Adaptation
			Private Sector
			Innovation
			Complementarity
			Community-based Adaptation
			Livelihoods
		Climate Change Mitigation	
			Agriculture, Forestry, and other Land Use
			Energy Efficiency
			Sustainable Urban Systems and Transport
			Technology Transfer
			Renewable Energy
			Financing
			Enabling Activities
		Technology Transfer	
			Poznan Strategic Programme on Technology Transfer
			Climate Technology Centre & Network (CTCN)
			Endogenous technology
			Technology Needs Assessment
			Adaptation Tech Transfer
		United Nations Framework on Climate Change	
			Nationally Determined Contribution

[1]