



ZAMCOM

ZAMBEZI WATERCOURSE COMMISSION



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ZAMBEZI REGION NATURE PEOPLE AND CLIMATE INVESTMENT PLAN



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Abbreviation and Acronyms

AfDB	African Development Bank
CIF	Climate Investment Funds
CRIDF	Climate Resilient Infrastructure Development Facility
EIA	Environmental Impact Assessment
FAO	The Food and Agriculture Organization
GCAP	Global Climate Action Program
GDP	Gross Domestic Product
GW	Gigawatt
IFC	International Finance Corporation
IP	Investment Plan
IPCC	Intergovernmental Panel on Climate Change
Km	kilometre
Km ³	Kilometer cube (cubic kilometres)
m	meter
mm	millimetres
m ³	Meter cube (cubic meter)
Mm ³	Million Meter Cubes
MDBs	Multilateral Development Banks
NAMSC	National Multi-Sector Stakeholders' Coordination Committee
NbS	Nature-based Solutions
NDCs	Nationally Determined Contributions
NGO	Non-Governmental Organization
NPC	Nature, People and Climate
°C	Degree Celsius
PIDACC Zambezi	Programme for Integrated Development and Adaptation to Climate Change
PPP	Public Private Partnership
SADC	Southern African Development Community
UNCCD	United Nations Convention to Combat Desertification

UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollars
WBG	World Bank Group
ZAMCOM	Zambezi Watercourse Commission
ZAMSEC	ZAMCOM Secretariat
ZAMSTRAT	Zambezi Integrated Water Resources Management Strategy
ZAMTEC	ZAMCOM Technical Committee
ZAMWIS	Zambezi Water Resources Information System
ZRA	Zambezi River Authority
ZRB	Zambezi River Basin
ZSP	Zambezi Watercourse Commission Strategic Plan

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1.0 Proposal Summary

1.1 Contextual Background

The Zambezi River Basin (ZRB) is the fourth largest in Africa after Congo, Nile, and Niger River Basins. It is in southern Africa between 9°00'S to 20°30'S latitude and 18°20'E to 36°25'E longitude and covers an area of 1.4 million km² (Figure 1)¹. The Zambezi River flows over approximately 2,700 km from its source in the Kalene Hills in the north-western district of Solwezi in Zambia to its delta in Mozambique, dropping in altitude from 1,585 metres above sea level. It enters the Indian Ocean at about 200 kilometres north of the Mozambican port of Beira. The Basin is shared by eight riparian countries: Angola, Botswana, Malawi, Mozambique, the United Republic of Tanzania, Zambia and Zimbabwe (Figure 2). Zambia has the largest share of the basin area (41.7%), followed by Angola (18.4%), Zimbabwe (15%), Mozambique (12.8%), Malawi (8%), Tanzania (2%), and Botswana and Namibia at one per cent each (Figure 3).

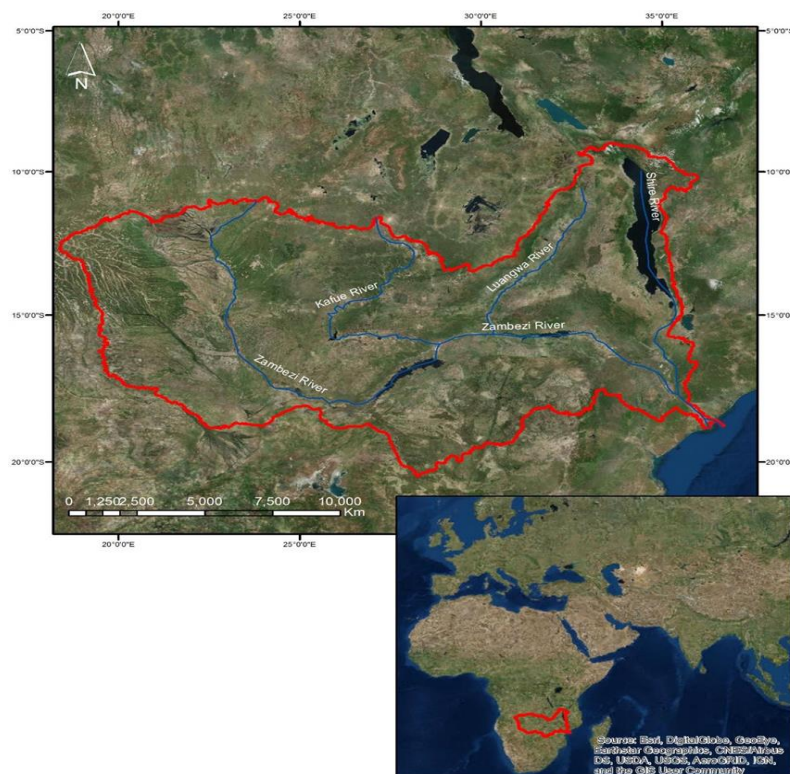


Figure 1: Location of the Zambezi River Basin. (Source: Sanchez G.S [2018])²

¹ Schleiss, A., Matos, J., 2010. Zambezi River Basin. pp. 1–8. <https://infoscience.epfl.ch/server/api/core/bitstreams/cf83b31d-9658-4c64-8bea-b398692975a3/content>

² Sanchez G.S. 2018. *The Zambezi River Basin: Water resources management: Energy-Food-Water nexus approach*. Unpublished Master's Thesis Submitted to Department of Physical Geography, Stockholm University.

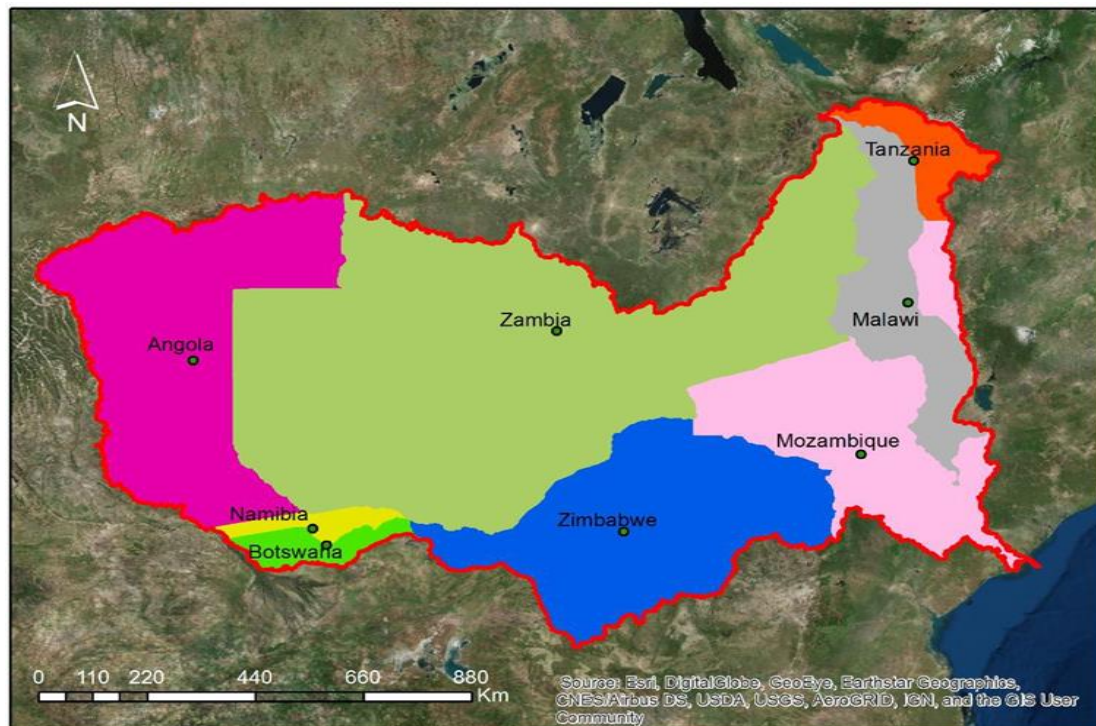


Figure 2: Map of the basin area of each country inside the Zambezi River Basin (Source: Sanchez G.S [2018])

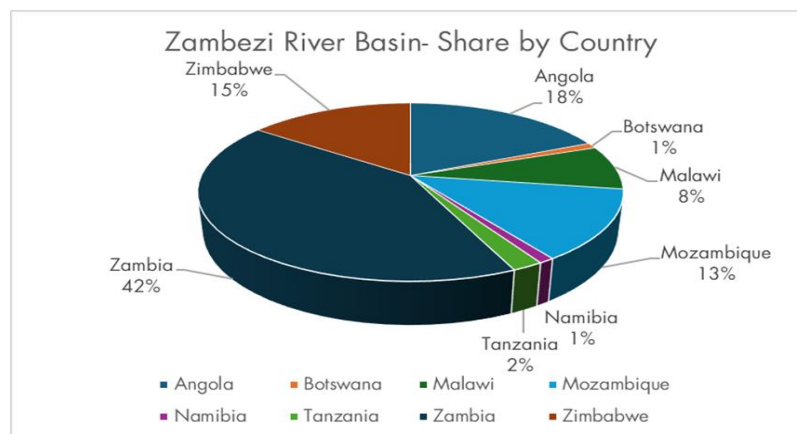


Figure 3: Share by country of the Zambezi River Basin (Source: World Bank [2010])

The total estimated population of the basin was 40 million in 2000 and is projected to reach 51 million by 2025, with 82 per cent of the people in just three basin countries: Malawi, Zambia, and Zimbabwe (Tilmant and Namara, 2017).³ The basin's population distribution is uneven, with large areas uninhabited and reserved for wildlife. The benefits people obtain from the Basin include flood regulation, improved water quality, potable water, enhanced soils, forest

³ Amaury Tilmant and Regassa Namara (2017). https://www.researchgate.net/publication/323866711_Zambezi_River_Basin_Pathways_for_Sustainable_Development_Chapter_3_The_economic_potential_of_the_basin

products, wildlife, fish stocks, energy generation, and recreation (World Bank, 2010).⁴ These services and resources are known to be significant contributors to regional and national economic development.

Climate change has been adversely affecting the Basin and the ecosystem services it provides (Hulsman et al., 2021).⁵ Climate change has made weather patterns more variable, extreme, and unpredictable. Weather patterns have shifted to more intense and frequent events with dire consequences for the regional and national economies. According to Hulsman et al. (2021), droughts have become a major feature of the climate and economies of the Basin. In 2024, for example, the southern African region, including the Basin, faced one of the most severe droughts in 100 years, impacting over 40 million people, especially the marginalised. (SADC, 2024).⁶ On 20 May that year, SADC issued a communique expressing concerns regarding the humanitarian situation in member countries due to an El Niño-induced drought, costing US\$5.5 billion (SADC 2024). The communique followed a summit of SADC Heads of State that noted the multifaceted and cascading impact of the drought across multiple sectors, including hydropower and agriculture. It called for coordinated and integrated interventions to address the adverse impact of the drought.

In light of this climate crisis, Malawi, Zambia, and Zimbabwe declared states of emergency, highlighting the gravity of the environmental and humanitarian crises. While the declaration of a state of emergency was laudable, it is important to note that in the long term, these efforts may not be sustainable or sufficient to tackle the complex intertwined challenges of climate, people, and nature, such as loss of ecosystem services, ecological degradation, and ultimately poverty eradication.

The Strategic Plan for the Zambezi Watercourse (ZSP) (2018-2040) indicates that the Basin faces critical challenges that need to be addressed for riparian states to sustainably and equitably reap the benefits of water and related resources. The Strategic Plan illuminates challenge that centre on integrated and coordinated water resources development, environmental management and sustainable development, adaptation to climate variability and climate change, and basin-wide cooperation and integration.

The Zambezi Region Nature, People and Climate (NPC) Investment Plan (IP) is anchored under 4 pillars with their vision statements as agreed during the ZAMCOM Livingstone Workshop held in February 2024. These are: (i) building inclusive evidence-based for the design of inclusive nature-based solutions in the Zambezi watercourse; (ii) strengthening the enabling environment for sustainable and inclusive uses of land, water and other natural resources; (iii) strengthening nature-based resilience for all, and (iv) enhancing nature-based mitigation. These NPC 4 pillars are aligned to the ZSP 2018-2040 4 pillars. A detailed description of the Zambezi Region NPC IP is in section 1.2 below.

⁴ World Bank. 2010. The Zambezi River Basin: A Multi-Sector Investment Opportunities Analysis: Volume 3 State of the Basin. The International Bank for Reconstruction and Development/The World Bank 1818 H Street NW Washington DC 20433.

⁵ Petra Hulsman *, Hubert H.G. Savenije, Markus Hrachowitz. 2021. Satellite-based drought analysis in the Zambezi River Basin: Was the 2019 drought the most extreme in several decades as locally perceived? *Journal of Hydrology: Regional Studies* 34 (2021) 100789

⁶ Southern African Development Community (SADC) (2024). Communiqué of the Extra-Ordinary Virtual Summit of SADC Heads of State and Government on *El Niño* Induced Drought and Floods. Accessed online on 27 June 2024: <https://www.sadc.int/document/communique-extra-ordinary-virtual-summit-sadc-heads-stateand-government-el-nino-induced>

The proposed NPC IP has three areas of interventions, these are:

- i) sustainable agriculture, fisheries & wildlife management.
- ii) supporting forest management; and
- iii) integrated water resources, coastal and wetland management.

Under these areas of interventions, a total of USD 1.5 billion will be required to implement five proposed NbS programs for a period of 10 years:

- i) **Program 1:** Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem Resilience
- ii) **Program 2:** Strengthening Management Capacity for Protection of High-Carbon Stocks that Enhance Mitigation of Climate Change
- iii) **Program 3:** Strengthening Integrated Management and Restoration of Freshwater and Coastal Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods
- iv) **Program 4:** Strengthening the Management of Wildlife Protected Areas to Enhance Landscape Connectivity Across Wildlife Habitats and to Boost Eco-tourism
- v) **Program 5:** Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Climate Variability in Arid and Semi-Arid Areas

All these NbS programs were derived from stakeholder's engagement processes and backed up by peer-reviewed literature from the beginning to the end of the NPC IP preparation process. The stakeholders' consultations included (i) national consultations, (ii) regional workshops, and (iii) CIF and Multilateral Development Banks (MDBs) technical sessions. The challenges and proposed interventions identified during the national consultations were firmed up with a ground-truthing exercise. Based on these findings, a Diagnostic and Gap Analysis report that highlighted barriers were prepared, which was then used to prepare the Zambezi Region NPC IP that included the NbS interventions to address both the barriers and challenges.

The presentation of the Zambezi Region NPC IP followed the format provided for in the CIF design document, whereby chapter one presents the proposal summary and chapter two gives the regional context. The nature-based solutions context for the Zambezi River basin is presented in chapter three, while chapter four focuses on the program description where an overview of each of the 8 transboundary hotspots problem statements and drivers are elaborated. Chapter five presents the financing plan and instruments, whereas chapter six summarises the additional activities that are either completed or ongoing within the Zambezi River basin. Chapter seven presents the implementation potential with risks as well as the implementation arrangements. The monitoring and evaluation framework is presented in chapter eight, while chapter nine focuses on stakeholder engagements.

1.2 Zambezi Region NPC IP

This NPC IP has been developed through a highly consultative process and endorsed by Member States. It provides a multi-sectoral systems-level approach to address the climate change challenge and shift toward sustainable uses of land and other ecosystems in the next ten years. It is envisaged that this approach will more effectively tackle the drivers and impacts of human activities and climate change on land and other natural resources in an integrated and sustainable manner. The IP provides a range of nature-based solutions (NbS) that will accelerate climate action to strengthen the resilience of landscapes and communities and enhance mitigation within the Basin. The proposed NbS will offer a suite of interventions through which various societal challenges in the Basin will be addressed by providing

environmental, social, and economic benefits and contributing to climate change mitigation and adaptation. These interventions can reduce greenhouse gas (GHG) emissions, build climate resilience, and ensure productive growth to the regional economy while supporting vital ecosystem services.

This multi-country NPC IP primarily focuses on building communities and ecosystems services resilience. It promotes sustainable livelihoods and climate resilience through integrated, sustainable land-use practices in the identified hotspots of the Basin and is designed to enhance the resilience of land and communities to climate change through developing and implementing sustainable land-use and water management practices to sustain ecosystem services and livelihoods for identified marginalised groups. It addresses climate challenges among low-income, marginalised groups in the region, especially women. Increased land and water availability is the desired outcome to be advanced through the application of the evidence to be produced through this programme. It is envisaged that making more land and water resources available to ecosystems and communities will directly benefit the regional economy through improved benefits for nature, people, and climate.

The benefits of the NPC IP to CIF, MDBs and ZAMCOM include establishing evidence-based and innovative tools for demonstrating the value and effectiveness of NbS in addressing the multiple drivers and impacts of climate change. The evidence base will provide an opportunity for scaling up locally led ecosystem restoration through sustainable land use, water security and climate resilience. More importantly, this NPC IP contributes to CIF's and MDBs efforts to build the capacity and leadership of ZAMCOM to share technical expertise in advancing knowledge, evidence, and impact with the riparian African countries. This multi-country NPC IP therefore builds vital empirical evidence relevant to upscaling NbS for climate action in identified hotspots of the Basin.

The NPC IP will endeavour to hold significant relevance and value to the identified marginalised groups in the region by advancing high levels of gender parity during implementation through emphasising the climate resilience of rural women and other vulnerable groups who depend heavily on ecosystem services. It is designed to benefit nature, people, and climate by improving ecological integrity, climate mitigation and adaptation, and local livelihoods by raising income and fostering economic development. The NPC IP will endeavour to empower women by stewarding their natural resources and participating in climate decision-making and action.

In 2018, ZAMCOM carried out a Zambezi River Basin Livelihood Response Programme (2018), which undertook a Vulnerability Hotspot Assessment mapping exercise where 16 hotspots were identified. On July 25 and 26, 2024, the ZAMCOM member states prioritised eight transboundary hotspots from the 16 where the Zambezi Region NPC Investment Plan NbS will be implemented. The identified prioritized hotspots are transboundary, meaning that they are shared between two or more Zambezi member countries, and therefore, their interventions should take a regional approach. The role of the ZAMCOM Secretariat in managing and coordinating the program activities at the regional level as well as monitoring and evaluating the programs' impacts, among others, is therefore important in addition to capacity-building member countries and organising regional workshops for sharing experiences and lessons learned. The typology of each of the 8 transboundary prioritised hotspots is summarised in section 2.2 below.

The NPC IP covers the CIF eligible member countries of Malawi, Mozambique, Tanzania, Namibia, and Zambia and the CIF non-eligible member countries of Angola, Botswana, and

Zimbabwe as directed by the ZAMCOM Council of Ministers because they wanted to have a basin wide Investment Plan covering all eight countries. ZAMCOM secretariat with support from United Nations Convention to Combat Desertification (UNCCD) covered data collection and consultations costs for Angola, Botswana and Zimbabwe. It is hoped that the non-eligible member countries may obtain finance to cover their NbS programs from other development partners.

1.3 Overall Goal and Objectives

The overall goal of the Zambezi Region NPC IP is to contribute to the transformation of the Zambezi Region through nature-based solutions (NbS) that accelerate climate action to strengthen the resilience of communities and landscapes. The IP is founded on the realization of a vital need to address in an integrated manner the multiple drivers and impacts of climate change resulting from human activities on land resources and ecosystem services. The IP will be used to deploy CIF's and MDB's 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.

The following are the specific objectives of the Zambezi Region NPC IP which are aligned to the Strategic Plan for the Zambezi Watercourse (ZSP) (2018-2040):

- i) Building an evidence-based for the design of nature-based solutions in the basin;
- ii) Strengthening the enabling environment for sustainable uses of land, water and other natural resources;
- iii) Strengthening nature-based resilience of landscapes and livelihoods in the basin; and
- iv) Enhancing nature-based mitigation through augmenting the ability of ecosystems to absorb and store carbon.

1.4 Expected Outcomes

The following are the expected outcomes which are closely related to the CIF NPC indicators:

- i) **Improved ecological resilience:** Referring to enhancement of an ecosystem's capacity to withstand and recover from disturbances, such as climate variability, land degradation, biodiversity loss, or invasive species, while maintaining its essential functions and services. The investment program will enhance re-establishing degraded forests, particularly high carbon forest ecosystems. Restored forests would have enhanced their capacity to sequester carbon, improve soil health, regulate water cycles, and support biodiversity, strengthen management capacity for the protection of high carbon forests, the ecosystems would have been better equipped to absorb and adapt to the effects of climate change.
- ii) **Dependable multi-sector information systems generated in a participative and inclusive manner to guide right NbS investments/projects.** Key to this outcome is the process of knowledge sharing through the collection, analysis and dissemination of project specific information at regional, national and hotspot level.
- iii) **Improved community resilience to climate change:** Through sustainable forest management and restoration, communities would have improved access to ecosystem services that support resilience, such as clean water, food, fuel, and non-timber forest products. In addition, Forests act as buffers against climate change impacts by regulating water cycles, preventing soil erosion, and maintaining

biodiversity, all which support livelihoods and reduce vulnerability. Restoring degraded forest ecosystems would also provide opportunities for communities to engage in sustainable income-generating activities, reducing their dependence on climate-sensitive resources.

- iv) **Improved private sector investment in land, forest and fisheries value chains:** In the context of the Zambezi investment plan, this refers to increasing the involvement of private businesses in sustainable practices related to the use, management, and development of land, forests, and fisheries. This would enhance economic opportunities and generate growth while promoting environmental sustainability. The private sector's increased investment could involve financial capital, technological innovation, infrastructure development, or market expansion, all of which would strengthen value chains—from production and processing to marketing and distribution—while safeguarding natural resources.
- v) **Strengthened land, fisheries and forest governance:** This refers to the enhancement of policies, regulations, institutions, and practices that manage the use and conservation of land, forests, and fisheries. Effective governance in these sectors ensures that resources are managed sustainably, equitably, and transparently, benefiting both ecosystems and the communities that depend on them. The key components to this outcome are Policy Development and Implementation at both the regional level and national level to facilitate scaling and adoption of NbS.

1.5 Program Criteria, Priorities and Budget

The total investment value of the plan is USD 1,508.14 million over a period of 10 years, which is indicative of the vastness of the Zambezi Basin region. This financing will be distributed among five Program Areas and broken down into two phases; Phase 1 will run from 2025-2029 and Phase 2 from 2030-2035 as shown in **Table 1** below.

Table 1: Investment Cost for a Period of 10 Years

Program Areas	Estimated Cost (mUSD)	PHASE 1 (2025 – 2029)			PHASE 2 (2030 – 2035)	
		CIF (mUSD)	AfDB (mUSD)	WB (mUSD)	AfDB (mUSD)	WB (mUSD)
Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem resilience	367.87	14.15				
Strengthen Management Capacity for Protection of High Carbon Forest Ecosystems that Enhance Mitigation Climate Change	161.81	6.22				
Strengthening Integrated Management and Restoration of Freshwater and Coastal Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods	433.64	16.68				
Strengthening the Resilience of Local	396.34	15.24				

Zambezi Region NPC Investment Plan

Communities and Agricultural Productive Systems to Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin						
Strengthen the Management of Protected Areas to Enhance Connectivity Across Wildlife Habitats and boost Eco-Tourism	148.47	5.71				
TOTAL	1,508.14	58	300	400	321.48	428.65

2.0 Regional Context

2.1 State of the Environment in the Zambezi River basin

2.1.1 Forests, Wildlife and Biodiversity

Biodiversity, and forests in particular, drive the economy of the basin through the various economic resources and ecosystem services they provide (World Bank, 2010).⁷ Although the actual contribution of forests to the combined Gross Domestic Product (GDP) of riparian states is unknown or underestimated, the basin is still considered relatively rich in biological resources which have global significance. The basin is rich in wildlife biodiversity including wildlife, fish, and insects found in terrestrial, freshwater and marine ecosystems (World Bank, 2010). Besides conventional forest products and services such as industrial timber, fuel wood, fruits, medicinal plants, and wildlife habitats, forest ecosystems also provide a range of environmental services including climate regulation, watershed protection, climate stabilization through carbon sequestration, the provision of clean water, soil and biodiversity conservation, and nutrient recycling (See World Bank, 2010).

Based on national consultations, regional workshops and ground truthing exercises, key issues regarding forests and biodiversity were identified in the basin include deforestation, forest degradation, habitat loss, loss of plant species, and proliferation of invasive alien species. Gender dynamics pointed to a heavily male-dominated forestry (lumbering) sector (Manyinga Integrated Development Plan 2022-2031)⁸. The women and children contribute to degrading the forests through firewood harvesting due to lack of sustainable sources of energy in rural communities (ZAMCOM, 2019)⁹. The limited involvement of grass-root stakeholders including the women, men, youth, persons with disabilities and the elderly in the management and governance of forests and biodiversity account for their limited appreciation and uptake of measures to protect and maintain biodiversity as well as low interest in effective conservation, management and sustainable utilization of national forest assets (see Mwinilunga District Integrated Development Plan 2022-2031)¹⁰. It was observed that communities, districts and the private sector were shunning the establishment of nurseries for indigenous tree species and giving preference to exotic tree nurseries for species like Pine, eucalyptus, ornamental tree seedlings and fruit tree seedlings (Ibid). Many of these form low carbon forests, moreover with a low lifespan before they are harvested. The major drivers of biodiversity and forestry loss are population growth, urbanisation, agricultural expansion, overreliance on wood energy, uncontrolled bushfires, overexploitation and unregulated use of species, human encroachment for settlement, mining activities, charcoal burning and logging, human-wildlife conflict, and climate change (see also World Bank, 2010).

⁷ World Bank. 2010. The Zambezi River Basin: A Multi-Sector Investment Opportunities Analysis: Volume 3 State of the Basin. The International Bank for Reconstruction and Development/The World Bank 1818 H Street NW Washington DC 20433.

⁸ Available at: <https://www.manyingacouncil.gov.zm/wp-content/uploads/2022/12/Manyinga-Integrated-Development-Plan-2022-2031-1.pdf>

⁹ Strategic Plan for the Zambezi Watercourse 2018-2040 - Basin Development Scenarios. Available at: https://www.zambezicommission.org/sites/default/files/publication_downloads/basin_development_scenarios_report.pdf

¹⁰ Available at: <https://www.mwinilungacouncil.gov.zm/wp-content/uploads/2023/11/IDP.pdf>

2.1.2 Land and Agriculture

The World Bank (2010) estimated agricultural land in the basin to be about 5.2 million hectares, with only about 0.25 million irrigated. The significance of land and agriculture development to poverty reduction, economic growth, food security, and gender equity is recognised as being central. According to the World Bank (2010), agricultural activities directly and indirectly support livelihoods for most of the population, contributing significantly to the economies of basin states. Despite the significant contribution of land and agriculture to the livelihoods of the basin's predominantly rural populations and to the economic development of the riparian countries, the sector faces several challenges (World, 2010).

Information from the national consultations and regional workshops highlighted that continuous farming and exploitation of natural wetlands, forests, and woodlands especially in the hotspots, has led to degraded farmland and natural ecosystems, resulting in changes in land productivity, hydrology, and related processes. According to NAREC (2017), the Basin has undergone substantial land use and land cover changes as evidenced in the conversion of the forest and bush area to cropped and urbanized areas.¹¹ Figure 4 (a) and (b) shows the forest cover in 2000 and the forest loss between 2000 and 2013. Although these changes indicate minimal forest loss spatially, forest loss has ranged between 40-60% (NAREC, 2017).

For NAREC (2017), the impacts of land degradation are multiple and include decreased crop yields, increased rainfall runoff and reduced infiltration, increased soil erosion, sedimentation of reservoirs, lakes and rivers, loss of wetland water storage and pollutants filtration capacities, and increased flooding potential. Other challenges include land degradation due to poor land-use practices, deforestation, overdependence on rain-fed agriculture which is vulnerable to the negative impacts of climate change, declining productivity due to declining soil fertility, low use of improved technologies and inputs, a growing population that increases demand on the limited land-based resources, insecure land tenure, and gender inequalities in access to productive assets such as land. Despite their centrality in agricultural production, women score poorly in regard to land ownership. Even where land is communally owned in the basin areas, women's access and control rights are lower compared to men. According to the World Bank Gender Data Portal (2016, 2018, and 2021) for the riparian States, Malawi had the highest proportion of women who own land followed by Mozambique and Botswana. Namibia and Zambia had the least proportion of women owning land. In Angola, 85% of the land is unregistered, and most land transactions take place on the informal market, thus, women and youth end up with no land because they lack financial resources (SADC Gender and Development Monitor 2018 Factsheets). In Tanzania, traditional practices and customary laws continue to discriminate against women with regard to land tenure (SADC Gender and Development Monitor 2018 Factsheets). These dynamics undermine sustainable land use practices. It should also be noted that agriculture is the largest water consumer in the basin (NAREC, 2017).

¹¹ NAREC (Natural Resource and Environment Centre) (2017). Characterisation of current agricultural activities in the Zambezi River Basin. University of Malawi, P.O. Box 280, Zomba.

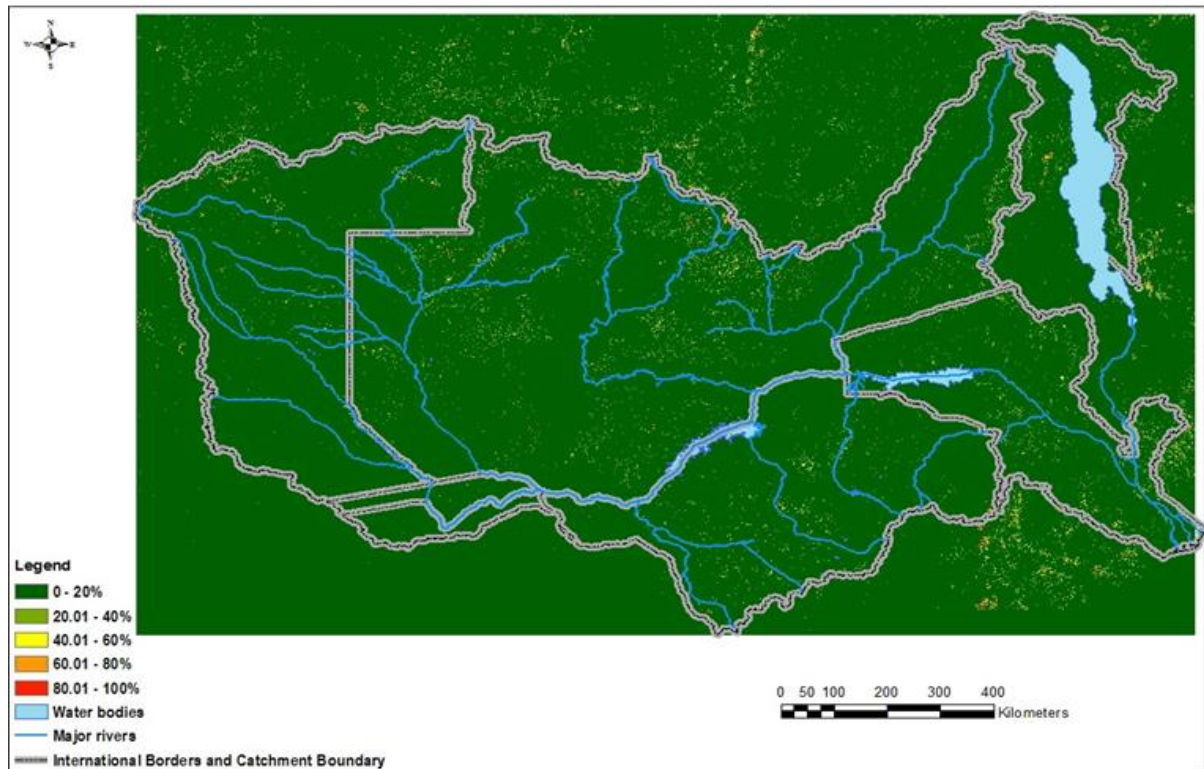


Figure 4 (a): Forest Cover in 2000 (Source: ZAMCOM, [2016] in NAREC [2017])

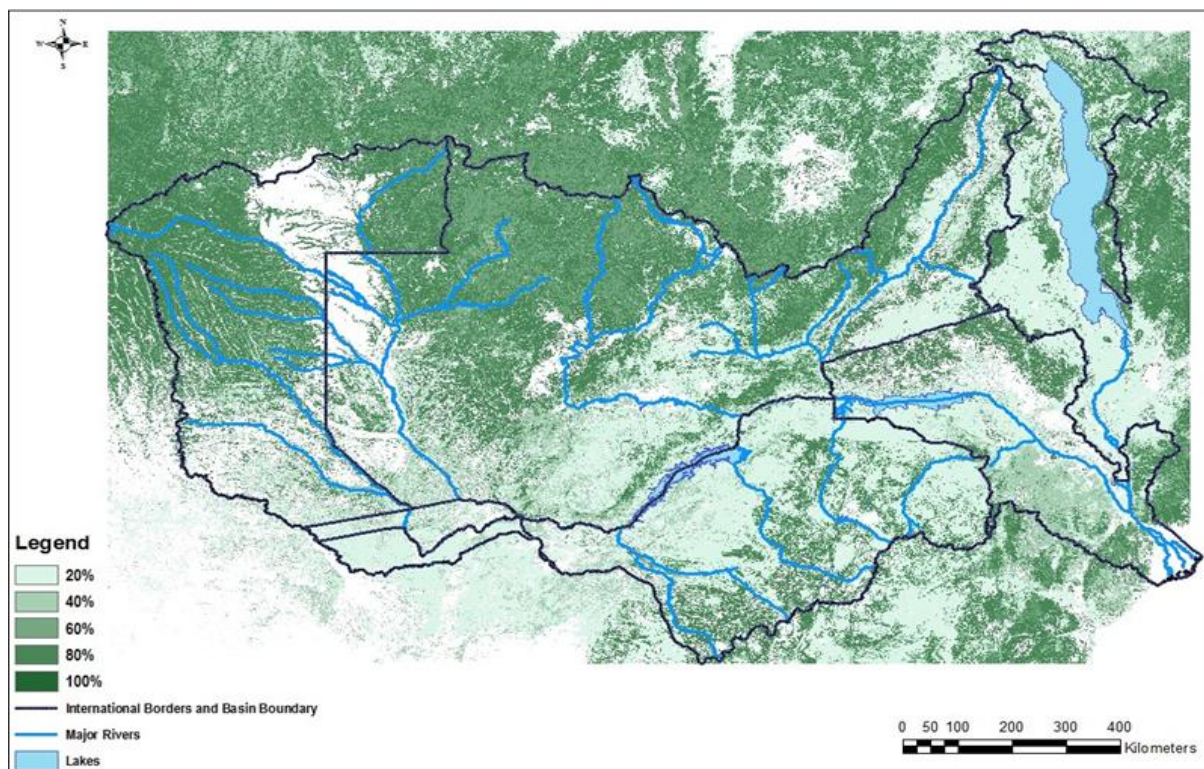


Figure 4 (b): Forest Loss between 2000 and 2013 (6b) in the ZRB (Source: ZAMCOM, [2016] in NAREC [2017])

2.1.3 Water Resources

Water is a key strategic natural resource in the basin. The basin's water resources are primarily stored in natural lakes such as Lake Malawi/Nyasa/Niassa and other smaller lakes, and in artificial lakes such as Lake Kariba and Cahora Bassa, as well as in several rivers and streams (World Bank, 2010). Rainfall largely determines the distribution, occurrence and availability of water resources across the basin. The spatial distribution of the annual precipitation based on the climate models developed by Hughes and Farinosi (2020) suggest there are more sub-basins in the southern and western parts of the catchment with the highest rainfall reductions (Figure 5). However, it is worth noting that Lake Malawi/Nyasa/Niassa also shows quite high reductions in rainfall (Hughes and Farinosi, 2020). More than 4.7 % of the Zambezi River Basin land is wetlands, several of which individually cover areas more than 1,000 km². The basin contains 13 Ramsar Sites and thousands of lesser-known wetlands. It is estimated that 20 million people (ca. 50 % of the basin population) live near wetlands largely because of the wide range of ecosystem services they provide, including support to fisheries, livestock and other forms of agriculture, as well as tourism (World Bank, 2010).

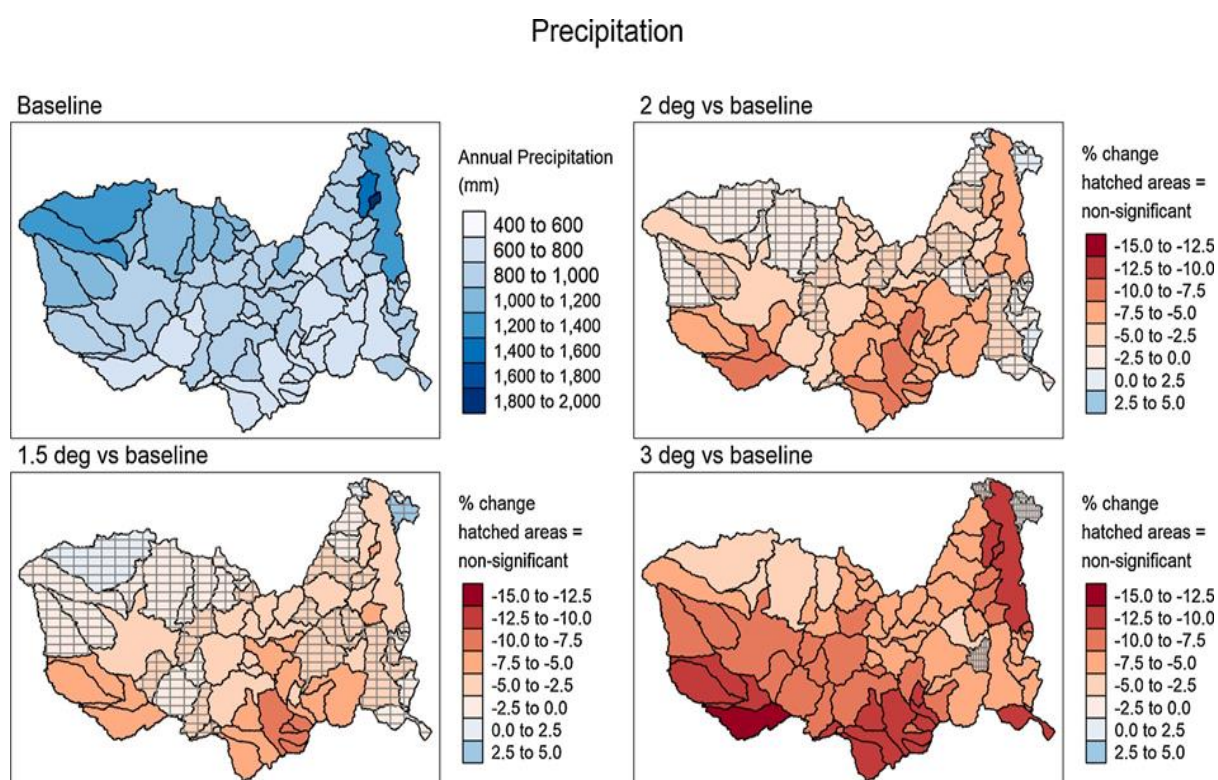


Figure 5: Spatial distribution of the annual precipitation and changes for the three global warming scenarios (Source: Hughes, D.A. and. F. Farinosi [2020])

These water resources provide critical input into most of the productive activities, including agriculture, forestry, mining, commercial and livestock development, energy production, tourism, and wildlife conservation (World, 2010). According to the World (2010), the hydropower potential of the basin stands at about 20 GW, of which only about a quarter is currently exploited. Water is also the driving force in watersheds, wetlands, and coastal ecosystems.

The key issues related to water resources in the basin are water availability, water use and access, water quality, groundwater depletion, and wetland degradation. The spatial distribution

of rainfall changes based on the climate models developed by Hughes and Farinosi (2020) suggest a greater drying trend than a wetter trend for the basin (see Figure 8). The models also suggest a trend towards more variable annual rainfall. CHIRPS analysed spatial map on precipitation (Figure 6) clearly indicates that there is a reducing trend of precipitation in the headwaters part of basin since 1983. This is supported by the Standardized Precipitation Index (SPI) spatial map (Figure 7) that shows increasing drought in the transboundary hotspots 3, 4, 9, 10, 11 and 15 with variable droughts in hotspots 12 and 13. In addition, the disruption of the mangrove ecosystem and its associated impact on shrimp and prawn production has been identified as one of the most significant regional environmental threats (World Bank, 2010). It should be noted that the contribution of women to water resources management is an essential factor in the basin, as women are both managers and primary users of water at domestic level as well as in agricultural production. The involvement of women, youth and other social groups in the management of water resources can go a long way in countering some of the issues identified such as human-wildlife conflict especially during drought spells. During drought season resulting into drying up of boreholes, predominantly women, youths and children trek to fetch water from the river where they interface with wildlife. This poses a safety risk to these social groups.

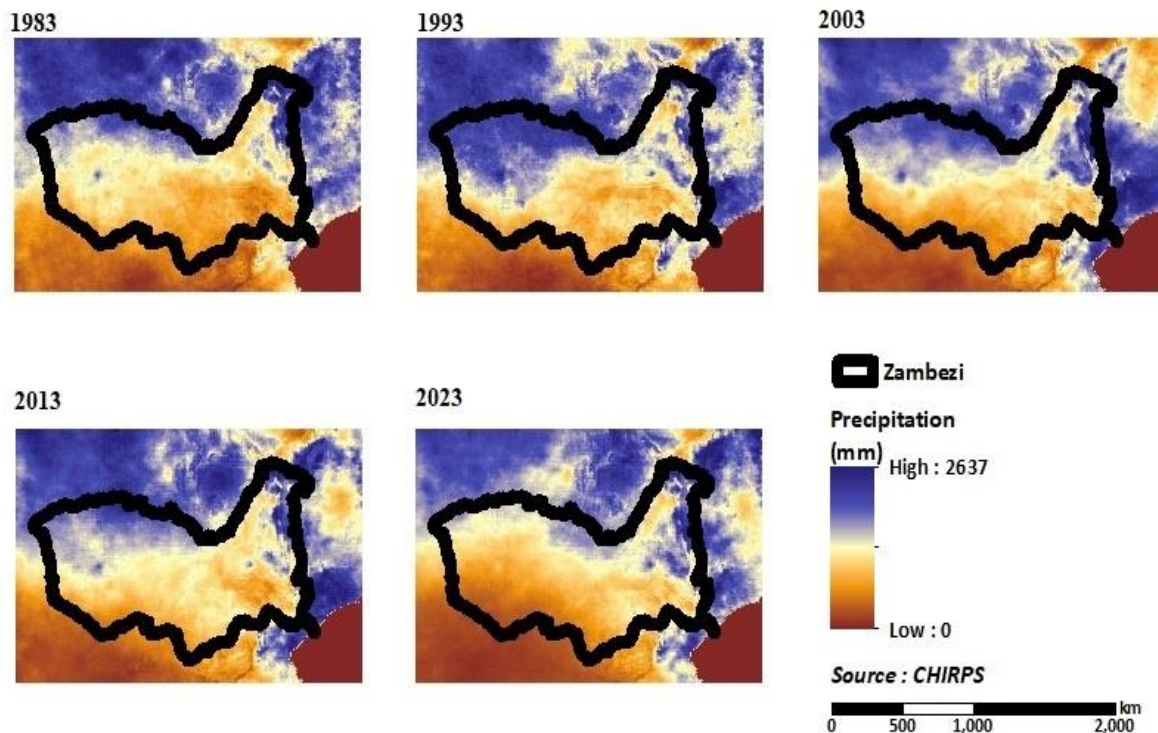


Figure 6: Trend of Precipitation in the Zambezi River basin since 1983 (Source: CHIRPS <https://data.chc.ucsb.edu/products/CHIRPS-2.0/>)

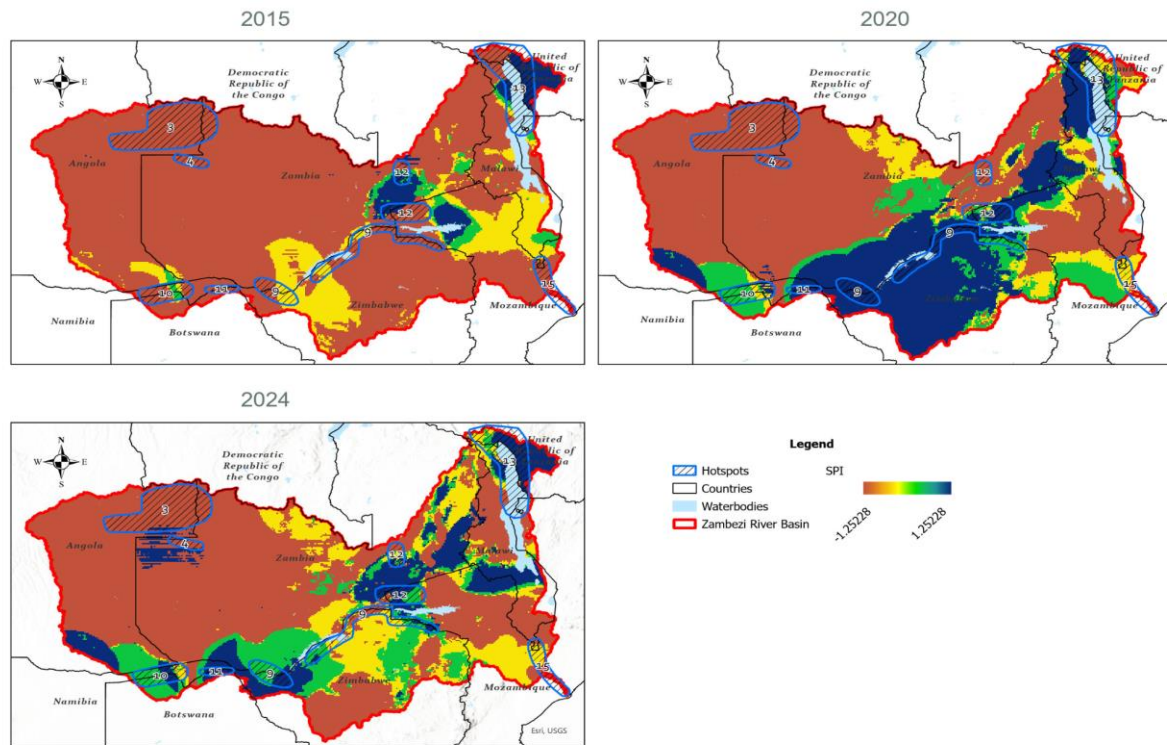


Figure 7: SPI Index Map of the Zambezi Basin for 2015, 2020 and 2024 shows that the basin experienced droughts in most of the transboundary hotspots. (Source: CHIRPS)

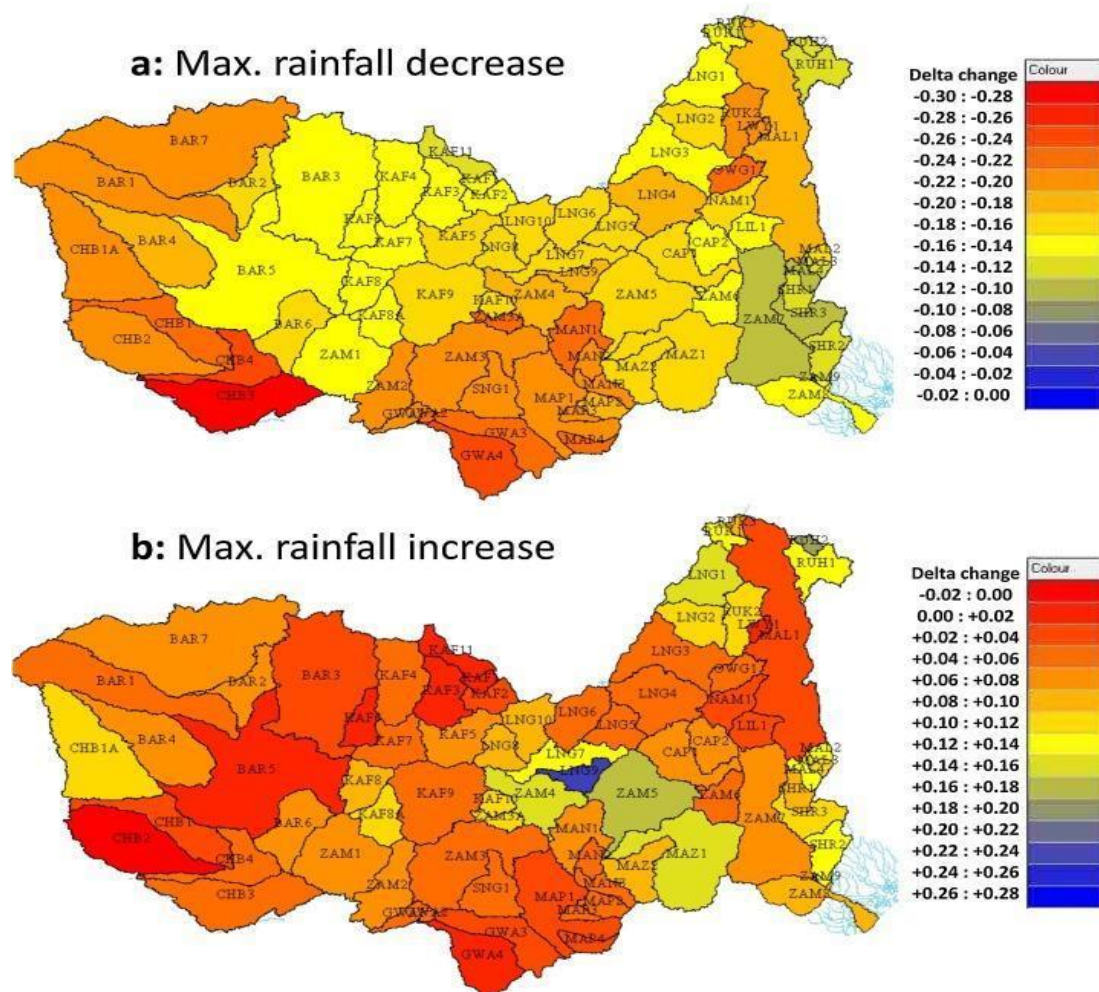


Figure 8: Spatial distribution of a) minimum rainfall changes and b) maximum rainfall changes. The values are based on the maximum and minimums across three global warming scenarios based on historical climate information and future estimates of climate conditions (Source: Hughes, D.A. and. F. Farinosi [2020])¹²

2.2 Characteristics of Hotspots in the Basin

This section provides descriptions of the eight prioritized hotspots for the NbS interventions the Zambezi Region NPC IP. As indicated in 1.2 above, ZAMCOM which undertook a Vulnerability Hotspot Assessment mapping exercise from member states prioritised eight transboundary hotspots (Figure 9) for the Zambezi Region NPC IP. These are areas of significant negatively affected livelihoods, land and environmental degradation among other challenges.

¹² Hughes, D.A. and. F. Farinosi (2020) Assessing development and climate variability impacts on water resources in the Zambezi River basin. Simulating future scenarios of climate and development. Journal of Hydrology: Regional Studies Volume 32, December 2020, 100763.

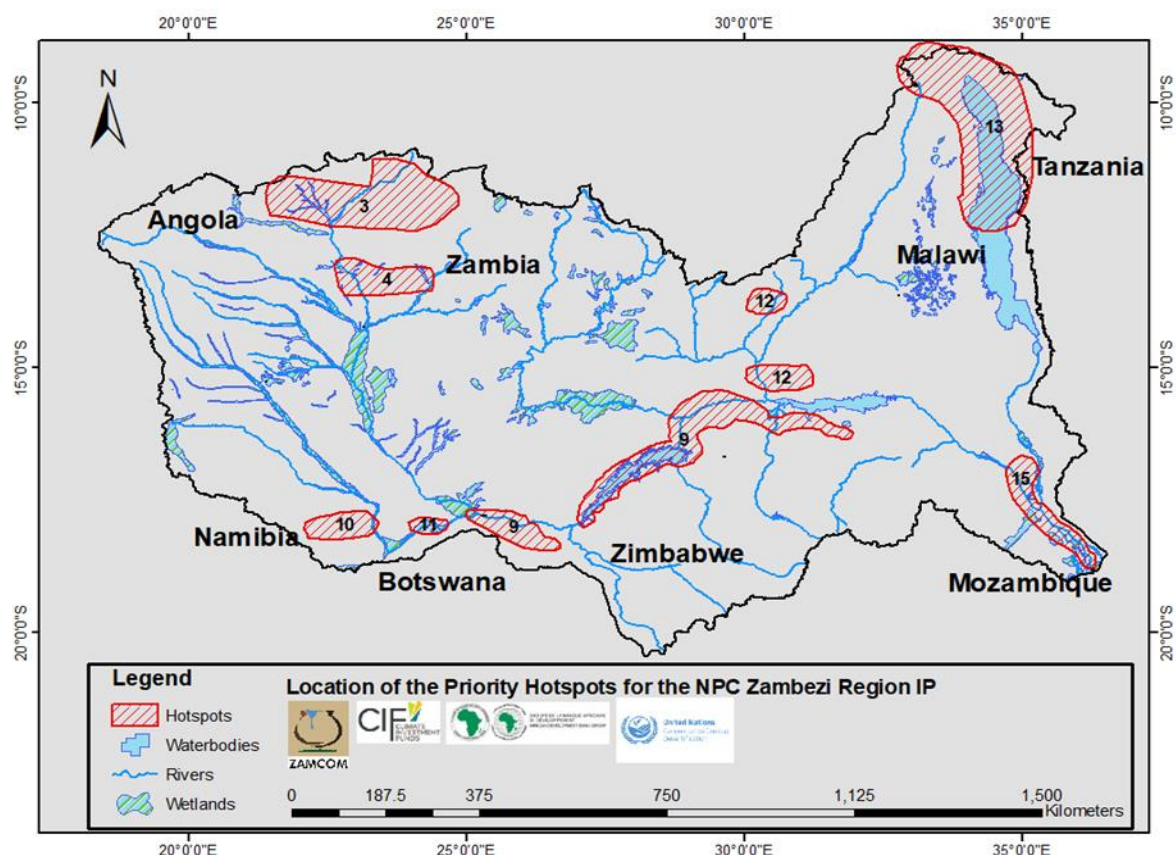


Figure 9: The eight prioritised transboundary Hotspots in the Zambezi River Basin

2.2.1 Hotspot: 3 - Covers Parts of Angola and Zambia

Table 2: Hotspot: 3, Covers Parts of Angola and Zambia

Hotspot	Size Hectares	In	Subbasin	Countries & Districts	Population
Hotspot 3 (Cazombo and Mwinilunga)	3,800,000		Upper Zambezi/Kabompo	❖ Angola (Cazombo, Caquengue, Cavungo, Calunda, Caianda, Lóvua) ❖ Zambia (Mwinilunga)	244,649

General Characteristics:

- Camei National Park (14,450 km²) in Angola (Huge floodplains that are inundated for several months during the rainy season, harbours species such as Wildebeest, Lichtenstein's hartebeest, savanna elephant, hippo, roan antelope, red lechwe, waterbuck, sitatunga, lion, cheetah, and wild dog. Most of these species are either locally extinct or have become seriously depleted in numbers. No research work or conservation projects are active in Cameia National Park); and
- National and Local Reserves such as Lunda, Ndembo and Zambezi Source on the Zambian side lie within the hotspot.

Key Activities and Challenges: High rates of poaching and unregulated fishing exert pressure on the local habitats and lead to the overexploitation of fishing and wildlife.

Gender and other social characteristics and challenges based on gender analysis:

Women are more vulnerable than men to effects of climate change because they: have limited access to resources; dependent on natural resources; do not enjoy the same level of access to education and information than men; lack mobility; and have limited role in decision making (see Mwinilunga District Integrated Development Plan 2022-2031)¹³. Child and Early Marriages- a key form of gender-based violence, as well as child labour and juvenile delinquency are among the social vices faced in the area (Ibid). there are low adult illiteracy levels among women - standing at 58.6% compared to 72% for the male adult (Ibid citing Sub National Analysis Report 2019). This in part explains women's dominance of the informal sector low paying jobs, and domestic care for the case of women. Vulnerable women and youth are further challenged by inadequate entrepreneurship skills, working capital (Mwinilunga District Integrated Development Plan 2022-2031). The existing social protection interventions such as social cash transfer program reach out to a fraction and not all vulnerable households including those headed by women, PWDs, elderly, and struggling youth (Ibid).

The World Bank Gender Data Portal (2015 to 2022) for Zambia and Angola alluded to the following gender dynamics:

- i) Labor force participation rate (i.e., the proportion of the population ages 15 and older that is economically active) found to be higher for men than women;
- ii) A negligible proportion of women compared to men in employment that earn a wage or salary;
- iii) Working women are largely located in vulnerable employment associated with lower paying, irregular, informal work arrangements, decent work deficits, exclusion from social protection, and safety nets to guard against economic shocks; thus, they are more likely to fall into poverty. This phenomenon is in part attributed to high illiteracy levels among women, possession of low skilled levels as compared of men;
- iv) Fewer women than men have an account at a bank or another type of financial institution or reported personally using a mobile money service (a key indicator of financial inclusion);
- v) Women's access to finance is low. Financial service providers prefer lending to borrowers in organised farmers' groups and many women are not. Financial service provider also require collateral which these women lack;
- vi) Low participation of women in business. Most women find themselves predominantly in informal sector businesses. The women-owned SMEs face challenges related to access to finance, low entrepreneurship competences, unaffordable business premises. Women entrepreneurs suffer from negative cultural attitudes, and gender-related barriers such as less mobility, reproductive roles and traditional power relations make it more difficult for women to start and run enterprises;

¹³ Available at: <https://www.mwinilungacouncil.gov.zm/wp-content/uploads/2023/11/IDP.pdf>

- vii) Women spend a greater proportion of their time on unpaid domestic and care work as defined by cultural norms;
- viii) The proportion of women (% of women 15-49) participating in major household decisions is low compared to men. This applies to household livelihood decisions, land use, water resources management and biodiversity conservation;
- ix) Low women's access to and use of ICT (phones, computers, internet) for business and other productive operations. This attributed to low skills, and control by spouses;
- x) Restrictive cultures place women in a subordinate decision-making position. They are not well represented in decision making positions at different levels, inter alia; at community level, local governance and high governance levels, in the corporate sector and in economic and social institutions; and
- xi) Fewer female than male youth are represented in education, employment and/or training.

Other social issues:

According to Zambia's 2022 Annual Labour Force Survey Report¹⁴:

- i) At Provincial level, the overall share of working age population was 7.2% for the Northwestern Province while the province had a share of 4.0% for the employed persons. The employment-to-population ratio for this province was 17.7% (21.6 male; and 14.1% female). This illustrates a gender imbalance. A total of 14.9% of the employed population are in the agricultural sector compared to 85.1% in non-agricultural sector;
- ii) There were 426,394 youth aged 15-24 years in employment. Of the total employed youth, 62.5 percent were male while 37.5 percent were female. The 2022 Labour Force Survey Report does not specify the youth unemployment rate for the Northwestern Province that is host to Hotspot 3. However, national level data indicate that in 2022, youth unemployment (age 15-24) stood at 9.9% (9.8% males; and 9.9% females) (World Bank, 2024 citing Modeled ILO Estimates¹⁵). Some of the drivers of youth unemployment include low education and skills for the affected youth, mismatch between qualifications/skills and labour market demands, low levels of entrepreneurship coupled with limited access to appropriate finance, technology and markets, low absorptive capacity of the labour market for new entrants and the concentration of growth in highly capital-intensive and urban-based sectors like mining (ILO, 2012)¹⁶; and
- iii) Persons with disability constitute 3.5% of the Persons in the Labour Force in Zambia (2022 Annual Labour Force Survey Report- Zambia). However, hotspot specific data is unavailable.

¹⁴ Zambia Statistics Agency (2022). Annual Labour Force Survey Report. Available at: https://www.zamstats.gov.zm/wp-content/uploads/2023/12/ZM_2022-Labour-Force-Survey-Report_01.09.2023.pdf

¹⁵ <https://data.worldbank.org/indicator/SL.UEM.1524.ZS?locations=ZM>

¹⁶ ILO (2012). ZAMBIA National Event on Youth Employment Promotion. Available at: <https://www.ilo.org/meetings-and-events/zambia-national-event-youth-employment-promotion#:~:text=The%20main%20causes%20of%20youth,concentration%20of%20growth%20in%20highly>

2.2.2 Hotspot: 4 - Covers Parts of Angola and Zambia

Table 3: Hotspot: 4, Covers Parts of Angola and Zambia

Hotspot	Size In Hectares	Subbasin	Countries & Districts	Population
Hotspot 4 (Cavuma and Manyinga)	947,000	Upper Zambezi/Kabompo/Lungue Bungo	❖ Angola (Macondo) ❖ Zambia (Chavuma, Manyinga)	41,240

General Characteristics:

- Administrative areas of Macondo, Angola, Manyinga, and Chavuma, in Zambia. It is one of the nine districts in the Northwestern Province;
- The district's population was estimated to be 33,893, with a population density of 7.9 and an annual growth rate of 1.2%, according to the 2010 Central Statistics Office (CSO);
- Lies within the sub-basins of Upper Zambezi, Lungue Bungo, and Kabompo Basin, which the Kabompo, West Lunga, and Lungue Bungo Rivers drain;
- The vegetation in the hotspot is characterised by dry evergreen forest, Miombo forest, and Zambezian grasslands that form part of the critical wetland system, extend into the larger Kabompo and West Lunga Rivers ecosystems, which feature a mosaic of rivers, floodplains, and dambo habitats; and
- The Kabompo and West Lunga Rivers are crucial in this region, providing vital water resources and supporting diverse wildlife. Wetlands in the hotspot are essential for maintaining biodiversity, supporting agriculture, and providing ecosystem services such as water purification and flood control.

Key Activities and Challenges:

- Residents in Chavuma and Manyinga Districts are mostly subsistence farmers and the major crops grown are maize, cassava and rice;
- Livestock rearing, mainly cattle and goats, as well as piggery and poultry; and
- Fishing is another activity along the Zambezi River, but it is said to be done on a small scale.

Gender and other social characteristics and challenges based on gender analysis:

According to the Republic of Zambia - Manyinga Integrated Development Plan 2022 – 2031¹⁷, a number of gender and other social issues prevail. These include: people with disabilities facing a number of challenges compared to those without disabilities as part of the process of equalising opportunities; deficiency of a suitable road network adversely effecting women and other vulnerable groups (PWDs, the elderly) the most; women being more vulnerable and thus in more need of social protection program interventions than men; sidelining of women in different economic activities due to low access to capital, credit and

¹⁷ Available at: <https://www.manyingacouncil.gov.zm/wp-content/uploads/2022/12/Manyinga-Integrated-Development-Plan-2022-2031-1.pdf>

economic opportunities compared to men. In the agricultural sector harmful cultural norms complicate women's ownership of land in male headed households. Women and persons with disabilities have been side-lined in the forestry sector, making it heavily male dominated due to owing to the labour-intensive and capital-intensive nature of the activities involved. In a similar manner, the differently abled have also been side-lined in this sector (Ibid). In Chavuma, women are less represented in agricultural development -they haven't harnessed the potential of forming and working under agricultural clubs and cooperatives (Republic of Zambia-Chavuma Integrated Development Plan (IDP) 2022-2031)¹⁸. Limited economic opportunities for particularly the youth is envisaged to exacerbate the demand for natural resources leading to massive deforestation through charcoal production and land degradation through agriculture and many other income generating activities (Ibid).

The World Bank Gender Data Portal (2015 to 2022) for Zambia identified the following gender dynamics. Though they are country level, they align with findings synthesized from grass-root and national level consultations.

- i) Women dominate in the provision of labour in agriculture, and they are responsible for ensuring food and nutrition security for the household. On the other hand, men predominantly make decisions on the cash crops grown and marketing;
- ii) Women score poorly in regard to land ownership. Their access and control rights are lower compared to men. In Angola where most of the land is unregistered, and where most land transactions take place on the informal market, the women end up with no land because they lack financial resources;
- iii) Limited access to, use of and control over land and other productive resources by women. This is in part due to dominant customary laws and practices that promote male chauvinism;
- iv) Labor force participation rate (i.e., the proportion of the population ages 15 and older that is economically active) found to be higher for men than women;
- v) A negligible proportion of women compared to men in employment that earn a wage or salary;
- vi) Working women are largely located in vulnerable employment associated with lower paying, irregular, informal work arrangements, decent work deficits, exclusion from social protection, and safety nets to guard against economic shocks; thus, they are more likely to fall into poverty. This phenomenon is in part attributed to high illiteracy levels among women, possession of low skilled levels as compared of men;
- vii) Fewer women than men have an account at a bank or another type of financial institution or reported personally using a mobile money service (a key indicator of financial inclusion);
- viii) Women's access to finance is low. Financial service providers prefer lending to borrowers in organised farmers' groups and many women are not. Financial service provider also require collateral which these women lack;
- ix) Low participation of women in business. Most women find themselves predominantly in informal sector businesses. The women-owned SMEs face challenges related to access to finance, low entrepreneurship competences, unaffordable business premises. Women entrepreneurs suffer from negative cultural attitudes, and gender-related barriers such as less mobility, reproductive

¹⁸ Available at: <https://www.chavumacouncil.gov.zm/wp-content/uploads/2023/11/Final-Chavuma-IDP-April-2023-Final.pdf>

- roles and traditional power relations make it more difficult for women to start and run enterprises;
- x) Women spend a greater proportion of their time on unpaid domestic and care work as defined by cultural norms;
 - xi) The proportion of women (% of women 15-49) participating in major household decisions is low compared to men. This applies to household livelihood decisions, land use, water resources management and biodiversity conservation;
 - xii) Low women's access to and use of ICT (phones, computers, internet) for business and other productive operations. This attributed to low skills, and control by spouses;
 - xiii) Restrictive cultures place women in a subordinate decision-making position. They are not well represented in decision making positions at different levels, inter alia; at community level, local governance and high governance levels, in the corporate sector and in economic and social institutions; and
 - xiv) Fewer female than male youth are represented in education, employment and/or training.

Other social issues:

According to Zambia's 2022 Annual Labour Force Survey Report¹⁹:

- i) The proportion of working-age population (15 years or older) in the Western Province (the province that hosts Manyinga) was 48.5% males and 51.5% females. On the other hand, 47.5% males and 52.5% females constituted the working-age population (15 years or older) in the Northwestern Province (the home to Chavuma); and
- ii) At Provincial level, the employment-to-population ratio for Western province was 23.3% (23.6% male; and 23% female). A total of 38% of the employed population in the Western province are in the agricultural sector compared to 62% in non-agricultural sector. The 2022 Labour Force Survey Report, however, does not specify the youth unemployment rate for the Western Province that constitutes a part of Hotspot 4.

2.2.3 Hotspot 9 - Covers Parts of Zimbabwe, Zambia and Mozambique

Table 4: Hotspot: 9, Covers Parts of Zimbabwe, Zambia and Mozambique

Hotspot	Size In Hectares	Subbasin	Countries & Districts	Population
Hotspot 9: Lower Zambezi Valley	2,941,899	Kariba/Tete/Mupata	❖ Zimbabwe (Binga, Kariba, Hurungwe (Karo Rural), Mbire, Muzarabani, Mount Darwin, Rushinga,	1,746,854

¹⁹ Zambia Statistics Agency (2022). Annual Labour Force Survey Report. Available at: https://www.zamstats.gov.zm/wp-content/uploads/2023/12/ZM_2022-Labour-Force-Survey-Report_01.09.2023.pdf

Hotspot	Size In Hectares	Subbasin	Countries & Districts	Population
			Hwange Urban, Victoria Falls Urban) ❖ Zambia (Chirundu, Livingstone) ❖ Mozambique (Magoé, Cahora-Bassa)	

General Characteristics:

- i) Located in the Kariba, Tete and Mupata Sub-basins. It is a transboundary area shared between Mozambique, Zambia, and Zimbabwe;
- ii) Located between nature reserves towards Zimbabwe's northern border and Harare in the southeast. The border stretches from Mukumbura in the East, Mbire in the North, Makuti, and Siyabuwa along the Zambezi Valley and the border with Mozambique;
- iii) It is characterised by vulnerable, degraded ecosystems exposed to tsetse fly, malaria, flooding, and drought (CRIDF, 2018);
- iv) Key features in the hotspot are Kariba Lake, Cahora Basa, protected areas including Mana Pools and Lower Zambezi National Parks. (CRIDF, 2018); and
- v) It is dominated by forests such as Colophospermum Mopane woodland, Dry Zambezian Mimbo Woodland, shrubs and occasional wetlands.

Key Activities and Challenges:

- i) Shifting cultivation and charcoal production for towns such as Lusaka, Chongwe, and Harare in Zambia and Zimbabwe; and
- ii) Invasion of the *Cherax quadricarinatus*: The freshwater crayfish (originating from Australia) invaded Lake Kariba in 2011 and is now firmly established.

Gender and other social characteristics and challenges based on gender analysis:

According to Muderredzi (2022)²⁰, women in Binga District have less access than men to productive resources and opportunities, with the gender gap amongst the Tonga of Binga existing in relation to many assets, inputs and services, including land, livestock, labour, education, extension and financial services and technology. Among the Tonga, patriarchy is a significant factor in defining power relations between genders (Ibid).

In regard to fisheries, The Zimbabwe Parks and Wildlife Management Authority- Lake Kariba Inshore Fishery Management Plan 2023-2032²¹ observed that the inshore fishing industry is male dominated. The role of women and youth, heads of childheaded households and people living with disabilities in the fishery is generally limited due to lack of productive assets and barriers to accessing finance. When they involve in fishing, women and youth use hook and line to fish for both household consumption and selling off the surplus. This limits the share of

²⁰ Muderredzi, J. (2022). Food Insecurity, Livelihood-Diversification Strategies and Gender among the Tonga of Binga District. In Helliker, K., and Matanzima, J. (Eds). *Tonga Livelihoods in Rural Zimbabwe*. 1st Edition. DOI: <https://doi.org/10.4324/9781003278580>

²¹ Available at: <https://www.zimparks.org.zw/wp-content/uploads/2024/06/Lake-Kariba-Inshore-Fishery-Management-Plan-2023-2032.pdf>

benefits they get from the fishing industry. Moreover, hook and line fishing are said to have become very dangerous due to increase incidences of human-crocodiles' conflicts (Ibid). The Authority further decries the restriction of women involved in gill net fishing to mending nets and processing fish due to strong gender stereotypes on women's roles and perception of their competencies. Key barriers include most men not willing to let their spouses to participate in activities that take them away from their homes over extended periods of time and in environments that involve other men in their absence; then the burden of care work that ties women to work around the homestead leaving little or no time to take advantage of the income opportunities from the fisheries industry (Ibid).

In Victoria Falls Municipality, the Voluntary Local Review (2020)²² cited persistence of inequality in the Town as attributed to the lack of equal economic and political opportunities as a key challenge. The women, youth and persons with disability are underrepresented in education, water and sanitation, health and nutrition, and employment (Ibid). The Victoria Falls City Master Plan Report of Study (2024)²³ indicates that 23.4% of the households in VFM are female headed. These shoulder the responsibility for the economic well-being of the household with limited support from spouses or partners, amidst the disadvantages they encounter in accessing economic resources and opportunities in comparison to men. This begs for interventions with the potential to enhance the resilience for these female-headed households. Zimstat (2023) cited in Victoria Falls City Master Plan Report of Study (2024) reports that Matabeleland North Province (the home to Victoria Falls) among the 10 Provinces of Zimbabwe had the highest rate of unemployment in the country at 39.6% (34.9% males; and 47.1% females). In Mashonaland West (housing Kariba District), the unemployment rate was 20.3% (17% males; and 25.3% females). Women are more vulnerable with more limited opportunities for employment. However, the youth unemployment rate for Victoria Falls Municipality (VFM) recorded by the Voluntary Local Review (2020) was lower than for the province. Notably, the youth employment rate decreased over a period of 4 years from 9.8% in 2016 to 3.5 % in 2019 (Ibid).

2.2.4 Hotspot 10 - Covers Parts of Namibia and Botswana

Table 5: Hotspot: 9, Covers Parts of Namibia and Botswana

Hotspot	Size In Hectares	Subbasin	Countries & Districts	Population
Hotspot 10 (Zambezi Region/Former Caprivi Strip)	633,000	Cuando/Chobe	❖ Namibia (Mukwe, Kongola) ❖ Botswana (Shakawe)	61,828

²² VOLUNTARY LOCAL REVIEW (2020). Victoria Falls Town's Implementation of the 2030 Agenda and Agenda 2063 for Sustainable Development March 2020. Available at: <https://www.uneca.org/sites/default/files/TCND/voluntary-local-reviews-africa/Victoria-Falls-VLR.pdf>

²³ Available at: <https://keepvictoriafallswild.com/downloads/2024VictoriaFallsCityMasterplanDraftReportOfStudy.pdf>

General Characteristics:

- i) The hotspot is in Kavango East and part of the Zambezi Region. It is a transboundary area shared by Namibia and Botswana within the Cuando/Chobe Sub-basin. It has diverse vegetation types, including floodplain grassland, Kalahari woodlands, and Mopane. Combining these vegetation types of results in the area's moderately high biodiversity and facilitates animal movement across habitats;
- ii) The hotspot is wholly located within the Kavango-Zambezi Trans frontier Conservation (TFCA) and surrounded by several conservancies such as Wuparo, Salambala and neighbouring National Parks such as Sioma Ngwezi National Park, Luengue-Luiana National Park and Mavinga National Park on Botswana side; and
- iii) The Namibian side consists of the Impalila, Kasika, Salambala and Sikunga conservancies, which are compatible insofar as they protect wildlife hunted under license from the Ministry of Environment and Tourism.

Key Activities and Challenges:

- i) Agriculture is the most important economic and livelihood activity in the strip;
- ii) Stock farming is dominated by cattle, valued for draught power, food products, cash, and wealth storage;
- iii) Fishing is both a vital subsistence and a commercial activity, and most floodplain households rely on fish as their primary source of protein; and
- iv) common threats to livelihood assets are human-wildlife conflict, human health, animal health, floods, and droughts, as well as variable rainfall.

Gender and other social characteristics and challenges based on gender analysis:

According to the 2018 Labour Force Survey (LFS) results for Namibia²⁴ youth unemployment rates were higher than the national unemployment rate of 46.1% (Male: 43.7% and Female: 48.5%). The Kavango East region registered the highest youth unemployment rate at 62.5% overall (males: 62% and females: 62.9%). The youth unemployment rate was also high in the Zambezi region at 49.7% (Males: 47.8%; Female: 51.4%). The proportion of youth not in education, employment, or training (NEET) in the Kavango East region **i.e.**, 41.7% (Male: 38%; and 44.9%) was higher than the national overall proportion of 34.9% (Male: 32.7%; and Female: 37.1%). In the Zambezi region, the proportion was 30.2% (Male: 24.1%; and Female: 36.2%). The African Union (2021)²⁵ attributed the high youth unemployment rates to: relative lack of skills; the malfunction between education and the labour market; high dropout rates despite the availability of free education; unstable labour market experience and discrimination; and youth personal characteristics barriers. According to the World Bank Gender Portal for Namibia for the Years 2015 to 2021, a number of gender dynamics pertain. In particular, women account for 59 percent of people engaged in agriculture, including subsistence agriculture; slightly more men than women constitute the country's labour force; the proportion of women in employment that earn a wage or salary is lower for women than men; there are more women than men in vulnerable employment; the proportion of women and

²⁴ <https://webapps.ilo.org/surveyLib/index.php/catalog/6860/related-materials>

²⁵ African Union (2021). Targeted Review Report on Youth Unemployment for The Republic of Namibia. APRM Targeted Review Report No. 4. Available at: <https://www.npc.gov.na/wp-content/uploads/2021/12/Targeted-Review-Report-on-Youth-Unemployment-comp.pdf>

men who own land is generally low, with insignificant gender differences; the proportion of women having an account at a bank or another type of financial institution or personally using a mobile money service is high overall, though lower than that of men; the proportion of women who own a business is significantly smaller compared to men; and in regard to women's participation in business, the Ministry of Industrialisation, Trade and SME Development in collaboration with the Ministry of Gender Equality and Child Welfare have worked with the Women in Business Association (WIBA) programme to support women in accessing platforms such as regional trade fairs that enhance exposure to the business world.

2.2.5 Hotspot 11 - Covers Parts of Namibia and Botswana

Table 6: Hotspot: 11, Covers Parts of Namibia and Botswana

Hotspot	Size Hectares	In	Subbasin	Countries & Districts	Population
Hotspot 11	925,300		Kariba	❖ Namibia (Bukalo) ❖ Botswana (Kasane)	11,078

General Characteristics:

- i) The hotspot is partly located in the Zambezi and Chobe Regions. It includes the districts of Kasane and Katima Mulilo;
- ii) The Hotspot is in the Cuando/Chobe Sub-basin;
- iii) It is in the tourism hub of Livingstone Town, Victoria Falls Town and serves as a gateway for tourists visiting Chobe National Park and the Chobe River; and
- iv) It is interspersed with three forest reserves: Katombora extension, Simonga and Livingstone. Heading south, Zambia's Mosi-Oa-Tunya NP borders the Zambezi River and is flanked by Zambezi NP and Victoria Falls NP, with a small but significant section of open access land separating the two Zimbabwean National Parks.

Key Activities and Challenges:

- i) Land use is primarily open, being pastoral, arable and residential; and
- ii) Significant tourism activities and rich biodiversity characterise the region.

Gender and other social characteristics and challenges based on the gender analysis:

According to The Chobe District Development Plan 7 (DDP 7), the district is faced with prevailing challenges that undermine its potential for economic diversification and food security through commercialized agriculture and tourism. These include among others: HIV/AIDS, gender partiality, and unemployment especially among women and the youth (who constitute over 60% of Chobe population). The threat of increased HIV/AIDS infections is occasioned by the influx of people in Chobe as tourists, job seekers, public servants, truck drivers on transit to upper Southern African countries (Ibid). Subsistence farming predominantly practiced by the women and other vulnerable groups faces a challenge of invasion/damage by wild animals (Ibid). This worsens their vulnerability, poverty, and food insecurity. Unemployment remains a problem in Chobe due to limited economic/employment opportunities in the district. Chobe district unemployment rate was estimated at 22.2% (Male:

22.1%; and Female: 23.2%) (Statistics Botswana (2019)²⁶. Though data on youth unemployment in Chobe district was not accessed, national data available renders an insight. According to the World Bank Data based on ILO Modeled Estimates (2024), Botswana's youth unemployment rate (ages 15-24) for 2023 was 45.4% (40.5% males; and 51.7% females). This is compared to the total unemployment rate of 23.4% (20.1% males; and 27% females) (Ibid). Implied, the youth unemployment rate almost doubled the national unemployment rate. The share of youth not in education, employment or training is similarly high at 37.6% overall; 34.8% males and 40.4% females (Ibid). the females are marginalised in employment compared to the males. Sechele (2021)²⁷ identifies a range of factors that account for unemployment in Botswana including: poor performance at secondary school, a disconnect between education and labour market, precarious employment, weak networking skills, gender stereotypes, and lack of youth engagement in policy making.

2.2.6 Hotspot 12 - Covers Parts of Mozambique and Zambia

Table 7: Hotspot: 12, Covers Parts of Mozambique and Zambia

Hotspot	Size In Hectares	Subbasin	Countries & Districts	Population
Hotspot 12: Rufunsa	656,187	Luangwa/Tete	❖ Mozambique (Zumbo) ❖ Zambia (Luangwa, Serenje, Nyimba)	423,140

General Characteristics:

- i) The hotspot is located in the Luangwa and Tete Sub-Basins. It is a transboundary area that cuts across Zambia and Mozambique, with towns including Luangwa, Serenje, and Nyimba; and
- ii) Most of the hotspot is dominated by intact miombo woodland ranging from sparse to dense canopy cover. Some of the common tree species found on Rufunsa Conservancy were *Brachystegia spiciformis*, *Brachystegia manga*, *Isobertia angolensis*, *Julbernardia globiflora*, *Diplorynchus condylocarpon* and *Pseudolachnostylis maprouneifolia*.

Key Activities and Challenges:

- i) Some of the main threats to these features in the hotspot include unsustainable agricultural practices that result in soil erosion and high sedimentation levels and poor water quality.

²⁶ Statistics Botswana (2019). Quarterly Multi-Topic Survey: Labour Force Module Report Quarter 4: 2019. Available at: <https://www.statsbots.org.bw/sites/default/files/publications/Multi%20Topic%20Survey%20Q4%20Labour%20Force%20Module%20Report.pdf>

²⁷ Sechele, L. (2021). FACTORS THAT CONTRIBUTE TO YOUTH UNEMPLOYMENT IN BOTSWANA. Available at: <https://www.researchgate.net/profile/Latang-Sechele>

Gender and other social characteristics and challenges based on the gender analysis:

Youth unemployment is a key issue. The rates are high for both young males and young females in Mozambique at 38% and 37%, respectively (Danish Trade Union Development Agency (2017)²⁸. Many of these jobs that young people are involved in are vulnerable, with low wages, poor social security and little social dialogue (Ibid). the labour force is identified with low skills levels that complicate opportunities for the youth to be engaged by employers in need of qualified labourers. The Danish Trade Union Development Agency (2017) identifies a set of gender issues including Mozambique being a highly patriarchal society, adding that this accounts for the country being ranked as number 139 out of 188 countries on the United Nations Development Programme's (UNDP) Gender Inequality Index. Women have a limited control over household resources and women-headed households are poorer than their male-headed counterparts (Ibid). On the non-agricultural labour market, only 14% of women workers have regular full-time employment in Mozambique; and women are almost four times less likely than men to receive a salaried, formal sector job, they often receive lower pay than men for the same work and are less likely to have access to credit (Ibid). Domestic work greatly undermines women's entry into the higher paying non-agricultural sectors (Lachler and Walker, 2018)²⁹. High poverty levels affect women and men differently due to differences in access to economic opportunities and social protection programs. Women, compared to men, have limited opportunities to attend livelihood training due to limited time available, considering their gender roles.

2.2.7 Hotspot 13 - Covers Parts of Malawi and Tanzania

Table 8: Hotspot: 13, Covers Parts of Malawi and Tanzania

Hotspot	Size In Hectares	Subbasin	Countries & Districts	Population
Hotspot 13: Lake Malawi/Niassa/Nyasa	6,000,550	Shire & Lake Malawi/Nyasa/Niassa	❖ Malawi (Chitipa, Karonga, Rumphi, Nkhata Bay, Likoma) ❖ Tanzania (Northern Nyasa, Mbinga Rural, Ludewa, Makete, Busekelo, Rungwe, Kyela, Ileje)	2,632,688

²⁸ Danish Trade Union Development Agency (2017). LABOUR MARKET PROFILE (2017). Available at: https://www.ulandssekretariatet.dk/wp-content/uploads/2020/03/Mozambique_lmp_2017.pdf

²⁹ Lachler, U., and Walker, I. (2018). Jobs Diagnostic Mozambique. World Bank. Job Series, Issue No. 13. Available at: <https://documents1.worldbank.org/curated/en/655951534181476346/pdf/Mozambique-Jobs-Diagnostic-Volume-1-Analytics.pdf>

General Characteristics:

- i) The hotspot is located in the Shire and Lake Malawi/Nyasa/Niassa Sub-Basin. It is a transboundary area that cuts across Tanzania and Malawi. The districts include Chitipa, Karonga in Malawi and Nyasa and Mbinga in Tanzania; and
- ii) Home to about 1000 fish species, making it the most fish species-rich lake in the world.

Key Activities and Challenges:

- i) Fisheries support the livelihoods of more than 1.6 million people. Significant threats to the lake include overexploitation, invasive alien species, habitat degradation and deforestation driven by shifting cultivation;
- ii) Overfishing and unsustainable practices have led to declining fish populations, impacting local livelihoods;
- iii) Nearly 10% of fish species are endangered due to overfishing, habitat degradation, and pollution; and
- iv) Other significant environmental challenges include deforestation in its catchment area, which leads to soil erosion and sedimentation.

Gender and other social characteristics and challenges based on the gender analysis:

The World Bank Gender Data Portal for Malawi for the Years 2015-2021 alludes to a smaller proportion of women compared to men in employment earn a wage or salary; more women than men are in agriculture; a much higher proportion of women than men are in vulnerable employment; a slightly higher proportion of women than men own land; fewer women than men have an account at a bank or another type of financial institution or use a mobile money service. In regard to access to credit for business, a lesser proportion of women than men have access due to low entrepreneurial skills, lack of financial literacy, lack of collateral, and some cultural practices. Salary-backed loans constitute one of the most available types of credit facilities that women can benefit from. However, only 30% percent of women who apply are successful in getting loans. Most women are unemployed women and thus unable to access these loans. For many women, the collateral requirements are more than they can afford. Lack of financial literacy to run a business let alone acquiring adequate support from their spouses or partners to run the businesses all make it difficult for women to apply for loans (Ibid).

Youth unemployment is generally low. According to the Danish Trade Union Development Agency (2023), the Malawi Labour Market Profile conducted indicated that in 2020, youth unemployment was at 9.5% (Male: 6.9%; and Female: 7.9%). However, the youth unemployment rate (broad definition) (ages 15-24) in the southern region (that houses the Shire) was high at 35.8% (Male: 30.5%; and Female: 40.2%). The unemployment rate was higher in this region than in the other two regions (northern and central). The proportion of Youth 15-34 Not in Education and Not in Employment (NEET) for the Southern Region was 27.1% (Male: 21.5%; Female: 31.7%). A number of youths are also in precarious employment.

2.2.8 Hotspot 15 - The Zambezi Delta

Table 9: Hotspot: 15, the Zambezi Delta

Hotspot	Size In Hectares	Subbasin	Countries & Districts	Population
Hotspot 15: Zambezi Delta	1,152,755	Zambezi Delta & Shire	❖ Mozambique (Mutarara, Caia, Marromeu, Chinde, Luabo, Mopeia, Morrumbala) ❖ Malawi (Nsanje)	1,474,281

General Characteristics:

- i) The hotspot is within the Zambezi Delta and Shire Sub Basins. The area of the Delta is approximately 1.4 million ha. The only protected areas and controlled hunting areas in the Delta are south of the Zambezi. The protected areas in the Delta are the Marromeu Buffalo Reserve (150 000 ha), dominated by floodplain grassland, and the Nhapakwe Forest Reserve (17 000 ha), outside of the wetland proper. The delta extends from Mopeia in Mozambique to the coast in a large triangle; and
- ii) The alluvial plains, which comprise extensive wetland, grassland and riparian or floodplain vegetation, have an intricate reticular drainage system.

Key Activities and Challenges:

- i) Inhabitants of the Delta have a large subsistence economy, and more than 95% of households depend on agriculture; and
- ii) Smallholders use slash-and-burn practices, which deforest areas and contribute to reduced soil fertility.

Gender and other social characteristics and challenges based on gender analysis

- i) Women dominate in the provision of labour in agriculture, and they are responsible for ensuring food and nutrition security for the household;
- ii) Women face limited access to, use of and control over land and other productive resources by women, largely due to dominant customary laws and practices that disenfranchise women;
- iii) Female headed households cultivate smaller areas and have less access to appropriate extension advice, inputs and credit; they are more prone to food insecurity, and are associated with use of low yielding crop varieties (especially millet and sorghum), low food diversification, etc;
- iv) Labor force participation rate (i.e., the proportion of the population ages 15 and older that is economically active) is higher for men than women;
- v) A negligible proportion of women compared to men in employment that earn a wage or salary;
- vi) Working women are largely located in vulnerable employment associated with lower paying, irregular, informal work arrangements, decent work deficits, exclusion from social protection, and safety nets to guard against economic shocks; thus, they are more likely to fall into poverty. This phenomenon is in part attributed

- to high illiteracy levels among women, possession of low skilled levels as compared of men;
- vii) Fewer women than men have an account at a bank or another type of financial institution or reported personally using a mobile money service (a key indicator of financial inclusion);
 - viii) Women's access to finance is low. Financial service providers prefer lending to borrowers in organised farmers' groups and many women are not. Financial service provider also require collateral which these women lack;
 - ix) Low participation of women in business. Most women find themselves predominantly in informal sector businesses. The women-owned SMEs (farming and fisheries enterprises) face challenges related to access to finance, low entrepreneurship competences, unaffordable business premises. Women entrepreneurs suffer from negative cultural attitudes, and gender-related barriers such as less mobility, reproductive roles and traditional power relations make it more difficult for women to start and run enterprises;
 - x) Women spend a greater proportion of their time on unpaid domestic and care work as defined by cultural norms;
 - xi) Low participation of women in major household decisions compared to men. This applies to household livelihood decisions, land use, water resources management and biodiversity conservation;
 - xii) Low women's access to and use of ICT (phones, computers, internet) for business and other productive operations. This attributed to low skills, and control by spouses;
 - xiii) Low representation of women in decision making positions at different levels, inter alia; at community level, local governance and high governance levels, in the corporate sector and in economic and social institutions. This attributed to restrictive cultures, comparatively lower education levels than men, low confidence levels among women; and
 - xiv) Fewer female than male youth are represented in education, employment and/or training.

2.3 Regional and National Climate Strategies and NDCs

2.3.1 Regional Climate Strategies

Although each country has its climate change strategy, ZAMCOM facilitates cross-border coordination within the basin. ZAMCOM promotes cooperative management of the basin's water resources, emphasising climate resilience and coordinated planning, in line with the ZAMCOM vision, which envisages a future characterised by equitable and sustainable utilisation of water for social and environmental justice, regional integration and economic benefit for present and future generations. Despite the existence of national policies, there is a vital need to establish stronger regional collaboration to address transboundary climate impacts effectively. In 2019, the SADC Secretariat and the European Union (EU) launched an Intra African, Caribbean, and Pacific (ACP) Global Climate Change Alliance Plus (GCCA+) program to strengthen the capacity of regional countries to undertake climate change adaptation and mitigation interventions (SADC 2019)³⁰. The program's overall objective is to increase the

³⁰ SADC (Southern African Development Community). (2019). SADC and EU launch a programme to strengthen capacity of SADC member states to undertake climate change adaptation and mitigation actions. Accessed online on 1 Apr 2020: <https://www.sadc.int/news-events/news/>

capabilities of SADC Member States to mitigate and adapt to the effects of climate change in support of the Regional Indicative Strategic Development Plan (RISDP), Africa Union Agenda 2063, and Sustainable Development Goals (SDGs). It is expected that the program will support SADC governments, regional organisations, and private and public sectors to deliver the implementation of the provisions of the Paris Agreement on Climate Change in SADC. It will also support universities and research centres from the SADC region in the development of innovative solutions to climate change challenges (SADC 2019).

2.3.2 National Climate Strategies and NDCs

Basin states have national climate change strategies which vary in scope and focus to address the drivers and impacts of climate change. The states have also nationally determined contributions (NDCs) which reflect their unique climate vulnerabilities, including water security issues linked to the Zambezi River (**Table 10**).

Table 10: NDC Commitments Per Basin State

Country	Emission Reduction by MtCO ₂ eq
Angola	108.5 (14%)
Botswana	8.3 (15%)
Malawi	17.7 (51%)
Mozambique	40
Namibia	7.7 (91%)
Tanzania	138-153 (20%)
Zambia	20 (25%)
Zimbabwe	44.7 (40%)

Angola's National Strategy for Climate Change (ENAC 2018-2030) aims at achieving low carbon development which also contributes to the eradication of poverty. The country plans to reduce GHG emissions up to 14% by 2025 as compared to the base year (2015). The baseline corresponds to the most recent National GHG Inventory (2015), and accounts for 99.99 million tonnes of CO₂e. The emissions under the Nationally Determined Contributions are estimated to be 103.9 million tonnes of CO₂e in 2020 and 108.5 million tonnes of CO₂e in 2025.

Botswana's Climate Change Response Policy (2018) targets adaptation and mitigation in water, energy, and land use sectors. This policy focuses on promoting climate-smart agriculture, sustainable water management, reducing GHG emissions, and the use of renewable energy. Botswana's NDC emphasises water scarcity, with the aim of improving water use efficiency and enhancing resilience in water-stressed regions. The country intends to achieve an emissions reduction of 15% by 2030, taking 2010 as the base year. The base year emission estimation is 8307 Gg of CO₂ equivalent.

Malawi's National Climate Change Management Policy (2016) aims at integrating climate resilience into development planning. The country's NDC is concerned with agriculture and food security. The country has prioritised climate-smart agricultural practices and the

protection of its water resources, which are crucial for both hydropower and irrigation. Malawi estimates a total emissions reduction potential of around 17.7 million tCO₂e in 2040 compared to the business-as-usual scenario emissions in the same year of million tCO₂e, equivalent to a reduction of 51 percent.

Mozambique's National Climate Change Adaptation and Mitigation Strategy (ENAMMC 2013-2025) emphasises the need for adaptation and mitigation efforts due to its high vulnerability to climate change impacts, including floods, cyclones, and droughts. Its key priorities include improving the resilience of coastal and riverine communities, enhancing early warning systems, and investing in renewable energy sources to reduce reliance on hydropower, which is vulnerable to climate variability. The country's NDC proposes to carry out a series of mitigation actions that, in aggregate, expect to achieve a reduction of GHG emissions by about 40 million tCO₂eq between 2020 and 2025.

Namibia's National Climate Change Policy (2010) aims to provide the overarching national strategy for the development, implementation, monitoring and evaluation of climate change mitigation and adaptation activities. The country's NDC emphasizes water resources management and agricultural resilience. It targets a reduction of its projected national emissions by 7.669 Mt CO₂ e while concurrently increasing its removals by 4.233 Mt CO₂e for a total mitigation potential of 11.902 Mt CO₂e

Tanzania's National Climate Change Response Strategy (2021-2026) prioritises sustainable land and water management and promotes climate-resilient agriculture and energy diversification. The country's NDC focuses on climate-resilient agricultural, forestry, and water resources management. It has committed to reducing GHG emissions economy-wide between 10-20% by 2030 relative to the business-as-usual scenario of 138-153 million tons of carbon dioxide equivalent (MtCO₂e)- gross emissions.

Zambia National Climate Change Policy (2016) aims to ensure climate-resilient development, particularly in the agriculture, water and energy sectors. The country's NDC focuses on energy and agriculture. It has committed to a conditional pledge of reducing emissions by 25% (20,000 Gg CO₂ eq.) by 2030 against the base year of 2010 under the business-as-usual scenario with limited international support or by 47% (38,000 Gg CO₂ eq.) with substantial international support.

Zimbabwe's National Climate Change Policy (2016) is designed to reduce vulnerability to climate variability and climate-related disasters by strengthening adaptive capacity and promoting resilience in key sectors such as water agriculture, health, and biodiversity. The country's NDC focuses on climate adaptation in agriculture and water resources management. Total GHG emissions in Zimbabwe are projected to increase by 110% to 75.4 MtCO₂ eq by 2030 under a business-as-usual scenario if policies and measures to reduce GHGs are not implemented. The country has committed to reducing GHG emissions in 2030 by 40% to 44.7 MtCO₂ eq.

2.3.3 Gap/Barrier Analysis; Needs Assessment³¹

The above national climate change strategies and NDCs reflect a range of approaches designed to each country's specific vulnerabilities and capacities. Common climate change strategies and NDCs themes include agriculture, water management, and energy sector adaptation. Not surprisingly, most of the countries emphasize water management given the dependence on the Zambezi River for hydropower and agriculture. The degrees of emphasis on mitigation depend on the country's socio-economic and political context. However, many challenges hinder the full implementation of these strategies: limited financial resources and technical capacity, and political instability. Enhanced regional cooperation remains a major challenge in tackling the transboundary nature of climate risks in the basin.

Over the years, land use activities and climate change have brought drastic changes to the environment in the basin (World Bank, 2010). The basin has become a major climate change hotspot in southern Africa, with predictions indicating a temperature increase of between 0.3° – 0.60° Celsius over the next century (World Bank, 2010). For the World Bank (2010), the basin has not been spared from the adverse effects of climate change in the form of frequent floods and droughts. Climate change has negatively impacted land and associated ecosystems and has exacerbated land degradation processes. Land use change has thus been both a cause and consequence of environmental change.

Not surprisingly, the poor people, especially women of the basin, have been the most affected by climate change loss and damage (World Bank, 2010). The poor people have had less capacity to adapt and recover from the effects of climate change due to a lack of resources. Vulnerability to climate change has been influenced by a combination of factors that render some communities more vulnerable than others to even small changes, especially those who are unable to diversify to other means of survival and livelihoods (World Bank, 2010). The most vulnerable communities have been those who lack access to productive land and those who have been displaced from their homes due to floods, conflicts, or famine without receiving adequate humanitarian assistance. According to the World Bank (2010), climate vulnerability has been compounded by encroachment of human settlements and expansion of agricultural and livestock production into wetlands and forested areas. This, coupled with unsustainable farming practices on steep slopes, causes soil erosion, deforestation, water pollution, and an increase in greenhouse gas emissions (World Bank, 2010).

³¹ The gap/barrier analysis provides a general challenge. The gap/barrier analysis specific to the hotspots is supplied under the hotspot discussion in the forthcoming sections.

3.0 Nature-Based Solutions Context for The Zambezi River Basin

3.1 Regional and National NbS efforts

There are regional efforts being executed through various programmes and projects aimed at engaging Nature-based Solutions (NbS) in landscape-level planning and management. These include the following:

- i) Programme for Integrated Development and Adaptation to Climate Change in The Zambezi River Basin (PIDACC Zambezi). The aim of this programme is to strengthen regional cooperation in building the resilience of the Zambezi River Basin communities to climatic and economic shocks, through promoting inclusive, transformative investments, job-creation, and ecosystem-based solutions. It is funded by both African Development Bank (AfDB) and Green Climate Fund (GCF); and
- ii) Strengthening Zambezi River Basin Management towards Climate Resilience and Ecosystem Health. The aim of this project 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. Project is funded by the Global Environmental Facility (GEF).

The regional programmes and projects highlighted in the table 3 below represent efforts under the ZAMCOM framework to support countries in building capacities to adapt to climate change within the member countries' relevant policies and laws. They also aim to be gender inclusive and attract private sector partnerships to add value and link the communities to markets.

There are also programs and projects at country level supported by a range of organisations and programmes.

- i) FAO funded Integrated landscape management to reduce land degradation and enhance community resilience in Angola's Miombo-Mopane dry forests³². The project aims to initiate a transformational shift towards sustainable, integrated management of multi-use dryland landscapes in the Miombo-Mopane ecoregions of Angola (Okavango and Cunene River basins) based on Land Degradation Neutrality principles; and
- ii) GCF funded project in reducing GHG emissions from deforestation and forest degradation and enhancing rural livelihoods in the Headwaters of the Zambezi River (Zambia's North-Western province), in support to NDC implementation and RBPs³³. The main objective of this Project is to reduce GHG emissions from LULUCF and enhance livelihoods in the Headwaters of the Zambezi River in the North-Western province of Zambia, in support of NDC implementation and to ultimately aspire to RBPs.

³² <https://openknowledge.fao.org/server/api/core/bitstreams/f850df4c-9823-4b02-9d0a-b304b6df972b/content>

³³ <https://www.greenclimate.fund/sites/default/files/document/24870-reducing-ghg-emissions-deforestation-and-forest-degradation-and-enhancing-rural-livelihoods.pdf>

Table 11: Regional and Country Efforts to Engage NbS in Landscape-Level Planning and Management

PROGRAMME/PROJECT NAME	FUNDER/SPONSOR
REGIONAL PROGRAMMES/PROJECTS	
Programme for Integrated Development and Adaptation to Climate Change in The Zambezi River Basin (PIDACC Zambezi)	African Development Bank (AfDB) and Green Climate Fund (GCF)
Strengthening Zambezi River Basin Management towards Climate Resilience and Ecosystem Health	Global Environmental Facility (GEF)
NATIONAL PROGRAMMES/PROJECTS	
Integrated landscape management to reduce land degradation and enhance community resilience in Angola's Miombo-Mopane dry forests	Food and Agriculture Organisation (FAO)
Reducing GHG emissions from deforestation and forest degradation and enhancing rural livelihoods in the Headwaters of the Zambezi River (Zambia's North-Western province), in support to NDC implementation and RBPs	GCF
Zambia Integrated Forest Landscape Project (ZIFLP)	Bio-Carbon Fund Initiative for Sustainable Forest Landscapes (BioCF), Global Environmental Facility (GEF) and the International Development Agency (IDA)
Botswana Sustainable Miombo-Mopane Landscape Management Project	Global Environment Facility (GEF) and FAO
Enhancing climate resilient water, food, and energy systems in Botswana through sustainable natural resources management	Adaptation Fund
Transforming landscapes and livelihoods: A cross-sector approach to accelerate restoration of Malawi's Miombo and Mopane woodlands for sustainable forest and biodiversity management	GEF and FAO
Integrated Landscape Management in the Dry Miombo Woodlands of Tanzania	GEF and FAO
Enhancing resilience of communities and ecosystems in the face of a changing climate in arid and semi-arid areas of Zimbabwe	Adaptation Fund
Integrating climate smart land management options in Namibia: to enhance long term productivity, profitability and resilience	Adaptation Fund
Zambézia Integrated Landscape Management Program (ZILMP)	World Bank
The Luangwa Community Forests Project (LCFP)	USAID
Lower Zambezi REDD+ Project (LZRP)	USAID
The Community Markets for Conservation (COMACO)	World Bank

- i) Zambia Integrated Forest Landscape Project (ZIFLP)³⁴. The project encompasses a series of investments from the Bio-Carbon Fund Initiative for Sustainable Forest Landscapes, Global Environmental Facility and the International Development Agency. These investments are designed to ultimately facilitate results-based

³⁴ <https://documents1.worldbank.org/curated/en/099051424165047993/text/P1558271e8d82d0ab1ae5b11896562a7fc1.txt>

- payments for carbon storage and reduced carbon emissions resulting from reduced deforestation and forest degradation.³⁵;
- ii) GEF-FAO funded Botswana Sustainable Miombo-Mopane Landscape Management Project³⁶. The aim of the project is to promote the integrated management of Miombo and Mopane landscapes in Chobe and Tutume-Mosetse sub-basins through the implementation of SLM and SFM interventions designed to achieve LDN targets;
 - iii) Adaptation Fund's funded Enhancing climate resilient water, food, and energy systems in Botswana through sustainable natural resources management³⁷. The project aims to promote evidence-based gender-responsive concrete adaptive solutions to address the climate impacts in Botswana;
 - iv) GEF-FAO funded Transforming landscapes and livelihoods: A cross-sector approach to accelerate restoration of Malawi's Miombo and Mopane woodlands for sustainable forest and biodiversity management³⁸. The project seeks to promote sustainable management of the Miombo and Mopane productive landscapes of the Districts of Balaka, Ntcheu and Mangochi, contributing to national land degradation neutrality targets;
 - v) GEF-FAO funded Integrated Landscape Management in the Dry Miombo Woodlands of Tanzania³⁹. The aim of the project is to halt and reverse negative trends of land degradation and biodiversity loss in degraded areas of the Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach;
 - vi) Adaptation Fund's Enhancing resilience of communities and ecosystems in the face of a changing climate in arid and semi-arid areas of Zimbabwe⁴⁰. The project aims to enhance the adaptive capacity of vulnerable communities to effectively engage in sustainable livelihoods in a changing climate;
 - vii) Adaptation Fund Integrating climate smart land management options in Namibia: to enhance long term productivity, profitability and resilience⁴¹. This project aims to create the mechanisms to promote synergies between the different supporting organizations, both public and private; the different potential land uses; and the land users, through the development of integrated land management plans that optimize the outputs from the land, whilst retaining and/or restoring the ecosystem, to create a natural and economic environment that diversified and more resilient to the impacts of climate change;
 - viii) World Bank funded program Zambézia Integrated Landscape Management Program (ZILMP). The programme aims to build a strong foundation to sustainably

³⁵ Ministry of Lands and Natural Resources (MLNR) and Ministry of National Development Planning (MNDP). 2019. Zambia's First REDD+ Safeguards Summary of Information. Forestry Department and National Safeguards Technical Working Group (NSTWG), Lusaka, Zambia. 52 pp.

³⁶ https://www.thegef.org/sites/default/files/documents/10255_Project_Document.pdf

³⁷ https://www.adaptation-fund.org/wp-content/uploads/2024/03/AFB.PPRC_33.Inf_10-Proposal-for-Botswana.pdf

³⁸ https://www.thegef.org/sites/default/files/documents/10254_Project_Document.pdf

³⁹ https://www.thegef.org/sites/default/files/documents/10250_Project_Document.pdf

⁴⁰ https://www.adaptation-fund.org/wp-content/uploads/2023/03/AFB.PPRC_31.8-Proposal-for-Zimbabwe.pdf

⁴¹ https://www.adaptation-fund.org/wp-content/uploads/2015/08/Namibia_DRFN_full_proposal_Agra_revised_combined.pdf

- manage resources and promote rural development. Its motto is ‘Building Livelihoods and Conserving Forests in Rural Mozambique’⁴²;
- ix) The Luangwa Community Forests Project (LCFP) is a large-scale grouped Reducing Emissions from Deforestation and forest Degradation (REDD+) project being implemented in the Eastern and Lusaka Provinces of Zambia. Implementation is in partnership with traditional authorities and the government of the Republic of Zambia. The project is expected to generate emission reductions through avoided deforestation using mitigation activities;
 - x) The Lower Zambezi REDD+ Project (LZRP) is supported by the USAID-funded Community Forests Programme and is Zambia’s first Verified Carbon Standard (VCS) REDD+ project. The project is aimed at reducing emissions from deforestation and forest degradation (REDD+) on 40,126 ha of privately-owned land in Rufunsa district of Lusaka Province at 187,143 tons of carbon equivalent per year⁴³; and
 - xi) The Community Markets for Conservation (COMACO) is implementing a World Bank-funded Landscape Management Project in the Eastern Province of Zambia involving 38 chiefdoms across the province. The project’s approach is ‘avoided’ deforestation through establishment of Community Conservation Areas (CCAs) which cover over one million hectares of land and promotion of alternative livelihood options through bee-keeping and sustainable agriculture land management (SALM) practices.⁴⁴

Basin states have also set aside some 18 percent of their total land area as protected areas consisting of gazetted forests and national parks (World Bank, 2010). According to the World Bank (2010), more than 70 per cent of the protected areas lie across international boundaries, thus providing opportunities for collaborative and joint efforts on the management of transboundary natural resources within the basin, including Transfrontier Conservation Areas (TFCAs). In recent years, there has been an increase in TFCA initiatives in the basin which are regarded as one of the anchors for regional economic integration, socioeconomic development and poverty reduction through multi-destination and cross-border tourism.

3.2 Gaps in Accessing Resources, Services and Markets

Nature-based solutions (NbS) offer affordable, long-term solutions that support adaptation to climate change. They primarily involve working with nature, including through its protection, restoration, or sustainable management, to address societal challenges whilst providing local benefits for people and biodiversity (Seddon, 2022).⁴⁵ Despite growing evidence that NbS can

⁴² <https://documents1.worldbank.org/curated/en/255741537429237774/pdf/130035-WP-PUBLIC-Zambezi-ERP-Brochure-sml.pdf>

⁴³ Ministry of Lands and Natural Resources (MLNR) and Ministry of National Development Planning (MNDP). 2019. Zambia’s First REDD+ Safeguards Summary of Information. Forestry Department and National Safeguards Technical Working Group (NSTWG), Lusaka, Zambia. 52 pp.

⁴⁴ Ministry of Lands and Natural Resources (MLNR) and Ministry of National Development Planning (MNDP). 2019. Zambia’s First REDD+ Safeguards Summary of Information. Forestry Department and National Safeguards Technical Working Group (NSTWG), Lusaka, Zambia. 52 pp.

⁴⁵ Seddon, N. 2022. Harnessing the potential of nature-based solutions for mitigating and adapting to climate change. *Science*, 376(6600), 1410– 1416. <https://doi.org/10.1126/science.abn9668>

reduce vulnerability to climate change impacts in general, there exists significant gaps in access to resources, services and markets that women and men face in the delivery of NbS.

3.2.1 Global Evergreening Alliance Conference

Some of these challenges were revealed at a recent conference hosted by the Global Evergreening Alliance in partnership with the Government of Zambia, AFR100, and AUDA-NEPAD held in Livingstone, Zambia from 11th to 15th March 2024 (see Box 1).⁴⁶ The conference observed that land tenure systems often prevail where men are more likely to control land. Specifically, women's access to land is limited due to traditional inheritance practices. Such practices affect the ability of women to participate in NbS projects like reforestation or agroforestry. The opportunities for women are generally diminished to engage sustainable land-use practices which are critical for NbS implementation.

The conference noted that women tend to have less access to agricultural extension services. Men, who are more frequently involved in formal agricultural activities, have better access to these services. Similarly, climate information services, which are crucial for NbS projects, are also unevenly distributed. Women in remote or rural areas tend to lack access to early warning systems and climate information. In terms of market access, women face barriers due to mobility constraints and lack of transport. This limits their ability to commercialise products derived from NbS projects. In addition, limited access to finance disproportionately affects women, whereby women cannot invest in sustainable practices that align with NbS without sufficient credit.

Box 1: Lessons on gaps in access to resources, services and markets from the Global Conference on Accelerating NbS⁴⁷

Challenges:

- Women's access to land is limited due to traditional inheritance practices
- Opportunities for women to engage in sustainable land-use practices are generally diminished
- Women tend to have less access to agricultural extension services
- Climate information services, which are crucial for NbS projects, are unevenly distributed
- Women in remote or rural areas tend to lack access to early warning systems
- Women face barriers to accessing markets due to mobility constraints
- limited access to finance disproportionately affects women

Some possible solutions

- We need a community-centric approach in the implementation of NbS
- There is a strong need to boost the entrepreneurship ecosystem targeting women
- There is a need to help women to access resources that empower their entrepreneurship skills
- There is need to accelerate financing and scaling women-led nature-based enterprises
- Incorporation of entrepreneurship with NBS actions focused on sustainable livelihood means through income and employment is required
- There is need to overcome cultural resistance to women's leadership in women-led enterprises
- Enhanced women's leadership roles in NbS projects will require equitable land ownership models, transparent project design, and diversified revenue streams

⁴⁶ Accelerated Nature-Based Solutions Conference | Conference Report 2024. Available online: https://www.acceleratingnbsconference.org/_files/ugd/df0654_54f753fbec7f42c58fa25dae8486de6d.pdf

⁴⁷ Accelerated Nature-Based Solutions Conference | Conference Report 2024. Available online: https://www.acceleratingnbsconference.org/_files/ugd/df0654_54f753fbec7f42c58fa25dae8486de6d.pdf

- Targeted actions should advocate for land ownership models that benefit women, suitable financial mechanisms, and fair pricing strategies for environmental services.

The global conference on accelerating NbS ended with a call for a community centric approach in the implementation of NbS. The conference observed that entrepreneurship in NbS is still at its infancy especially at community and rural levels. There is a strong need to boost the entrepreneurship ecosystem targeting women. Many women-led enterprises face significant challenges such as startup capital, more especially that the benefits of NbS are not always immediate. The conference noted that there is a need to help women to access resources that empower their entrepreneurship skills. It highlighted the opportunities, challenges, and successes of financing and scaling women-led nature-based enterprises. It recommended the incorporation of entrepreneurship with NBS actions focused on sustainable livelihood means through income and employment.

The conference emphasised the need to overcome cultural resistance to women's leadership in women-led enterprises. Solutions emphasised early community engagement, equitable land ownership models, transparent project design, diversified revenue streams, and enhancing women's leadership roles in NbS projects. Actions proposed included involving women from project inception to ensure their perspectives shape conservation efforts, advocating for land ownership models that benefit women, strengthening women's leadership, designing projects for impact with suitable financial mechanisms, and implementing fair pricing strategies for environmental services.

Most of the observations made at the global conference are supported by the work that was done by the Institute for Poverty, Land and Agrarian Studies (PLAAS) in 2022.⁴⁸ PLAAS's (2022) work focused on climate change and rural livelihoods in southern Africa. According TO PLAAS (2022), gender inequality is a fundamental problem that constrains women's productivity and, therefore, explains poverty in the delivery of NbS. For PLAAS, women-headed households are less likely to seek alternative employment opportunities in response to climate risks. For example, when food supplies are exhausted before the next harvest, women-headed households are far more likely than male-headed households to have to engage locally in casual labour in other households as a survival strategy. The impact of climate change on farming households invariably increases labour requirements, which invariably fall on the shoulders of women. PLAAS also noted that women from poorer households were less able to participate in NbS projects due to the reproductive labour responsibilities they already carried in the household.

For PLAAS, the solution therefore is to bring markets to bear on environmental and social problems. This includes bringing private sector, market-based solutions to environmental management, and (private) technology to problems of low productivity attributed to gender inequality. The key actor in solving problems, therefore, is the private sector, and the role of the state is to create the 'enabling conditions' for the private sector to grow and advance solutions, whether in relation to financing of conservation or agriculture, raising the productivity of agriculture and reducing its environmental impacts, or establishing value chains and market linkages.

⁴⁸ PLAAS, 2022. Climate Change and Rural Livelihoods in Southern Africa: A Research and Policy Agenda. Bellville, Institute for Poverty, Land and Agrarian Studies.

3.2.2 NPC Workshop

Similar gaps in access to resources, services and markets were highlighted at the NPC Workshop held in Livingstone, Zambia, from 19-22 February 2024 (see Box 2). The workshop observed that climate change impacts are worsening food and water security for individuals in the region. Participants encouraged government representatives, ZAMCOM, AfDB, and other MDB partners to prioritize engagement with local communities to understand their needs and visions for the future of the river basin. There were several discussions about the need to enhance and diversify livelihoods in the region, raising questions about how to increase local ownership of resources, raise awareness of NbS concepts, and encourage adoption of best practices for sustainable management of land, water, and other natural resources.

The workshop highlighted the need for inclusive consultations with a range of stakeholders across the watercourse. While recognizing the diversity of stakeholders in the room, workshop participants acknowledged that they represent only a portion of stakeholders within the Zambezi Watercourse. Participants expressed the need to consult other stakeholders, including the private sector and individuals with expertise beyond water management. They also encouraged greater collaboration between public, private, and community stakeholders.

Box 2: Key insights from NPC Workshop held in Livingstone, Zambia from 19-22 February 2024

- Center and empower local actors and communities.
- Hold inclusive consultations with a range of stakeholders across the watercourse.
- Harmonise and enforce regional policies that enable sustainable management of land, water, and other natural resources.
- Use assessments to help target specific locations and opportunities for intervention.
- Deepen understanding of NbS and transformational change concepts among all stakeholders.
- Learn what has worked in other river basins.
- Establish a working group to continue contributing to development of the IP.

The workshop participants emphasized the need to harmonise and enforce regional policies that enable sustainable management of land, water, and other natural resources. Participants recognized the necessity of having aligned policy and legal frameworks across the riparian states to ensure systemic and transformational interventions throughout the watercourse. They called for the use of assessments to help target specific locations and opportunities for intervention in the Basin. As one participant noted, where interventions are made matters most. Participants highlighted the need for assessments (e.g., community vulnerabilities, land use mapping, hydrological data) to better understand specific opportunities in the river basin. Where studies and assessments already exist, this knowledge should be used to inform next steps. One such example was the Zambezi Basin risk and vulnerability study undertaken by OneWorld in 2012. As such, the IP preparation process centred on eight of the fifteen hotspots in terms of nature, people and climate risks as prioritized at the NPC Workshop.

The participants highlighted the need to deepen understanding of NbS and transformational change concepts among all stakeholders. Multiple participants expressed the desire for more time during the workshop to deepen their understanding of NbS and transformational change concepts. They also encouraged further dissemination of these concepts with tangible examples across the broader population. They encouraged ZAMCOM and its partners to learn what has worked in other river basins. They also appreciated hearing tangible examples of NbS implemented in Zambia. Some even raised the prospect of learning from implementation of NbS in other river basins. As a region, SADC strongly encourages knowledge and learning exchanges between river basin organizations. This need was raised again at this NPC

workshop. It was the considered view of the participants that a working group would be more appropriate as a vehicle for the development of the IP. Participants agreed that it would be beneficial for the eight riparian states to form a multisectoral working group to further contribute to the Zambezi Region NPC IP development process.

3.3 Lessons from Other Aligned NbS Programs

3.3.1 Pilot Program for Climate Resilience (PPCR)⁴⁹

The Pilot Program for Climate Resilience (PPCR) is another programme that highlights the critical and strategic aspects that need to be considered in resilience planning and implementation. This programme was designed to pioneer resilience strategies and approaches, particularly countries and regions most vulnerable to the destructive impacts of climate change.⁵⁰ The programme was able to distil, sharpen, & frame for dissemination, lessons learned from the design and early implementation of the PPCR. This was to demonstrate relevance to mobilizing climate resilience through existing, new, and emerging programs and instruments to initiate transformation at scale.

Lesson 1: High-Level Coordination across Multiple Sectors: Coordination across multiple sectors supported at various levels of government through relevant ministries is an effective approach for shaping and implementing resilient investment programs that also ensure effectiveness and anticipated scaling up.

Lesson 2: Assessing Vulnerability to Climate Risks and Hazards: It was important to enable countries to shape investment plans and priorities based on their experience and evidence with current climate variability, impacts and socio-economic priorities. Structures and platforms established by PPCR continue to be instrumental in bolstering the evidence base of knowledge for future impacts, a critical factor for accelerating resilient development.

Lesson 3: Transformational Investments and Policy reforms: It is important that Climate Resilient Program aim to foster transformational investments and policy reforms that go beyond theory life spans. Notably, engagement and bilateral relationships spurred policy reforms, and furthered the incorporation of resilience at the national, regional and local levels.

Lesson 4: Built and Strengthen Stakeholder Engagement Platforms: In order to ensure ownership and buy-in, the development of the Climate Resilient Program must be built on mandatory and documented stakeholder engagement processes. For example, the PPCR built new pathways in some countries and enhanced existing structures at the Provincial and District levels. These include structures such as Provincial Development Committees and District Development Committees that enhance positive relationships during the implementation of specific investments.

Lesson 5: Learning and Exchanges: The multiples areas in which PPCR was implemented enabled periodic dedicated learning and exchange fora among pilot stakeholders and context contexts. This fosters credibility and professionalism of participants while sharing practical experiences and especially South-South experiences and knowledge generation.

⁴⁹ https://www.cif.org/sites/cif_enc/files/WBG-PPCR-Top_10_Lessons_Learnt.pdf

⁵⁰ <https://www.cif.org/topics/climate-resilience>

Lesson 6: Promoted and Deliberated Private Sector Engagement: Some of the drivers and enablers of climate risks and adaptation strategies, respectively, are in the realm of private sector players. For examples, new modalities of climate adaptation, validating their commercial viability, and creating an enabling environment for successful investments require involvement and investment from private sectors.

Lesson 7: PPCR Early Lessons on Monitoring and Reporting: The simplified set of 5 core resilience indicators for PPCR monitoring and reporting is seen as a practical and viable framework, and several countries are beginning to see the benefits of tracking overall national progress towards resilient development.

Lesson 8: Responsive Country-Based Approach to Climate Resilience Planning: the program's ability to evolve and be responsive to country capacities, political structures, and overall development regimes was pivotal for acceptance. The PPCR played a catalytic role in countries whose adaptation planning was nascent.

Lesson 9: Naturing Ownership in Regional Programs: Regional approaches have the potential for bolstering country-based programming with implementation synergies. National-level strategy linked with concrete investments ensured sustained engagement with countries.

3.4 Legal and Institutional Frameworks Supportive of NbS

The overall Zambezi Region NPC IP and its components is in line with the SADC Treaty objectives of sustainable and equitable economic growth. The SADC Revised Protocol on Shared Watercourses contains various provisions which will be supported through the implementation of the NPC IP. The Zambezi Basin is coordinated by the permanent Zambezi Watercourse Commission (ZAMCOM) Secretariat established in 2011. ZAMCOM has a responsibility to promote and support the sustainable management and development of the basin's water resources in line with the Vision of the Commission and the Strategic Plan for the Zambezi Watercourse. Individually, the eight basin countries are also supported by their own unique enabling environments. The examples of policies, law and strategies provided below are meant to be illustrative and not comprehensive.

Angola has the Land Law of 2004, National Water Law of 2002, Environmental Management Act of 2008, and the Natural Resources Management Strategy of 2004. Botswana has the Land Policy of 2019 and the Tribal Grazing Land Policy (TGLP) of 1975. It also has the EIA Act of 2005 and National Water Conservation Policy and Strategy of 1999. Malawi has the National Environmental Policy of 2004, Environment Management Act of 2017, National Climate Change Policy of 2016 National Biodiversity Strategy and Action Plan II of 2015-2025, National Forest Landscape Restoration Strategy of 2017, and National Resilience Strategy of 2018-2030. Mozambique has the Nature Conservation Law of 2014, Forestry and Wildlife Law of 1999, and Land Law of 1997. Namibia has the National Drought Policy and Strategy of 1997, Green Scheme Policy of 2008, National Land Policy of 1998, Communal Land Act of 2002.

Tanzania has the Natural Wealth and Resources (Permanent Sovereignty) Act of 2017, Natural Wealth and Resources Contracts (Review and Re-negotiation of Unconscionable Terms) Act of 2017, and Environmental Management Act of 2004. Zambia has the National Climate Change Policy of 2017, Second National Biodiversity Strategy and Action Plan, Environmental Management Act of 2011, and the Zambia Wildlife Act of 2015. Zimbabwe has the National Water Policy of 2013, Water Act of 1998, Zimbabwe National Water Authority Act of 1998,

Water Resources Management Strategy for Zimbabwe of 2000, and Environment Management Act of 2002.

The above discourse has described some of the frameworks that have supported NbS in the Basin over the years. Although simplified, these frameworks represent a set of actions that can promote the delivery of NbS. However, it is now widely accepted that the success of these frameworks greatly depends on how well they ultimately correspond to the needs and aspirations of present and future generations. Importantly, it is only by bringing together nature, people, and climate that NbS can effectively correspond with the needs and aspirations of human beings.

4.0 Program Description

4.1 Overview

The proposed NPC IP aims to contribute to the transformation of the Zambezi Region through nature-based solutions (NbS) that accelerate climate action to strengthen the resilience of communities and landscapes. This multi-country IP primarily focuses on building communities and ecosystems services resilience. It promotes sustainable livelihoods and climate resilience through integrated, sustainable land-use practices in the identified hotspots of the Basin and is designed to enhance the resilience of land and communities to climate change through developing and implementing sustainable land-use and water management practices to sustain ecosystem services and livelihoods for identified marginalised groups. The IP is founded on the realisation of a vital need to address in an integrated manner the multiple drivers and impacts of climate change resulting from human activities on land resources and ecosystem services. The IP will be used to deploy CIF's and MDB's concessional resources towards NbS that recognise the interdependence among land use, climate-change mitigation and adaptation, and improvement of sources of livelihoods of rural communities and indigenous people.

To realize this overall goal, the Zambezi Region NPC IP was developed around four key strategic objectives:

- i) Building an evidence base for the design of nature-based solutions in the basin;
- ii) Strengthening the enabling environment for sustainable uses of land, water and other natural resources;
- iii) Strengthening nature-based resilience of landscapes and livelihoods in the basin; and
- iv) Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.

4.2 NbS Programs

The four key strategic objectives guided the derivation of five NbS programs tailored to the prioritised eight transboundary hotspots in terms of nature, people, and climate risks. The following are the five NbS programs:

- i) **Program 1:** Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem Resilience
- ii) **Program 2:** Strengthening Management Capacity for Protection of High-Carbon Stocks that Enhance Mitigation of Climate Change
- iii) **Program 3:** Strengthening Integrated Management and Restoration of Freshwater and Coastal Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods
- iv) **Program 4:** Strengthening the Management of Wildlife Protected Areas to Enhance Landscape Connectivity Across Wildlife Habitats and to Boost Eco-tourism
- v) **Program 5:** Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Climate Variability in Arid and Semi-Arid Areas

The five NbS programs were derived from the integration of information from Joint MDB Missions, and stakeholder inputs gathered during scoping missions in Livingstone and Lusaka, national consultations, regional workshops and ground truthing exercises carried out within the hotspots. It was during these missions that stakeholders also proposed general barriers and

intervention actions. This information was further enhanced through (a) online stakeholder consultation, (b) consultations with country representatives, and (c) desktop studies based on national reports and peer-reviewed publications. All the general barriers and intervention actions are also captured in the Diagnostic and Gap Analysis Report for the Zambezi Region. The stakeholders were able to come with rankings of the programs in order of urgency from 1 to 5, with 1 representing the most urgent and 5 the least urgent. Priority will be given to the implementation of the five programs in the following districts: Cazombo, Mwinilunga, Kambompo, Calunda, Lovua, Magoe, Cabora Basa, Zumbo, Maravia, Chifunde, Chiuta, Chirundu, Lwanga, Siavonga, Binga, Hwange, Kariba, Karoi, Hurungwe, Muzarabani, Mt Darwin, Mbire, Hwange and Vic Fall Urban, Rushinga.

Table 12: A matrix of NbS programs and the targeted implementation hotspots in the Zambezi River Basin

Hotspot	Forest Ecosystems	High-Carbon Stocks	Freshwater & Coastal Ecosystems	Wildlife Protected Areas	Agricultural Systems
Cazombo/Mwinilunga (3)	√	√	√		√
Cavuma/Manyinga (4)	√	√	√		√
Livingstone/Kariba/Tete (9)	√	√	√	√	√
Kavanga/ Zambezi Region (10)	√	√	√		√
Katima Mulilo/ Kasane (11)	√	√	√	√	√
Luangwa/Zumbo (12)	√		√	√	√
Lake Banks (13)	√	√	√	√	√
Zambezi Delta (15)	√	√	√		√

Program 1 (Forest Ecosystems) aims to promote sustainable forest restoration and management. The core benefits will include enhanced local communities' livelihoods and ecosystem resilience. While Program 1 will be implemented across all the hotspots, the program was only ranked first in urgency out of the five programs by stakeholders in Hotspot 10. It was ranked second and third in urgency within the remaining hotspots. In Hotspot 11, implementation will focus around the Kasane-Chobe Enclave where there are forest reserves (Chobe and Kasane Forest Reserves). On the Namibian side of Hotspot 11, implementation will be prioritized in the Kabbe Forest Reserve as well as the areas surrounding Salambala and Kasika.

Program 2 (High-Carbon Stocks) aims to strengthen management capacity for the protection of high-carbon stocks in forests, woodlands, mangroves, wetlands, peatlands, grasslands, and other high-carbon ecosystems. A major core benefit of the program is enhanced mitigation of climate change. The program will be implemented in all hotspots, except in 4 where currently there exists several carbon projects. It was ranked third in Hotspot 10 and last in Hotspots 3, 4, 9, 11, and 12. There were no specific areas prioritized for implementation of this programme.

Program 3 (Freshwater and Coastal Ecosystems) seeks to strengthen integrated management and restoration of freshwater and coastal ecosystems. The core benefits include enhanced

biodiversity and improved local livelihoods. The program will be implemented across all hotspots. **It was ranked first across all the hotspots, except for Hotspot 10 where it was ranked second.** In Hotspot 3, implementation on the Zambian side will focus on the Upper Zambezi (which includes Upper Kabompo) and the Upper Kafue Catchment). On the Angolan side, the focus will be in the areas around the source of the Zambezi River in Cazombo, Calunda and Lovua. In Hotpost 11, implementation of the program will be prioritized around the Kasane-Chobe Enclave Communities as well as in Kabbe South.

Program 4 (Wildlife Protected Areas) seeks to strengthen the management of wildlife protected areas. The core benefits include enhanced landscape connectivity across wildlife habitats as well as the boosting of eco-tourism. The program will only be implemented in Hotspots 9, 11, 12, and 13. While on the Zambian side the program was ranked third in Hotspot 9 and fourth in Hotspot 12, on the Mozambiquan side it was ranked second in both Hotspots 9 and 12. It was ranked fourth in Hotspot 9 and 12 on the Zimbabwean side.

Program 5 (Agriculture) aims to strengthen the resilience of local communities and agricultural productive systems to climate variability in arid and semi-arid areas. The program will be implemented across all hotspots. Whereas the program was ranked first in Hotspot 13 and 15, it was ranked second in Hotspot 11. In Hotspot 3, the program was ranked third but never ranked for Hotspot 4. It was ranked third in Hotspot 12 and fourth in Hotspots 9 and 10. In Hotspot 10, the program will focus on the following areas: Lusese, Sacona, Bwabwata, Nkasa Rupara, Modumo, Singalamwe, Shamambungu, Sangwali, Dzoti, Balyera, Kwandu, Wuparu, Mayuni, Bamunu, Mashi, and Kwando. In Hotspot 11, the focus will be on the Chobe Enclave, Kalimbeza, Losese, Dudukabe, and Katima Mulilo.

4.3 Regional Activities

The regional program activities will focus on building climate resilience and promoting sustainable development across the Zambezi River basin region. Key regional activities will be mostly around the following pillars⁵¹:

Pillar 1: Building an evidence-based for the design of nature-based solutions in the basin

Examples of regional activities include:

- i) Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on indigenous tree species;
- ii) Promote sensitization and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc; and
- iii) Support the establishment of multistakeholder platforms that promote collaboration and partnerships among all stakeholders.

Pillar 2: Strengthening the enabling environment for sustainable uses of land, water and other natural resources

Examples of regional activities include:

⁵¹ Complete list of Regional Activities in Annex 1

- i) Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network;
- ii) Support long term research and monitoring of drought induced wildlife movement and migratory patterns; and
- iii) Facilitate increased knowledge and capacity building of protected area management and community sustainable land management at national, provincial, catchment and community levels.

The estimated cost of the regional activities that will be carried out across the Zambezi basin over the 10-year period is estimated to be **USD 231.27 million** as broken down in the table below:

Table 13: Regional Activities Estimated Costs

Regional Activities	Estimated Cost m(USD)	PHASE 1 m(USD)	PHASE 2 m(USD)
Regional Evidence-based Activities	137.33	69.01	68.31
Regional Enabling Environment Activities	93.94	47.22	46.73
Total	231.27	116.23	115.04

4.4 Hotspot Approach

The Zambezi Basin is large spatial area with varying climate, ecological and socio-economic context that complicates the process of identifying targeted areas of intervention. The hotspots presented in this section are drawn from the Zambezi Basin Investment Scenario Report (ZAMCOM, 2019) that identified a suite of strategic areas (*hereafter referred to as hotspots*) that are at most risk in terms of climate hazards and where interventions are critically needed both from a socio-economic and ecological sustainability perspective. The nature-based intervention activities proposed below aim to respond to the context specific challenge in the hotspot and larger landscape. These activities are presented in suites of Programs based on their similarity and potential collective impact and contribution to the future and overall state of the Basin.

4.4.1 Hotspot 3 - Covers Parts of Angola and Zambia

Problem Statement:

Hotspot 3, covering Cazombo (Angola) and Mwinilunga (Zambia), faces severe environmental degradation characterised by high rates of deforestation due to unsustainable timber harvesting, illegal charcoal production, and agricultural encroachment on sensitive areas, including wetlands and riparian ecosystems. These activities reduce the natural capacity of these ecosystems to buffer floods, filter pollutants, and support biodiversity, leading to increased flooding, soil erosion, and water quality deterioration. Coupled with poor water and sanitation infrastructure, these environmental issues exacerbate health risks, such as waterborne diseases, further hindering community resilience. Additionally, the area suffers from significant infrastructure deficiencies, including poor transport links and limited electricity access, which isolate communities and restrict market access, limiting economic opportunities and perpetuating poverty. These differently affect women, men, youth, persons with disabilities and other social groups.

Women are more vulnerable than men to the effects of climate change because they: have limited access to resources; are dependent on natural resources; do not enjoy the same level of access to education and information compared to men; lack mobility; and have limited role in decision making. In the forestry sector, women are relegated to undertaking most of the works in the rural settings like collection of firewood, mushroom, wild fruits, caterpillars, munkoyo and chikanda. In regard to water supply and sanitation, whilst women play a vital role in the provision, management and safeguarding of water and sanitation services; as well as custodians of natural resources, the participation in decision making at different levels relating to the management and development of water resources and sanitation is minimal.

The compounded effect of these challenges heightens the community's vulnerability to climate impacts and economic shocks, necessitating integrated and proactive interventions.

Key Drivers:

Due to unsustainable timber harvesting, illegal charcoal production, and agricultural encroachment on ecologically sensitive water source areas, these activities reduce the natural capacity of these ecosystems to buffer floods, filter pollutants, and support biodiversity, leading to increased flooding, soil erosion, and water quality deterioration.

Key drivers include:

- i) The absence of mechanisation and modern farming technologies
- ii) Use of inorganic fertilisers and pesticides
- iii) Sand mining in Riparian areas
- iv) Riverbed cultivation
- v) Lack of land use plans
- vi) Limited livelihood opportunities
- vii) Use of illegal fishing methods
- viii) Lack of capacity to enforce regulations like quotes
- ix) Increasing demand for fish
- x) Limited participation/involvement of women, youth, persons with disability, the elderly in the Community-based sustainable natural resource management for livelihood improvement

Proposed Nature-Based Programs:

Based on the problem statement and associated drivers in the hotspot, the following are the proposed nature-based interventions (**table 14**).

Table 14: Proposed NbS Programs for Hotspot 3

Proposed Nature-Based Programs	Main Activities	Pillar
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H3-1: Promoting Sustainable Forest Restoration and Management to Enhance Local	H3.1.1. Reforestation of highly degraded headwater and high-carbon forest areas	Pillar III:
	H3.1.2. Enhance the capacity (knowledge, skills and	Pillar II:

Proposed Nature-Based Programs	Main Activities	Pillar
Communities' Livelihoods and Ecosystem Resilience	attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on Indigenous tree species	
	H3.1.3. Promote voluntary carbon markets involving the private sector	Pillar IV
	H3.1.4. Developing alternative, inclusive livelihood options for local communities adjacent to the forests	Pillar III
	H3.1.5. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions) H3.1.6. Promote collaboration and partnerships among all stakeholders	Pillar II
	H3.1.7. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
	H3.1.8. Share best practices and experiences (knowledge management) on NbS	Pillar I
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H3-2: Strengthen Management Capacity for Protection of High-carbon Forest Ecosystems that Enhance Mitigation of Climate Change	H3.2.1. Implement Forest Carbon Projects in High-carbon forests	Pillar IV
	H3.2.2. Strengthen management capacity to protect high-carbon forest ecosystems that enhance climate change mitigation.	Pillar II
	H3.2.3. Support of Soil carbon initiatives in surrounding peatlands and wetland ecosystems	Pillar IV
	H3.2.4. Develop an inclusive community-based NRM approach involving government, the private sector, academia, and other actors	Pillar II
	H3.2.5. Strengthen regional, national, and local level natural resource institutions	Pillar II
	H3.2.6. Strengthen the capacity of local-level institutions and communities including grass-root stakeholder representative groups, organisations, associations and trusts in protecting high-carbon forest ecosystems	Pillar II
	H3.2.7. Identify local capacity needs to protect, manage, and restore (across all NPC considerations)	Pillar III
	H3.2.8. Conduct ecosystem baseline assessment	Pillar I

Proposed Nature-Based Programs	Main Activities	Pillar
Program H3-3: Strengthening Integrated Management and Restoration of Freshwater Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods	H3.3.1. Promote restoration of degraded wetlands and peatlands ecosystems.	Pillar III
	H3.3.2. Strengthen Private-Community Partnerships that enhance community ecotourism and enterprise.	Pillar III
	H3.3.3. Strengthen fisheries' co-management and development of fisheries' value chains.	Pillar III
	H3.3.4. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network.	Pillar I
	H3.3.5. Develop strategies for water conservation, ecosystem restoration, and investments in green infrastructure.	Pillar III
	H3.3.6. Support freshwater spatial mapping and identification (through mapping and assessment) of water sources and recharge zones.	Pillar I

4.4.2 Hotspot 4 – Covers Parts of Angola and Zambia

Problem Statement:

The Macondo, Manyinga and Chavuma regions, spanning across Angola and Zambia, face several environmental and socio-economic challenges that threaten the sustainability and well-being of their communities. Women and other social groups are disproportionately affected. Women experience discrimination in business. Customary laws disadvantage women in most economic development programs, limiting their participation and meaningful contribution to the economy. Women also lack ownership of land in male headed households. The forestry sector that is capital intensive is largely male-dominated, side-lining women, youth, persons with disabilities, and other vulnerable groups. Some of the leading conservation challenges in hotspot 4 include:

- i) Increased Clearance of Forests for Agriculture: The expansion of agricultural activities has led to significant deforestation, resulting in the loss of biodiversity and disruption of ecosystems;
- ii) Deforestation in Floodplain and Flanking Woodlands: The removal of trees in floodplain areas and surrounding woodlands is increasing their vulnerability to soil erosion and flooding;
- iii) Poor Sanitation Infrastructure and High Prevalence of Waterborne Diseases: Inadequate sanitation facilities are contaminating water sources, resulting in a high incidence of waterborne diseases among the local population;
- iv) Riverbank Degradation Due to Crop Cultivation and Sand Mining: Crop cultivation and sand mining along the riverbanks of the Zambezi River and its tributaries are causing significant erosion and degradation of these vital water sources;
- v) Overfishing and Use of Illegal Fishing Methods: Unsustainable fishing practices are depleting fish populations and disrupting the aquatic food web, threatening the livelihoods of communities that depend on fishing; and

- vi) Increased Incidences of Flooding in Tributaries Such as Lunguebungo River: Frequent flooding in tributaries like the Lunguebungo River adversely affects agricultural productivity, leading to food insecurity and economic instability.

Key Drivers:

The challenges in the Macondo, Manyinga and Chavuma regions stem from various human activities and natural pressures. The breakdown of the activities causing the difficulties listed are:

- i) Expansion of farmland to meet food demand and increase crop yields. Farmers clear forests to plant crops, often using slash-and-burn techniques, leading to tree cover loss and habitat degradation;
- ii) Timber harvesting and the conversion of woodland areas into agricultural land are key drivers of deforestation. Trees are cleared for fuelwood and charcoal production to expand crop cultivation in the fertile floodplains;
- iii) Inadequate sanitation facilities lead to improper disposal of human waste. This contaminates local water sources, particularly during the rainy season, causing outbreaks of waterborne diseases such as cholera and dysentery;
- iv) Farming along the riverbanks and sand extraction for construction and other purposes weaken the riverbanks, leading to erosion and sedimentation in the rivers. This reduces water quality, destabilises the ecosystem, and impacts aquatic life;
- v) The use of illegal nets and traps depletes fish populations. Unsustainable fishing practices like overfishing, fishing during breeding seasons, or targeting juvenile fish disrupt the aquatic food web and reduce fish stocks; and
- vi) Heavy rainfall, climate change, and poor land management practices such as deforestation and lack of flood control infrastructure exacerbate the risk of flooding. Floods wash away crops, destroy irrigation systems, and disrupt planting and harvesting cycles, reducing agricultural yields.

Proposed Nature Based Programs:

In response to the problem statement and associated drivers, the following strategic interventions are proposed for the hotspot and surrounding landscape (**table 15**).

Table 15: Proposed NbS Programs for Hotspot 4

Proposed Nature Based Programs	Main Activities	Pillar
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H4-1: Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem resilience	H4.1.1. Promote establishing community-protected areas and buffer zones for critical and high-value forest habitats.	Pillar III
	H4.1.2. Promote the development of forest and non-timber forest-based economies and diversification of livelihoods of local economies	Pillar III
	H4.1.3. Implement Forest Certification Systems in	Pillar II

Proposed Nature Based Programs	Main Activities	Pillar
	and around High-Value Forest Habitats	
	H4.1.4. Reforestation of highly degraded headwater forest areas in and around Zambezi River and surrounding tributaries such as Kabompo and Lungue Bungo Rivers.	Pillar III
	H4.1.5. Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on Indigenous tree species	Pillar II
	H4.1.6. Creation of enterprises employing nature-based products and services, e.g. tourism and non-timber forest products.	Pillar III
	H4.1.7. Promote voluntary carbon markets involving the private sector	Pillar IV
	H4.1.8. Developing alternative, inclusive livelihood options for local communities adjacent to the national and local forests reserves.	Pillar III
	H4.1.9. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions)	Pillar II
	H4.1.10. Strengthen and/or establish multiple stakeholder platforms that promote collaboration and partnerships among all stakeholders	Pillar II
	H4.1.11. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
	H4.1.12. Share best practices and experiences (knowledge management) on NbS	Pillar I
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H4-2: Strengthening Integrated Management and Restoration of Freshwater Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods Activities:	H4.2.1. Promote restoration of degraded wetlands and peatlands ecosystems from sand mining and riverbed agriculture	Pillar III
	H4.2.2. Strengthen fisheries' co-management and development of fisheries' value chains.	Pillar III
	H4.2.3. Support fisheries co-management and regulation through mechanisms such as fish quotas, seasonal closures, and fish gear restrictions.	Pillar II

Proposed Nature Based Programs	Main Activities	Pillar
	H4.2.4. Empowerment of women, men, youth and other social groups in community-based sustainable management of fisheries resources for livelihood improvement	Pillar III
	H4.2.5. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network.	Pillar I
	H4.2.6. Develop strategies for water conservation, ecosystem restoration, and investments in green infrastructure	Pillar III
	H4.2.7. Support freshwater spatial mapping and identification (through mapping and assessment) of water sources and recharge zones	Pillar I

4.4.3 Hotspot 9 – Covering Parts of Mozambique, Zambia and Zimbabwe

Problem Statement:

Hotspot 9 is in Kariba, Tete and Mupata Sub-basins. It is a transboundary area shared between Mozambique, Zambia, and Zimbabwe. Within this hotspot is Victoria Falls, one of the most iconic natural wonders on Earth. Victoria Falls, also known as Mosi-oa-Tunya (which means “Thundering Smoke” in Lozi) and Shungu Namutitima (meaning “Boiling Water” in Tonga), is a magnificent waterfall located on the Zambezi River. It straddles the border between Zambia and Zimbabwe. This ecosystem is faced with many challenges that are both natural and anthropogenic. In recent years, severe droughts have significantly reduced the water flow over Victoria Falls. This not only affects the visual spectacle but also impacts negatively on tourism and hydroelectric power generation. Climate Change-related weather conditions have resulted in delayed monsoon seasons and concentrated rainfall events, making water storage and management more challenging. The reduced water flow has negatively impacted tourism, a significant income source for both Zambia and Zimbabwe. Lower tourist numbers have also affected local businesses and livelihoods. The Zambezi River is crucial for hydroelectric power generation. Reduced water levels thus lead to power shortages, affecting industrial processes within the region. The current ecological status of the river has also been affected. The health of the river ecosystem is threatened by reduced water flow and changing climatic conditions. This can affect the flora and fauna that depend on the river and its habitats.

Within the hotspot, women have less access than men to productive resources and opportunities, with a gender gap in access to productive assets, inputs and services, including land, livestock, labour, education, extension and financial services and technology. Patriarchy is a significant factor in defining power relations between genders for example among Tonga. Addressing these challenges, therefore, requires a combination of sustainable water management practices, climate adaptation strategies, livelihood interventions and community engagement to ensure the long-term health and resilience of the Victoria Falls and the Upper Zambezi region.

Key Drivers:

The breakdown of the activities causing the difficulties listed are:

- i) Climate change and variability result in increased temperatures and reduced precipitation, which results in reduced wetland areas;
- ii) Increased human population and unplanned human settlement result in eutrophication and, consequently, proliferation of Invasive plant species such as water hyacinth in and around freshwater habitats;
- iii) Limited capacity of local authorities and traditional leaders to enforce land use practices and plans;
- iv) Increased tourists and demand for recreational facilities in urban tourist towns such as Livingstone and Victoria Falls Towns;
- v) Increased industrial and commercial agriculture that results in eutrophication in major water bodies; and
- vi) Increased demand for electricity and water supply services.

Proposed Nature Based Programs:

In response to the problem statement and associated drivers, the following strategic interventions are proposed for the hotspot and surrounding landscape (**table 16**).

Table 16: Proposed NbS Programs for Hotspot 9

Proposed Nature Based Programs	Main Activities	Pillar
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H9-1: Strengthening the Management of Protected Areas to Enhance Landscape Connectivity Across Wildlife Habitats and to boost Eco-Tourism	H9.1.1. Strengthen wildlife connectivity and reduce human-wildlife conflict through land use planning and zonation across the protected area network and communal areas such as Mosi-ao-Tunya National Park and Zambezi National Park.	Pillar III
	H9.1.2. Support improved management effectiveness and coordination among the Government Department and relevant authorities in managing World Heritage Sites such as Department of National Parks and Wildlife (Zambia), Zimbabwe Parks and Wildlife Management Authority (Zimbabwe) and National Heritage Conservation Commission (Zambia)	Pillar II
	H9.1.3. Facilitate increased knowledge and capacity building in protected area management and community sustainable land management at the provincial, catchment, and community levels at various administrative scales.	Pillar I
	H9.1.4. Expand and strengthen community-led natural resources protection via models such as community game ranches, conservancies and	Pillar III

Proposed Nature Based Programs	Main Activities	Pillar
	heritage and cultural villages, especially on customary/ communal lands.	
	H9.1.5. Promoting and supporting Inclusive co-management of endemic rain forests and other high-value forest areas in and around the existing protected area network, such as Mosi-oa-Tunya National Park and Victoria Falls National Park.	Pillar III
	H9.1.6. Empower communities to manage, restore, and protect natural systems and benefit from NbS enterprises	Pillar
	H9.1.7. Strengthen the capacity of relevant public, private, and community institutions	Pillar II
	H9.1.8. Use evidence-based decision-making to inform protection, management, and restoration of ecosystems	Pillar I
	H9.1.9. Create gender-inclusive community and stakeholder awareness for “functional ecosystems”	Pillar III
	H9.1.10. Strengthen the capacity to monitor and enforce regulations	Pillar I
	H9.1.11. Strengthen and implement harmonized policies, regulations, and guidelines	Pillar II
Program H9-2: Strengthening Integrated Management and Restoration of Freshwater Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods	H9.2.1. Support integrated water resources management for the Kariba Basin and surrounding sub-basin management planning	Pillar II
	H9.2.2. Support fisheries co-management and expansion of community-protected fish breeding areas and temporal closed areas for the Zambezi and tributaries.	Pillar III
	H9.2.3. Support integrated livelihoods-oriented invasive species management and removal in priority fluvial ecosystems infested by water hyacinth such as Maramba Rivers.	Pillar III
	H9.2.4. Support long-term research on the distribution and impact of key fauna and flora invasive species in and around the hotspot (i.e. Crayfish, Water Gyacinth and Mimosa pigra).	Pillar I
	H9.2.5. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network at sub-basin that contributes to overall basin monitoring system.	Pillar I
	H9.2.6. Develop strategies for water conservation, ecosystem restoration, and investments in green infrastructure	Pillar III
	H9.2.7. Support freshwater spatial mapping and	Pillar I

Proposed Nature Based Programs	Main Activities	Pillar
	identification (through mapping and assessment) of water sources and recharge zones	
Program H9-3: Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin	H9.3.1. Collaborative agreements involving local communities to support alternative livelihoods (appropriate for women, youth PWDs, and other social groups) and improved climate-resilient agricultural practices.	Pillar III
	H9.3.2. Agroforestry and conservation agriculture practices, including crop rotation, integrated crop-livestock management, and intercropping in priority drought affected areas.	Pillar III
	H9.3.3. Support adoption of water-efficient community-based irrigation systems among medium and large-scale commercial farmers in the hotspots.	Pillar III
	H9.3.4. Empowering women, men, youth and other social groups with knowledge and skills in creating nutrient-rich soils using organic materials	Pillar II
	H9.3.5. Put in place systems enabling increase in land productivity (including institutional, legal frameworks and incentives)	Pillar III
	H9.3.6. Adoption of practices and approaches that promote long-term health and productivity of land resources while promoting climate change mitigation and adaptation	Pillar III
	H9.3.7. Create incentive mechanisms to encourage landowners to adopt practices to protect recharge zones	Pillar III
	H9.3.8. Harmonised policy framework for integrated land management at the regional level	Pillar II
	H9.3.9. Promote awareness and support of policies on NbS across the basin	Pillar II
	H9.3.10. Support implementation of integrated water management, land management, and natural resource management plans at all levels	Pillar III
	H9.3.11. Engage and facilitate private sector companies in supporting sustainable agricultural systems and climate-risk agricultural solutions	Pillar II
Program H9-4: Strengthen Management Capacity for Protection of High-carbon Miombo and Zambezi Woodland and Forest Ecosystems that Enhance Mitigation of Climate Change	H9.4.1. Reforestation of highly degraded high-carbon forest areas through Forest Carbon Projects in High-carbon forests.	Pillar III
	H9.4.2. Strengthen management capacity for protection of high-carbon forest ecosystems that enhance mitigation of climate change.	Pillar III
	H9.4.3. Enhance the capacity (knowledge, skills and	Pillar II

Proposed Nature Based Programs	Main Activities	Pillar
	attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on Indigenous tree species.	
	H9.4.4. Developing alternative, inclusive livelihood options for local communities adjacent to the forests	Pillar III
	H9.4.5. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions).	Pillar II
	H9.4.6. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
	H9.4.7. Share best practices and experiences (knowledge management) on NbS.	Pillar I

4.4.4 Hotspot 10 – Covers Parts of Namibia and Botswana

Problem Statement:

Hotspot 10 is in Kavanga East and part of the Zambezi Region. It is a transboundary area shared by Namibia and Botswana within the Cuando/Chobe Sub-Basin. This region is marked by several challenges, including increased grazing pressure on floodplain grasslands due to the growing number of cattle herds, unsustainable agricultural practices, forest degradation from overharvesting and agricultural clearing, and human-wildlife conflicts as human activities expand into natural habitats. Additionally, overexploitation of fisheries and encroachment on floodplain ecosystems further exacerbate environmental degradation, affecting water resources and biodiversity.

The predominantly rural, subsistence and rain-fed farming type involved in by mostly women undermines their productivity, making these women and their households very prone to the impact of climate change.

These issues pose significant risks to the sustainability and resilience of local communities that depend heavily on natural resources for their livelihoods.

Key Drivers:

- i) Increase in cattle herds leads to higher grazing pressure on floodplain grasslands, resulting in overgrazing that depletes vegetation cover;
- ii) Lack of knowledge of improved agriculture practices and the soil required to adopt the new techniques in smallholder farms;
- iii) Overharvesting of timber and clearing forests for agriculture, and increased incidence of fires reduces forest cover leading to changes in water availability for floodplain ecosystems;
- iv) Commercial Farming: The rise in commercial farming often leads to the encroachment of floodplain ecosystems;
- v) Overfishing and the use of illegal fishing methods deplete fish populations, disrupting the aquatic ecosystems within floodplains; and

- vi) Expansion of human settlements and activities into natural habitats of wild animals' results in the destruction of crops and loss of livestock and property.

Proposed Nature Based Programs:

In response to the problem statement and associated drivers, the following strategic interventions are proposed for the hotspot and surrounding landscape (**table 17**).

Table 17: Proposed NbS Programs for Hotspot 10

Proposed Nature Based Programs	Main Activities	Pillar
Program H10-1: Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem Resilience	H10.1.1. Implement reforestation to restore degraded upland forests and enhance biodiversity.	Pillar III
	H10.1.2. Strengthen sustainable forest management, including timber extraction quotas and certification of origin for timber products for surrounding hardwood forest.	Pillar II
	H10.1.3. Foster inclusive community participation in forest natural resource management, with a focus on empowering women, youth, and marginalised groups	Pillar III
	H10.1.4. Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on Indigenous tree species	Pillar II
	H10.1.5. Promote voluntary carbon markets involving the private sector	Pillar IV
	H10.1.6. Developing alternative, inclusive livelihood options for local communities adjacent to the forests	Pillar III
	H10.1.7. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions)	Pillar II
	H10.1.8. Facilitate establishment of multistakeholder platforms that promote collaboration and partnerships among all stakeholders	Pillar II
	H10.1.9. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
	H10.1.10. Share best practices and experiences (knowledge management) on NbS	Pillar II
Program H10-2: Strengthening Integrated Management and Restoration of Freshwater Ecosystems for Enhanced Biodiversity and Improved Local	H10.2.1. Expand the extent of fisheries community protected areas through community-managed fish breeding zones and temporary closed areas to conserve fish populations around the Zambezi Region.	Pillar III

Proposed Nature Based Programs	Main Activities	Pillar
Livelihoods	H10.2.2. Promote sustainable fisheries management through co-management arrangements, fishing quotas, and gear and seasonal closures regulations.	Pillar II
	H10.2.3. Promote restoration of degraded wetlands ecosystems and grazing rangelands.	Pillar III
	H10.2.4. Strengthen Private-Community Partnerships that enhance community ecotourism and enterprise in around the tourism hub in Zambezi Region.	Pillar II
	H10.2.5. Strengthen fisheries' co-management and development of fisheries value chains.	Pillar III
	H10.2.6. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network at basin that support overall basin hydrological network.	Pillar II
	H10.2.7. Develop strategies for water conservation, ecosystem restoration, and investments in green infrastructure	Pillar III
	H10.2.8. Support freshwater spatial mapping and identification (through mapping and assessment) of water sources and recharge zones	Pillar II
Program H10-3: Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin	H10.3.1. Collaborative agreements involving local communities to support alternative livelihoods and improved climate-resilient agricultural practices.	Pillar II
	H10.3.2. Agroforestry and conservation agriculture practices, including crop rotation, integrated crop-livestock management, and intercropping.	Pillar III
	H10.3.3. Promote the adoption of water efficient community-based irrigation systems	Pillar III
	H10.3.4. Promote adoption and storage of drought resilient seeds through agricultural cooperatives	Pillar III
	H10.3.5. Empowering women, men, youth and other social groups with knowledge and skills in creating nutrient-rich soils using organic materials	Pillar II
	H10.3.6. Build capacity at all levels (information sources) for good data collection, updates and Ensure quality and security of data and information.	Pillar II
	H10.3.7. Set systemic, social inclusion, and nature-based solutions-sensitive multisectoral database	Pillar II
	H10.3.8. Lead systemic, multisectoral, social inclusive, and nature-based solutions analysis and make efforts accessible.	Pillar II

4.4.5 Hotspot: 11 – Covers Parts of Namibia and Botswana

Problem Statement:

Hotspot 11 is partly located in the Zambezi and Chobe Regions. It includes the districts of Kasane and Katima Mulilo. It is within the Cuando/Chobe Sub-basin. Significant tourism activities and rich biodiversity characterize the region, yet it faces challenges due to inadequate transboundary coordination among governments, increasing human population, limited livelihood opportunities, and overexploitation of natural resources such as fisheries, waterbirds, and small reptiles. The lack of sustainable management practices and growing environmental pressures from tourism and agriculture threaten the long-term resilience of this hotspot.

Women's predominant livelihood activities including poultry, backyard gardening, and some businesses are often affected by scarcity of water especially during the drought spells. Their non-wood biodiversity value-chain activities including artworks, basket weaving, etc. are conducted in undeveloped market structures that expose them to harsh weather (direct sun heat and rain). Many women in the area depend on their spouses for provision. This exposes them to domestic violence especially when the men fail to provide due to poverty. The concern of human-wildlife conflict affects the women, girls and children the most since these are the ones most involved in fetching water in the river. Women in this hotspot are also trapped in some sociocultural practices.

Key Drivers:

- i) Inadequate Transboundary Coordination: Poor coordination among government departments and institutions in managing shared resources, leading to ineffective regulation of fishing and human-wildlife conflicts;
- ii) Population Growth and Limited Livelihood Opportunities: Increasing population pressures with few employment opportunities drive unsustainable resource use, such as overfishing and habitat encroachment;
- iii) Overexploitation of Wildlife: High demand for waterbirds, reptiles, and amphibians for various uses exacerbates pressure on these species; and
- iv) Extreme Weather Events: Floods and droughts disrupt local livelihoods, aggravating food insecurity and economic instability.

Proposed Nature Based Programs:

In response to the problem statement and associated drivers, the following strategic interventions are proposed for the hotspot and surrounding landscape (**table 18**).

Table 18: Proposed NbS Programs for Hotspot 11

Proposed Nature Based Programs	Main Activities	Pillar
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H11-1: Promoting Sustainable Forest Restoration	H11.1.1. Reforestation of highly degraded headwater and high-carbon forest areas	Pillar III

Proposed Nature Based Programs	Main Activities	Pillar
and Management to Enhance Local Communities' Livelihoods and Ecosystem Resilience		
	H11.1.2. Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on Indigenous tree species	Pillar II
	H11.1.3. Promote voluntary carbon markets involving the private sector.	Pillar IV
	H11.1.4. Creation of enterprises employing nature-based products and services, e.g. tourism and non-timber forest products.	Pillar III
	H11.1.5. Conduct community multisectoral vulnerability analysis.	Pillar I
	H11.1.6. Conduct natural resources characterization (water, fisheries, forest, land, wetland) and mapping.	Pillar III
	H11.1.7. Promote awareness and capacity building of communities on natural resources use and management.	Pillar II
	H11.1.8. Develop and disseminate nature-based solutions guidelines.	Pillar II
	H11.1.9. Developing alternative, inclusive livelihood options for local communities adjacent to the forests.	Pillar III
	H11.1.10. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions).	Pillar II
	H11.1.11. Support the establishment of multistakeholder platforms that promote collaboration and partnerships among all stakeholders.	Pillar II
	H11.1.12. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
	H11.1.13. Share best practices and experiences (knowledge management) on NbS	Pillar II
Program H11-2: Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin	H11.2.1. Collaborative agreements involving local communities to support alternative livelihoods and improved climate-resilient agricultural practices.	Pillar II
	H11.2.2. Agroforestry and conservation agriculture practices, including crop rotation, integrated crop-livestock management, and intercropping,	Pillar III

Proposed Nature Based Programs	Main Activities	Pillar
	H11.2.3. Promote the adoption of water-efficient community-based irrigation systems	Pillar III
	H11.2.4. Promote adoption and storage of drought-resilient seeds	Pillar III
Program H11-3: Strengthening Integrated Management and Restoration of Freshwater Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods	H11.3.1. Establish community protected and conserved areas such as fish breeding areas and temporal closed areas.	Pillar III
	H11.3.2. Support improved co-management of fisheries to address illegal, unregulated and unreported fishing activities and practices.	Pillar III
	H11.3.3. Support integrated water resources management, allocation and planning at catchment and sub-catchment scales.	Pillar II
	H11.3.4. Strengthen Private-Community Partnerships that enhance community ecotourism and enterprise.	Pillar II
	H11.3.5. Strengthen fisheries co-management and development of fisheries value chain.	Pillar III
	H11.3.6. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network at sub-basin that contribute to the larger basin.	Pillar II
	H11.3.7. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network.	Pillar II
	H11.3.8. Develop and rollout strategies to adapt to the impact of climate change on water sources and recharge zones	Pillar III
	H11.3.9. Support freshwater spatial mapping and identification (through mapping and assessment) of water sources and recharge zones.	Pillar II
Program H11-4: Strengthen the Management of Protected Areas to Enhance Connectivity Across Wildlife Habitats and boost Eco-Tourism	H11.4.1. Strengthen management effectiveness and capacity of key institutions such as KAZA Secretaria, Government Department responsible for Park Management and NGOs in mitigating and addressing human-wildlife conflicts.	Pillar III
	H11.4.2. Support long-term research and monitoring of drought-induced wildlife movement and migratory patterns (i.e. Continued Elephant survey)	Pillar I
	H11.4.3. Strengthen wildlife connectivity and reduce human-wildlife conflict through land use	Pillar III

Proposed Nature Based Programs	Main Activities	Pillar
	planning, zonation Chiefdom Village Land Certification.	
	H11.4.4. Support improved management effectiveness and coordination among the Government Department and relevant authorities in managing World Heritage Sites.	Pillar III
	H11.4.5. Facilitate increased knowledge and capacity building of protected area management and community sustainable land management at national, provincial, catchment and community levels	Pillar I
	H11.4.6. Promote inclusive nature-based entrepreneurship for diversified community livelihoods in the Zambezi River Basin (need to find ways to scale these up, working with intermediate investment partners)	Pillar III
	H11.4.7. Create and scale up inclusive, innovative financial mechanisms	Pillar III
	H11.4.8. Develop policy and regulatory frameworks for private sector engagement and PPP in climate-resilient, natural resource management	Pillar II
	H11.4.9. Promote inclusive nature-based incentive measures across system boundaries and contexts	Pillar II
	H11.4.10. Promote awareness and capacity support for the private sector on responsible investments.	Pillar II
Program H11-5: Strengthen Management Capacity for Protection of High-carbon Forest Ecosystems that Enhance Mitigation of Climate Change	H11.5.1. Strengthen management capacity for the protection of high-carbon forest ecosystems that enhance mitigation of climate change.	Pillar II
	H11.5.2. Implement Forest Carbon Projects in High-carbon forests in the Lower Zambezi Valley and surrounding woodland and forest areas.	Pillar IV
	H11.5.3. Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on Indigenous tree species	Pillar II
	H11.5.4. Promote voluntary carbon markets involving the private sector	Pillar IV
	H11.5.6. Developing alternative, inclusive livelihood options for local communities adjacent to the forests	Pillar III
	H11.5.7. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions)	Pillar II

Proposed Nature Based Programs	Main Activities	Pillar
	H11.5.8. Support the establishment of multistakeholder platforms that promote collaboration and partnerships among all stakeholders	Pillar II
	H11.5.9. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
	H11.5.10. Share best practices and experiences (knowledge management) on NbS	Pillar I

4.4.6 Hotspot 12 – Covers Parts of Zambia and Mozambique

Problem Statement:

The hotspot is located in the Luangwa and Tete Sub-Basins. It is a transboundary area that cuts across Zambia and Mozambique, with towns including Luangwa, Serenje, and Nyimba. The hotspot is characterised by a higher-than-average potential for crop failure in drought or when excessive heat days are experienced. The high dependence of communities on natural resources and a lack of access to basic services identified this hotspot as one of the priority areas for intervention. Notably, communities rely to some degree on harvesting of natural wildlife resources that migrate in the area. Conservation features in the hotspot include the Rufunda Game Management Area, Lower Zambezi National Park and the Luangwa Floodplains. Some of the main threats to these features in the hotspot include unsustainable agricultural practices that result in soil erosion and high sedimentation levels and poor water quality; over-exploitation of fisheries, illegal, unregulated and unreported fishing practices; proliferation of invasive species such as Nile cabbage (*Pistia stratiotes*); and unregulated artisanal and small-scale mining and large-scale exploration in and around the hotspot.

Within this hotspot, women have limited access to land, and limited opportunities to own land compared to men. High poverty levels affect women and men differently due to differences in access to economic opportunities and social protection programs. Women, compared to men, have limited opportunities to attend livelihood training due to limited time available, considering their gender roles.

Key Drivers:

Climate change and variability characterised by increased temperatures and reduced rainfall especially for the agro-ecological region on the Zambia side as projected by the National Adaptation Plan for Zambia. In addition, there is an increasing human population resulting in expansion of urban and peri-urban areas in the hotspot. This is exacerbated by limited livelihood opportunities particularly for youth that has resulted in increased demand for artisanal and small-scale mining and large mining operations in and around the hotspot.

Proposed Nature Based Programs:

In response to the problem statement and associated drivers, the following strategic interventions are proposed for the hotspot and surrounding landscape (**table 19**).

Table 19: Proposed NbS Programs for Hotspot 12

Proposed Nature Based Programs	Main Activities	Pillar
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H12-1: Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem Resilience	H12.1.1. Promoting and supporting Inclusive land use plans, District Development Plans and Management Plans for existing Protected Areas such as Game Management Areas and National Park.	Pillar III
	H12.1.2. Reforestation of highly degraded headwater and high-carbon forest areas.	Pillar III
	H12.1.3. Enhance the capacity (knowledge, skills and attitude) of women, men, youth, PWDs in tree nursery establishment focusing on indigenous tree species.	Pillar II
	H12.1.4. Afforestation through the establishment of community led initiatives.	Pillar III
	H12.1.5. Promote voluntary carbon markets involving the private sector.	Pillar IV
	H12.1.6. Creation of enterprises employing nature-based products and services e.g. tourism and non-timber forest products	Pillar III
	H12.1.7. Developing alternative, inclusive livelihood options for local communities adjacent to the forests	Pillar III
	H12.1.8. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions)	Pillar II
	H12.1.9. Support the establishment of multi-stakeholder platforms that promote collaboration and partnerships among all stakeholders	Pillar II
	H12.1.10. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
	H12.1.11. Share best practices and experiences (knowledge management) on NbS	Pillar I
Program H12-2: Strengthen the Management of Protected Areas to Enhance Connectivity Across Wildlife Habitats and boost Eco-Tourism	H12.2.1. Creating opportunities for the participation of women, youth, persons with disabilities and other vulnerable social groups in Ecotourism.	Pillar II
	H12.2.2. Strengthen management effectiveness and capacity of key TFCA institutions in mitigating and addressing human-wildlife conflicts.	Pillar III

Proposed Nature Based Programs	Main Activities	Pillar
	H12.2.Support long-term research and monitoring of drought-induced wildlife movement and migratory patterns.	Pillar I
	H12.2.3. Strengthen wildlife connectivity and reduce human-wildlife conflict through land use planning and zonation.	Pillar III
	H12.2.4. Support improved management effectiveness and coordination among Government Department.	Pillar III
	H12.2.5. Facilitate increased knowledge and capacity building of protected area management and community sustainable land management at national, provincial, catchment and community levels.	Pillar I
	H12.2.6. Expand and strengthen community-led natural resources protection via models such as community game ranches, conservancies and heritage and cultural villages, especially on customary/ communal lands.	Pillar III
	H12.2.7. Empower communities to manage, restore, and protect natural systems and benefit from NbS enterprises.	Pillar III
	H12.2.8. Use evidence-based decision-making to inform the protection, management, and restoration of ecosystems	Pillar I
	H12.2.9. Create gender-inclusive community and stakeholder awareness for “functional ecosystems.”	Pillar II
	H12.2.10. Strengthen the capacity to monitor and enforce regulations.	Pillar II
	H12.2.11. Develop and implement harmonized policies, regulations, and guidelines.	Pillar II
Program H12-3: Strengthening Integrated Management and Restoration of Freshwater Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods	H12.3.1. Strengthening of hydrological network and early warning flood systems.	Pillar I
	H12.3.2. Integrated and community-led riverbank restoration and stabilisation of fluvial ecosystems.	Pillar III
	H12.3.3. Strengthening the capacity of regulatory authorities to monitor and enforce water licensing systems as well as development of catchment and sub-catchment management and water allocation plans.	Pillar II
	H12.3.4. Strengthen Private-Community Partnerships that enhance community ecotourism and enterprise.	Pillar II
	H12.3.5. Strengthen fisheries' co-management and	Pillar II

Proposed Nature Based Programs	Main Activities	Pillar
	development of fisheries value chains.	
	H12.3.6. Develop strategies for water conservation, ecosystem restoration, and investments in green infrastructure.	Pillar III
	H12.3.7. Support freshwater spatial mapping and identification (through mapping and assessment) of water sources and recharge zones.	Pillar I
Program H12-4: Strengthening the Resilience of Local Communities and Agricultural Productive Systems Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin	H12.4.1. Agroforestry and conservation agriculture practices, including crop rotation, integrated crop-livestock management, and intercropping,	Pillar III
	H12.4.2. Support adoption of water-efficient community-based irrigation systems among medium and large-scale commercial farmers.	Pillar III
	H12.4.3. Promote adoption and storage of drought-resilient seeds	Pillar II

4.4.7 Hotspot 13 - Covers Parts of Malawi and Tanzania

Problem Statement:

The hotspot is in the Shire and Lake Malawi/Nyasa/Niassa Sub-Basin. It is a transboundary area that cuts across Tanzania and Malawi. Lake Malawi/Nyasa/Niassa is the third deepest freshwater lake in the world. The lake is home to about 1000 fish species, making it the most fish species-rich lake in the world. The lake employs 56,000 fishers who harvest more than 100,000 tons of fish per year. In terms of hydrology, Lake Malawi/Nyasa/Niassa is a meromictic lake, meaning its water layers do not mix. This unique characteristic helps maintain its ecological balance but also makes it sensitive to environmental changes. This affects water clarity and the health of aquatic habitats. The lake is vital for the local economy, providing fishing, tourism and hydropower resources to Tanzania and Mozambique. Overall, the fishery supports the livelihoods of more than 1.6 million people. Despite its ecological and social importance, the lake has challenges that cut across the Zambezi region. Major threats to the lake include overexploitation, invasive alien species, habitat degradation and deforestation, pollution and climate change. Overfishing and unsustainable practices have led to a decline in fish populations, impacting local livelihoods. Nearly 10% of fish species are currently endangered due to overfishing, habitat degradation, and pollution. Other significant environmental challenges include deforestation in its catchment area, which leads to soil erosion and sedimentation. Lake Malawi/Nyasa/Niassa National Park, a UNESCO World Heritage Site, plays a crucial role in protecting the lake's biodiversity.

From a livelihood and gender point of view, low gender participation in agricultural production among other factors accounts for food insecurity in the hotspot. Food insecurity is also attributed to lack of entrepreneurial culture among farmers (Inadequate agribusiness skills). The skills levels vary across gender, age, and disability status. Within the hotspot, vulnerable children, women, persons with disabilities and the youth face poor access to essential quality services. This is in part attributed to: poor tracking systems of GBV and child protection records; lack of disability friendly facilities and services; and inadequate youth involvement in decision making. Gender inequality is marked with inequitable access to, control over, and

utilization of social and economic services by women, men, girls and boys; and low access to financial services by women and other vulnerable groups.

Key Drivers:

Some of the key drivers of conservation threats in the hotspot include:

- i) Increased demand for rare and endemic ciclids in the ornamental fish trade;
- ii) Increased human population is associated with limited employment, particularly for youth;
- iii) Limited coordination and management capacity to regulate fisheries management and Cichlids extraction in the Lake;
- iv) Increased demand for fish protein that consequently drivers increase cage aquaculture facilities; and
- v) Limited understanding of climate-related dynamics and their impact on the Lake.

Proposed Nature-Based Programs:

In response to the problem statement and associated drivers, the following strategic interventions are proposed for the hotspot and surrounding landscape (**table 20**).

Table 20: Proposed NbS Programs for Hotspot 13

Proposed Nature-Based Programs	Main Activities	Pillar
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.		
Program H13-1: Strengthening Integrated Management and Restoration of Freshwater Lake Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods	H13.1.1. Support the establishment of community-protected and conserved areas, such as fish breeding areas in pelagic, littoral, and riparian areas of the lake.	Pillar III
	H13.1.2. Support the design and implementation of sustainable cage aquaculture practices and monitoring framework for associated risk.	Pillar III
	H13.1.3. Strengthen research capacity to understand the impact of climate change and variability on fisheries population and diversity dynamics.	Pillar I
	H13.1.4. Establishing buffer zones along Lake Malawi/Nyasa/Niassa banks with native vegetation to prevent erosion and filter pollutants.	Pillar III
	H13.1.5. Develop and implement management plans for the water resources to protect biodiversity and natural resources.	Pillar II
	H13.1.6. Conduct educational campaigns to raise awareness about waste reduction and proper disposal practices protecting water resources.	Pillar II
	H13.1.7. Promote consistent planning and	Pillar II

Proposed Nature-Based Programs	Main Activities	Pillar
	implementation of gender-responsive budgeting across sectors.	
	H13.1.8. Strengthen Private-Community Partnerships that enhance community ecotourism and enterprise.	Pillar II
	H13.1.9. Strengthen fisheries' co-management and development of fisheries value chains.	Pillar III
	H13.1.10. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network.	Pillar I
	H13.1.11. Develop strategies for water conservation, ecosystem restoration, and investments in green infrastructure.	Pillar III
	H13.1.12. Support freshwater spatial mapping and identification (through mapping and assessment) of water sources and recharge zones.	Pillar II
Program H13-2: Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Droughts and Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin	H13.2.1. Support the adoption and implementation of sustainable agricultural practices, soil conservation techniques like contour ploughing, terracing, and cover crops to prevent soil erosion and sedimentation.	Pillar III
	H13.2.2. Promote climate-smart agriculture (carbon farming"/ "regenerative agriculture,") and ecosystems and biodiversity restoration.	Pillar III
	H13.2.3. Promote equitable access and ownership of resources, which requires capacity building for startups, fund management, and skills development	Pillar II
	H13.2.4. Harmonize legal, policy, and institutional frameworks	Pillar II
	H13.2.5. Promote participatory, inclusive, continuous bottom-up community engagement on nature-based priorities, which requires capacity building (best practices and identification of gaps)	Pillar II

4.4.8 Hotspot - 15 The Zambezi Delta

Problem Statement:

The hotspot is within the Zambezi Delta and Shire Sub Basins. The Delta extends from Mopeia in Mozambique to the coast in a large triangle. Mopeia is about 120 km upstream from the mouth of the Zambezi. The northern boundary of the Delta is along the Rio Cuacua to the town of Quelimane at the coast. The southern section is more petite and extends as far as the Mungari River. Alluvial plains, which are flat and mostly below 30m above sea level, cover the whole Delta region and are surrounded by Moist Forest Woodland Mozaic. The alluvial plains, which comprise extensive wetland, grassland and riparian or floodplain vegetation, have an intricate reticular drainage system.

Within the hotspot, gender alongside other factors including poverty, HIV/AIDS, environmental variability, and interactions with wildlife accounts for the vulnerability of people living in wetland areas such as the Elephant Marsh. Female headed households tend to cultivate smaller areas and have less access to appropriate extension advice, inputs and credit. These households are more prone to food insecurity, associated with use of low yielding crop varieties (especially millet and sorghum), unaffordable expense of farm inputs, low food diversification, etc. Challenges of low household income levels arising from the low market price of agricultural produce and livestock and limited marketing opportunities; low wages in formal employment, limited entrepreneurship, high unemployment and low access to credit disproportionately affect women and other vulnerable groups.

Key drivers:

- i) Overfishing: Fishing and harvesting aquatic resources; Hunting and collecting terrestrial animals;
- ii) Increased Dams and over-abstraction of water support commercial agriculture (large sugar cane estates) and hydropower generation (Kapichira Falls Hydroelectric Power Station);
- iii) Household sewage, urban wastewater;
- iv) Increased human population resulting in encroachment and over-exploitation of natural resources;
- v) Invasive alien floating weed species such as water hyacinth (*Eichornnia crassipes*), water cabbage (*Pistia stratiotes*) and water fern (*Azolla filiculoides*) are very abundant across the Elephant Marsh;
- vi) Human encroachment onto the floodplains Agricultural and urban developments;
- vii) Eutrophication of the wetlands and a proliferation of water weeds; and
- viii) Soil erosion in hotspots.

Proposed Nature Based Programs:

In response to the problem statement and associated drivers, the following strategic interventions are proposed for the hotspot and surrounding landscape (**table 21**).

Table 21: Proposed NbS Programs for Hotspot 15

Proposed Programs	Nature Based	Main Activities	Pillar
Pillar I: Building an evidence base for the design of nature-based solutions in the basin. Pillar II: Strengthening the enabling environment for sustainable uses of land, water and other natural resources. Pillar III: Strengthening nature-based resilience of landscapes and livelihoods in the basin. Pillar IV: Enhancing nature-based mitigation by augmenting ecosystems' ability to absorb and store carbon.			
Program H15-1: Strengthening Integrated Management and Restoration of Freshwater and Coastal Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods		H15.1.1. Develop and implement management plans for coastal areas and marine exclusive economic zones as the Zambezi drains into the Ocean.	Pillar II
		H15.1.2. Strengthen research capacity to understand the impact of climate change and variability	Pillar II

Proposed Programs	Nature Based	Main Activities	Pillar
		on fisheries population and diversity dynamics.	
		H15.1.3. Conduct educational campaigns to raise awareness about waste reduction and proper disposal practices protecting water resources.	Pillar II
		H15.1.4. Promote consistent planning, and implementation of gender responsive budgeting across sectors	Pillar II
		H15.1.5. Strengthen Private-Community Partnerships that enhance community ecotourism and enterprise.	Pillar II
		H15.1.6. Strengthen fisheries' co-management and development of fisheries' value chains.	Pillar III
		H15.1.7. Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network.	Pillar I
		H15.1.8. Develop strategies for water conservation, ecosystem restoration, and investments in green infrastructure	Pillar III
		H15.1.9. Support freshwater spatial mapping and identification (through mapping and assessment) of water sources and recharge zones	Pillar II
Program H15-2: Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem Resilience		H15.2.1. Reforestation of highly degraded mangroves.	Pillar III
		H15.2.2. Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on indigenous tree species.	Pillar II
		H15.2.3. Afforestation through the establishment of community-led initiatives.	Pillar III
		H15.2.4. Promote voluntary carbon markets involving the private sector.	Pillar IV

Proposed Programs	Nature Based	Main Activities	Pillar
		H15.2.5. Creation of enterprises employing nature-based products and services, e.g. tourism and non-timber forest products.	Pillar III
		H15.2.6. Developing alternative, inclusive livelihood options for local communities adjacent to the forests.	Pillar III
		H15.2.7. Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions).	Pillar II
		H15.2.8. Establish multistakeholder platforms that promote collaboration and partnerships among all stakeholders	Pillar II
		H15.2.9. Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	Pillar II
		H15.2.10. Share best practices and experiences (knowledge management) on NbS.	Pillar I
Program H15-3: Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Droughts and Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin		H15.3.1. Support adopting and implementing sustainable agricultural practices, such as soil conservation techniques like contour ploughing, terracing, and cover crops to prevent erosion and sedimentation at the delta and marine ecosystem.	Pillar III
		H15.3.2. Promote climate-smart agriculture (carbon farming"/ "regenerative agriculture,") and ecosystems and biodiversity restoration.	Pillar III

4.5 Alignment to CIF Criteria

4.5.1 Potential for Transformational Change

The proposed programs align with the CIF criteria and have the potential for transformational change. In terms of relevance, the programs are aligned with both the regional and country climate change strategies as well as the NDCs identified in chapter 2 of the IP. They are also

aligned with the Strategic Plan for the Zambezi Watercourse (ZSP) (2018-2040) in terms of promoting the equitable and reasonable utilization of the water resources of the Zambezi Watercourse including the pursuit for efficient natural resource management and sustainable development.

In terms of systemic change, the programs have potential to bring about fundamental change in the social and hydrological systems of the Zambezi Region through nature-based solutions (NbS) that accelerate climate action to strengthen the resilience of communities and landscapes. The programs have potential to generate systemic change in terms of enhancing the headwater spring sources in the Upper Zambezi. These large-scale changes will result in increased surface river flows and groundwater (base flows) recharge, improved water quality and carbon sequestration by the forests, thereby generating multiple benefits for communities living downstream and increasing their resilience to climate change. The programs will deliver contextually large-scale impacts in terms of up and down stream co-benefits. These criteria will be evidenced through increased forest canopy, forest cover, reduced GHGs emission, improved habitats, enhanced biodiversity on land and below water, improved river flows, improved river health and water quality.

In terms of scale, the evidence base of the programs will provide an opportunity for scaling up locally led ecosystem restoration through sustainable land use, water security and climate resilience. The programs will build vital empirical evidence relevant to upscaling NbS for climate action in identified hotspots of the Basin. They will contribute to CIF's and MDBs efforts to build the capacity and leadership of ZAMCOM to share technical expertise in advancing knowledge, evidence, and impact with the riparian African countries. The benefits of the IP to CIF NPC, MDBs and ZAMCOM include establishing evidence-based and innovative tools for demonstrating the value and effectiveness of NbS in addressing the multiple drivers and impacts of climate change.

4.5.2 Potential to Enhance Resilience to Climate Risks

The programs have the potential for climate resilience by creating conducive microclimates that may result in: (i) increased rainfall, (ii) improved water quality and (iii) reduced carbon emissions. The programs will promote ecological restoration through integrated agricultural practices in the targeted landscapes of the Basin. They will enhance the resilience of agricultural systems to climate change by contributing to lower-emission and climate resilient development. They will provide a platform for developing and implementing sustainable land use practices in forest and agricultural systems to sustain ecosystem services and livelihoods for the marginalised. The programs will be specially designed to benefit nature, climate, and people by improving ecological integrity, climate adaptation, and water security, as well as by raising income and fostering economic development. Through targeted capacity building initiatives, the programs will endeavour to empower particularly women and youth to take stewardship of their land resources and participate in climate decision-making and action. They will foster local resilience, self-reliance, and ultimately strengthen the selected countries' social fabric and promote inclusive, climate resilient development.

4.5.3 Potential to Significantly Contribute to the Principles of Just Transition

The programs will be designed with potential to contribute to just transition through targeted impact on different segments of society in diverse ways. Particular consideration will be given to the potential positive and negative impacts of the transition to low-carbon and climate

resilient economies. The programs will promote the development and implementation of sustainable land use management practices in agriculture and forestry to sustain ecosystem services and livelihoods for identified marginalised groups. They will directly address food insecurity challenges among low income, marginalised groups in the region, especially women and youth. They will endeavour to hold significant relevance and value to the identified marginalised groups in the region. By focusing on food security and climate resilience, they will contribute to ensuring access to sustainable ecosystem services for marginalised groups. This is particularly crucial in the rural areas of the selected countries where small-scale agriculture is prevalent, as it helps to protect both human wellbeing and ecosystem integrity.

4.5.4 Gender Equality and Social Inclusion Impact

The programs will deliver on potential for gender equality and social inclusion by promoting the interconnections between ecological sustainability and social justice. Gender equality and social inclusion will be advanced through significant involvement of women, youth and persons with disabilities (PWDs) in the five NbS programs. The programs will be implemented in a way that promotes inclusivity by addressing unequal access to resources, decision-making, and opportunities. The programs will ensure that women, indigenous peoples, and marginalized communities are meaningfully involved in decision-making process throughout implementation. Training in sustainable practices such as agroforestry and eco-tourism will be designed to empower women and vulnerable populations. Financial mechanisms will be targeted at women and marginalized groups to enhance their ability to benefit from the NbS programs.

4.5.5 Development Impact Potential

The programs will particularly contribute to SDGs 1 (no poverty), 2 (zero hunger), 5 (gender equality), 13 (climate action), 14 (life below water), and 15 (life on land). They will enhance livelihoods by promoting sustainable land use practices, improving agricultural productivity, and supporting eco-tourism. By providing income opportunities, especially to the rural and marginalized communities, they will contribute to poverty alleviation. Through agroforestry and sustainable agriculture, they will enhance food security, therefore support the zero-hunger campaign. This will be done through improving soil health, water availability, and crop resilience to climate variability. Gender equality will be promoted through women's participation in decision-making, resource management, and access to resources and services. The programs will be specially designed to address gender disparities and promote inclusive development. Core to the programs will be climate adaptation and mitigation. The sequestration of carbon will be advanced through ecosystem restoration and sustainable land use practices. Life below water will be supported by integrated management and restoration of freshwater and coastal ecosystems. By improving freshwater and coastal ecosystem health, the programs will contribute to the sustainable use of aquatic and marine resources. Life on land will be supported through restoring degraded ecosystems and promoting sustainable use of terrestrial ecosystems. Sustainable land use practices will be used to improve biodiversity and ecosystem health, while preventing land degradation and deforestation.

4.6 Private Sector Engagement Strategies⁵²

Carbon Markets

Leverage private sector expertise and investment to foster partnerships that incentivize carbon sequestration and emission reductions while promoting sustainable economic development. This strategy prioritizes collaboration with local communities, governments, and businesses to establish transparent carbon accounting mechanisms and standards, as well as facilitating access to finance and technical support for carbon offset projects, such as reforestation and sustainable land management initiatives. Additionally, it aims to build capacity among stakeholders to participate effectively in carbon trading markets, ensuring equitable distribution of benefits and enhancing resilience to climate impacts across the basin.

Regional Timber Verification and Trade Authority

Private sector collaboration with governments and local communities could support the creation of transparent and verifiable supply chains that meet international certification standards e.g. Forest Stewardship Council (FSC). By facilitating the adoption of digital tools for real-time tracking and verification of timber origins, the private sector would help reduce illegal logging and ensure compliance with trade regulations. This Authority would be anchored on support from regional bodies like COMESA, SADC, African Union and Commonwealth to prioritize timber verification as a key component of regional trade and environmental policies. A regional timber verification and trade authority would benefit from private sector investment in infrastructure and technology supports sustainable forest management and capacity-building initiatives would support small-scale timber producers in meeting certification requirements

Ecotourism and Agrotourism

A private sector engagement via eco-tourism and agro-tourism would harness both the region's rich biodiversity and cultural heritage to develop sustainable, community-centred tourism ventures. The strategy would prioritize partnerships with local communities, conservation groups, and governments to create eco-friendly tourism infrastructure that minimizes environmental impact while offering unique experiences such as marathons, cycling races, wildlife safaris, birdwatching, and cultural tours. Agro-tourism would be promoted by engaging local farmers and cooperatives to showcase traditional and sustainable agricultural practices, offering tourists hands-on experiences in organic farming, crop diversity, and local cuisine which could help develop international market linkages for local produce. The private sector's role would include investment in eco-lodges, nature trails, and marketing, while also facilitating capacity-building initiatives to enhance local entrepreneurship and hospitality management.

Sustainable Aquaculture: Fish Hatcheries

A private sector engagement strategy for fish hatcheries in the Zambezi Basin would focus on advancing sustainable aquaculture practices that enhance fish stocks, support local livelihoods, and reduce pressure on wild fish populations. This strategy encourages partnerships between private investors, local communities, and government agencies to establish modern hatchery

⁵² See Annex 2 for proposed business cases

facilities that breed indigenous fish species, particularly those under threat due to overfishing and environmental degradation. Private sector involvement would provide the necessary capital, technology, and expertise to improve hatchery efficiency, promote sustainable breeding practices, and ensure high-quality fingerlings are supplied to local fish farmers. Additionally, the strategy would incorporate capacity-building programs to train local stakeholders in hatchery management, sustainable fish farming techniques, and market access. By investing in hatcheries, the private sector would play a pivotal role in enhancing food security, creating employment, and supporting the conservation of fish biodiversity in the Zambezi Basin, while also tapping into growing market demand for sustainably sourced fish products.

Corporate ESG Priorities

Encourage companies operating in key sectors like agriculture, mining, and tourism to integrate ESG principles into their core operations, ensuring environmental stewardship, social responsibility, and ethical governance. Partnerships between businesses, local communities, and governments can help co-develop impactful ESG initiatives such as renewable energy projects, reforestation efforts, clean water access, and community-driven education programs. The private sector would lead by investing in technologies that minimize environmental impact, enhance transparency in supply chains, and promote fair labour practices. To incentivize engagement, companies should be recognized and rewarded for compliance supported with frameworks to measure and report on their ESG performance, demonstrating their contributions to regional sustainability.

5.0 Financing Plan and Instruments

The total financing plan is estimated to be USD 1.5 billion. The figure is derived from summing all IP interventions individual costs. The individual IP interventions costs were derived based on estimations benchmarking similar project interventions across Africa. the average costs of a baseline study, feasibility study, research study for similar projects were taken and either a decay factor or markup were applied to take into consideration the difference in scope of the studies and the size of the different hotspots.

5.1 NPC IP Financing Plan

The total investment value of the plan is USD 1.5 billion over a period of 10 years. This figure is indicative of the vastness of the Zambezi Basin region. This financing will be distributed among five program areas and broken down into two phases; Phase 1 will run from 2025- 2029 and Phase 2 from 2030-2035 as shown in **Table 22** below:

Table 22: Investment Plan Cost for a Period of 10 Years

Program Areas	Estimated Cost (mUSD)	PHASE 1 (2025 – 2029)			PHASE 2 (2030 – 2035)	
		CIF (mUSD)	AfDB (mUSD)	WB (mUSD)	AfDB (mUSD)	WB (mUSD)
Promoting Sustainable Forest Restoration and Management to Enhance Local Communities' Livelihoods and Ecosystem resilience	367.87	14.15				
Strengthen Management Capacity for Protection of High Carbon Forest Ecosystems that Enhance Mitigation Climate Change	161.81	6.22				
Strengthening Integrated Management and Restoration of Freshwater and Coastal Ecosystems for Enhanced Biodiversity and Improved Local Livelihoods	433.64	16.68				
Strengthening the Resilience of Local Communities and Agricultural Productive Systems to Climate Variability in Arid and Semi-Arid Areas in the Zambezi Basin	396.34	15.24				
Strengthen the Management of Protected	148.47	5.71				

Program Areas	Estimated Cost (mUSD)	PHASE 1 (2025 – 2029)			PHASE 2 (2030 – 2035)	
		CIF (mUSD)	AfDB (mUSD)	WB (mUSD)	AfDB (mUSD)	WB (mUSD)
Areas to Enhance Connectivity Across Wildlife Habitats and boost Eco-Tourism						
TOTAL	1,508.14	58	300	400	321.48	428.65

The Climate Investment Funds (CIF) have allocated \$58 million as seed funding towards the Zambezi Basin Investment Plan, a comprehensive program with a total budget of \$1.5 billion. This initial funding serves as a catalyst to attract additional financing from international donors, multilateral development banks, and private sector partners. The plan aims to address key environmental and socio-economic challenges in the Zambezi Basin, such as climate resilience, water management, and sustainable development. The CIF's contribution will help launch critical programs and interventions, setting the stage for long-term investments that promote climate adaptation and strengthen the livelihoods of local communities in the region.

To fully implement the \$1.5 billion Zambezi Region NPC IP, Multilateral Development Banks (MDBs) and national governments will play a crucial role in mobilizing the remaining funds. While the \$58 million from the Climate Investment Funds (CIF) provides a solid foundation, significant additional financing is needed to scale up interventions and ensure the plan's long-term sustainability. MDBs will leverage their financial instruments and partnerships to attract co-financing from other international donors, philanthropic organizations, and private sector investors. National governments in the Zambezi Basin will need to prioritize climate-resilient policies, align national budgets with the investment plan, and create an enabling environment for public-private partnerships.

5.2 Regional Activities

The estimated cost of the regional activities that will be carried out across the Zambezi basin over the 10-year period is estimated to be **USD 231.27 million** as broken down in table 7 below:

Table 23: Estimated Costs for the Regional Activities

Regional Activities	Estimated Cost m(USD)	PHASE 1 m(USD)	PHASE 2 m(USD)
Regional Evidence-based Activities	137.33	69.01	68.31
Regional Enabling Environment Activities	93.94	47.22	46.73
Total	231.27	116.23	115.04

The regional activities will be mostly around the following pillars⁵³:

Pillar 1: Building an evidence-based for the design of nature-based solutions in the basin

⁵³ Complete list of Regional Activities in Annex 1

Examples of regional activities include:

- i) Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on indigenous tree species
- ii) Promote sensitization and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.
- iii) Support the establishment of multistakeholder platforms that promote collaboration and partnerships among all stakeholders

Pillar 2: Strengthening the enabling environment for sustainable uses of land, water and other natural resources

Examples of regional activities include:

- i) Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network.
- ii) Support long term research and monitoring of drought induced wildlife movement and migratory patterns.
- iii) Facilitate increased knowledge and capacity building of protected area management and community sustainable land management at national, provincial, catchment and community levels

5.3 MDB Component Financing

The chart below shows the components that MBDs will utilize to apportion their financing.

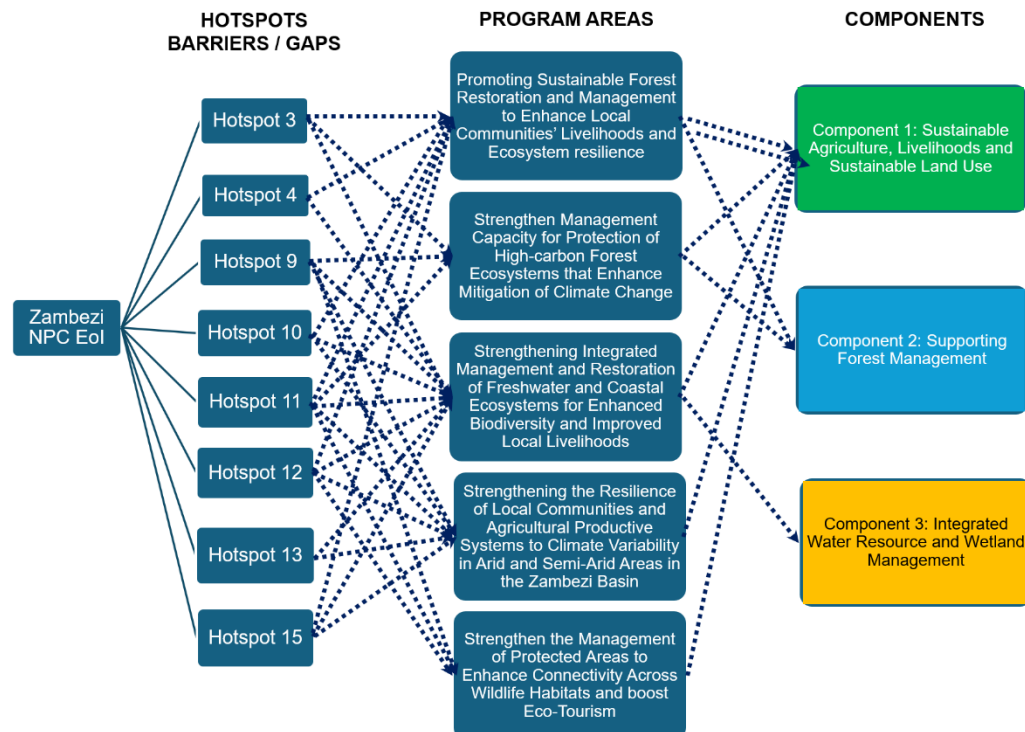


Figure 10: Component Financing

The Component financing is the strategic allocation of funds to distinct parts or "components" of the larger program. This approach will enable MDBs to break down the program into

manageable sections, each with its own objectives, budget, and timeline. Each component will be aligned with a specific aspect of the project e.g. sustainable agriculture, livelihoods and sustainable land use, supporting forest management, integrated water resource and wetland management.

Financing will then be allocated accordingly. MDBs will assign different financing mechanisms, such as grants, concessional loans, or guarantees, depending on the nature and risk profile of each component.

The table below breaks down the proposed components under which CIF and the MDBs will apportion their financing under Phase 1.

Table 24: Component Financing for Phase 1

Phase 1 Components	CIF (mUSD)	AfDB (mUSD)	WB (mUSD)
Component 1: Sustainable Agriculture, Livelihoods and Sustainable Land Use	22.34		400
Component 2: Supporting Forest Management	20.78	150	
Component 3: Integrated Water Resource and Wetland Management	14.88	150	
Total	58	300	400

5.4 Dedicated Grant Mechanism (DGM)

In addition to the financing plans shown in Table 5 above, the Investment Plan could secure funding from the Dedicated Grant Mechanism (DGM). The Dedicated Grant Mechanism for Indigenous Peoples and Local Communities (DGM) is a special initiative under the Climate Investment Funds (CIF). It was established to provide direct financing to Indigenous Peoples and local communities (IPLCs) to support their efforts in sustainable forest management, climate resilience, and reducing greenhouse gas emissions from deforestation and forest degradation (REDD+). The allocations through the DGM Financing Mechanism are set at USD \$ 6 million for the Zambezi River Basin based on the CIF NPC – EOI Allocation. The nature of the DGM is that:

- i) Every NPC country gets an allocated DGM funding window; and
- ii) National DGM project will be governed independently of the government-led program, but both programs must be aligned with the NPC IP design and objectives.

The DGM funded projects should address one or more NPC objectives:

- i) Conserve, sustainably manage or restore in-land ecosystems;
- ii) Improve agricultural productivity sustainably;
- iii) Protect or restore coastal ecosystems; and
- iv) Address the climate vulnerability of rural and/or coastal communities.

Proposed Programs

Consideration has also been made for the DGM for Indigenous people and local communities, which will increase (i) engagement of these groups in sustainable forest management and climate policy and action, and (ii) empower these groups by providing them with direct access to funds

Table 25: Costs for Proposed Program Activities

Proposed Project Activities	Allocated Amount (mUSD)
Reforestation in degraded areas occupied by indigenous populations	1.4
Promote participatory, inclusive, continuous bottom-up community engagement on nature-based priorities, which requires capacity building (best practices and identification of gaps)	2.6
Afforestation to counter desertification	2
Total	6

The CIF Secretariat will provide guidance on DGM's mode of operation, priorities and interventions/activities, and that the DGM and IP resources will complement each other to maximize the impact of interventions. DGM governance structure is shown in **Figure 11** below.

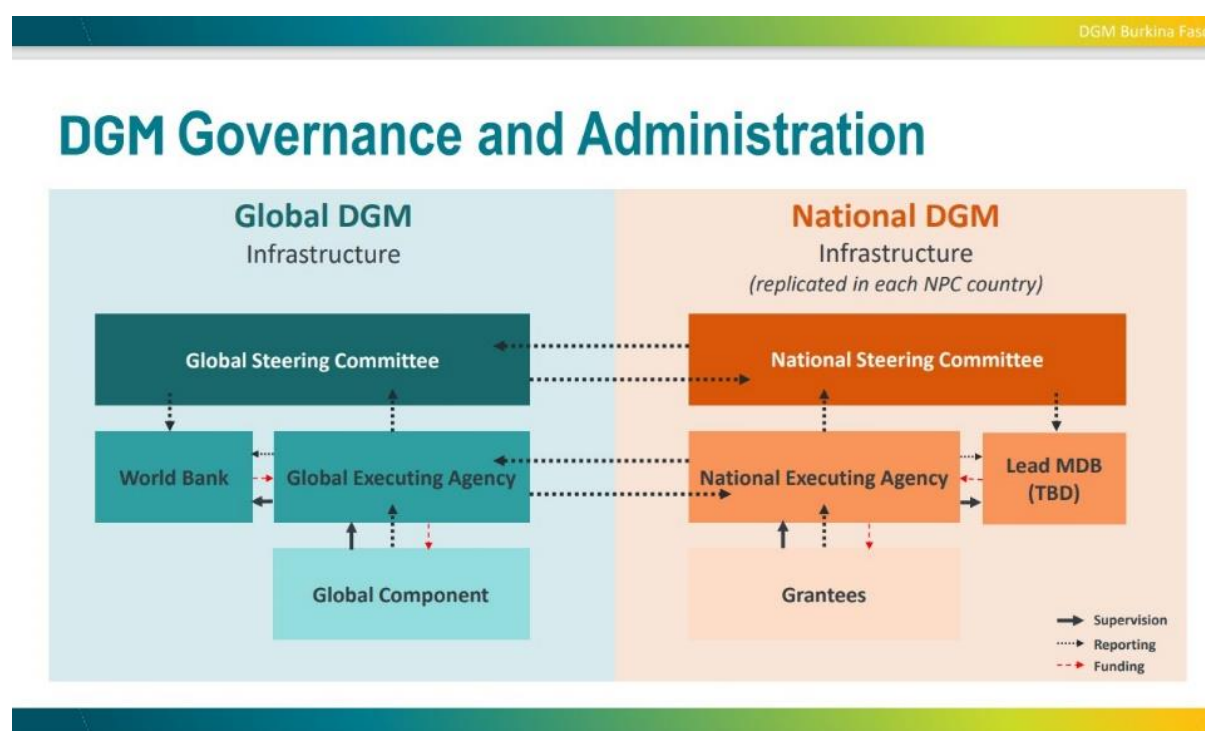


Figure 11: DGM Governance Structure

6.0 Additional Development Activities

6.1 Completed and Ongoing Activities in the Zambezi Basin Member States

In order to deliver on the promise of this IP, there is a need to build synergies with existing and planned projects. The IP will gain considerable benefit if alignment of the activities under the various proposed program is done. Some of the key projects that will have significant overlap are listed in **Tables 26 to 30** below:

Table 26: Multinational – PIDAC Zambezi (Under Implementation)

Project Name / Location	Typology	Additional information
Regional	Regional (ZAMCOM) Project	Approved on 14th Dec 2022 worth 3.50 UA Million (Grant) of funding
Zambia	Zambia Project	Approved on 14th Dec 2022 worth 7.04 UA Million (Loan) (PBA 3.52 + RO 3.52)
Mozambique	Mozambique	Approved on 14th Dec 2022 worth 2.16 (Grant) UA Million

Table 27: Botswana (Ongoing Projects)

Project Name / Location	Typology	Additional information
Fish farming near Parakarunga	Fisheries/aquaculture	Funded by government and donors
Agro-tourism projects for youth	Increased awareness in nature conservation as an economic good and livelihood support mechanism	No details available on funding arrangement.
CBNRM project	To address HWC and improve cooperation of communities in nature conservation	KAZA initiative in collaboration with Karakal and Kalepa Trust
Kasane Weaving Project for women	Improved access to markets and a source of income especially for vulnerable community members particularly women	No details available on funding arrangement.
Conservation agriculture	Improved production and conservation of the environment	No details available on funding arrangement.

Table 28: Malawi (Existing and Ongoing Projects)

Project Name / Location	Typology	Additional information
Drought Recovery and Resilience Project	Improved food security and livelihoods restoration interventions	World Bank funded countrywide programme

Project Name / Location	Typology	Additional information
Lake Chilwa Basin Climate Change Adaptation Programme ⁵⁴	Afforestation, capacity building for agribusiness and livelihood activities (including aquaculture), community based natural resource monitoring.	Funded by Royal Norwegian Embassy (RNE). Programme ended in 2017. A hotspot approach was used to determine the most vulnerable areas requiring intervention.
Shire River Basin Management Programme	Catchment restoration for reduced erosion and improved livelihoods; provision of water related infrastructure	World Bank funded
Shire Valley Transformation Project	Improved agricultural productivity and sustainable management and utilization of natural resources.	World Bank funded
Malawi Flood Emergency Recovery Plan	Country wide restoration of agricultural livelihoods, reconstruction of critical public infrastructure to improved standards in the flood-affected districts.	World Bank funded
M-CLIMES (Modernized Climate Information and Early Warning Systems)	Improved climate information for planning agricultural and on-farm activities, providing warnings of severe weather for fishers on Lake Malawi, improving flood forecasting and monitoring, and fostering information exchanges through mobile platforms. Intervention typology based on specific hazards in target areas of Kalonga, Salima and Mangochi	GCF and UNDP funded. Implemented by Department of Water and Department of Disaster Management Affairs
Malawi Disaster Risk Management Support	Building centres to house communities during and after disasters	Department of Disaster Management Affairs
ASWAp (Agriculture Sector Wide Approach)	Food security, agribusiness and market development, and sustainable land and water management	NEPAD & Government funded
MASAF (Malawi Social Action Fund)	Livelihood support (employment and improved services) to poor and vulnerable households in the urban, peri-urban and rural areas through implementation of productive public works programme.	World Bank funded

⁵⁴ <https://cepa.rmportal.net/Library/climate-change/lake-chilwa-basin-climate-change-adaptation-programme-impact-report-2010-2017>

Table 29: Planned Projects (Malawi)

Project Name / Location	Typology	Additional information
Linthipe River Basin Programme (central region)	Four components proposed for both programmes: infrastructure, water resource management, environmental protection and livelihoods support.	
Rukuru River Basin Programme (norther region)		
Salima Water Project	Water Supply (large scale)	World Bank appears to have pulled out of this project – to be investigated further
Diamphwe Multipurpose Dam	Water supply to Lilongwe and irrigation development in surrounding areas	Already under review by CRIDF's IP & MF team
Songwe River Basin Development Programme	Irrigation and water supply components specifically	CRIDF is already working with SRB Exec Sec and other financiers on mobilising finance and providing TA support.
FARMSE (Facility to Assist Rural Markets, Smallholders, and Enterprise) ⁵⁵	Aims to reduce poverty, improve livelihoods and enhance the resilience of rural households on a sustainable basis – specific interventions TBD. Supports poor households' access to credit (focussing on women and youth). North and Central Malawi focus.	More information required on status of project, and level of support for its implementation from IFAD and GIZ.

⁵⁵ <https://webapps.ifad.org/members/eb/122/docs/EB-2017-122-R-12-Project-Design-Report.pdf>

Table 30: Planned Projects (Namibia)

Project Name / Location	Typology	Additional information
Concession Management	Environmental/Ecological: Various types of concessions, from crocodile farming to Lodge establishment/tourism, are in place. This provide economic incentive for the local participants; however, the concessions do not always seem to provide maximum benefit to the local economy and there is opportunity to enhance the benefits that can be gained	Concessions are managed often via Namibia Government processes.
Conservancies	These are seen to be promoting environmental protection, however with food security concerns the future of the conservancies in terms of biodiversity strength may be in danger.	Private/public partnerships and private landowner efforts
Tobacco plantation	Agriculture: Crop production primarily for export	Small in nature – there may be opportunity to expand the impact by reproducing the intervention elsewhere in the area – since the local skill have now been cultivated and local farmers can therefore benefit directly.

6.2 Alignment of the Zambezi Region NPC Investment Plan with the Zambia and Namibia National IPs⁵⁶

Zambia and Namibia were granted funding by the CIF NPC program to develop national IPs. In order to ensure that the Zambezi Region NPC IP does not duplicate activities in both the Zambia and Namibia IPs, during the first MDBs meetings held in Lusaka Zambia, it was agreed the Zambezi Region IP will be developed in coordination with the Zambia and Namibia IPs to optimise complementarities and avoid double dipping. This IP has ensured that there is no duplication of activities in these IPs and their developments move forward.

⁵⁶ Discussions were held with the private sector expert working on the Zambia IP. Follow-up meetings are in the pipeline. The alignments done in this draft IP are subjected to be modified during the final stakeholder consultations scheduled for 30 September to 4 October 2024.

7.0 Implementation Potential with Risks

7.1 Identified Risks and Mitigation Measures

The success of implementing the Zambezi Region NPC IP will rely heavily on mitigating some of the important risks identified. These include:

7.1.1 Political Risks

Commitment of the Zambezi River Basin (ZRB) member countries: Commitment of the eight riparian countries to the proposed collaborative/cooperative institutional frameworks and to achieving the objectives of the implementation of the NbS programs identified is medium. Impact to the implementation of the IP for lack of commitment will be high. As a way to mitigate this, emphasis on regional cooperation and the collaborative efforts have been made and local communities, NGOs and the Private Sector have been engaged in the regional, national and local consultations resulting into the preparation and ownership of this Investment Plan.

7.1.2 Gender and Social Risks

Exclusion of women from consultation processes, active participation in business, access to, control over and ownership of land and other factors of production including credit and ICT are risks that may arise during programs implementation. The likelihood for this to happen is medium and its impact on the IP implementation is also medium. There is a need to ensure equitable participation of men and women, which may at times require special measures to remove the sociocultural and economic barriers that silence women's voices, especially of those traditionally excluded from the decision processes. To this end, it would be better to hold exclusive consultations with women, established mixed consultation teams and ensured that program meetings are held in easily-accessible and safe spaces, at times of day that are compatible with the work and home schedules of men and women. In addition, mindset change to counter these barriers through deliberate interventions on shifting social norms need to be addressed.

Access to capital: Gender-related barriers women's participation in livelihoods/enterprises such as exclusion from access to capital/credit, time, mobility, confidence among others are risks that can be mitigated by Integrating activities that address the barriers to women's participation in enterprises.

Discrimination on Gender & Age: There is a risk of discrimination based on gender and age in the employment sector. Enforcing non-discrimination policies, obliging program managers, contractor/suppliers to comply with the policies and monitoring their compliance can address this risk.

Gender-based violence (GBV) associated with women's participation in non-traditional economic roles in the local, national and transnational economies has low likelihood of happening during IP implementation and if it will, its impact to the implementation of the IP is medium. The implementation of codes of conduct in the construction companies, community information and awareness campaigns, as well as the strengthening of the health services are all measures that can be effective in mitigating these threats. Change in community mindset to embrace women's participation in non-traditional economic roles and in non-traditional spaces as well as engagement and galvanizing spousal support may address these threats.

Programs Location: The burden of multiples roles of women and some program locations being riskier to women/girls (because of social conflicts, high level of violence, etc.) can be addressed by ensuring the time and location of program activities e.g., meetings allow for women and other social groups to easily participate (i.e., they are accessible, safe, with available children care, organized at hours of the day that women have less burden from other gender roles, etc.)

Private Sector Obligations: Another identified risk, which has medium impact to the implementation of the IP is where private sector (market) actors/companies are unaware of their obligation (and thus less committed) to the prevention of sexual exploitation, abuse, and harassment of women, girls, boys, and vulnerable males. The lack of PSEAH policies exacerbates the situation. By ensuring that any partnership agreements with private sector actors should underline as a minimum the availability of PSEAH policy and mechanisms for preventing and appropriately responding to incidents of sexual exploitation, abuse, and exploitation of women, girls, boys and vulnerable adult males is necessary.

Children safety: Linked to the above risk, is where program actors that are unaware of their obligation (and thus less committed) to keep children safe i.e., to ensure that program/organizational staff and associates, their programmes and operations do no harm to children they encounter or impact on directly or indirectly. To mitigate, this, is by promoting the practice of all organizations to develop/update their child safeguarding policies that clearly spell out the mechanisms designed to minimize the risk of harm to children as well as procedures for handling child safeguarding incidents in communities where programs are implemented.

Persons with Disability (PWDs): Participation barriers for PWDs including negative attitude towards their involvement of PWDs including in livelihood activities; physical barriers, policy, institutional barriers. This has medium impact to the IP and by addressing the barriers to participation of PWDs in their socioeconomic life of their communities through enforcing non-discriminatory policies and fostering affirmative action policies and shifting the attitude of community members, employers, program personnel towards PWDs incentivizing the neutralization of PWD participation barriers, this risk could be mitigated.

7.1.3 Behaviour's Constituting Sexual Exploitation and Abuse (SEA) and Behaviours Constituting Sexual Harassment (SH)

Sexual exploitation, abuse, and harassment constitute acts of gross misconduct and thus a profound risk to the implementation of the Investment Plan. It is a serious human rights violation that needs to be prevented and eliminated. It is thus important that everyone in a position of responsibility as well as the intended beneficiaries at different levels have a clear understanding of what constitutes Sexual Exploitation, Abuse and Harassment.

The following non-exhaustive list is intended to illustrate types of prohibited behaviours:

(1) **Examples of sexual exploitation and abuse** include, but are not limited to:

- i) A person in a position of responsibility tells a member of the community that he/she can get them jobs related to the work site (e.g., cooking and cleaning) in exchange for sex.
- ii) A person in a position of responsibility rapes, or otherwise sexually assaults a member of the community.

- iii) A person in a position of responsibility denies a person access to the Site unless he/she performs a sexual favour.
- iv) A person in a position of responsibility tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.
- v) A person in a position of responsibility offers to lift the economic burden of a struggling mother but after she 'consents' to engaging in a sexual relationship.
- vi) A person in a position of responsibility gives presents (magazines, candy, sodas, pens, gifts) to various boys in exchange for sexual acts.
- vii) A person in a position of responsibility pays for sexual services of a girl/woman that he is very sure she is into prostitution in a country where prostitution is not illegal any way.
- viii) A person in a position of responsibility agrees to a request by vulnerable parents of an adolescent girl to have a sexual relationship with the girl with the thinking that the sexual relationship with an expert will accord the girl and her family a better life.

(2) Examples of sexual harassment in a work context

- i) An Expert comment on the appearance of another Expert (either positive or negative) and sexual desirability.
- ii) When An Expert complains about comments made by another Expert on his/her appearance, the other Expert comment that he/she is "asking for it" because of how he/she dresses.
- iii) Unwelcome touching of an Expert or Employer's Personnel by another Expert.
- iv) An Expert tells another Expert that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.
- v) A person in a position of responsibility e.g., a program worker sends sexually explicit text messages to a co-worker or to a beneficiary, community member
- vi) A person in a position of responsibility leaves an offensive picture that is sexually explicit on a co-worker's desk
- vii) An officer asks all female employees to greet him with a kiss on the cheek every day
- viii) Touching own or another person's private body parts in a sexual way.
- ix) Harassing someone for not fitting their idea of social gender norms

7.1.4 Regional Risks

Regional Coordination Capacity: ZAMSEC is currently a lean organization with three programme managers backed by a small complement of administrative staff, all under the direction of the Executive Secretary. The three programme managers are responsible for: i) Strategic Planning, ii) Information, Communication and Partnerships, and iii) Water Information System. The creation of a strong Regional Program Coordination Unit supported by a Regional Technical Coordination Committee within ZAMCOM, and the strengthening of the regional capacity will have to be addressed. This risk has high impact to the IP implementation if it's not addressed.

National Institutional Capacity/Program Coordination: The Diagnostic and Gap Analysis report under the NPC IP identified that almost all the eight countries in one way or another face institutional capacity due to overlapping and conflicting mandates. If it will happen, its impact to the IP implementation will be high the interventions should include the strengthening of human and institutional capacity in the eight countries and designate lead Ministries/Agencies for effective sectoral coordination at country level. A strong National Program Coordination Unit should be established to address this challenge.

7.1.5 Legal and Regulatory Risks

Governments Policies and Regulations: Government policies inadequately address environmental and climate challenges; unharmonized policies, laws and regulation and transboundary issues/threats. The development of guidelines and methodologies to harmonize conflicting policies, laws and regulations by the Partner States will greatly enhance this process.

Permits and Licenses: There are also risks related to possible delays or denial of permits necessary to carry out the identified investments. Proposed mitigation involves active collaboration with the entities in charge of granting permits, along with the coordination of the necessary requirements and procedures through work meetings.

An additional risk is identified involving potential conflicts between planned activities and measures contemplated in the Management Plan for nearby protected areas. Proposed mitigation includes clearly defining roles and competencies, involving relevant stakeholders, and holding meetings to review the compatibility of activities in the protected areas.

Risks by category, likelihood of risk to happen, and risk impact and their mitigation measures are analysed and summarized in the Risk Analysis Table Annex 6

Risk ratings: High: risks that are likely to materialize and, hence, their mitigation measures include actions to mitigate the occurrence and impact of such risks. **Moderate:** risks that may materialize and require close monitoring during program implementation and mitigation actions are taken accordingly.

7.2 Implementation Arrangements

Activities to implement the Zambezi Region NPC IP NbS programs will take place at two levels, from member state to regional levels, per the ZAMCOM procedures for program implementation. (see Figure 11 below). At each of these levels, there are different players and coordination mechanisms. The purpose of this section is to list the institutions involved at the various levels, describe the coordination bodies, and explain their roles, responsibilities and membership.

Zambezi Council of Ministers (CoM)

This is the supreme governing body of ZAMCOM, which provides policy direction for implementing all ZAMCOM programmes and projects. The Council of Ministers comprises Ministers responsible for water from all 8 Zambezi Riparian States.

Zambezi Technical Committee (ZAMTEC)

This is the technical clearing house for the Council of Ministers, as it is responsible for guiding and supervising the implementation of ZAMCOM Programmes and Projects. ZAMTEC has Sub-Committees to deal with specific issues, such as the Sub-Committee on Hydrology.

Regional Project Steering Committee (RPSC)

ZAMCOM has established a RPSC under the PIDACC Zambezi. The members of this RPSC are as follow: (i) Angola is represented by High-Level officer; (ii) Mozambique is represented by a Permanent Secretary; and (iii) other Member States are represented by high-level officers from other sector Ministries. It is being proposed that High-Level officers/Permanent

Secretaries from the sector ministries responsible for implementing the Zambezi Region NPC IP be members of the RPSC.

Zambezi Watercourse Secretariat (ZAMSEC) is responsible for the day-to-day implementation of ZAMCOM Programmes and Projects. Under the supervision of ZAMTEC, ZAMSEC implements Council decisions. ZAMCOM will be the Executing Agency (EA) of the Regional Project. As a regional organization, ZAMCOM will be responsible for overall coordination of the Programme. ZAMCOM will establish a Regional Project Coordination Unit (RPCU) to oversee the implementation of day-to-day Regional Project activities.

Regional Project Coordination Unit (RPCU)

The Zambezi Region NPC IP will be implemented over ten calendar years. ZAMCOM will be the Executing Agency (EA) of the Regional Project. ZAMCOM, as a regional organisation, will be responsible for overall coordination of the Programme. ZAMCOM has established a Regional Project Coordination Unit (RPCU) to oversee the implementation of day-to-day Regional Project activities. The existing RPCU core staff include a Project Coordinator (PC), Accountant, M&E Expert, and a Procurement Expert, who have been competitively recruited. For the purpose of coordinating and managing the regional implementation of this IP, Land and Water experts are being proposed to be part of the RPCU. This is to avoid the creation of a new RPCU for the Zambezi Region NPC IP. The policy of the CIF is that operation and maintenance costs should never be more than 10% of the available funds. The RPCU will be responsible for the day-to-day coordination of regional programme activities, including monitoring results and reporting to the fund.

ZAMCOM has established a Regional Technical Coordination Committee (RTCC) consisting of all RPCU technical staff (Regional), existing 3 ZAMCOM Programme Managers (ZSP, ICP & ZAMWIS), and the Project Coordinator from each National PCU to ensure synergy and harmonisation in implementation of the Programme, at regional and national levels. For the purpose of this IP, it is being proposed that the high-level officers from the National lead ministries should also be part to the RTCC. The RTCC shall meet every quarter. All RTCC members shall use financial resources from their respective projects when attending such meetings.

ZAMSEC also partners with other organisations to implement its programmes. Some of the partner organisations are described below.

United Nations Convention to Combat Desertification (UNCCD) – has partnered with ZAMCOM to develop the PIDACC Zambezi Programme and the Zambezi Region NPC IP.

Commonwealth Secretariat-has partnered with ZAMCOM to develop the Zambezi Region NPC IP.

Climate Resilient Infrastructure Development Facility (CRIDF) – collaborates with ZAMCOM in implementing its climate resilient infrastructure projects in Zambezi Riparian States. It focuses on working with organisations to show them how to build better and manage their water infrastructure to improve livelihoods. CRIDF partnered with ZAMCOM in the development of the Strategic Plan for the Zambezi Watercourse, especially in identifying hot spots. ZAMCOM also partnered with CRIDF in the formulation of the PIDACC Zambezi

Kavango – Zambezi Trans-frontier Conservation Area (KAZA TFCA) – ZAMCOM signed a memorandum of understanding with KAZA TFCA for collaboration in the conservation and

management of the Kavango – Zambezi part of the Zambezi Watercourse covering the Riparian States of Angola, Botswana, Namibia, Zambia, and Zimbabwe.

Zimbabwe-Mozambique-Zambia (ZIMOZA-TFCA)—ZAMCOM signed a memorandum of understanding with ZIMOZA TFCA to collaborate in the conservation and management of the Zambezi Watercourse covering the Riparian States of Zimbabwe, Mozambique, and Zambia.

National Project Coordination

Each ZAMCOM member state will have to find the best way out of how the Zambezi Region NPC IP proposed activities will be implemented at national level. This could be by mainstreaming the activities into already existing institutions or if necessary, strengthen existing National Projects Coordination Units by adding a few staff while taking consideration of the CIF Policy on operation and maintenance costs, which should never be more than 10% of the available funds. At the national level, there exists Project Steering Committees, from the implementing Ministries to access progress and resolve any implementation challenges. It is proposed that under the Zambezi Region NPC IP, the existing Projects Steering Committee be strengthened by bringing on board the relevant ministries responsible for implementing the IP.

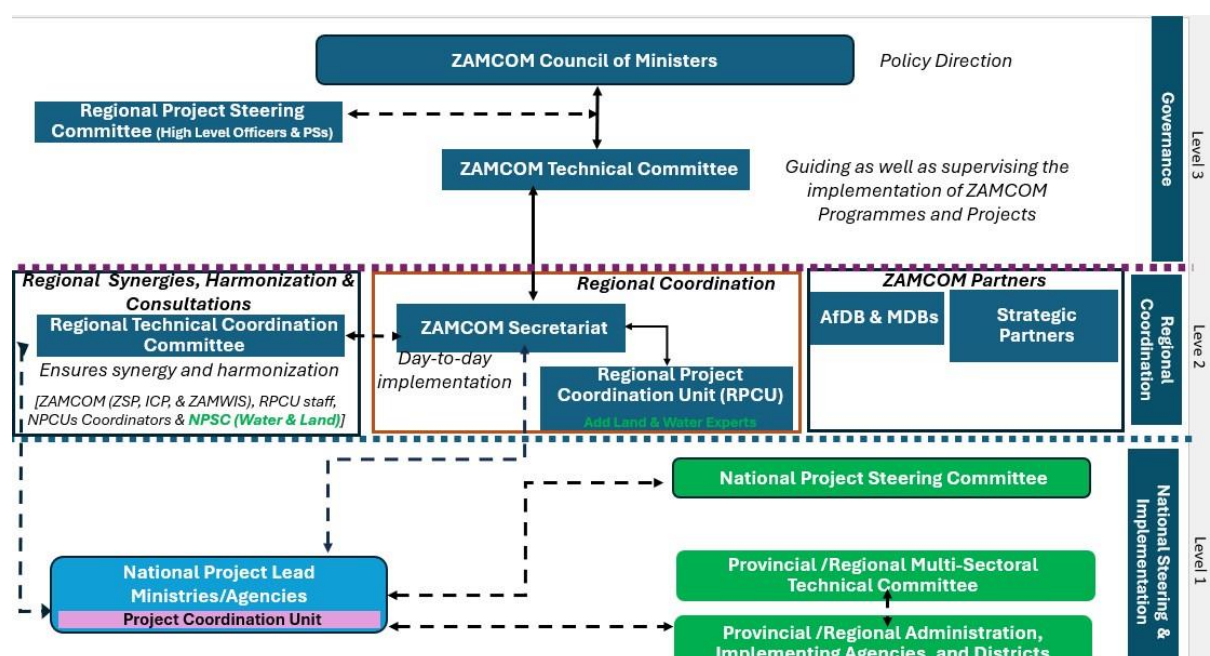


Figure 12: Project Implementation and Coordination Arrangements

8.0 Monitoring, Evaluation and Learning

The monitoring and reporting of this Investment plan is guided by CIF-NPC monitoring and reporting requirements and the approach is anchored in the following objectives:

- i) Standardize and align the monitoring, evaluation, and learning process to track progress towards the intended outcomes.
- ii) Provide a basis for evaluative learning
- iii) Provide a basis for continuous learning by sharing challenges, lessons learned and the best practices

It's been created on the understanding that cross-sectoral stakeholder involvement is key in ensuring that development projects deliver to their objectives. The monitoring and evaluation shall guide systematic and continuous collection, analysis, reporting and use of data to enhance project accountability and performance. It provides an interconnected approach to monitoring and reporting outputs and outcomes, evaluation methodology, and learning agenda that links the continuous monitoring of outcomes with activity implementation. The CIF-NPC will guide the investment plan's monitoring and evaluation (ME) integrated Results Framework (IRF) coordinated by both the MDBs and ZAMCOM.

Monitoring, evaluation and learning component of the investment plan incorporates but not limited to the following components:

Data collection and analysis protocols: At the hotspot level, data collection and analysis during project implementation would serve as an initial step in monitoring program outcomes. Regional coordination, with the involvement of Country focal points and implementing agencies, would be supported by the CIF Secretariat's Monitoring and Reporting (M&R) team, which would take the lead in tracking the country IP impact indicators established at the time of IP approval. Implementing MDBs would monitor and report annually to the CIF Secretariat on all relevant outcome-level core indicators for each approved project, adhering to the methodologies, reporting requirements, and timelines outlined in the NPC IRF and NPC M&R Toolkit. MDBs would also be responsible for integrating these outcome-level indicators into the monitoring and reporting frameworks for each project, along with any optional outcome indicators and at least one co-indicator per project, in line with the NPC IRF and M&R Toolkit. At the project design stage, Indicators on land and the affected GHG emission targets would need to be refined based on actual selected landscapes.

MEL Workshop to strengthen the evaluation function. Regional, Country MEL workshops, planned for inception, midterm, and IP conclusion stages, as well as any necessary interim country M&R workshops, would provide opportunities for multi-stakeholder, cross-sectoral consensus on indicator progress, targets, methodologies, and any identified gaps, lessons learned, or potential improvements. These workshops would be conducted in alignment with the guidance provided by the CIF Secretariat for the NPC investment program.

Landscape-wide analysis relies on the IP's Integrated Results Framework (IRF) as a key tool that anchors the regional program's high-level goal statement to measurable national indicators and targets. It then connects the program's theoretical objectives to the measurable outcome-level results expected from its project pipeline. Developed collaboratively by the Government,

implementing MDB partners, and other stakeholders, the process of defining project objectives and aggregating related results through the IRF ensures a consistent, landscape-wide approach. This approach fosters coherence between interventions and strengthens accountability by aligning proposed goal statements with realistic results estimations. There is need to conduct ecological studies at project design, socio economic impact assessments to establish socio-economic baseline indicators for the program.

The Zambezi Region NPC IP Theory of Change

The foundation of the theory of change is the vision that is derived from the Zambezi Watercourse strategic plan (ZSP) (2018-2040). The Investment program envisions a resilient Basin where communities, ecosystems, and economies thrive despite the challenges of climate change. By fostering sustainable land and water management, protecting forests and biodiversity, and enhancing agricultural practices, the aim is to restore and safeguard the region's natural resources. This vision includes reversing deforestation and habitat loss, restoring degraded ecosystems, and promoting innovative, climate-adaptive farming techniques. By empowering marginalized groups, particularly women, and ensuring equitable access to water and land, the program will facilitate creation of a future where livelihoods are secure, ecosystems flourish, and the Basin becomes a model of sustainable development and climate resilience in southern Africa.

The Pathways to Change

The overall goal of this CIF-NPC IP is to contribute to the transformation of the Zambezi Region through nature-based solutions (NbS) that accelerate climate action to strengthen the resilience of landscapes and communities and enhance mitigation. The IP is founded on the realization of a vital need to address in an integrated manner the multiple drivers and impacts of climate change resulting from human activities on land resources and ecosystem services. The IP will be used to deploy CIF 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.

To attain the desired outcomes of the IP and ensure regional resilience to climate change, an evidence base regional coordination, local community involvement and private sector engagement needs to be enhanced and strengthened. The theory of change of this IP rests on the hypothesis that while the nature-based solutions are being adopted, efforts should also aim at enhancing the resilience of landscapes and livelihoods through nature-based approaches and improving mitigation by augmenting the capacity of ecosystems to absorb and store carbon.

If CIF provides the required funding with additional funding from MDBs and locally generated resources, the investment plan adopts the following paths:

To attain the desired outcomes of the IP and ensure regional resilience to climate change, an evidence base regional coordination, local community involvement and private sector engagement needs to be enhanced and strengthened. The theory of change of this IP rests on the hypothesis that nature-based solutions, while strengthening the enabling environment for sustainable land, water, and natural resource use. While the NBS solutions are being adopted, Efforts should also aim at enhancing the resilience of landscapes and livelihoods through

nature-based approaches and improving mitigation by augmenting the capacity of ecosystems to absorb and store carbon.

If CIF provides the required funding with additional funding from MDBs and locally generated resources, the investment plan adopts the following paths:

Pathway 1: If an evidence base is created through effective monitoring, reporting, evaluation, learning and knowledge sharing there will be incredible information that can guide the design of interventions that harness natural processes to address climate related challenges while enhancing community resilience. By using evidence-based approaches, we can increase the effectiveness and sustainability of our efforts to protect and restore ecosystems.

Pathway 2: If the basin strengthens the enabling environment for sustainable uses of land, water, and other natural resources through policy reforms, community empowerment and engagement of the private sector, then we can expect to see improved ecosystem health, reduced environmental degradation, and increased resilience to climate change.

Pathway 3: If the region strengthens the nature-based resilience of landscapes and livelihoods in the basin through improving the livelihoods of the indigenous community, then we can expect to see reduced vulnerability to natural disasters, improved food security, and enhanced ecosystem services.

Pathway 4: If we enhance nature-based mitigation through augmenting the ability of ecosystems to absorb and store carbon, then we can expect to see reduced greenhouse gas emissions, mitigated climate change impacts, and increased biodiversity.

To ensure that the vision is delivered, the following key assumptions need to be considered:

Stakeholder Collaboration: Effective partnerships among government, NGOs, private sector, and communities will support the scaling of nature-based solutions.

- i) **Monitoring and Evaluation:** A strong framework will be in place to track progress, measure impact, and allow adaptive management;
- ii) **Community Engagement:** Local communities will actively participate and support conservation projects, recognizing their benefits for livelihoods;
- iii) **Knowledge Sharing:** Best practices will be shared and adopted across all targeted districts;
- iv) **Financial Investment:** Adequate financial resources will be available and properly allocated, attracting public and private investments;
- v) **Climate Change Adaptation:** Nature-based solutions will effectively reduce vulnerabilities and improve the resilience of communities and ecosystems.
- vi) **Policy Support:** Governments will enact and enforce policies that facilitate the implementation and scaling of these solutions across the region and within countries;
- vii) **Biodiversity Benefits:** Nature-based interventions will enhance biodiversity and ecosystem services, aiding climate adaptation and mitigation within the hotspots with a spreader effect on the non-targeted hotspots;
- viii) **Ecosystem Resilience:** Restored ecosystems will be resilient to climate impacts and continue providing vital services for the indigenous populations;

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- ix) Carbon Sequestration: Projects like reforestation and wetland restoration will significantly contribute to carbon sequestration and support countries with attainment of their NDC and other global climate change commitments; and
- x) Gender Inclusiveness: All initiatives must be gender and socially inclusive fostering just transition.

The figure below shows a diagrammatic representation of the theory of change.

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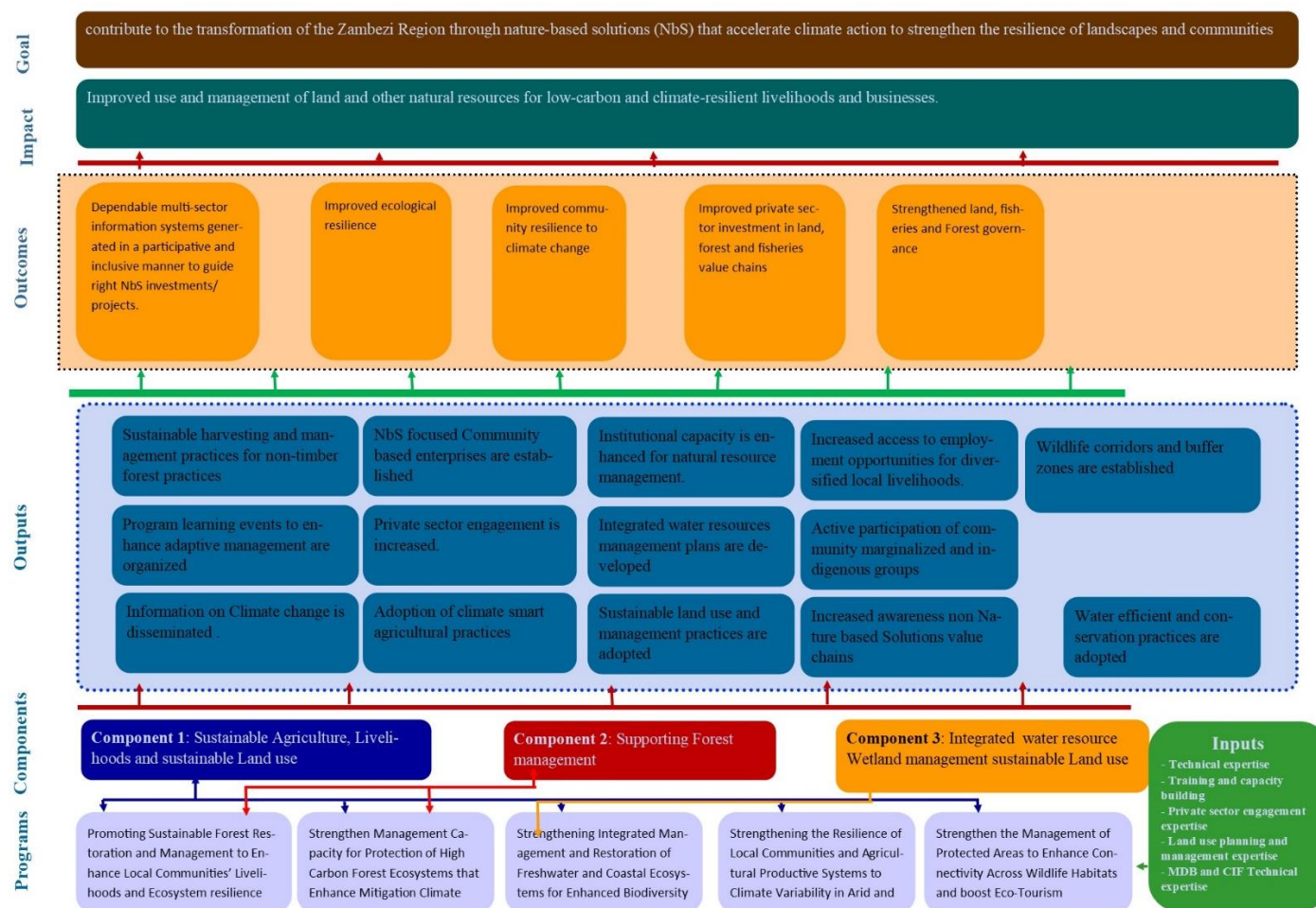


Figure 13: Diagrammatic Representation of the Theory of Change

Table 31: The Zambezi Region NPC IP Integrated Results Framework

CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
CIF IMPACT LEVEL							
Accelerated transformational change and climate financing that enable progress toward net-zero emissions and adaptive, climate resilient development pathways, in a just and socially inclusive manner	CIF 1. Mitigation: GHG emissions reduced or avoided	Mt CO2 e	cumulative report by project and report on the program	TBD	303,498.4 (Annual and lifetime by project)	Avoided GHGs will need to be calculated using an agreed methodology using the land area from the various initiatives incorporated under NPC CORE 2.	Evaluation and learning activities at this result level will be done by CIF and will not be the direct responsibility of MDBs for annual reporting.
	CIF 2. Adaptation Strengthened climate resilience of land (ha), people (#), and physical assets (units) through a CIF-supported adaptation mechanism	Ha, \$, #	Project Cumulative reports and reports on program	TBD	TBD (Annual and lifetime by project)	Disaggregated by ecosystem type (forests, wetlands, farmlands) and disaggregated by Gender	
	CIF 3. Beneficiaries: Number of people receiving livelihood benefits.	#	Project Cumulative reports and reports on program	TBD	2,322,515 (50% Men, 50% Women)	(Target is based on conservative 35% of the hotspot population	

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
	Number of women, youth, PWDs, elderly and men benefiting from CIF investments					targeted being targeted for restoration)	
	CIF 4. Co-Finance: Volume of co-finance leveraged (USD)	\$	Project Cumulative reports and reports on program	MDBs: \$242M	TBD		New and additional climate finance mobilized by the region: The CIF-NPC resources will play a key role in driving this transformation. Various evaluation and learning methodologies will be employed to better assess CIF's role in mobilizing public and private funding, which will support ecosystem conservation, restoration, and the development of more sustainable and diverse livelihoods.
NPC PROGRAM-LEVEL IMPACT							
CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET	INDICATOR	UNIT
Improved use and management of land and other natural	Land area rehabilitated through reforestation efforts to compensate for	Ha	Project reports	0	1,705,669 Angola (302,528), Botswana	The target placed is based on afforestation	

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
resources for low-carbon and climate-resilient livelihoods and businesses.	deforestation and habitat loss.				(72,998), Malawi (10,204), Mozambique (184,309), Namibia (367,944), Tanzania (314,943), Zambia (290,938), Zimbabwe (16,1804) (Annual and lifetime by project)	/reforestation of 10% degraded landscape in the hotspot This Indicator is disaggregated by landscape	
	Estimated tons of Carbon captured annually due to reforestation or improved forest management.	Mt CO2 e	cumulative report by project and report on the program	392.4 Angola (108.5), Botswana (8.3), Malawi (17.7), Mozambique (40), Namibia (7.7), Tanzania (145.5), Zambia (20), Zimbabwe (44.7)	303,498.4 (Annual and lifetime by project) (Annual and lifetime by project)	This is based on reforestation or afforestation of the 1,705 669 Ha of land in each of the countries. The area of land for each country in the hotspot is remotely determined through Remote	

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
						sensing technique	
NPC PROGRAM-LEVEL OUTCOMES							
Improved ecological resilience	NPC CORE 1. Mitigation: GHG emissions reduced or avoided	Mt CO2 e	cumulative report by project and report on the program	392.4 Angola (108.5), Botswana (8.3), Malawi (17.7), Mozambique (40), Namibia (7.7), Tanzania (145.5), Zambia (20), Zimbabwe (44.7)	303,498.4 (Annual and lifetime by project) (Annual and lifetime by project)	This is based on reforestation or afforestation of the 1,705 669 Ha of land in each of the countries. The area of land for each country in the hotspot is remotely determined through Remote sensing technique	
	NPC CORE 2. Land Area: Area of land or other physical environments covered by climate-responsive natural resource management practices	Ha	Project reports	0	1,705,669 Angola (302,528), Botswana (72,998), Malawi (10,204), Mozambique (184,309), Namibia (367,944), Tanzania (314,943), Zambia	The target placed is based on afforestation /reforestation of 10% degraded landscape in the hotspot This Indicator is disaggregated by landscape	

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
					(290,938), Zimbabwe (16,1804) (Annual and lifetime by project)		
Dependable multi-sector information systems generated in a participative and inclusive manner to guide right NbS investments/projects.	Number of people reached with climate related information	#	Project reports	0	2,322,515 (50% Men, 50% Women)	The assumption is that 35% of the hotspot population is reached with information on climate change	Understanding the most preferred channel for climate information dissemination Effective Channel for Climate information dissemination
Improved community resilience to climate change	NPC CORE 3. Sustainable Supply Chains: Number of firms, enterprises, associations, or community groups supported by the program that have adopted a sustainable supply or value chain approach	#	Project Reports	TBD	TBD	Disaggregated by gender ownership	
	NPC CORE 6. Livelihoods: Number of people receiving	#	Project Reports	0	(Annual and lifetime by project)	(Target is based on conservative 35% of the	Just transition: Under livelihoods, evaluations, research and analyses should

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
	livelihood benefits from the program					hotspot population targeted being targeted for restoration) Disaggregated by gender	include aspects related to distributional or social. Proposed Learning Question: What are the distributional consequences of landscape restoration programs on customary land rights, particularly for communities reliant on forest or pastureland for livelihoods?
	NPC CORE 7. Jobs: Number of jobs created by the program	#	Project Reports	TBD	TBD	Disaggregated by gender	To explore the quality and distribution of jobs in the context of just transition and gender-responsive approaches, Evaluation, studies and research should focus on the types of jobs created, their quality, and the distribution of opportunities across different sub-populations in the basin and should include analysis of how women, marginalized groups, and those affected by job losses due to climate interventions Proposed: - How effective are economic diversification strategies in generating

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
							alternative employment opportunities for workers displaced by the transition to a low-carbon economy? - What are the national, and/or regional key challenges and opportunities for scaling up economic diversification initiatives to create long-term, sustainable employment for workers affected/ displaced by the green transition? - How are communities that are highly dependent on carbon-intensive industries (e.g mining, fossil fuels) being supported through the transition to green jobs, and what challenges do these communities face in accessing alternative employment?
	Number and type of IGAs in communities that are engaged by the NPC regional program	#	Project Reports	TBD	TBD	Disaggregated by sector	Evaluation and learning studies will explore Income-generating activities (IGAs) that are particularly appealing to women, along with their profitability and the necessary skills to operate these specific ventures effectively.

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
Strengthened land, fisheries and Forest governance	NPC CORE 4. Policies: Number of policies, regulations, codes, or standards related to climate-responsive forest or natural resource management that have been amended or adopted.	#	Project Reports	TBD	TBD	Disaggregated by sector	Changes in policies, codes plans, and institutional capabilities may also be incorporated in analyses of signals of transformational change, which contribute toward the fundamental systems change. Qualitative monitoring should further incorporate responsiveness to vulnerable groups, including women, indigenous groups and local communities, youth and elderly, lower income groups, persons with disabilities.
Improved private sector investment in land, forest and fisheries value chains	NPC CORE 8. Private Sector Investments: Number (#) and value (\$) of CIF-supported private sector investments in sustainable land or other natural resource management	#, S	Project Reports	TBD	TBD	N/A	Research, Evaluation and learning activities could include situational analysis of private sector involvement in mitigation and /or adaptation. Proposed Analyse, Evaluation and studies for the Investment plan projects could include: - Empirical studies on current distribution of private

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
							sector investments in mitigation and adaptation in the basin. - Analyses of key drivers and incentives that motivate the private sector to invest in climate adaptation compared to mitigation within the region. -Economic analysis of financial returns and risk profiles of adaptation projects compare with those of mitigation projects in terms of attracting private capital at national and regional level -To achieve the Paris Agreement's 50/50 climate finance target, it's essential to evaluate and learn from private sector investment patterns in mitigation and adaptation, with the aim of increasing private sector support for adaptation project
	Number and type of IGAs in communities that are engaged by the NPC regional program						Evaluation and learning studies will explore Income-generating activities (IGAs) that are particularly appealing to women, along with their

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
							profitability and the necessary skills to operate these specific ventures effectively.
PROGRAM CO-BENEFITS							
Social and Economic Development Co-Benefits	CO-BENEFIT 1. Green Growth: Economic growth of targeted sectors within the landscape or Ecosystem Indicators such as: ●Percentage of women and youth-led businesses in nature-based enterprises. ●Number of households adopting alternative livelihoods	 % #	Project reports	TBD	TBD	Disaggregated by gender	
	CO-BENEFIT 2. Just Transition: Social Inclusion and Distributional Impacts Indicators such as: • Number of extension workers trained on climate-resilient practices for high-value crops and forestry, disaggregated by gender	#,%	Project reports	TBD	TBD	Disaggregated by gender,	Just transition -specific analyses will examine the enrichment of social inclusion processes and procedures, such as stakeholder engagement at local, national and regional levels, the extent to which vulnerable groups in impacted areas have been represented, gender inclusion, and the scope of social partners involved.

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTIONS	EVALUATION KEY AREAS
	• Number of people receiving livelihood co-benefits (monetary or non-monetary) • Improved livelihoods of communities directly surrounding and participating in CFMG /Forested areas (no interventions, % increase in earnings, livelihood increase indicator) • Development of community enterprise development (no. enterprises, increased earnings) • Benefit sharing with increased Community participation in forest management (% shared, \$ value, no. beneficiaries)						The Distributional impacts will also be further analysed through various evaluative criteria, with particular emphasis on specific sub-populations, including ethnic, religious, and racial minorities, female-headed households, and local communities
	CO Benefit: Empowerment of Women in Sustainable Resource Management - Number of women /	#	Project reports	TBD	TBD	Disaggregated by landscape (Forest, land or fisheries),	Evaluation and learning studies could explore “How the integration of gender perspectives in nature-based solutions contribute to equitable economic opportunities and social

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CIF RESULT STATEMENT	MONITORING						EVALUATION AND LEARNING
	INDICATOR	UNIT	DATA SOURCE/ MEANS OF VERIFICATION	BASELINE	TARGET (FREQUENCY)	NOTES /ASSUMPTION S	EVALUATION KEY AREAS
	women groups trained in sustainable natural resource management						empowerment for women in affected communities”

To complement the monitoring and reporting, aspects of transformational change are evaluated and assessed for this particular investment plan as below:

a) Relevance:

This dimension assesses the alignment of the intervention with key climate and development challenges. It looks at how well the project or program addresses the root causes of climate vulnerability, mitigation, or resilience, and its significance in the broader context of climate action.

Key factors: Alignment with national, regional, or global climate priorities; addressing climate-related risks and opportunities.

Table 32: Alignment of the Intervention with Transformational Change (Relevance)

	Questions	Signals
What	What fundamental changes and large-scale positive impacts, relevant to Nature based Solutions proposed within the region, need to be brought about?	- The Overall goal of the CIF NPC Zambezi region Program is aligned with the ZAMCOM strategic Plan (2018-2040) that pursues transformation of the Zambezi Region through NbS that accelerate climate action to strengthen the resilience of landscapes, the region and countries and enhance mitigation. - The Program and associated projects will drive transformational change through NbS by shifting to sustainable resource management, integrating NbS into regional planning, investing in ecosystem restoration, adopting climate-resilient practices, and empowering local communities in decision-making while incorporate rights-based approaches, promoting just transitions that support sustainable, inclusive development while upholding climate justice.
How	Context How is the Investment plan relevant to global, regional, national, and local priorities?	- The Zambezi program is built carefully with alignment to the Zambezi Strategic Plan (2018-2040), PIDACC Zambezi, but also the SADC RISDP, and regional and national strategies - The program aligns with global priorities by contributing to the achievement of the United Nations' Sustainable Development Goals (SDGs), particularly SDG 13 (Climate Action), SDG 15 (Life on Land), and SDG 6 (Clean Water and Sanitation). - It supports the implementation of the Paris Agreement on climate change through nature-based solutions. - The Program also supports the United Nations Convention to Combat Desertification (UNCCD) and the Sendai Framework for Disaster Risk Reduction.
	Proposed action: How is the intervention logic (theory of change) relevant to Nature-based Solutions?	- The Zambezi program focusses on the restoration of degraded landscapes with multi stakeholder approach, focusses on conservation of protected areas, enhancement of climate resilient and smart agriculture. - The program efforts place a priority on enabling the adoption of Nature-based Solutions through inclusive social processes that generate benefits to vulnerable communities.

		The Zambezi program appreciates the importance of policy, regulation, and governance structures that are in place and the importance of their review and operationalization to address barriers to NbS adoption, just transitions, and drivers of environmental stress.
	Alignment: How does the Investment Plan (intervention) align with ecological, social, and economic priorities, and integrating them?	- Ecologically, the program emphasises on conservation, restoration and protection of high-value forests, wetlands, water and land resources within the hotspots. - Socially, the program supports indigenous community empowerment with focus on community led initiatives, inclusive livelihoods, enhancing food security. - Economically, the program supports green economy growth and diversification, focuses and emphasises on ecotourism development and job creation with the region. - The Zambezi program promotes a multisector-stakeholder engagement involving local communities, regional governments, and private sector.

b) Systemic Change:

In the context of this Program, the Systemic change refers to shifts in structures, systems, or frameworks that have widespread impact beyond the immediate beneficiaries of the intervention. It involves influencing policies, institutions, markets, and norms to create an enabling environment for scaling climate action. For this program to demonstrate fundamental shifts in the structures and functions of the socio-ecological system, identification, and development of strategic sub-systems, removal of entrenched barriers, creation of new opportunities or pathways, and a strategic shift in power dynamics within and between key systems need to be realized.

Key factors: Policy reforms, institutional capacity building, market development, social norms shift.

Table 33: Alignment of the Intervention with transformational change (Systemic Change)

	Questions	Signals
What	What are the systems where change is needed, and what change is required between and within these systems?	- The Zambezi program highlights systems where change is needed as: Land use planning and management, Forest management and conservation, Water resource management, Agriculture and food systems, Livelihoods and economic development, Institutional and policy frameworks, Community engagement and participation approaches, Climate change mitigation and adaptation systems, and Biodiversity conservation systems. - To strengthen synergies, the investment plan focuses on integration and coordination among sectors (agriculture, forestry, water, land and tourism), The Zambezi program emphasises on the need for harmonization of policies and regulations across the different sectors, Collaboration and partnerships among stakeholders (governments, private sector, communities, and civil society), Alignment of national and regional policies with global frameworks (e.g., SDGs, Paris Agreement)

How	Systems Identification: How does the intervention related to Nature-based Solutions identify and define the system, including system boundaries?	• Process: -The Zambezi program emphasises using Hotspots as system boundaries building on substantial previous projects that the basin has implemented. • It has also identified key landscapes where NbS can be implemented in the Upper basin, Middle basin and the lower basin
	Barriers and Pathways: How does the intervention remove entrenched barriers and open new pathways for systemic changes required to ensure the adoption of Nature-based Solutions?	• Policy and regulatory reforms: updating policies, laws, and regulations to support NbS adoption in the region specifically to include land tenure and access rights in the intervention areas, intergovernmental cooperation agreements, • The Zambezi program is focussed on institutional strengthening specifically building the capacity and coordination among institutions to implement NbS. • Focussed on addressing social and economic barriers specifically supporting vulnerable groups and promoting inclusive decision-making. • Unlocks Public-Private Partnerships (PPPs): Leveraging private sector expertise and resources for NbS implementation • Focussed on establishment of community-led initiatives. This includes empowering local communities to design and implement NbS projects • Encourages Innovative financing mechanisms: Exploring green bonds, impact investing, and pay-for-performance models. • The Zambezi program is anchored around building an evidence base through research, knowledge sharing and management. It strengthens establishing knowledge platforms, use of indigenous knowledge and networks to disseminate best practices.
	Power: How does the intervention elevate the influence of beneficiaries and other stakeholders, including marginalized and vulnerable groups, to contribute to Nature-based Solutions and benefit from them?	• The Zambezi program is focussed on empowerment strategies for local and indigenous communities including capacity building (training and education programs for stakeholders on NbS), community-led initiatives (empowering local communities to design and implement NbS projects), participatory decision-making (Inclusive decision-making processes involving marginalized groups), stakeholder engagement (Fostering collaboration among regional governments, private sector, communities, and civil society) to invest, support and enforce implementation and adoption of Nbs. representation and voice (Ensuring marginalized groups have a representative voice in NbS decision-making). • The Zambezi program is centred on an inclusive participation Mechanisms: Participatory monitoring and evaluation: Involving stakeholders (Indigenous communities in the hotspots, local authorities, regional governments) in monitoring and evaluating NbS effectiveness. The GESI aspects are emphasised in this investment and the IP focusses on mainstreaming gender and social inclusion considerations in NbS design and implementation. • The Zambezi program is focussed on beneficiary-centric approaches that include community driven developments such as community led afforestation and reforestation, fish breeding zones and temporary closed zones, riverbank restoration. Co-creation approaches including co-management of endemic rainforests and high-value forest areas,

c) Speed

This dimension refers to the pace and timeliness at which transformational change occurs, ensuring that impactful climate action is implemented rapidly enough to meet the urgency of climate challenges. Speed is essential to ensuring that interventions address climate risks and opportunities before they escalate, particularly given the pressing global need to mitigate and adapt to climate change.

Table 34: Alignment of the Intervention with transformational change (Speed)

	Questions	Signals
What	What will it take to adopt Nature-based Solutions in a time frame that is aligned with the urgency and complexity of the climate crisis?	The goal of the Zambezi program is to accelerating climate action. <i>Clearer statement of for example projected impacts on forests, water, agriculture and from this a timeframe that accelerates climate action while leaving nobody behind</i>
How	Acceleration: How does the intervention accelerate progress toward adoption of Nature-based Solutions?	- In the short term (depending on the approval of the Investment plan), the accelerators of progress that the program focussed on include, Policy reforms and funding mobilization, institutional and local stakeholder capacity building, community engagement and technology integration. - In the mid-term (depending on the approval of the Investment plan), scaling up NbS implementation, regional and inter-country cooperation and knowledge sharing, private sector engagement and partnerships - In the long term (depends on the approval time of the Investment plan), the program is focussed on transformative change and systemic integration, Climate-resilient infrastructure development, Continuous learning and adaptive management to enhance adoption of NbS in the hotspots, and basin countries.
	Complexity and Inclusivity: How does the intervention ensure adequate and inclusive engagement with complex and contested issues associated with sustainable land use/Nature-based Solutions?	- The process of development of the program has been very inclusive (procedural justice) to this date but this will need to be kept in mind as projects are developed and implemented. Need to consider and ensure equitable distribution of benefits and harms – e.g. accelerate the allocation of water rights and access to water resources – who may lose e.g. in the context of water scarcity who gets water. (distributional justice). - The Program has been developed and places at the centre management of complex issues through representation of marginalized groups (women, youth, indigenous peoples), focussed on Land tenure and rights (clarifying ownership and access to different landscapes), Conflict assessment: Understanding potential conflicts including establishment of human-animal corridors. - Focussed on Adaptive management that includes responding to emerging issues during the implementation of projects

d) Scale

This dimension assesses the potential for the intervention to grow and be replicated or scaled up to achieve broader impacts. It looks at whether the investment plan can expand its reach and influence larger segments of society or the economy.

Key factors: Scalability, replication potential, financing for large-scale implementation.

Table 35: Alignment of the Intervention with transformational change (Scale)

	Questions	Signals
What	What contextually large changes need to be scaled within and beyond the intervention?	Outcome: Transboundary activities (scaled beyond individual country activities) that inform actions throughout the watercourse by integrating national policies on NbS, focussing a shift on societal values towards environmental conservation, increasing private sector investment in NbS, reducing landscape degradation and soil erosion, scaling successful NbS models, Enhanced public awareness and education on NbS benefits.
How	Depth scaling: How does the intervention deepen the understanding of Nature-based Solutions and support for them?	The Zambezi program is focussed and anchored on knowledge Generation and Sharing with specific thematic areas including research and development, conducting studies on NbS effectiveness, data collection and analysis: Monitoring and evaluating NbS impacts. Documentation of Case studies and best practices: Documenting successful NbS implementations.
	Vertical scaling: How does the intervention support scaling pathways within and across policy and implementation processes associated with Nature-based Solutions?	- The Zambezi program is proposing intensification of NbS - Expanding forestry initiatives to include additional tree species and community engagement programs, enhancing wetland restoration efforts by incorporating aquatic biodiversity conservation. - Emphasises diversification - Integrating sustainable agriculture practices into existing /new reforestation programs, developing eco-tourism initiatives to support local livelihoods and conservation effort.
	Horizontal scaling: How does the intervention increase the number of people or expand the geographic areas engaged with Nature-based Solutions or benefitting from them?	The Zambezi program is focused on: Scaling up successful NbS models to new locations. Extending existing NbS initiatives to new communities or geographic areas, strengthening collaboration with local organizations, governments, and private sector entities, training and empowering local stakeholders to implement NbS.

e) Adaptive sustainability

Table 36: Alignment of the Intervention with transformational change (Adaptive sustainability)

	Questions	Signals
What	What relevant changes are sustained and advanced beyond the intervention to achieve sustainable development?	• Outcome: Regional institutions are strengthened to support, monitor and evaluate NbS in the Zambezi Watercourse • The Zambezi program proposes expansion strategies for NbS solutions including scaling up successful NbS models,
How	Flexibility: How does the intervention enable experimentation and flexibility, including the ability to learn and course-correct when necessary??	• Focusses on a regional approach to monitor, evaluate and learning (adaptive capacity) while leveraging participatory approaches for monitoring and evaluation,
	Capacity: How does the intervention build the capacity of stakeholders and institutions to advance change along sustainable development pathways?	• Focused on engaging marginalized groups (women, youth, indigenous peoples), Private sector partnerships for NbS investment and expertise, Civil society partnerships for community engagement within the hotspots.
	Resilience: How does the intervention insulate change from backsliding due to internal and external pressures or shocks, and enable recovery when required?	• Focused on resilience building of the local communities • Focused on Eco-tourism and sustainable livelihoods promotion • Development of sustainable financing mechanisms • Establishment of early warning systems • Carbon offsetting and payment for ecosystem services • Blended financing models and impact investing

9.0 Stakeholders Engagements

Stakeholder Engagement

A comprehensive stakeholder engagement process was undertaken to ensure that diverse perspectives from various stakeholders informed the proposed intervention actions in the Zambezi Region NPC IP. This ensured input from key stakeholders across different levels—national and grassroots.

National Stakeholder Workshops

National workshops were held in the Zambezi River basin for each Member State. These workshops were organized to provide a platform for participants to voice their concerns about the challenges they face, particularly regarding climate change and its impacts. The workshops facilitated discussions on the vulnerabilities within the basin and allowed stakeholders to propose Nature-based Solutions (NbS) to address these challenges. In doing so, the workshops enabled consensus-building on the most pressing climate adaptation needs, land degradation issues, and strategies for sustainable livelihoods accurately reflecting the on-ground realities.

Key Informant Interviews

Following the national stakeholder workshops, some key participants were further engaged through one-on-one interviews to gain deeper insights into the Zambezi River Basin's technical challenges. These participants included government officials from ministries such as Environment, Water Resources, and Agriculture and representatives from NGOs, regional development organizations, and the private sector. The purpose of these interviews was to explore specific challenges in greater detail, particularly from a technical standpoint, and to understand how Nature-based Solutions (NbS) could be applied to address issues such as land degradation, water management, and climate adaptation.

These in-depth discussions provided valuable perspectives on the priorities and strategies required to enhance sustainability in the basin. The feedback from these key informants has been crucial in refining the Zambezi Region NPC IP, ensuring it effectively addresses the basin's most pressing Nature, Climate and livelihood concerns.

Grassroots Engagement

In addition to the national-level consultations, grassroots stakeholders in transboundary hotspots were engaged through interviews conducted by data enumerators. Stakeholders, including traditional chiefs, village heads, and community members, were consulted to shed light on challenges related to land use, water access, livelihoods, and gender dynamics. These areas were selected based on population size, ecological significance, and community engagement potential.

Engaging these grassroots voices was essential in understanding the lived experiences of those directly affected by basin-related issues. The input provided by grassroots stakeholders has been instrumental in highlighting localised challenges and informing the development of tailored, context-specific solutions within the investment plan.

Annex 1: Regional Activities

Regional Activities	Cost
Enabling Environment	
Enhance the capacity (knowledge, skills and attitude) of women, men, youth, and PWDs in tree nursery establishments focusing on Indigenous tree species	42,687,603
Promote sensitisation and awareness creation: promoting understanding, empathy, and proactive engagement through campaign workshops, social media, education, etc.	15,411,997
Support the establishment of multi-stakeholder platforms that promote collaboration and partnerships among all stakeholders	1,260,000
Strengthen existing legal, policy, and institutional frameworks (enforcement mechanisms and strong institutions)	250,000
Promote collaboration and partnerships among all stakeholders	250,000
Strengthen management capacity for protection of high-carbon forest ecosystems that enhance mitigation of climate change.	405,000
Strengthen regional, national, and local level natural resource institutions	500,000
Strengthen the capacity of local-level institutions and communities including grass-root stakeholder representative groups, organisations, associations and trusts in protecting high-carbon forest ecosystems	2,568,815
Strengthen and/or establish multiple stakeholder platforms that promote collaboration and partnerships among all stakeholders	252,000
Support improved management effectiveness and coordination among Government Department and relevant authorities in the management of World Heritage Sites.	756,000
Use evidence-based decision-making to inform protection, management, and restoration of ecosystems	756,000
Strengthen the capacity to monitor and enforce regulations	756,000
Strengthen and implement harmonized policies, regulations, and guidelines	2,268,000
Support integrated water resources management including catchment and sub-catchment management planning.	378,000
Harmonised policy framework for integrated land management at regional level	756,000
Promote awareness and support of policies on NbS across the basin	12,227,978
Facilitate establishment of multistakeholder platforms that promote collaboration and partnerships among all stakeholders	252,000
Promote awareness and capacity building of communities on natural resources use and management	232,638
Develop and disseminate nature-based solutions guidelines	77,546
Conduct educational campaigns to raise awareness about waste reduction and proper disposal practices protecting the water resource.	55,286,448

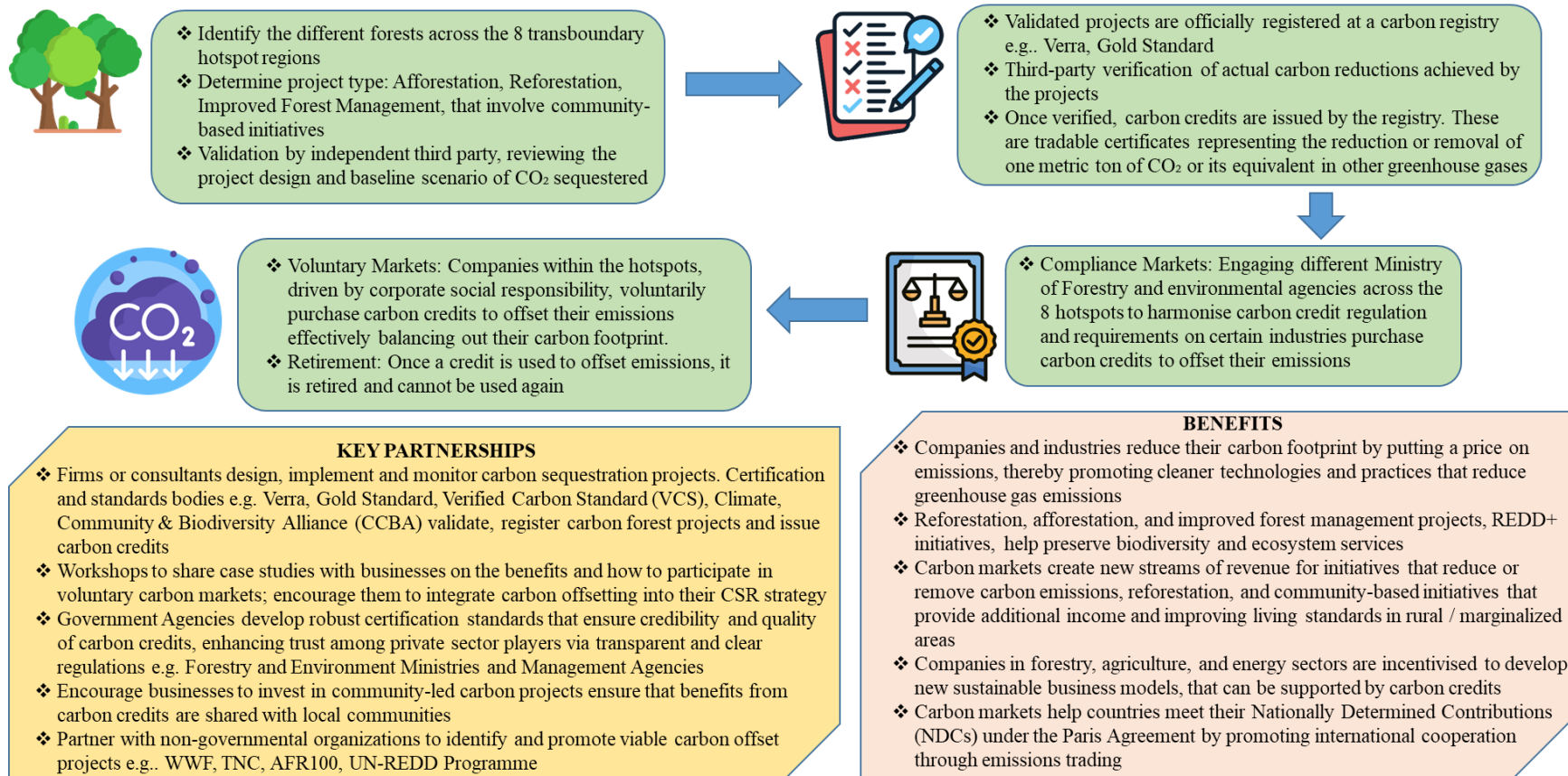
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Regional Activities	Cost
Enabling Environment	
<i>Sub-Total</i>	137,332,025
Evidence Base	
Share best practices and experiences (knowledge management) on NbS	28,137,809
Conduct ecosystem baseline assessment	120,000
Strengthen the capacity to monitor water resources through an expanded hydrological and meteorological network.	12,350,000
Support long term research and monitoring of drought induced wildlife movement and migratory patterns.	5,377,000
Facilitate increased knowledge and capacity building of protected area management and community sustainable land management at national, provincial, catchment and community levels	45,802,512
Build capacity at all levels (information sources) for good data collection, and updates and Ensure quality and security of data and information.	250,000
Lead systemic, multisectoral, social inclusive, and nature-based solutions analysis and make efforts accessible.	500,000
Conduct community multisectoral vulnerability analysis	80,000
Use evidence-based decision-making to inform protection, management, and restoration of ecosystems	252,000
Strengthening of hydrological network and early warning flood systems.	950,000
Strengthen research capacity to understand the impact of climate change and variability on fisheries population and diversity dynamics.	125,000
<i>Sub-Total</i>	93,944,321
Grand Total	231,276,346

Annex 2: Private Sector Engagement Business Cases

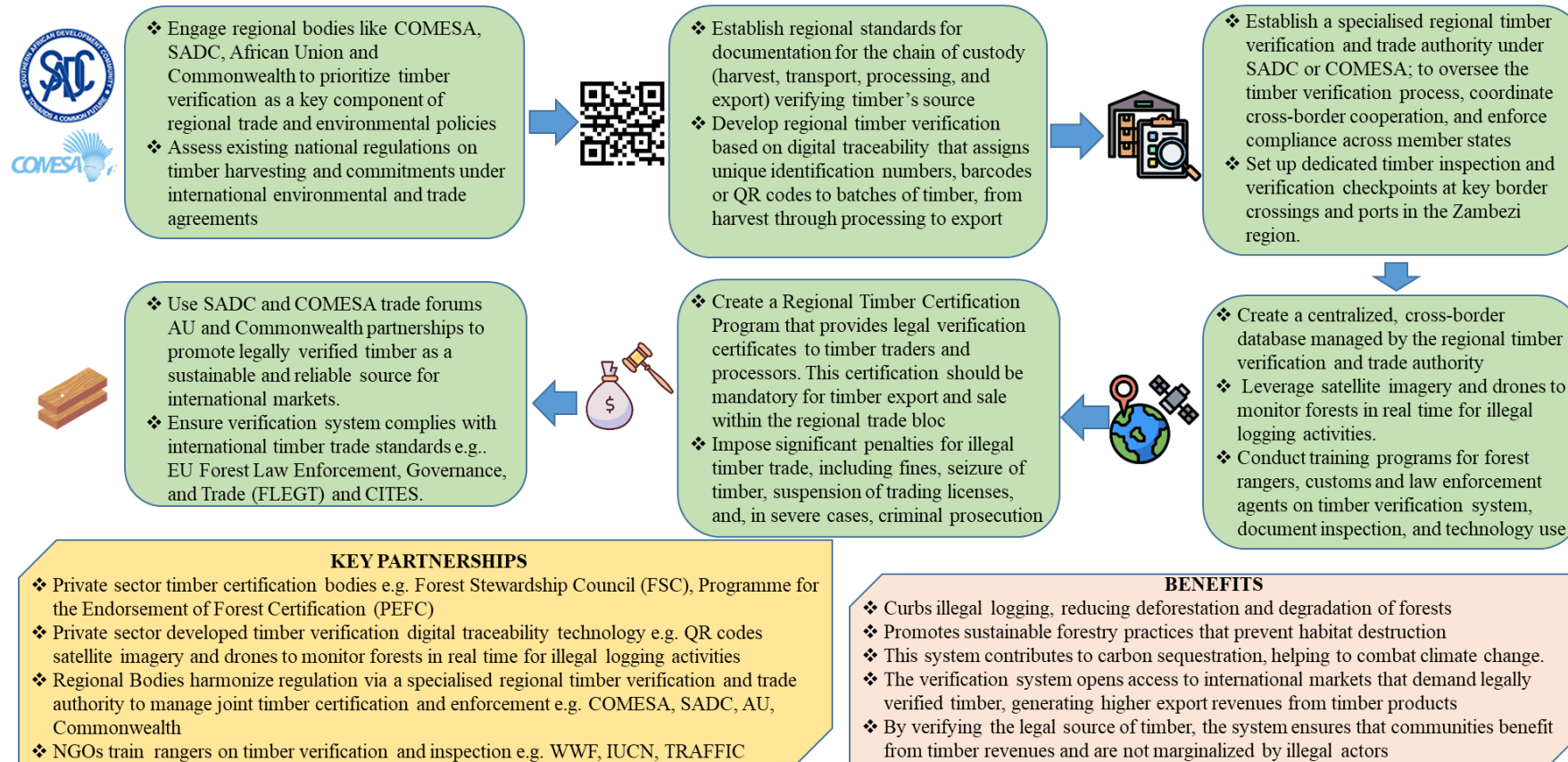
CARBON MARKETS BUSINESS CASE

Carbon markets for forest areas are designed to incentivize the preservation and enhancement of forests by assigning a monetary value to the carbon dioxide (CO₂) that forests can sequester (remove from the atmosphere). Proposed Hotspots: 3,4,9,12,13,15



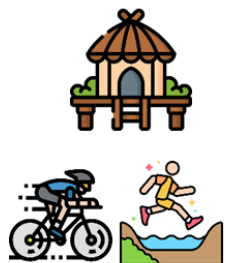
TIMBER VERIFICATION OF SOURCE BUSINESS CASE

Establishing a timber verification of source system across the Zambezi Basin member states requires coordination among multiple countries and the enforcement of regional and international frameworks. The system should ensure that timber harvested and traded across borders is legal, sustainable, and traceable. Proposed Hotspots: 3,4,9,12,13,15



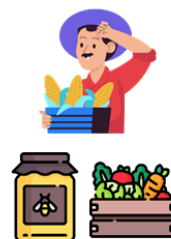
ECO & AGRO TOURISM BUSINESS CASE

Trans frontier Conservation Areas encompass rich biodiversity, key wildlife migration routes, and cultural heritage sites. However, there are challenges such as poaching, habitat loss, and underdeveloped infrastructure, which create opportunities for private sector engagement to drive sustainable growth. Proposed Hotspots: 3,4,9,10,11,12,13,15



Ecotourism and Hospitality

- ❖ Support the development of adventure tourism like marathons, bicycle races across TFCAs and natural conservation areas; invest in international promotions of the events; engage with to running and cycling associations, private sector companies e.g.. Coca Cola, MTN, Standard Bank to sponsor events
- ❖ Support wildlife agencies provide concessions to private sector companies within TFCAs and conservation areas for wildlife management, and sustainable tourism activities e.g.. wildlife tracking, birdwatching, cultural heritage visits and river cruises
- ❖ Harmonisation of incentives to tourism investors to build and manage eco-friendly lodges within TFCAs and natural conservation areas e.g.. tax holidays



Sustainable Agro tourism

- Collaboration between governments, private investors and local communities to develop agro-tourism benchmarking Tea Holidays in Kenya
- ❖ Farm stays offering guests the opportunity to stay on working farms and participate in daily agricultural activities e.g.. planting, harvesting, fishing and livestock rearing.
 - ❖ Traditional cuisine workshops based on local agricultural products e.g.. maize, cassava, sorghum, fish, and wild fruits
 - ❖ Joint workshop trainings with local farmers on permaculture, regenerative farming, climate-smart agriculture and soil conservation
 - ❖ Organize annual harvest festivals, showcasing local products like coffee, tea, honey, bill tong. Tourists participate in harvesting, packaging and support international market linkage
 - ❖ Engage local communities in sharing indigenous knowledge related to farming practices, herbal medicine, and conservation techniques

KEY PARTNERSHIPS

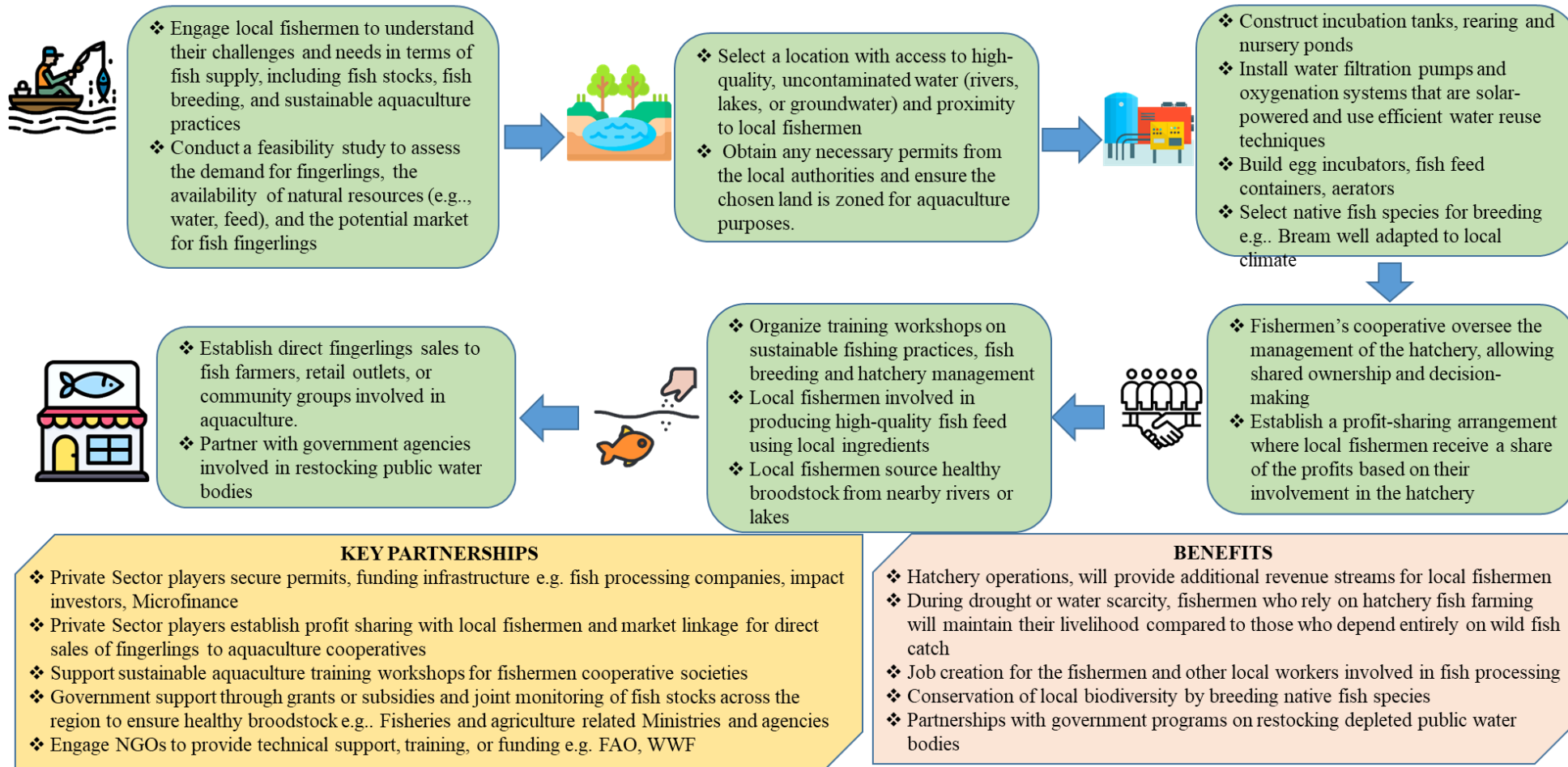
- ❖ Private sector tourism operators engage international marathon and bicycle cross country associations to organize cycling circuit events in the TFCAs e.g.. The Association of International Marathons and Distance Races, The Union Cycliste Internationale
- ❖ Private sector tourism operators engage local communities to develop traditional dance groups or artisans who showcase local crafts and traditions e.g.. Tonga Cultural Village in Zimbabwe. Construct eco lodges within local villages provide cultural experiences like agrotourism e.g.. crop harvesting, milking cattle, honey extraction and local cuisine
- ❖ Joint workshop trainings with local farmers on human wildlife conflict, climate-smart agriculture via conservation organizations e.g.. Peace Parks Foundation, WCS, WWF, UNESCO, IUCN
- ❖ Government Agencies harmonise incentives across the region e.g.. tax holidays / exemptions for eco friendly lodges construction within TFCAs and natural conservation areas e.g.. Zambezi River Authority, Zimbabwe Parks and Wildlife Management Authority

BENEFITS

- ❖ Income Diversification for Rural Communities via an additional income stream, reducing their reliance on volatile agricultural markets and crop yields
- ❖ Job Creation and Skill Development via employment opportunities in hospitality, tour guiding, conservation, and agro-processing
- ❖ The promotion of traditional farming methods, crafts, and cuisine through agro-tourism supports cultural preservation by creating economic incentives to maintain indigenous practices
- ❖ Environmental Sustainability promotes sustainable agriculture and conservation, as tourists are drawn to environmentally responsible and ecologically rich destinations.
- ❖ Improved local infrastructure, such as roads, health services, education, and clean water systems, benefiting both tourists and local communities
- ❖ Promote the sale of locally produced, eco-friendly products like artisanal crafts, organic foods, and traditional goods, increasing income for small businesses.

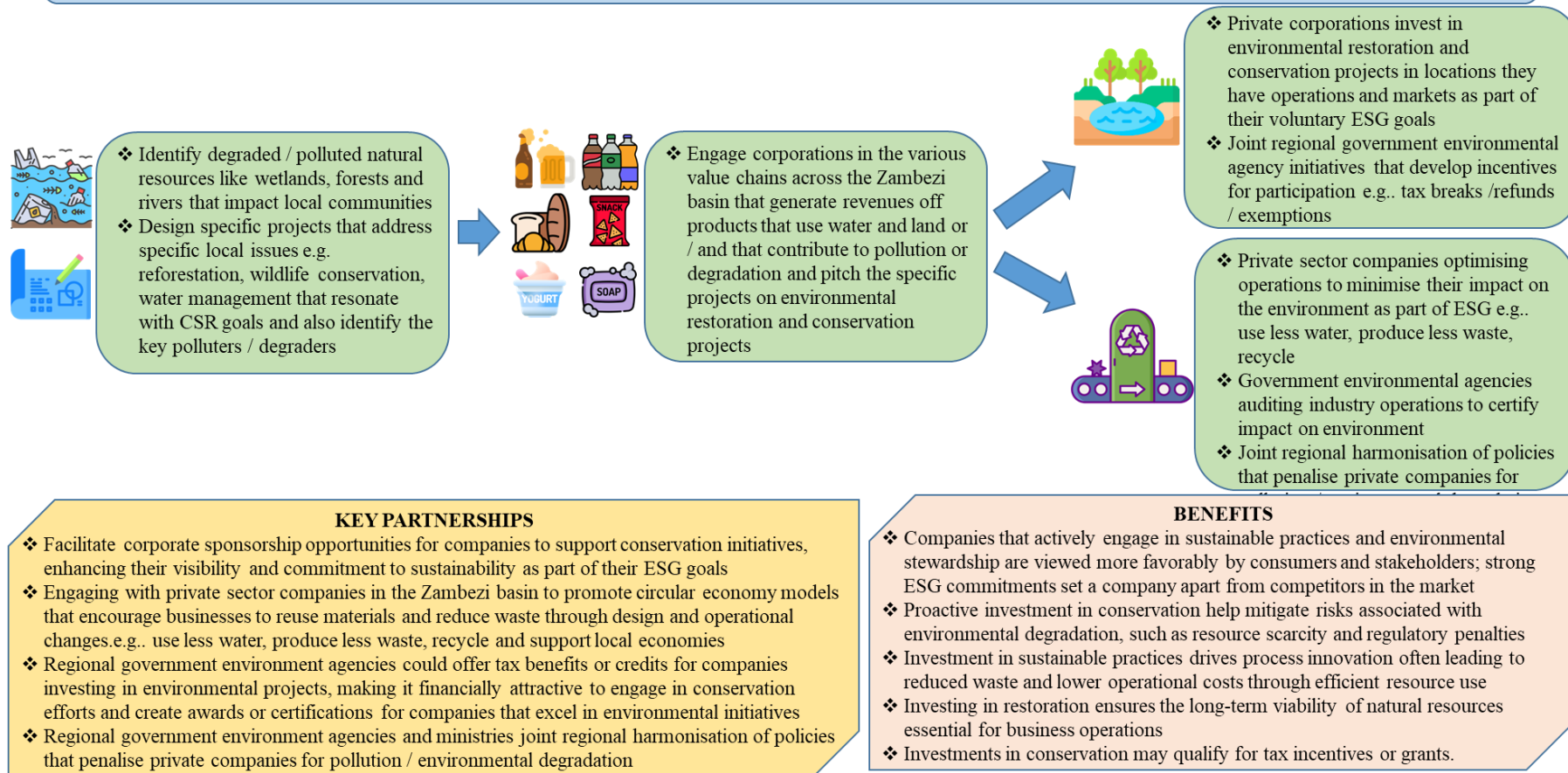
FISH HATCHERY BUSINESS CASE

A key challenge for aquaculture across the river basin is the access to fingerlings by fisher farmers; establishing fish hatchery businesses in collaboration with local fishermen has the potential to empower multiple fishing communities, boost livelihoods and ensure sustainable fish farming practices. Proposed Hotspots: 3,4,9,12,13,15



ENVIRONMENTAL, SOCIAL GOVERNANCE (ESG) PRIORITIES BUSINESS CASE

There are numerous corporations in the various value chains across the Zambezi basin that generate revenues off products that require water and land resources need to contribute to the sustainable usage of water and land through their corporate environmental, social and governance priorities that go beyond voluntary carbon markets. Proposed Hotspots: 3,4,9,10,11,12,13,15



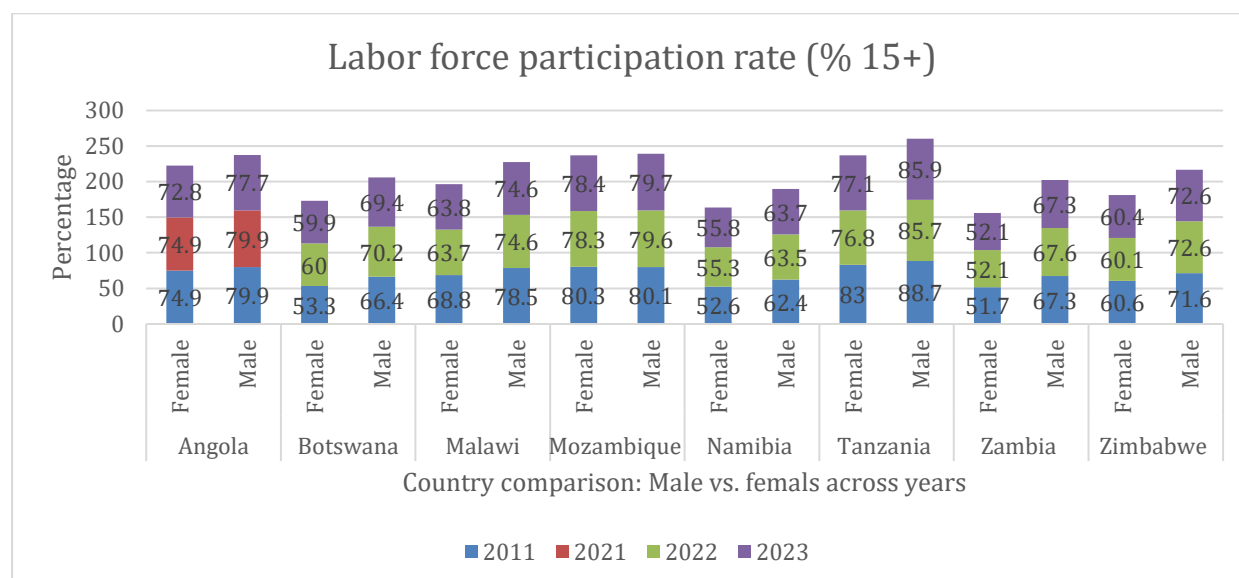
Annex 3: Gender Analysis

The GESI assessment formed part of the preparation of the Zambezi Region Investment Plan. It identified the barriers or challenges that women, youth, persons with disabilities, children and older persons experience and which potentially or actually limit their participation in development intervention. The intersection of the different social groups' social identities, gender and other forms of inequality and how these may undermine the realization of the goal of the Zambezi Region Investment Plan.

The GESI took into account the gender differences in access to and control over resources between women and men; the participation of women, men, youth, persons with disability and other social groups in livelihood activities and other development interventions in the basin, as well as their participation in natural resources management including biodiversity. Specifically, the gender analysis covers gender differences in labour force participation, wage and salaried workers, employment in Agriculture, vulnerable employment, land ownership, having an account at a bank or another type of financial institution, access to credit for business operations, proportion of time spent on unpaid domestic and care work, participation in business, decision making, ICT, and gender representation in decision making positions. It further delved into youth employment status in the basin and the participation barriers faced by persons with disabilities.

A. Labour force participation rate among females and males

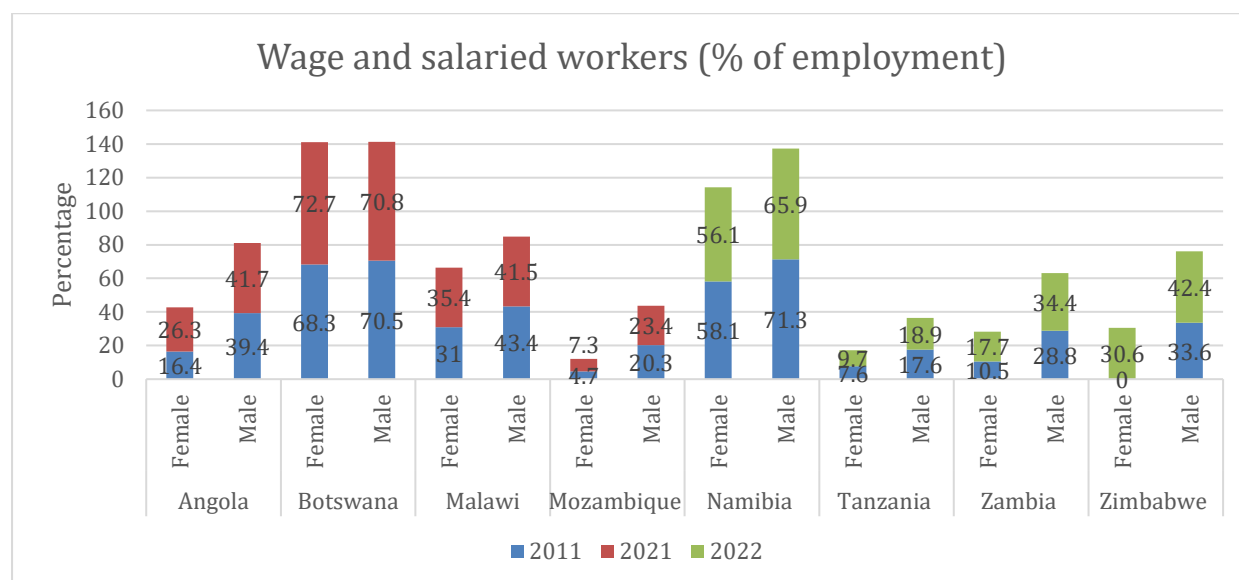
The labor force participation rate is the proportion of the population ages 15 and older that is economically active. Across all countries, the rate was found to be higher for the men than women. Mozambique had the least gender gap. A comparison of 2011 and 2022/2023 data indicates no significant improvement in labor force participation rate for women and men, with some countries such as Angola, Malawi, and Mozambique recording a decline. The following figure provides a snapshot.



Source: World Bank Gender Data Portal

B. Wage and salaried workers (% of employment)

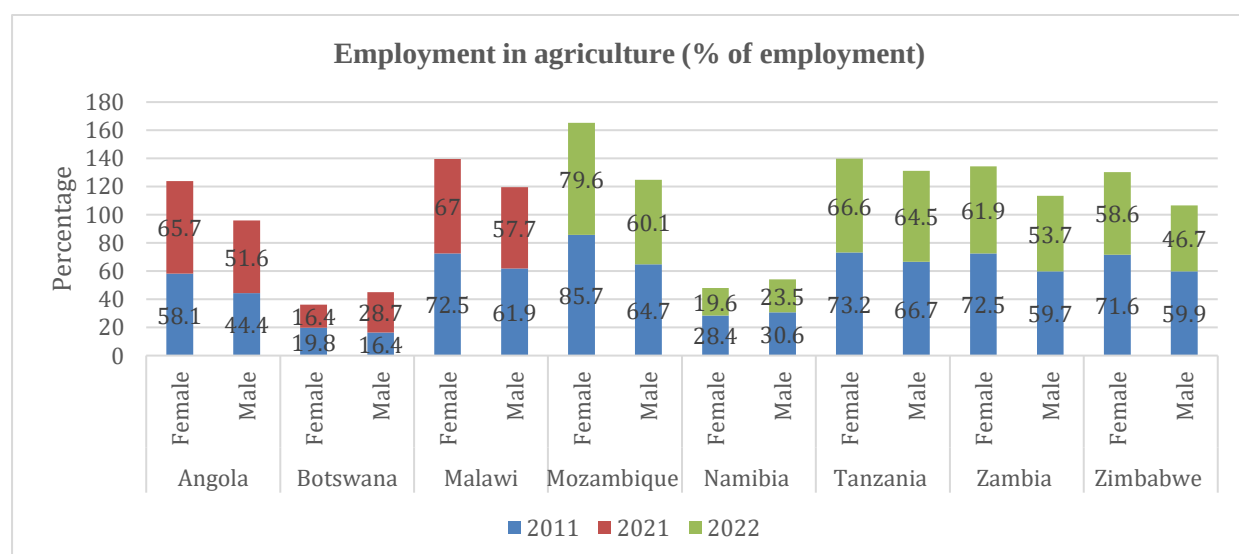
Overall, the proportion of women in employment that earn a wage or salary is generally low. This speaks a lot about their economic marginalisation and the extent to which they and their families are able to live decent lives. This phenomenon is attributed to most women finding themselves in the informal sector where entitlement to a wage/salary is more of an exception than a norm. Botswana had the highest proportion of female and male workers earning a wage/salary. This was followed by Namibia. Botswana was the only country with a higher proportion of working women than men earning a wage/salary. Mozambique followed by Tanzania and Zambia registered the worst scores as presented in the following figure;



Source: World Bank Gender Data Portal

C. Employment in Agriculture

Within the Zambezi region, women dominate in the provision of labour in agriculture, and they are responsible for ensuring food and nutrition security for the household. On the other hand, men predominantly make decisions on the cash crops grown and marketing. As show in the figure below, with the exception of Botswana and Namibia where employment in agriculture is generally low for both women and men, in the rest of the countries, women take the lion share.

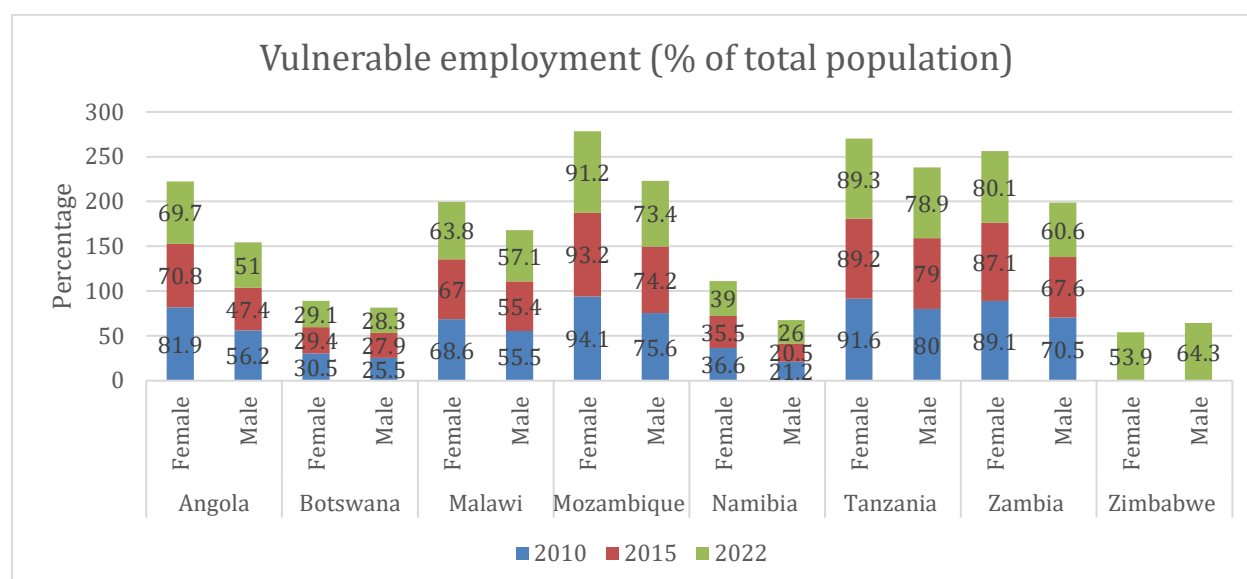


Source: World Bank Gender Data Portal

Given that land preparation, planting, weeding and harvesting are all undertaken usually using manual labor, women are mostly involved in planting, weeding and harvesting (Famine Early Warning Systems Network, 2010)⁵⁷. The men often come in to handle activities requiring heavier labor for example, land clearing. In regard to division of roles related to animal rearing, the boys and men look after cattle and goats while women and girls look after chicken (Ibid).

D. Vulnerable employment

Workers in vulnerable employment are the least likely to have formal work arrangements, social protection, and safety nets to guard against economic shocks; thus, they are more likely to fall into poverty. A trend analysis indicates that Botswana and Namibia have the smallest proportion of working population in vulnerable employment. However, in these two countries, the gender differences are glaring. A higher proportion of working women than men find themselves in vulnerable employment. Similar gender differences are visible across the rest of the countries. Across countries, Mozambique, followed by Tanzania and Zambia recorded the highest proportions of working women in vulnerable employment. The following figure offers an illustration;



Source: World Bank Gender Data Portal

Women in the Zambezi region are mostly found in lower paid, irregular and informal employment which, are prone to the effects of climate change. Women are characterized as overrepresented in the lower employment categories; they are associated with vulnerable employment characterized by poor wages and serious decent work deficits; they participate more in unremunerated reproductive work compared to males who dominate paid productive work.

⁵⁷ The Famine Early Warning Systems Network (FEWS NET) (2010). Livelihoods Baseline Profiles: Zambezi Basin, Mozambique. A Special Report. USAID. Available at: https://fewsn.net/sites/default/files/documents/reports/mz_baseline_rural%20zambezi_en_final.pdf

Women are predominantly employed as domestic workers, workers in hotels and restaurants, farming and small-scale businesses. Rarely are they employed in manufacturing, mining, transport and communication, lumbering, engineering & technical works.

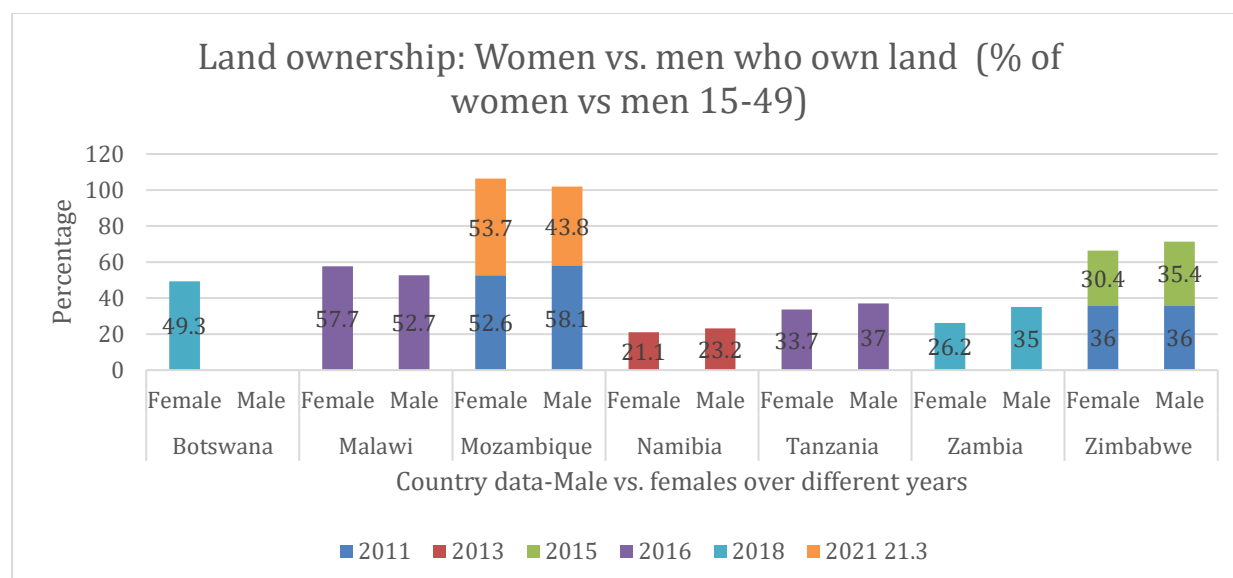
The following table summarizes country specific data on labour participation rate and employment status of women and men.

Source: SADC Gender and Development Monitor 2018 Factsheets							
Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
-All employees are protected by the Angolan Labour Law which governs employers to provide work, to pay for the work and to provide a safe working environment for their employees. -Workers are guaranteed under the General Labour Law of 1981: equal pay for workers without any discrimination; and prohibition of any other form of discrimination. That withstanding, women in Angola still have a low labour force participation attributed to high illiteracy levels among women. -It is estimated that 95.8% of women employed in the labour force in Angola are	-The proportion of women in employment is lower than that of men. -Women dominate in the lowest paid jobs as well as in the traditional female employment sectors. -Women make up 71% of domestic workers; 74% in hotels and restaurants, 64% in wholesale and trade, 65% in education; 61% in health and 55% in manufacturing (SADC and SARDC 2018). - The majority of men are in well-paid jobs, making up 88% of the mining and quarrying sector, 84% in construction, 65% in transport and communication; and 63% in electricity and water (SADC and SARDC 2018). Women living in rural areas are more at risk	-Laws protect the rights of women to fair labour practices and employment. -The majority of employed women are in the informal sector -More than half of employed women earn their living through farming and small-scale businesses. -Women in informal sector face a number of challenges including not benefitting from social protection rights such as sick leave, maternity leave or pension.	63% of women aged 15-24 are employed compared to 60% of men For the age category 24 and above, the unemployment rate stands at 24% for women and 20% for men	- There is an increase in the participation of women in the labour force since independence -However, various National Labour Force Surveys (NLFS) have all consistently shown that women are under-represented in the labour force as compared to men. →NLFS 2000: Labour force participation rate (LFPR) of women was 47.4% compared to 62.0% for men →In 2004, the LFPR for women was 36% compared to 59.6 percent for men →The 2008 NLFS indicated the LFPR of women was 49.9% compared to 61.6% for men	Unemployment rate for women is higher than for men Women are primarily engaged in agriculture as their primary activity Growth in urban populations along with improved opportunities in the non-agriculture sectors have brought many women into trade and services sectors	- Employment opportunities available for women are in the informal sector and lower end of the formal sector due to low literacy rates -Proportion of men in the formal sector: 47.6% (2018) - Proportion of women in the formal sector: 52.4% (2018)	- Unemployment level: 90% -Gender distribution of the unemployed: 64% men and 36% women Gender distribution of the employed: 51% women vs. 49% men -Employed men dominate in the following sectors: Transport (98% men); Mechanics (96%); Mining and Construction (93%); and Engineers & Technicians (92%). -75% of persons with a disability are employed in the agricultural occupations. A high number of educated women in both the agriculture

unskilled as compared to 84.7% of men (INE, 2018). -Women mostly participate in the informal sector which excludes them from employment benefits. The employment rate for men is even higher in industries such as construction as these are said to be highly demanding industries both physically and financially.	of unemployment than women living in urban areas as a result of unequal economic opportunities between urban and rural areas -20% of women living in rural areas are unemployed as compared to 15% of men -Youth unemployment (15-35yrs) is estimated at 25.2% -Women unemployment (26.9%) is higher than male unemployment (23.6%)			→The 2012 NLFS indicated that 63.2% of women participated in the labour force compared to 69.1% of men →The 2016 NLFS reported that LFPR of men was 72.5% women are at 66.6% - women are largely confined to non-technical fields as compared to their male counterparts -Women dominate in wholesale and retail trade, accommodation and food service activities and education while men are dominant in construction, mining and quarrying, transport and storage occupations and professional, scientific and technical activities			and trade sectors, attributed to the economic hardships in the country which offer fewer employment opportunities in the job market for university and vocational college graduates
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E. Land ownership

Despite their centrality in agricultural production, women score poorly in regard to land ownership. Even where land is communally owned in the basin areas, women's access and control rights are lower compared to men. Based on the accessed data, Malawi was found to have the highest proportion of women who own land followed by Mozambique and Botswana. Namibia and Zambia had the least proportion of women owning land. See the figure that follows.

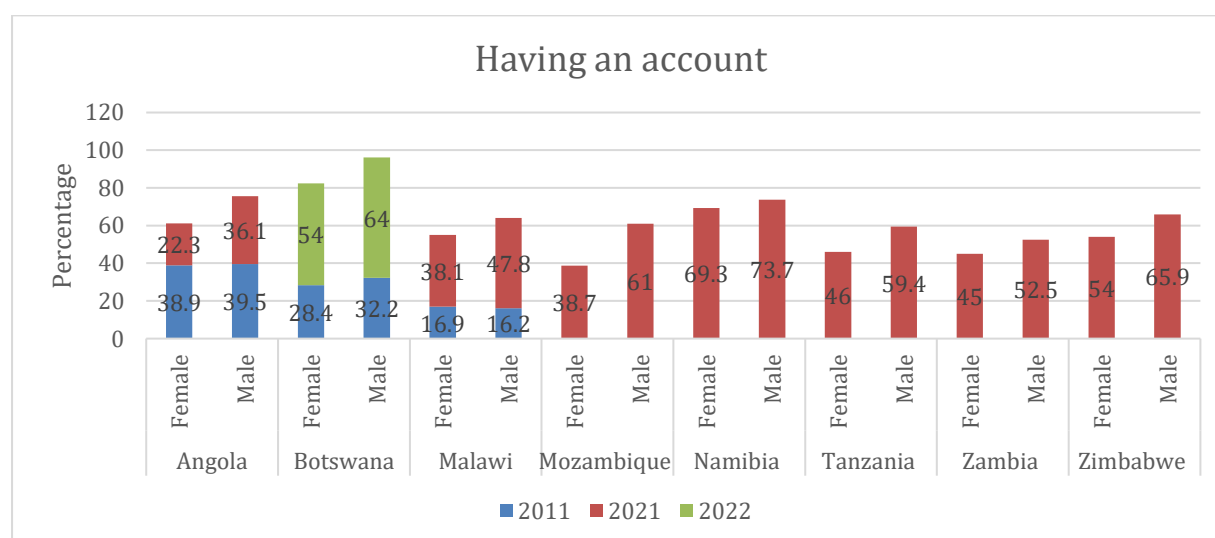


Source: World Bank Gender Data Portal

In Angola, 85% of the land is unregistered, and most land transactions take place on the informal market. Thus, women end up with no land because they lack financial resources (*SADC Gender and Development Monitor 2018 Factsheets*). In Tanzania, traditional practices and customary laws continue to discriminate against women with regard to land tenure (*SADC Gender and Development Monitor 2018 Factsheets*).

F. Having an account at a bank or another type of financial institution or report personally using a mobile money service

Overall, a higher proportion of men than women had an account at a bank or another type of financial institution or reported personally using a mobile money service (a key indicator of financial inclusion). Namibia followed by Botswana and Zimbabwe had the highest proportions of women with an account while Angola, Malawi and Mozambique had the least proportions. This implies that women generally experienced financial exclusion in these countries.

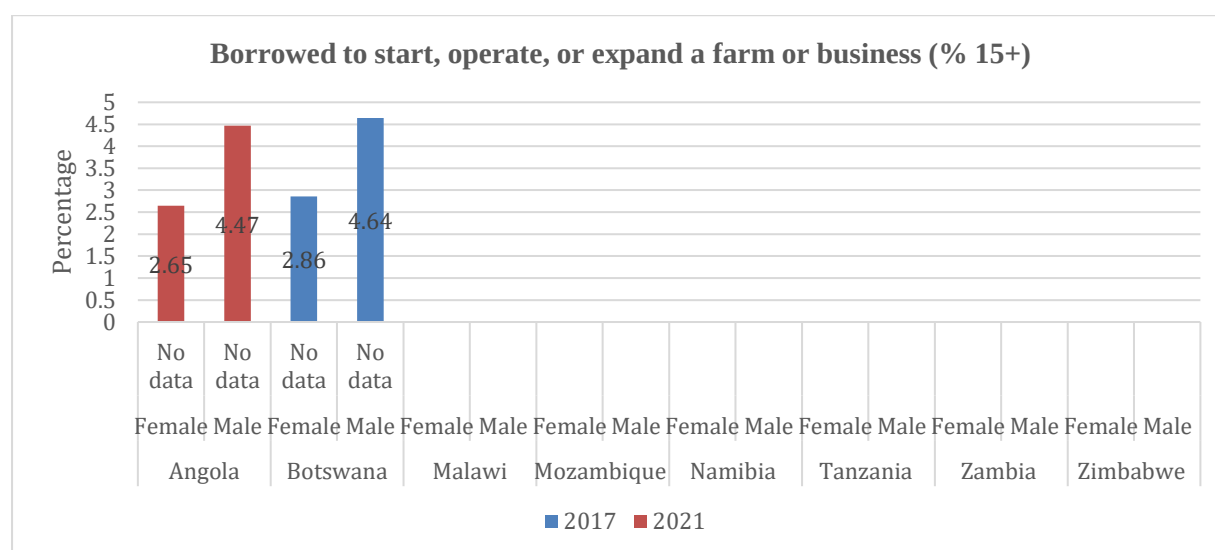


Source: World Bank Gender Data Portal

G. Access to credit for business operations

Within the region, women's access to finance is low. Fewer women compared to men are served by formal financial institutions such as banks, and insurance companies. More male than female entrepreneurs are banked. Women farmers, predominantly involved in smallholder and subsistence farming have challenges of accessing agricultural financing support for clear reasons. Many are not organized into farmers' groups that can be easily targeted by financial service providers; secondly, the service provider require collateral which these women lack.

The figure below presents data (where it available) on the proportion of women and men who borrowed to start, operate or expand a farm or business. Evidently, it is observable that women have a disproportionate access to credit compared to men.



Source: World Bank Gender Data Portal

In Malawi, women's access to credit is compromised by women's low entrepreneurial skills, limited financial literacy, lack of collateral, some cultural practices and the absence of women-centred bank or financial institution. In Mozambique, gendered norms create barriers to women's access to credit. Other limiting factors include low levels of education, skills and access to assets. On a further note, financial institutions deem lending to SMEs including those owned by women risky (SADC Gender and Development Monitor 2018 Factsheets).

In the table below, a summary is provided on efforts taken by countries to promote women's access to credit and the current barriers to access.

Source: SADC Gender and Development Monitor 2018 Factsheets							
Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
-Angola has made efforts to improve access to credit for marginalized women who face barriers in accessing	The Women's Grant launched by the Ministry of Labour & Home Affairs	-No record of an established women-centred bank or financial institution -Local banks work with international entities which	Women suffer from gendered norms which create barriers to access credit, these include low levels of	The Ministry of Gender Equality and Child Welfare under the Income Generating Activities	10.6% of the small business owners in Tanzania have access to formal financial services		-The Women's Development Fund - a credit facility for marginalised women, particularly those who live

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resources from financial institutions.	helps women groups with seed money to start their own income generation projects. Women in small groups of 5-10 members (with more women than men). Each group can be assisted with a maximum of P250,000.	support financial empowerment of women within the nation -In theory, women have equal access to loans In practice, a lesser proportion of women than men have access due to low entrepreneurial skills, lack of financial literacy, lack of collateral, and some cultural practices Salary-backed loans constitute one of the most available types of credit facilities that women can benefit from. However, only 30% percent of women who apply are successful in getting loans. Most women are unemployed women and thus unable to access these loans. -For many women, the collateral requirements are more than they can afford -Lack of financial literacy to run a business let alone acquiring adequate support from their spouses or partners to run the businesses all make it difficult for women to apply for loans <u>Positive initiatives</u> --Through the United Nations Capital Development Fund (UNCDF) MicroLead programme, the Women's World Bank in 2017 worked with the NBS Bank in Malawi to introduce a savings facility for low-income, unbanked people living in rural areas, especially women. One of the products disbursed is known as Pafupi Savings which involves community-based marketing to reach women where they are -National Bank of Malawi encouraging women entrepreneurs to make use of the packages that are tailor-made for women business-owners.	education, skills and access to assets Bank requirements for collateral and/or guarantees undermine women's access to credit Commercial banks find SMEs risky and thus fix high requirements for granting SMEs loans	(IGAs) programme, makes provision for a special fund that empowers women to own businesses by providing them with equipment, machineries and livestock. The IGAs fund, annually supports training of women on Basic Business Management (BBM) skills	→66.4% of women are totally excluded from accessing formal financial services Women have limited access to the formal financial sector due to collateral requirements and perceived risks associated with lending to women perceived to lack assets and low returns to their livelihood strategies. -Some women have benefitted from Targeted programmes such as: Women Development Fund (WDF); Tanzania Women's Bank (TWB) established in 2008 to support women's access to financial services, including credit Barriers limiting women's access to credit include: limited access to information, markets and relevant knowledge.	in the rural areas created opportunity for women's access to credit -Between 2010-2017, a total amount of 3,229,107\$ was disbursed to 1,894 groups, reaching 13,258 direct beneficiaries and 66,290 indirect beneficiaries under the Women Development Fund Disbursements in Zimbabwe -Women's Desks have been established in financial institutions following the adoption of the National Financial Inclusion Strategy -The Reserve Bank of Zimbabwe has established various economic empowerment windows
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H. Women participation in business

Women's participation in business is very instrumental for their livelihood, their household's economic wellbeing and independence. Evidence available suggests that different countries have made efforts to create a supportive policy and institutional environment for women's participation in business. However, glaring gaps remain. They find themselves predominantly in informal sector businesses. The women-owned SMEs are not insulated against closure due to challenges related to access to finance, low entrepreneurship competences, unaffordable business premises. Women entrepreneurs suffer from negative cultural attitudes, and gender-related barriers such as less mobility, reproductive roles and traditional power relations make it more difficult for women to start and run enterprises.

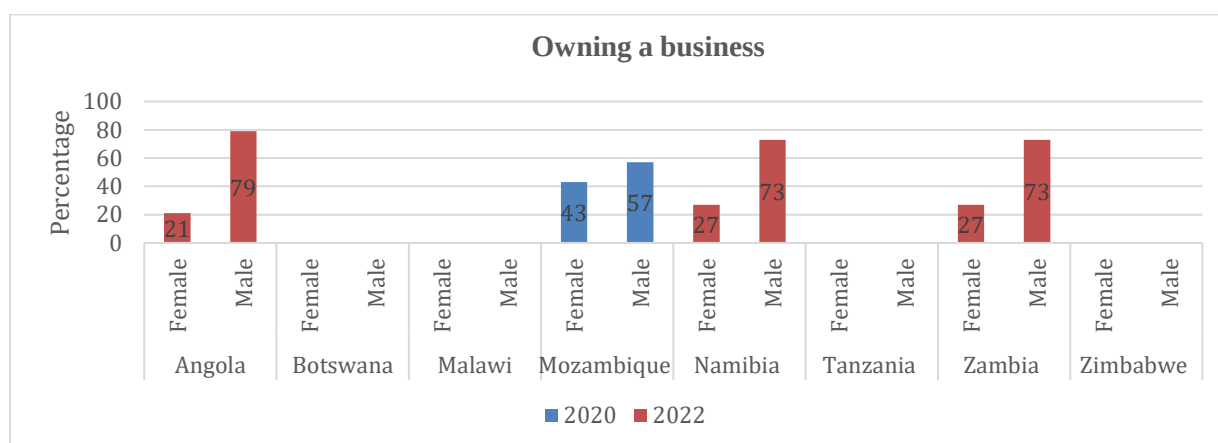
The table below summarizes the status of women's participation in trade and SMEs.

Source: SADC Gender and Development Monitor 2018 Factsheets							
Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
	Over 75 percent of the informal sector businesses are owned by women in both urban and rural areas. The Citizen Entrepreneurial Development Agency (CEDA) introduced a funding programme called Mabogo Dinku to respond to the needs of the Small, Medium & Micro Enterprises and particularly to support economic empowerment of women and youth -According to MITI (2019), the Mabogo Dinku programme had then funded 1,396 businesses, invested P14.6 Million on 530 youth businesses, and P5.5 million on 1,252 women		Women traditionally contribute to productive activities, such as small-scale agriculture, agro-processing, crafts and home industries, as well as trade and commerce involving the production and sale of foodstuffs, charcoal, firewood, grass, straw mats and other products	The Ministry of Industrialisation, Trade and SME Development in collaboration with the Ministry of Gender Equality and Child Welfare have worked with the Women in Business Association (WIBA) programme to support women in accessing platforms such as regional trade fairs that enhance exposure to the business world. Public Procurement Act, 2015, Section 70 subsection (1) (3) has made provision for the implementation of preferential treatment in procurement (services, construction, and supply) to promote the empowerment of women and the youth, as provided for in Article 23 (3) of the Namibian Constitution.	Women are severely constrained by limitations in access to key production assets, including capital, education and skills, titled land. Other limitations: legal impediments, cultural attitudes, less mobility. The cultural environment underpinned by reproductive roles and traditional power relations make it more difficult for women to start and run enterprises. 54.3% own MSMEs including trade, food vending,	-Women are particularly involved in informal cross-border trade, thus supporting their livelihoods, accessing jobs and contributing to food security for the majority of the unemployed -Trading informally however, exposes women to several risks including the confiscation of merchandise, sexual harassment and other abuses.	-70-80% of Zimbabweans making a living by buying goods in neighbouring South Africa and reselling them across the region are women -Women in cross border trade face challenges including harassment by customs officials, sexual abuse, confiscation of goods, indecent body searching by male security officials, requests for sex as transaction for a service and verbal insults. - The majority of traders do not have knowledge of their rights.

	managed businesses			Women-owned SMEs have often been susceptible to closure due to challenges including access to finance, high employee turnover and unavailability of affordable business premises.	tailoring, batik making, beauty salons, event decorating, local brewing, catering, pottery, food processing and charcoal selling		
	-Small and informal business for youth and women benefitted from the Youth Development Fund and the Women's Economic Empowerment Programme.				Women owned MSMEs are mostly informal, micro, low growth and low profit		

I. Owning a business

Where data was available, it emerged that the proportion of women owning businesses in the different countries was negligible compared to men.



Source: World Bank Gender Data Portal

J. Proportion of time spent on unpaid domestic and care work

As defined by cultural norms, women bear the gender burden of work including responsibilities such as securing water, food and energy for cooking and heating (reproductive roles). Wood is the main energy source of the population in the Zambezi Riparian States with average access to the electricity grid being low. Moreover, with the increased drought occurrences, reduced rainfall and shortening of rainy seasons coupled with deforestation, women's ability to secure these resources is further compromised. This has implications for gender-based violence as their spouses or male relatives batter them on account of failure to perform their gender roles. GBV undermines the participation of women in development processes including but not limited to biodiversity conservation, climate change mitigation and adaptation, and livelihood development.

The country-specific status of proportion of time that women spend on unpaid domestic and care work is summarised in the following table;

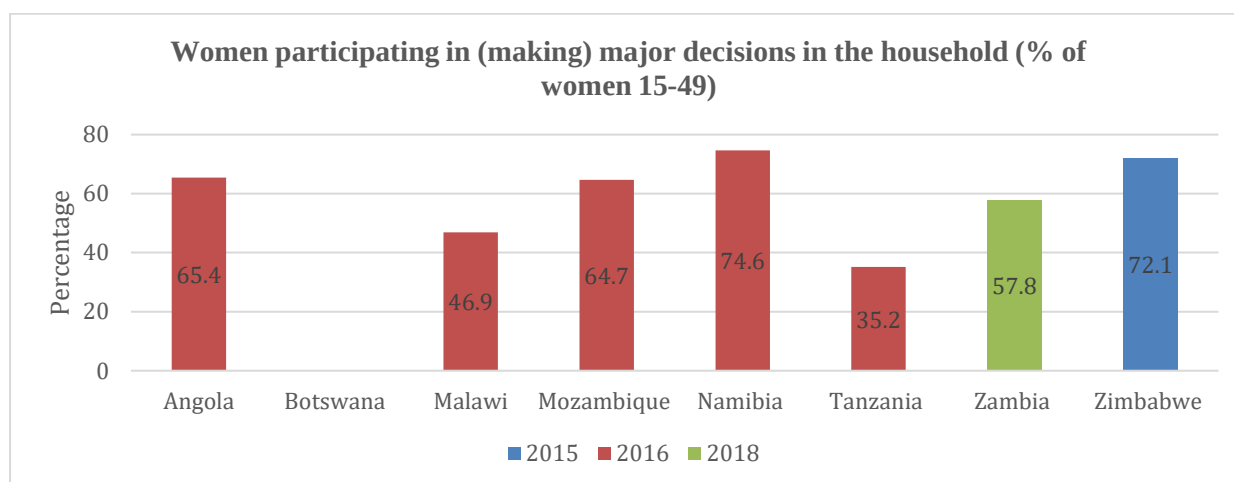
Source: SADC Gender and Development Monitor 2018 Factsheets

Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
-The socialization of children, particularly girls, takes place in the context of tradition, supported by initiatory rites and based on the discrimination of women whose destiny is set: being a housewife, wife and mother, whose life is subject to the logic of male domination. -The social function of rural Angolan women is restricted to the domestic chores and women therefore cannot take up any other activities. -No time use surveys conducted in Angola to ascertain the amount of time women spend on various non-remunerative tasks. The majority of women in rural areas are the most affected by multiple roles and thus do not have the time to contribute to the economy and their own livelihoods. -Poverty because in the absence of men during the war, has meant that women carry the burden of raising the children, taking	The absence of Time Use Surveys (TUSs) conducted in Botswana to determine the multiple roles of women has resulted in the absence of policies in Botswana that recognize and ease the burden of the multiple roles of women	-Women in women-headed households carry out all the roles. They thus spend less time on productive roles that can lift the household out of poverty. Women-headed households that are divorced, widowed or single have limited opportunities to engage in self-employment and productive work due to competing demands on their time in terms of childcare, household chores and their main responsibilities as the main economic providers -Women spend 90 minutes fetching firewood and 75 minutes fetching water. -Within different cultures and levels of economic development, women tend to specialize in unpaid reproductive or caring labour	Women have a far heavier workload than men in the areas of agriculture, cooking, fetching water, collecting firewood, cleaning and food processing. Both patrilineal and matrilineal communities in Mozambique are based on forms of social control that prioritize the collective over the individual. This places women in a subordinate position No Time Use Surveys have been conducted in Mozambique		Tanzania conducted the first Time Use Survey (TUS) for Tanzania was undertaken by the government in 2006 through the National Bureau of Statistics. Women spend a relatively larger proportion of time in providing unpaid domestic services within households than men Men spend more daily time on providing services for household income than women. 76% of women's time compared to 33% of men's time is spent conducting family support roles, especially in domestic caring About 39% of adult women, compared to only 17% of men especially in rural areas fetch fuel wood Women constitute more than half of the population, however, their participation and representation in key leadership positions, governance and decision-making	Multiple roles restrict them from entering into livelihood enhancing activities - Laws that recognise the multiple roles of women are yet to be enacted. -Time use surveys have not been carried out to assess the time women spend on daily tasks.	On top of their family roles as a wife, mother and carer, the majority of women now participate in politics, mining, construction, farming and diamond cutting and polishing, among other activities/roles. -Women spend more time performing household chores than men during both the dry and rainy season. -On average women work 5 hours more than men in both the dry and rainy season. <u>Dry season</u> -Women spend 50% of their time per day working while men spend only 29% of their daily time working. <u>Rainy season</u> -Women on average spend only 29% of their time relaxing and 69% of the time working on their

care of the household, including the sick and elderly, generating income, providing household food security, and generally ensuring that family continues to survive		-No national policies have yet addressed the multiple roles that women play			organs within the government remains lower than that of men. Men dominate leadership positions		gender roles and responsibilities. -Men spend 50% of their time working during the rainy season and another 50% of their time as leisure.
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K. Decision making

The proportion of women (% of women 15-49) participating in major decisions including: a) making major household purchases; b) decisions about own healthcare; and visiting family, relatives, friends vary from country to country as summarized in the following figure:



Source: World Bank Gender Data Portal

Whilst these data are not necessarily inclined to women's participation in making household livelihood decisions, land use, water resources management and biodiversity conservation, they render an insight into the reality that this is a gap area that ought to be addressed.

L. ICT

Access to and use of ICT are critical for women's business and other productive operations. Gender differences in access to and use of exist in the different countries as summarized in the following table;

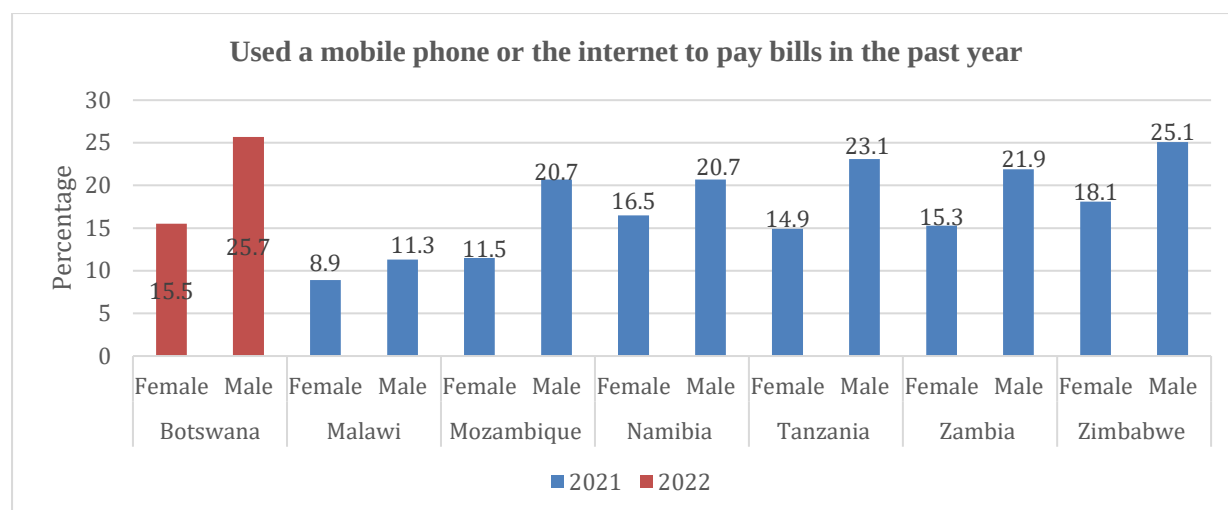
Source: SADC Gender and Development Monitor 2018 Factsheets							
Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
According to INE the (2017),	81.1% of women		More than 50% of men have mobile	Access to ICT is regulated		Section 6.11 of the ICT4D Policy	<u>Women</u>

Zambezi Region NPC Investment Plan

proportion of women with access to mobile phone stood at 30.4%; Computer access, 8.3%; and Internet access, 8.7%. To realize gender equity in the ICT sector, Government spearheaded the Angola Online Project, which aims to increase access to the Internet for the population, without leaving women behind. Some provisions of this online platform include annual digital literacy and technology fairs that target women and girls, and the installation of free Internet access points in key areas such as schools and universities. -Women are less literate (58 percent) than men (84 percent). Therefore, women in Angola lack skills in technology, especially in the rural areas	have access to the Internet for purposes of both business and recreation		phones as compared to only 32 % of women Women are disproportionately marginalised from the benefits of ICTs to enhance their wellbeing due to poverty, and lack of education	under the Access to Information Act (2022). However, the extent to which it is gender transformative is subject for inquiry		focuses on mainstreaming youth and women issues through the use of ICT. - Initiatives to help educate people about ICT were established through LinkNet Information Technology Academy (LITA) → a rural based ICT training centre in Zambia set to provide vocational training to facilitate the nurturing of ICT engineers in rural Zambia - More women than men notably enrol in these academies. Thus, a notable rise in the number of women taking interest in the field of ICT development. Subsequently, more women are being employed in technological development within Zambia	Access to internet: 19.1% Access to mobile phone: 88.6% Access to Radio: 44.5% Access to TV: 37.6%
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M. Using a mobile phone or the internet to pay bills

The proportion of females using mobile phones or internet to pay bills was lower than that of the males across all countries as seen in the following figure;



Source: World Bank Gender Data Portal

N. Women's access to productive resources and property

Women have limited access to productive resources and assets and in cases of drought, their economic positions are affected adversely. As a way of coping, they tend to adopt depletive asset stripping strategies to meet the immediate needs of the family. In the following figure, the status of women's access to productive resources is presented.

Source: SADC Gender and Development Monitor 2018 Factsheets							
Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
-Women face challenges with regard to access to, use of and control over land. -Dominant customary laws impact more on women in rural areas where productive resources such as land are controlled by men, who are seen as the heads of households. Land inheritance in particular is patrilineal, and few	The country has in the past decades witnessed positive changes within the legal system that promote access to and control over productive resources. The changes include the Deeds Registry Act, the Married Persons Property Act amended to protect the rights of women. The Married Persons Property Act makes provision for	-The Deceased Estates (Wills, Inheritance and Protection) Act in 2011 and the Marriage, Divorce and Family Relations Act (2015) protect women from being dispossessed of their rightful proprietary rights -The Customary Land Act of 2016 provides for the protection of customary land rights of women and promotes	Widows are vulnerable to eviction from their marital homes by relatives Few women are able to effectively enforce their rights. Most women lack the education, financial resources, and mobility to approach a lawyer or use the formal court system Customary practices	- According to the Resolution by The National Conference on Land Reform and the Land Question organized by the Government of Namibia in July 1991, women should have the right to own the land which they cultivate, inherit and bequeath along with other fixed properties It further provides for fair representation in all district councils, land boards or other bodies which deal with the allocation and use of land in the communal areas. -The National Resettlement Policy of 2011 in Namibia provides for the consideration of women		-Has specific policies that relate to equal access to productive resources and property for women and men - Women in Zambia are free to own land in their own right and jointly with a male spouse or child as they choose	

Source: SADC Gender and Development Monitor 2018 Factsheets

Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
women inherit land from their family of birth. Female-headed households in peri-urban areas, have comparatively more livelihood options; -In peri-urban settings however, the cost of living is higher -Women are rarely supported by the men or provided a maintenance fee for the children. This is the case for women who are divorced, separated, or in polygamous relationships, these. Thus, women are often solely responsible for meeting all livelihood needs of the family yet they do not own the majority of productive resources in their own right	customary law to opt for the property to be administered under civil law. Those already married are further permitted to change the status of their proprietary regime from out-of-community to in-community of property or vice versa depending on what works best for them	participation in decision-making with regard to customary land allocation and control over productive resources. -Section 5 of the Customary Land Act provides for the establishment of the Customary Land Committee with 50 percent women representation Many women especially those from the rural areas have limited access to legal remedies - 75% of the land in Malawi is customarily owned -The prevailing customary laws especially in Northern Malawi where the patrilineal system applies subjects women to many challenges in accessing the land.	discriminate against women Women form the majority of the people working in the agricultural sector but they do not have access to land of their own. Women have little means and access to gain control over the land	when allocating land for resettlement. -The National Land Policy of 1998 accords all citizens equal rights, opportunities and security across the range of tenure and management system to ensure equality of opportunities for women and to enable their full participation in all spheres of the Namibian society -Land policy accords women the same status as men with regard to all forms of land rights, either as individuals or as members of family land ownership trusts Communal Land Reform Act 5 of 2002, established Land Boards with a composition of 12 members of which at least four members should be women. -70% of the population depends on agricultural land for livelihood; -Women account for 59 percent of people engaged in agriculture, including subsistence agriculture. The case of Namibia demonstrates the importance of securing land rights for women through policies and governance Women however remain marginalized. For instance, of a total 6.4			

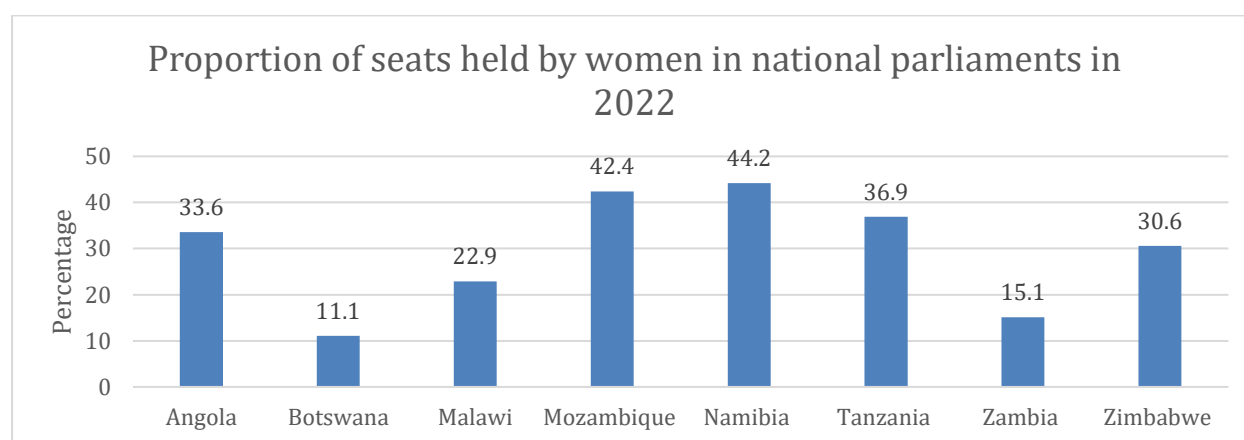
Source: SADC Gender and Development Monitor 2018 Factsheets

Angola	Botswana	Malawi	Mozambique	Namibia	Tanzania	Zambia	Zimbabwe
				million hectares of land acquired through the Agricultural Bank of Namibia and the Affirmative Action Loan Scheme Programme during 1992-2018, only 10% of women compared to 60% of men had benefitted by 2018 (NSA, 2018).			

O. Women representation in decision making positions

Within the region, different cultures place women in a subordinate position to the extent that they are not well represented in decision making positions at different levels, *inter alia*; at community level, local governance and high governance levels, in the corporate sector and in economic and social institutions. The low representation of women constrains their ability to meaningfully participate in local, let alone national level decisions that impact on their livelihood, wellbeing and socioeconomic status. This further renders them less able to influence policies, programmes and decisions that impact their lives.

Proportion of seats held by women in national parliaments

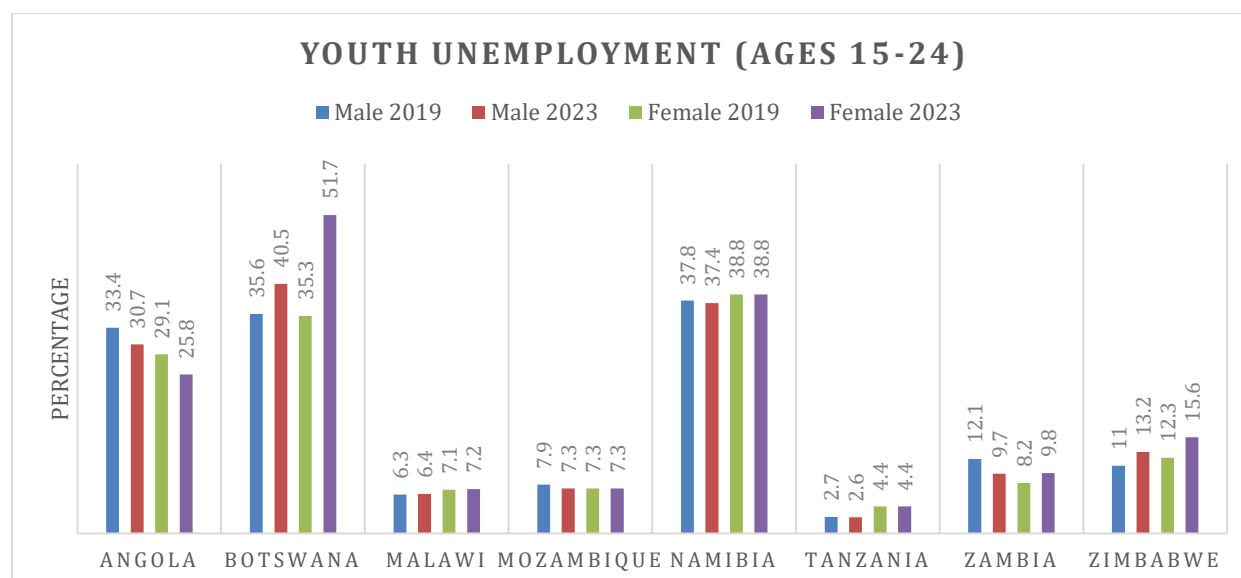


Source: World Bank Gender Data Portal

P. Youth unemployment

• Youth unemployment rate

According to the World Bank Data based on ILO Modeled Estimates (2024), the status of youth unemployment varies from country to country. A snapshot is presented in the following Figure



Source: World Bank Data based on ILO Modeled Estimates (2024)

Botswana and Namibia, followed by Angola had the highest youth unemployment rates with gender variations. Sechele (2021)⁵⁸ identified a range of factors that account for unemployment in Botswana including: poor performance at secondary school, a disconnect between education and labour market, precarious employment, weak networking skills, gender stereotypes, and lack of youth engagement in policy making. Unemployment remains a problem in Chobe due to limited economic/employment opportunities in the district (Chobe District Development Plan 7, DDP 7)⁵⁹. Though data on youth unemployment in Chobe district (in Botswana) were not accessed, national data available renders an insight. In Namibia, the 2018 Labour Force Survey (LFS) results⁶⁰ indicated that youth unemployment rates were higher than the national unemployment rate of 46.1% (Male: 43.7% and Female: 48.5%). The Kavango East region registered the highest youth unemployment rate at 62.5% overall (males: 62% and females: 62.9%). The youth unemployment rate was also high in the Zambezi region at 49.7% (Males: 47.8%; Female: 51.4%). The African Union (2021)⁶¹ attributed the high youth unemployment rates in Namibia to: relative lack of skills; the malfunction between education and the labour market; high dropout rates despite the availability of free education; unstable labour market experience and discrimination; and youth personal characteristics barriers.

- **Share of youth not in education, employment or training**

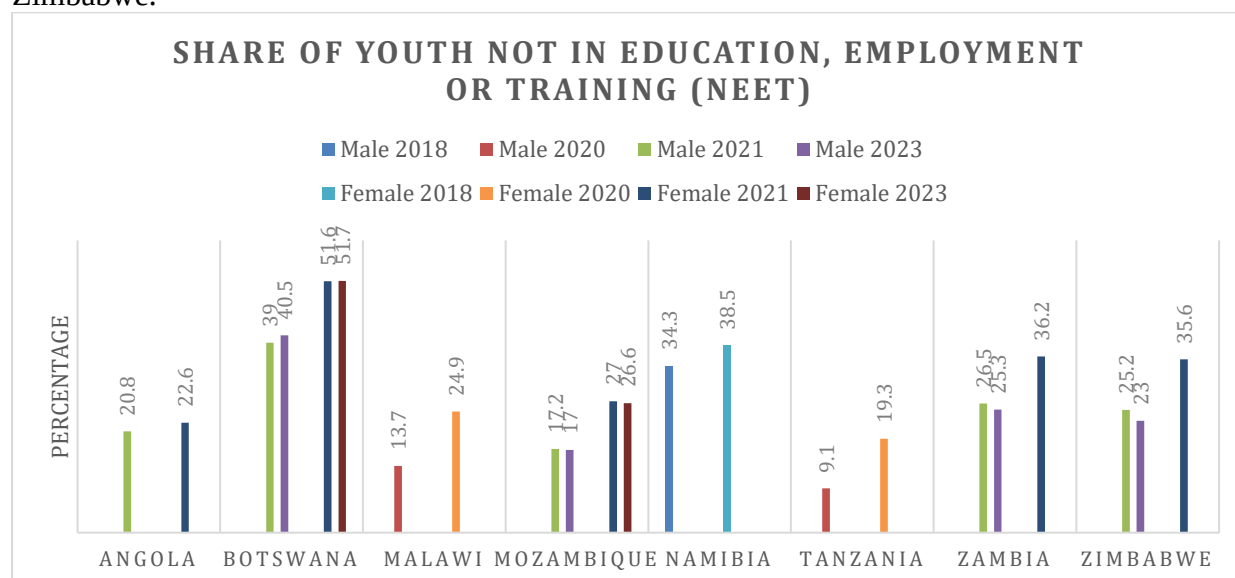
⁵⁸ Sechele, L. (2021). FACTORS THAT CONTRIBUTE TO YOUTH UNEMPLOYMENT IN BOTSWANA. Available at: <https://www.researchgate.net/profile/Latang-Sechele>

⁵⁹ **Available at:** https://library.wur.nl/ojs/index.php/Botswana_documents/article/view/15988

⁶⁰ <https://webapps.ilo.org/surveyLib/index.php/catalog/6860/related-materials>

⁶¹ African Union (2021). Targeted Review Report on Youth Unemployment for The Republic of Namibia. APRM Targeted Review Report No. 4. Available at: <https://www.npc.gov.na/wp-content/uploads/2021/12/Targeted-Review-Report-on-Youth-Unemployment-comp.pdf>

A review of World Bank Data based on ILO Modeled Estimates (2024) on the share of youth not in education, employment or training reveals a lot. Botswana had the highest share of youth not in education, employment or training. This was followed by Namibia, Zambia and Zimbabwe.



Source: World Bank Data based on ILO Modeled Estimates (2024)

In Namibia, the 2018 Labour Force Survey (LFS) results revealed that the proportion of youth not in education, employment, or training (NEET) in the Kavango East region **i.e.**, 41.7% (Male: 38%; and 44.9%) was higher than the national overall proportion of 34.9% (Male: 32.7%; and Female: 37.1%). In the Zambezi region, the proportion was 30.2% (Male: 24.1%; and Female: 36.2%).

Q. Disability-specific issues

The data accessed is largely silent on the persons with disability in employment. In Zambia however, data indicates that persons with disability constitute 3.5% of the Persons in the Labour Force (Zambia-2022 Annual Labour Force Survey Report- Zambia). There is nonetheless no hotspot-specific data on this social group. In Zambia, the Manyinga Integrated Development Plan 2022 – 2031)⁶², one of the prevailing social issues of concern is: the people with disabilities facing a number of challenges compared to those without disabilities as part of the process of equalizing opportunities. Persons with disabilities, like women have been side-lined in the forestry sector that is heavily male dominated owing to the labour-intensive and capital-intensive nature of the activities involved. In Zimbabwe, The Zimbabwe Parks and Wildlife Management Authority- Lake Kariba Inshore Fishery Management Plan 2023-2032⁶³ observed that the role of people living with disabilities in the fishery is generally limited due to lack of productive assets and barriers to accessing finance. In Victoria Falls Municipality,

⁶² Available at: <https://www.manyingacouncil.gov.zm/wp-content/uploads/2022/12/Manyinga-Integrated-Development-Plan-2022-2031-1.pdf>

⁶³ Available at: <https://www.zimparks.org.zw/wp-content/uploads/2024/06/Lake-Kariba-Inshore-Fishery-Management-Plan-2023-2032.pdf>

the Voluntary Local Review (2020)⁶⁴ cited persons with disabilities among the victims of inequality in the Town, attributed to the lack of equal economic and political opportunities for all. The persons with disability, like the women, youth are underrepresented in education, water and sanitation, health and nutrition, and employment (Ibid). Overall, persons with disabilities share the challenges faced by other social groups. They face limited participation/involvement in the community-based management of natural resource management for sustainable livelihood improvement.

Older persons-Issues and Challenges

The International Federation of Red Cross and Red Crescent Societies Southern Africa / Zambezi River Basin Initiative (n.d)⁶⁵ underlines that older persons, like the women, children, and sick people constitute the most economically disadvantaged and thus, the worst affected by disasters. This is because “they are disproportionately disenfranchised from any meaningful asset based, and are often without any type of social safety net (financial savings, etc.)” (Ibid). Given their heightened vulnerability, they tend to adopt negative coping strategies in the wake of distress during lean times. The adopted strategies include disposing of their assets in an effort to accrue resources to cover consumption. During any shocks, they are most likely to lose their meagre possessions (Ibid). Famine Early Warning Systems Network (FEWS NET) (2010)⁶⁶ in their special report titled Livelihoods Baseline Profiles Zambezi Basin, Mozambique observe that the vulnerability of older persons is marked by being not being economically active and in turn economic dependence. The responsibility of caring for the elderly primarily falls on the women. This impacts negatively on women’s participation in economic activities outside their households.

Whilst some older persons were reported to be economically active, evidence gathered indicated that the labor-intensive and capital-intensive nature of forestry and fishing activities in the basin exclude the older persons. Thus, livelihood options for this social group need to take into account their needs and capacity.

A synthesis of GESI gaps identified

- Women compared to men have a low rates of workforce participation. Compared to men, women in employment are more likely to be located in vulnerable employment characterised by low pay, irregular and informal with decent work deficits and prone to the effects of climate change.
- Working women are less likely than men earn a wage or salary. This is because most women are trapped in the informal sector with limited opportunities for earning a wage/salary.

⁶⁴ VOLUNTARY LOCAL REVIEW (2020). Victoria Falls Town’s Implementation of the 2030 Agenda and Agenda 2063 for Sustainable Development March 2020. Available at: <https://www.uneca.org/sites/default/files/TCND/voluntary-local-reviews-africa/Victoria-Falls-VLR.pdf>

⁶⁵ <https://www.ifrc.org/docs/appeals/09/160400-Zambezi-River-Project-LR3.pdf>

⁶⁶ The Famine Early Warning Systems Network (FEWS NET) (2010). Livelihoods Baseline Profiles: Zambezi Basin, Mozambique. A Special Report. USAID. Available at: https://fewsn.net/sites/default/files/documents/reports/mz_baseline_rural%20zambezi_en_final.pdf

- Women dominate in the provision of labour in agriculture but they do not enjoy an equal decision-making position as men in regard to the cash crops grown and marketing of produce.
- Despite their centrality in agricultural production, women's ownership of land remains low, occasioned by unfavourable land tenure system (predominantly customary) and the restrictive cultural norms that largely guarantee women's access to land through their relationship with men.
- Exclusion from social protection is more likely to affect women than men since most working women are in the informal sector yet a number of social protection programs are biased towards the formal sector such as maternity leave, pension, salary-backed loans.
- SMEs owned by women, youth, persons with disabilities and other vulnerable social groups have a low lifespan; they are capital constrained, face gender-based risks. Many of these social groups fall short of entrepreneurship knowledge and skills.
- Women are more likely to experience financial exclusion than men. Fewer women than men have an account at a bank or another type of financial institution or report personally using a mobile money service. Women farmers (predominantly involved in smallholder and subsistence farming) face challenges of accessing agricultural financing support. This is because many are not organized into farmers' groups that can be easily targeted by financial service providers; but also, the collateral demands reduce women's chances. Most women lack ownership of assets such as land, property required as collateral.
- Women are less likely to participate in business. When they do, they are more inclined to the informal sector businesses; their business have a low lifespan, they face closure due to limited access to finance, low entrepreneurship competences, unaffordable business premises, negative cultural attitudes, and gender-related barriers such as less mobility, reproductive roles and traditional power relations make it more difficult for women to start and run enterprises.
- Due to restrictive cultural norms, women compared to men spend a large proportion of their time on unpaid domestic and care work. This compromises their active participation in productive livelihood activities that bear the potential to improve their socioeconomic position in their households and communities.
- Women farmers and women in business are less likely to than their male counterparts to use information and communication technologies for not only business, marketing their produce including social marketing but also to reduce vulnerability to climate change (e.g., accessing timely weather information)
- Women, youth, PWDs and children are most vulnerable to climate-related shocks due to limited access to resources, services and information
- Women are often underrepresented in leadership and decision-making roles related to income generation and natural resources management.
- Youth unemployment is high in most of the countries in the Zambezi basin for different reasons.
- The share of youth not in education, employment or training is higher for females than males.
- Persons with disabilities face a number of challenges compared to those without disabilities. They are uniquely marginalised.

All the above realities compromise the livelihood security of women, youth and other affected social groups, with impacts transcending individual to household, community and societal level within the region. The design of the Zambezi River Basin Investment Plan will thus need to accommodate these livelihood and gender issues.

Relevant actions/recommendations

Based on the issues/challenges synthesized, the following actions are proposed:

- Resilient food production project in the face of weather extremes like droughts,
 - Promote the adoption of conservation agriculture and drought-resilient crops varieties by men, women, youth, older persons and other social groups
 - Promote gender and social inclusive conservation agriculture
 - Empower women, men, youth, PWDs, older persons and other social groups with knowledge and skills about creating nutrient-rich soil using organic materials
- Promote alternative livelihoods for women, men, youth, persons with disabilities and other social groups that entirely rely on the natural resources for livelihood/survival
- Value addition – leverage forest non-wood products and promote design and art as an alternative livelihood for women, youth, PWDs as this is less capital and labour intensive, hence more inclusion of the marginalised.
- Promote women, youth and PWD entrepreneurship in the biodiversity non-wood sector that is less labour and capital intensive – with a focus on basketry, crafting. Support towards women, youth and PWDs and other vulnerable social groups should focus on shifting attitude towards these enterprises, skilling, and access to green credit
- Enhance the participation of women, youth, PWDs and other vulnerable social groups in nature-based businesses. This requires addressing their current barriers to participation in business.
- Empower women, men, youth and other social groups in Community-based sustainable natural resource management for livelihood improvement
- Promote the mainstreaming of Gender, issues in Agriculture – to promote effective participation of women and youths, women farmer organizations and youth farmer groups
- Gender and socially inclusive climate smart agricultural livelihood interventions that not only maintain but improve the degraded nature of both the land and water bodies
- Create opportunities for the participation of women, youth, persons with disabilities and other vulnerable social groups in Ecotourism
- Promote the financial inclusion and access to finance by women, youth, PWDs and other social groups. These should be supported to benefit from green credit.
- Empower women, men, youth, PWDs, older persons and other social groups with the right attitude, knowledge and skills in enterprises that promote nature conservation
- Joint monitoring of activities on the shared river so as to minimize human activities that exacerbate the impact of climate change on women, youth and other social groups
- Climate-resilient water harvesting system that is accessible and time efficient for women, girls and boys given their role in water collection. The system should aid in

sustainable water management given the challenges of water unavailability due to climate change. This can help to minimize human-wildlife conflict arising from competition for water in the river

- Build the resilience capacity of women, men, youth, PWDs, older persons and other social groups to disaster and risks
- Capacity building for women, men, youth, PWDs, older persons and other social groups in respect to improved community-based natural resource management
- Ensure consistent planning, and implementation of gender responsive budgeting across sectors that contribute to the livelihood and wellbeing of women, men, youth, PWDs and other vulnerable social groups.

Annex 4: List of Stakeholders Consulted During National Consultations

STAKEHOLDERS WORKSHOPS ATTENDANCE LIST								
	NAME	SURNAME	GENDER	COUNTRY	CONTACT/ CELL NO.	EMAIL	POSITION	ORGANISATION
ZAMBIA								
1	Andrew	Songiso	M	Zambia	0977621105	sipawasong@gmail.com	PIE	Ministry of Agriculture
2	Marion	Munyinda	M	Zambia	0976392603		Board Secretary	Kazungula DCU
3	Chabwera	Phiri	F	Zambia	0971892386	chazansophiri@gmail.com	Assistant Keeper of Botany	Livingstone Museum
4	Mibenge	Benjamin	M	Zambia	0974139868	benjaminmibenge@yahoo.com	Environmentalist	Save the Forests
5	Nasilele	Lubinda	M	Zambia	0974571517	lubindanasilele2@gmail.com	Senior Lecturer	DALICE
6	Gabriel	Mutale	M	Zambia	0975779059	gabriel.mutalestar@gmail.com	Coordinator Livelihoods	CARITAS Livingstone
7	Janet	Chikololo	F	Zambia	0977491749	chikololojanet@gmail.com	DFO	Forestry
8	Michael	Inambao	M	Zambia	0972910610	inambaomm@gmail.com	Assistant Director	PPU- South
9	Erick	Kamona	M	Zambia	0979877797	erickkamona@gmail.com	Meteorologist	Met Dept
10	Melody	Sondoi	F	Zambia	0979146771	melodysondoi1@gmail.com	Youth Chairperson	YWCA
11	Lilian	Mponje	F	Zambia	0978792204	lilianmponje1968@gmail.com	Sinde Cooperative Chair	Chairperson
12	Philliot	Nyanga	M	Zambia	0977478700	nyanga.philliat@yahoo.com	ZNFU	Chairperson
13	Charles	Bunonge	M	Zambia	097354388	mwata2005@yahoo.co.uk	Technologist	Forestry
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63	Mgalala M	Ngaye	M	Tanzania	0719409595		Chief	MAGAUGE
64	Eng. Lucia	Lema	F	Tanzania	0752602050	lucia.lemma@maji.go.tz		MoW
65	Eng Elice	Engella	F	Tanzania	0674452480	tuzoenga@gmail.com	Basin Director	LNBWB
66	Thembe	Dube	F	Tanzania	+263 772 764623	thembe@zambezicommission.org	AA	ZAMCOM
ZIMBABWE								
1	Atanasia	Kamasho	F	Zimbabwe	07775764527		Hydrogeologist	Department of Water
2	Augustine	Mutaramunsi	M	Zimbabwe	0772988588			
3	Patience	Chesa	F	Zimbabwe	0772935526	chesapatience911@gmail.com	LUP Specialist	ARDAS

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STAKEHOLDERS WORKSHOPS ATTENDANCE LIST								
	NAME	SURNAME	GENDER	COUNTRY	CONTACT/ CELL NO.	EMAIL	POSITION	ORGANISATION
4	Chrispen	Mandia	M	Zimbabwe	0772837987	chrispenmandla@gmail.com	VES	VET
5	Tarison	Munyaka	M	Zimbabwe	0773514518	manyakatv@outlook.com	Engineer	Department of Irrigation
6	Bowsani Lloyd	Makwena	M	Zimbabwe	0774324248	lloydmbakwena@gmail.com	PAES	AGRITEX
7	Tendai	Muyambo	F	Zimbabwe	0772515246	tmuyambo@zinwa.co.zw	PH&CM	ZINWA
8	Robben	Makazhu	M	Zimbabwe	0778621750	makazhurobben2gmail.com	Vice Chairman	Mazowe Catchment
9	Emily	Matingo	F	Zimbabwe	0773200082	emilymatingo@gmail.com	Climate Change Scientist	CCMD
10	Givemohe	Maujeugwa	M	Zimbabwe	0779266113	givemoremaujeugwa8@gmail.com	Chairman RSCE	Augwa
11	Bilton	Simango	M	Zimbabwe	0774756526	bittagimangom2gmail.com	Chief Operations Officer	Middle Manyame
12	Takudzwa	Gogwe	M	Zimbabwe	0779909031	tgogwe4@gmail.com	SDO	Social Department
13	Norman	Musoka	M	Zimbabwe	0780335126	normanmusora@gmail.com		Markonde RC
14	Maxwell	Seta	M	Zimbabwe	0777147701	cetamaxseta@gmail.com	BCDO	Min. of Women Affairs
15	Simbarashe	Maduuro	M	Zimbabwe	0773591261	maduuro2007@gmail.com	Rep MO	EMA
16	Rutendo J	Pote	F	Zimbabwe	0784729955	nutendojp@gmail.com	LOE	Land Dept and Admin
17	Douglas	Chiwiwo	M	Zimbabwe	0772379650		Director Economic Affairs	OPC
18	Mawondde	Delight	F	Zimbabwe	0777011803	delightbhumira@gmail.com	EPMO	OPC
19	Elfa	Machana	F	Zimbabwe	0772967445	elfamachana2gmail.com	ENG	DOI
20	Wonder	Mutsago	M	Zimbabwe	0782517244	wzmutago@gmail.com	Rural Development Engineer	ZINWA
21	Maureen	Rukwa	F	Zimbabwe	0771229366	maureenrukwa@gmail.com	Provincial Hydrologist	RIDA
22	Kudakwashe	Kayirasora	M	Zimbabwe	0719566767	kudakwashe@zambezicommission.org		ZAMCOM
23	Aspwas	Punesu	M	Zimbabwe	0777105650	aprunesu@gmail.com	A/DD	Local
24	Evelyne	Nooro	F	Zimbabwe	0712727514	enooro@gmail.com	PAO	AGRITEX
25	Gundain	Philimon	M	Zimbabwe	0778742899	pgundani72@gmail.com	PH&CM	ZINWA
26	Matipano	Geoffreys	M	Zimbabwe	0772116389	gmatipano@cut.ac.zw	Lecturer	CUT
27	Tauro	Bright	M	Zimbabwe	0719784911	tbright@gm		
BOTSWANA								
1	Gakgamalang	ditshimologo		Botswana				
2	Keboneemang	Gabanakitso		Botswana				
3	Otshewatse	Pihorano		Botswana				
4	Maoshadi	M		Botswana				
5	Kadinyambi	Kutenda		Botswana				
6	Ruth	Letsopa		Botswana				

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STAKEHOLDERS WORKSHOPS ATTENDANCE LIST								
	NAME	SURNAME	GENDER	COUNTRY	CONTACT/ CELL NO.	EMAIL	POSITION	ORGANISATION
7	Kaimana	Rekoku		Botswana				
8	Bantlhatele	Ketshogetse		Botswana				
9	Bohumelo	Mtshwarang		Botswana			Ipelegeng	
10	Keoikantse	Gabanakyosi		Botswana			Ipelegeng	
11	Atlang	Dibebe		Botswana				
12	Opelo	Moadirwa		Botswana				
13	Balipi	Tshedie		Botswana			Ipelegeng	
14	Seipone	Dibebe		Botswana			Ipelegeng	
15	Gothusamang	Setoto		Botswana			Ipelegeng	
16	Thiyavo	Mokoya		Botswana			Ipelegeng	
17	Tshireletso	Olopeng		Botswana			Ipelegeng	
18	Oleboge	Phorano		Botswana			Ipelegeng	
19	Wilson	Dibebe		Botswana				
20	Tumelo	Tlhapi		Botswana				
21	Kebaone	Kandere		Botswana				
22	Moabi	Xhaako		Botswana			DWS	
23	Tsholofesto	Meshack		Botswana			DWS - HQ	
24	Luetso	Masisi		Botswana			DWS	
25	Leratang	Mopulo		Botswana			DWS	
26	Maina	Bolokwe		Botswana			DWS	
27	Botsalu	Thimuku		Botswana			DWS	
28	Moses	Petrus		Botswana			DWS	
29	Galebowe	Kgali		Botswana			DWS	
30	Bonani	Manyepedza		Botswana			DWS	
31	Gokae	Kgosimoruti		Botswana			VDC Member	
32	Kenny	Phuthegu		Botswana			VDC Secretary	
33	Kandere	Thehengo		Botswana			VDC Vice Chair.	
34	Phildimon	Kapinga		Botswana			VDC Chairman	
35	Seane	Kalaloka		Botswana				
36	Motabaseyo	Kalaloka		Botswana				
37	Keipigetse	Kalaloka		Botswana			VDC Member	
38	Kagiso	Dipogiso		Botswana				
39	Teseletso	Makgetho		Botswana				
40	Atamelang	Bankgasitse		Botswana			VDC 1	
41	Othiwa	Kudumo		Botswana				
42	Oduetse	Makumbi		Botswana			Modula Setilo	
43	Thapoemang	Mopalo		Botswana				
44	Bonno	Kegatileive		Botswana				

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STAKEHOLDERS WORKSHOPS ATTENDANCE LIST								
	NAME	SURNAME	GENDER	COUNTRY	CONTACT/ CELL NO.	EMAIL	POSITION	ORGANISATION
45	Gelebogue	Mosyseu		Botswana				
46	Kebitsaone	James		Botswana				
47	Butsalo	Thimuka		Botswana			DWS	
48	Dinyando	Maputa		Botswana				
49	MonnaMoeng	Muxhago		Botswana				
50	Lesia	Kalaloka		Botswana				
51	Olorato	Mopalo		Botswana				
52	Olebogile	Mopalo		Botswana				
53	Osbert	Tshekoetsile		Botswana				
54	Banyana	Kebaletse		Botswana			Dept - MET	
55	One	Baliki		Botswana			Dept – MET	
56	Kabo	Lelatlhego		Botswana			Dept – MET	
57	Lesego	Ratsie		Botswana			Dept – MET	
58	Mabala	Letsatle		Botswana			Dept – MET	
59	Moeti	William		Botswana				
60	Lethacsile	Malagestha		Botswana				
61	Peter	Morobolo		Botswana				
62	Pubano	Lekgoa		Botswana				
63	Mashe	Dikuwa		Botswana				
64	Seane	Kalaloka		Botswana				
65	Thabo	Galebotse		Botswana				
66	Badirile	Simasiku		Botswana				
67	Godiraone	Oduetse		Botswana				
68	Kobamelo	Baikgodese		Botswana			Councillor	
69	Tapoloso	Mosoka		Botswana				Kgosi
70	Tihaloganyo	Leprang		Botswana				Kgosi
71	Loeto	Masisi		Botswana				DWS
72	Leratang	Njpalo		Botswana				DWS
73	Arnold	Tebelelo		Botswana				DWS
74	Clifford	Libalamwe		Botswana				DWS
75	Nbatshi Thabo	Bangale		Botswana				DWS
76	Onkere	Ramaxao		Botswana				WUC
77	Mmoloki	Mapula		Botswana				WUC
78	Moses	Petrus		Botswana				DWS - Main
79	BATshegisebo	Setoto		Botswana				
80	Bafeletse	Montshonyane		Botswana				
81	Bahumelo	Moxa		Botswana				
82	Constance	Hulela		Botswana				

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STAKEHOLDERS WORKSHOPS ATTENDANCE LIST								
	NAME	SURNAME	GENDER	COUNTRY	CONTACT/ CELL NO.	EMAIL	POSITION	ORGANISATION
83	Serebotswe	Mnolawa		Botswana				
84	Bonno	Sekgwa		Botswana				
85	Knumo	Ngwana		Botswana				
86	Edward	Setlhare		Botswana				
87	Otsile	Ketheotawe		Botswana				
88	Otshidile	Modukanele		Botswana				
89	Otsogile	Kotewa		Botswana				
90	Alex	Dobe		Botswana				
91	Odirile	Lokwalo		Botswana				
92	Neo	Baeng		Botswana				
93	Leano	Dituadi		Botswana			Chaiperson	VDC
94	Gaeratwe	Letsapa		Botswana				
95	Swetsang	Sianga		Botswana				
96	Tsaone	Sianga		Botswana				
97	Onalethata	Phorano		Botswana				
98	Otshwanetse	Phorano		Botswana				
99	Obothale	Kemiso		Botswana				
100	Kesego	Molathiwa		Botswana				
101	Kelatheletswe	Nkubii		Botswana				
102	Patrick	Bowtshawa		Botswana				
103	Francinah K	Lekgowa		Botswana				
104	Keitumetse	Meoktsi		Botswana				
105	Patience	Seabe		Botswana				
106	Keodumetse	Tshupelo		Botswana				
107	Keromemang	Tshupelo		Botswana				
ANGOLA								
1	Joaquima	Ndala Muhongo		Angola	938219162	Joaquimamuhongo@gmail.com	Jurista	GPS
2	Jorgina	CMM Almeida		Angola	941308669	euniskajorgina@gmail.com	Tecnica	ADM – Maringa
3	Antonio	Canjenge J		Angola	923844799		Assessor	ADM – M. Rivango
4	Eduardo	Fraweishe		Angola	929117088	Afraweishe@hootmail.com		EPASCE
5	Breena patricia	Jevramooto		Angola	924042256	bnunadadiva@gmail.com	Professore	IPAT
6	Mario	Domingos		Angola	925113943		Tecnico	ADM Mavinga
7	Andreia	S. Sicato M		Angola	934874892		Chefe de Depto	GPCTJD
8	Lidia N J	Ekumdi		Angola	924989274		Tecnica	GPDI
9	Gabriel	Jose Cassanga		Angola	939375580		Chefe De Cultina	Cultina
10	Lundes M	Chingueleni		Angola	924432795		Tecnica	GABHIC
11	Joaquim	Sobimo		Angola	927230831	Joaquimobino17@hotmail.com	Tecnica	GABHIC
12	Eduardo Sabao	Nave		Angola	923986245	Sabaosabao08@gmail.com		MBAKITA

Zambezi Region NPC Investment Plan

STAKEHOLDERS WORKSHOPS ATTENDANCE LIST								
	NAME	SURNAME	GENDER	COUNTRY	CONTACT/ CELL NO.	EMAIL	POSITION	ORGANISATION
13	Anminda	Joanna CAN		Angola	935113222	anmindacaddu@gmail.com	Enjienna Tecnica	GTI institute
14	Rodnino Adefo	Rupessala		Angola	928632859	rkuessala@gmail.com	Chefe Dept	GGBO
15	Guenda J	Marcal		Angola	923278237		Tecnico	GPAGRSC
16	Eduardo	Kalumbi		Angola	923299939	Mr.kalumbi@mbakita.org	Interpret	MTAKITA
17	Tchimbali	Kanlungulo		Angola	933104017	chimbalkanlunguto@gmail.com	Vec Hidromet	GABHIC
18	Augustine	Jamba C		Angola	943488944	augustojambacipriame@gmail.com	Tecnica	ACADIR
19	Joao	Domingos D		Angola	929823095	joaodomingosdumbo@gmail.com	Tecnico	ACADIIR
20	Joao	Bafotiste		Angola	922389850	jbgsebastian@hotmail.com	DG	Okavango
21	Maria Kacuhu			Angola	994424960		Tecnica	Sande
22	Jose Simta	Nutango		Angola	932445075	jose@gmail.com	Tecnico	
23	Joaquim	Aniceto		Angola	931191983	amctoquem@gmail.com	Tecnico	Cinemotografia
24	Rodriguez	Bongue N		Angola	936034145	b.malengwe@outlook.com	PCA	EPASCC-EP
25	Eva	Madalena		Angola	985894561		Tecnico	EPASCC-EP
26	Ana	Feronandez		Angola	947204473	anaferonandes@hotmail.com		GPI
27	Eugenia	J Abel		Angola	939747367	Abeleugenia26@gmail.com	Technica	ACADIR

Annex 5: Grassroots Respondents

Grassroots Respondents					
First Name	Last Name	Gender	Country	Contact	Occupation
ZAMBIA					
Joseph	Kuyaba	M	Zambia	0972542788	Farmer
Malcom	Muka	M	Zambia		Agricultural Officer
Mbewe		M	Zambia	0972021120	NWSSC
Ngulube		M	Zambia	0977749907	Small Business Owner
Wilson	Dybe	M	Zambia		Community Leader
Kulubwa	Kuyaba	F	Zambia	09727739254	Subsistence Farmer
Paul	Mumba	M	Zambia	0763501998	Small Business Owner
Mechel	Miti	M	Zambia		Subsistence Farmer
Darius	Mumba	M	Zambia	0975184008	Hotel Owner
Emmanuel	Nyoni	M	Zambia	0978001007	Luanguwa Town Council
Zulu	Francis	M	Zambia	0976696313	DWRD
Phiri	Natalia	F	Zambia	0976554931	Fisherman
Chipimo	Mattheus	M	Zambia	0773463080	Teacher
Sera	Nachalwe	F	Zambia	0771581575	Subsistence Farmer
James	Mwenya	M	Zambia	0976543399	Subsistence Farmer
Jonathan	Manjomba	M	Zambia	0977266701	DAO
Jani	Rollet	M	Zambia	0977628274	DWRD
Peter	Rayangwa	M	Zambia	0974303973	Small Business Owner
Muneya	Mulopa	F	Zambia	0978783100	ZRA
Albera	Mushoke	M	Zambia	097605520	ZCSA
Samuel	Daka	M	Zambia	0977312643	Small Business Owner
Matilda	Mwale	F	Zambia	0978611745	DWRD
Nchimanya	Chijoka	M	Zambia	0978338344	Razel-Bec Ltd
Charles	Bulungu	M	Zambia	0976227380	Subsistence Farmer
Christopher	Mate	M	Zambia	0779377090	Painter
NAMIBIA					
Tembwe	Klaust	M	Namibia	0812178334	Driver
Kashanwo	Joseph	M	Namibia	0814971073	Head Teacher
Mutelo	Dusken	M	Namibia	0816134350	Off Loader
Kalenya	Codrie	F	Namibia		Student
Kayunde	Mulela	F	Namibia	0813464601	Small Business Owner
Mazizimbi	D	F	Namibia	0881642714	Small Business Owner
Nwara	Sihambo	F	Namibia		Student
Sharunangu	Mary	F	Namibia		Student
Lucondo	Sonetta	F	Namibia	0816846630	Small Business Owner
Kachibonwam		F	Namibia		Small Business Owner
Munyaza	Mukaya	M	Namibia	0813335126	Police Officer
Bosco	Sinyula	M	Namibia	0816266252	Police Officer
Ractor	Mwinga	M	Namibia	0814022146	Water Technician
Mukiya	N	F	Namibia		Village Elder
Maseme	Libitah	F	Namibia	0813683894	Village Elder
Masalasala	A.S	M	Namibia	0814454117	Village Elder
Nchindo	M.C	M	Namibia	0818069523	Student
Dominic	Muema	M	Namibia	0812184031	IRDNC
Musowe	K	M	Namibia	0812891232	Subsistence Farmer
Silishebo	N	F	Namibia	0816380353	Subsistence Farmer
Kenneth	Munihango	M	Namibia	0814288664	Head Teacher
Patricia	Munihango	F	Namibia		Head Teacher
Patrick	K.K.S	M	Namibia	0814393690	Teacher
Suzan	Munihango	F	Namibia	0818030784	Subsistence Farmer
Godfrey	Milupi	M	Namibia		Small Business Owner
Mwale	Munihango	F	Namibia	0818549920	Small Business Owner
Siyola	Raymond	M	Namibia	0812025612	Small Business Owner
Munihango	B.M	F	Namibia	0813534431	Subsistence Farmer
Martin	Sikata	M	Namibia	0817383420	VDC Chairperson
Tawita	P.S	F	Namibia	0817000148	VDC Secretary
Liswaniso	W	F	Namibia	0813876577	VDC Treasurer

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Grassroots Respondents					
First Name	Last Name	Gender	Country	Contact	Occupation
MALAWI					
Alufe	Maltia	M	Malawi		Fisherman
Elise	Simau	M	Malawi		Farmer
Joyce	Sabe	F	Malawi		Small Business Owner
Mese	Riziwell	F	Malawi		Farmer
Mary	Jeke	M	Malawi		Small Business Owner
Kettie	Mpada	M	Malawi		Farmer
Aron	Oladu	M	Malawi		Fisherman
Petrod	John	M	Malawi		Farmer
Alubana	Maffat	F	Malawi		Farmer
Peter	Chilanga	F	Malawi		Small Business Owner
Kampira	Chilanga	F	Malawi		Farmer
Baphrone	Bailwe	F	Malawi		Factory Worker
Agnes	Wyson	M	Malawi		Farmer
Trinity	Macnight	F	Malawi		Subsistence Farmer
Ulengu	Sunday	M	Malawi		Tailor
Aliduness	Joni	F	Malawi		Fisherman
Exasi	Yohane	M	Malawi		Beekeeper
Potika	Sande	F	Malawi		Small Business Owner
Aida	Fombe	F	Malawi		Small Business Owner
Sitafodi	Prize	M	Malawi		Fisherman
Furedi	Johni	M	Malawi		Fisherman
Markena	Christopher	F	Malawi		Farmer
Sankhani	Mbuou	M	Malawi		Farmer
Sophia	Paul	F	Malawi		Farmer
Masiempi	Mbeu	M	Malawi		Farmer
Memory	Chabe	F	Malawi		Small Business Owner
Edina	Chamumba	F	Malawi		Small Business Owner
Linly	Khefasi	M	Malawi		Fisherman
Eliza	Fatsani	F	Malawi		Small Business Owner
Furedi	Kone	M	Malawi		Builder
Hassani	Jusa	M	Malawi		Factory Worker
Marita	Simari	F	Malawi		Factory Worker
Stephani	Pinsdi	M	Malawi		Fisherman
Memory	Bande	M	Malawi		Water Technician
Alice	Short	F	Malawi		Subsistence Farmer
Joyice	Dezimata	F	Malawi		Small Business Owner
Mavita	Moses	F	Malawi		Small Business Owner
Angelina	Butawo	F	Malawi		Farmer
Enipher	Petrol	F	Malawi		Small Business Owner
Sophia	Paul	F	Malawi		Vendor
Victor	Ishmaeli	M	Malawi		Farmer
Alex	Singano	M	Malawi		Fisherman
Joseph	Sinoya	M	Malawi		Vendor
Yosef	Bick	M	Malawi		Fisherman
Manue	Gift	M	Malawi		Farmer
Steven	Yohame	M	Malawi		Fisherman
Harry	Philip	M	Malawi		Fisherman
Nick	Beni	M	Malawi		Fisherman
Fyness	Mwiba	F	Malawi	0991337171	Fish Monger
Chimwemwa		F	Malawi	0990238795	Fish Monger
Molini	Mwakasa	F	Malawi	0991175775	Fish Monger
Rhoda	Banda	F	Malawi	0998884162	Fish Monger
Walusungu	Kanyika	M	Malawi	0987718800	Builder
Joice	Sibale	F	Malawi		Farmer
Stellah	Chilanga	F	Malawi	0982110451	Restaurant Owner
Modester	Tauzi	F	Malawi	0993504253	Farmer
Sophia	Kalagho	F	Malawi	0998442564	Farmer
Angella	Fongo	F	Malawi	0990218477	Farmer
Ganunka		M	Malawi	0993611115	Fisherman

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Grassroots Respondents					
First Name	Last Name	Gender	Country	Contact	Occupation
Justus	Mkubwa	M	Malawi	0882725498	Business Owner
Linda	Chibaka	F	Malawi	0996985629	PwDs
Rhoda	Simfukwe	F	Malawi	0982181338	Business Owner
Tawonga	Mswayo	M	Malawi	0998227138	Humanitarian
Linda	Ngwira	F	Malawi	0989310472	
Elit	Munthali	F	Malawi	0993320059	
Tabu	Ndovi	F	Malawi	0991278132	PwDs
Suzan	Nyirenda	F	Malawi	0995392839	Farmer
Meble	Chihaule	F	Malawi	0995933309	Farmer
Niya	Manda	F	Malawi	0994082587	Business Owner
MOZAMBIQUE					
Jacinto	Antonio	M	Mozambique		Taxista
Domingos	Santos	M	Mozambique	865513102	Professor
Gezeto	Rezunedo	M	Mozambique		Seguianca
Domingos		M	Mozambique	873791367	Fuino
Mateus	Phezunai	M	Mozambique	878298924	Chef Descasa
Waeth	Nedismo	M	Mozambique	878128796	Farmer
Joana	Maria	F	Mozambique		Farmer
Elnodi	Albertice	M	Mozambique	865333782	Farmer
Artistidos	Lucino	M	Mozambique	842629643	Empreonder
Mina	Davidda	F	Mozambique	844496710	Ara Centre
Hantemcia		M	Mozambique	873937900	NGO
Rein		M	Mozambique	872696994	DDDTA
Zoulingoa	Montino	M	Mozambique	866118553	DPAP
Allesto	Macamo	M	Mozambique	842742914	INAM
Jaimilo	simbili	M	Mozambique	877338211	INE
Zien	Yungo	M	Mozambique	877546486	Ara Centre
Recio	Dezimho	M	Mozambique	845603898	Ara Centre
Timotio	Magante	M	Mozambique		Agricultor
Hetton	Guambe	M	Mozambique	847811125	Ara Centre
Ngoni		M	Mozambique		Pastor
Estrada	Zhacharia	M	Mozambique	862536579	Domestico
Abdio	Mastene	M	Mozambique	868328743	Pastor
TANZANIA					
Mariam	Harioi	F	Tanzania	0755202276	VE Mamba Bay
Anna	Chiwenda	F	Tanzania	0768484036	Farmer
Mese	Mpangala	F	Tanzania	0757250645	Farmer
Adelita	Kaboma	F	Tanzania	0764747812	Farmer
Joachim	Kamanga	M	Tanzania	0766085741	Farmer
Agnes	Ungaunga	F	Tanzania	0763102984	Mama Lishe
Meck	Katambala	F	Tanzania	0745374147	Mchuuzi Samaki
Meck	Msongwe	F	Tanzania	0620362448	Mchuuzi Dagaa
Andrea	Chilimba	M	Tanzania	0758497770	Farmer
Adam	Katyengo	M	Tanzania	0764570140	Farmer
Joseph	Kiwili	M	Tanzania	0757859109	Mfugaji
Onesmo	John	M	Tanzania	0628619489	Bodaboda
Onesmo	Joseph	M	Tanzania	0626385229	Bodaboda
Frenck	Mloki	M	Tanzania	0652646306	Afisa Mazingra
Anna	Chirwa	F	Tanzania	0745468482	Mchuuzi Dagaa
Rose	Sanga	F	Tanzania	0768540908	Farmer
Neema	Buya	F	Tanzania	0762617106	Farmer
Happy	sichona	F	Tanzania	0655985073	Teacher
Fidely	Kessy	F	Tanzania	0752899584	Farmer
Mery	Geofrey	F	Tanzania	0756266773	Teacher
Silula	Aliko	F	Tanzania	0760383670	Nurse
Anyingisye	Lupembe	M	Tanzania	0754448814	Farmer
John	Pilla	M	Tanzania	0739382361	Driver
Alex	Samson	M	Tanzania	0715440244	Farmer
Mariam	Bakari	F	Tanzania	0742698001	Business Owner
Domitila	Shija	F	Tanzania	0748077166	Business Owner

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Grassroots Respondents					
First Name	Last Name	Gender	Country	Contact	Occupation
Jackline	G	F	Tanzania	0763753896	Entrepreneur
Upendo	Augustino	F	Tanzania	0748817672	Business Owner
Christopher	Laston	M	Tanzania	0766313175	Teacher
Paul	Mwambungo	M	Tanzania	0764640171	Farmer

Annex 6: Risks Analysis Table: Category, Likelihood, Impact and Mitigation Measures

Risk Rating: H(igh): risks that are likely to materialize and, hence, their mitigation measures include actions to mitigate the occurrence and impact of such risks. M(oderate): risks that may materialize and, therefore, require close monitoring during project implementation and mitigation actions are taken accordingly.

Risk Category	Likelihood	Impact	Mitigation measure
Political Risks			
1. Commitment of the Zambezi River Basin (ZRB) member countries	M	H	- Sufficient national and regional consultations were held with clear elaboration of benefits of cooperation • Local communities, NGOs and the Private Sector have been engaged • Leverage experience from long history of ZAMCOM facilitating country cooperation on climate change issues - Local communities, NGOs and the Private Sector have been engaged - Leverage experience from long history of ZAMCOM facilitating country cooperation on climate change issues
- Gender and Social Risks			
1. Exclusion of women from consultation processes, and active participation	M	M	- Mindset change to counter these barriers through deliberate interventions on shifting social norms.
2. Gender-based violence (GBV) associated with women's participation in non-traditional economic roles in the local, national and transnational economies.	L	M	- Change in community mindset to embrace women's participation in non-traditional economic roles and in non-traditional spaces - Engagement and galvanize spousal support

Risk Category	Likelihood	Impact	Mitigation measure
3. Gender-related barriers women's participation livelihoods/enterprises such as exclusion from access to capital/credit, time, mobility, confidence, etc.	M	M	- Integrate activities that address the barriers to women's participation in enterprises
4. Discrimination based on gender and age in employment sector	M	M	- Enforcing non-discrimination policies, obliging project managers, contractor/suppliers to comply with the policies and monitoring their compliance
5. The burden of multiples roles of women and the context of some project locations being riskier to women/girls (because of social conflicts, high level of violence, etc.)	L	M	- Ensure the time and location of project activities e.g., meetings allow for women and other social groups to easily participate (i.e., they are accessible, safe, with available children care, organized at hours of the day that women have less burden from other gender roles, etc.)
6. Private sector (market) actors/companies that are unaware of their obligation (and thus less committed) to the prevention of sexual exploitation, abuse, and harassment of women, girls, boys, and vulnerable males. The lack of PSEAH policies exacerbates the situation	L	M	- Any partnership agreements with private sector actors should underline as a minimum the availability of PSEAH policy and mechanisms for preventing and appropriately responding to incidents of sexual exploitation, abuse, and exploitation of women, girls, boys and vulnerable adult males
7. Project actors that are unaware of their obligation (and thus less committed) to keep children safe i.e., to ensure that project/organisational staff and associates, their programmes and operations do no harm to children they come into contact with or impact on directly or indirectly.	L	M	- Promote the practice of all organisations developing/updating their child safeguarding policies that clearly spell out the mechanisms designed to minimize the risk of harm to children as well as procedures for handling child safeguarding incidents in communities where projects are implemented. This is regardless of whether the incidents are as a result of project staff behaviour or the manner in which the project activities are designed and delivered.

Risk Category	Likelihood	Impact	Mitigation measure
8. Participation barriers for PWDs including negative attitude towards their involvement of PWDs including in livelihood activities; physical barriers, policy, institutional barriers	M	M	- Address the barriers to participation of PWDs in their socioeconomic life of their communities through enforcing non-discriminatory policies and fostering affirmative action policies. - Shifting the attitude of community members, employers, project personnel towards PWDs - Incentivizing the neutralization of PWD participation barriers
Regional Risks			
1. Regional Coordination Capacity	M	H	- Creation of a strong Regional Project Coordination Unit supported by a Regional Technical Coordination Committee within ZAMCOM and strengthening of the regional capacity will have to be addressed. - NbS Projects sustainability will depend on maintaining and strengthening the growing regional cooperation among the ZRB countries.
2. National Institutional Capacity/Project Coordination including staff turnover and loss of built capacity could hamper implementation of the investment plan	M	H	- Strengthening of human and institutional capacity in the eight countries and also designate lead Ministries/Agencies for effective sectoral coordination at country level. A strong National Project Coordination Unit should be established to address this challenge.
Legal and Regulatory Risks			
1. Governments Policies and Regulations	H	M	- Development of guidelines and methodologies to harmonize conflicting policies, laws and regulations by the Partner States will greatly enhance this process.
2. Delays or denial of permits necessary to carry out the identified investments	L	M	- Active collaboration with the entities in charge of granting permits, along with the coordination of the necessary requirements and procedures through work meetings.

References

1. Accelerated Nature-Based Solutions Conference | Conference Report 2024. Available online:
https://www.acceleratingnbsconference.org/_files/ugd/df0654_54f753fbec7f42c58fa25dae8486de6d.pdf
2. Achard, F., Eva, H. D., Stibig, H.-J., Mayaux, P., Gallego, J., Richards, T., and Malingreau, J.-P.: Determination of deforestation rates of the world's humid tropical forests, *Science*, 297, 999–1002, <https://www.science.org/doi/10.1126/science.1070656>
3. AfDB (2022). Programme Appraisal Report (Main Report - Volume I) Multinational - Programme for Integrated Development and Adaptation to Climate Change in The Zambezi River Basin (PIDACC ZAMBEZI). Available at: https://www.afdb.org/sites/default/files/documents/projects-and-operations/multinational_-_programme_for_integrated_development_and_adaptation_to_climate_change_in_the_zambezi_river_basin_pidacc_zambezi_-_project_appraisal_report.pdf
4. Agreement on the Establishment of the Zambezi Water Commission. Zambezi Watercourse Commission (ZAMCOM), Harare, Zimbabwe
5. Amaury Tilmant and Regassa Namara (2017). https://www.researchgate.net/publication/323866711_Zambezi_River_Basin_Pathways_for_Sustainable_Development_Chapter_3_The_economic_potential_of_the_basin
6. Analyzing the Agricultural Livelihood Strategic Components in the Zambezi Region, Namibia: <https://repository.unam.edu.na/server/api/core/bitstreams/cc3827c8-01d5-4b4a-a6ba-56c27e4762f7/content>
7. Andrew Rylance & Anna Spenceley (2017) Reducing economic leakages from tourism: A value chain assessment of the tourism industry in Kasane, Botswana, *Development Southern Africa*, 34:3, 295-313, DOI: 10.1080/0376835X.2017.1308855. <https://www.tandfonline.com/doi/pdf/10.1080/0376835X.2017.1308855>
8. Beilfuss, R. (2012) A Risky Climate for Southern African Hydro: assessing hydrological risks and consequences for Zambezi River Basin dams, *International Rivers*. Berkeley, California, USA. <https://www.oieau.fr/eaudoc/system/files/32987.pdf>.
9. Bolton, P. (1984). Sediment deposition in major reservoir in the Zambezi basin. *Proceedings of the Harare Symposium: Challenges in Africa Hydrology and Water Resources*, 1984. IAHR Publ.no. 144. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=f9d8b686f09e7fc2f8a1d394b1ff5836c810c6fd>
10. Book title: Tonga Livelihoods in Rural Zimbabwe
11. Botswana Agriculture Census Report: <https://www.statsbots.org.bw/sites/default/files/publications/Botswana%20Agriculture%20Census%20Report%20Final%202015..pdf>

12. Botswana Map: “ <https://www.citypopulation.de/en/botswana/>”
13. Breen C. M. (1991). Breen, C.M. (1991). Are intermittently flooded wetlands of arid environments important conservation sites? Madoqua 17(2): 61-65. <https://www.africabib.org/rec.php?RID=Q00012197>
14. Bukalo a gateway to kyobe river, Victoria falls: <https://www.africa-press.net/namibia/all-news/bukalo-a-gateway-to-chobe-river-victoria-falls>
15. Bukalo Places to Visit: “The Masubia Royal headquarters is located in Bukalo, this is where the Masubia Khuta, the palace of the Masubia Royal House, is situated”
16. ByJennifer Muderredzi, 2022
17. Can conservation agriculture work? : <https://conservationnamibia.com/blog/conservation-and-agriculture.php>
18. Cartney, M., Beilfuss, R., Rebelo, LM. (2016). Zambezi River Basin. In: Finlayson, C., Milton, G., Prentice, R., Davidson, N. (eds) The Wetland Book. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-6173-5_91-1
19. Chapter title: Food Insecurity, Livelihood-Diversification Strategies and Gender among the Tonga of Binga District
20. Constantine, J.A.; T. Dunne; J. Ahmed; C. Legleiter; E. D. Lazarus (2014). Sediment supply as a driver of river meandering and floodplain evolution in the Amazon Basin. Nature Geoscience, 7, 899–903. <file:///C:/Users/Personal/Downloads/Constantineetal2014.pdf>
21. CRIDIF (2018). Zambezi River Basin Livelihood Response Programme Consolidated Report on Revised Hotspot Narratives & Initial Project Repositories, UKaid.
22. Ecosystems — West Lunga Conservation Project
23. Emmanuel Mogende and Naomi Moswete (2018). Stakeholder perceptions on the environmental impacts of wildlife-based tourism at the Chobe National Park River Front, Botswana. PULA: Botswana Journal of African Studies Vol. 32, No 1, 2018. <file:///C:/Users/Personal/Downloads/1526-Article%20Text-4519-1-10-20190513.pdf>
24. Euroconsult Mott MacDonald (2007). Rapid Assessment – Final Report. Integrated Water Resources Management Strategy for the Zambezi River Basin. For SADC-WD/Zambezi River Authority in conjunction with and SIDA, DANIDA, Norwegian Embassy, Lusaka. <http://the-eis.com/elibrary/sites/default/files/downloads/literature/RA%20Water%20Resources%20Zambezi%2002Jan2008.pdf>
25. FAO-GEF Project Document (2021). Botswana Sustainable Miombo-Mopane Landscape Management Project. https://www.thegef.org/sites/default/files/documents/10255_Project_Document.pdf
26. Farmer’s planting and management of indigenous and exotic trees: <http://researchhub.buan.ac.bw/bitstream/handle/13049/595/Farmers%E2%80%99planting%20and%20management%20of%20indigenous%20and%20exotic%20trees%20in%20Botswana.pdf?sequence=1>

<file:///C:/Users/Laptop04/Downloads/BINGAFISHINGPAPER.pdf>

27. Foley, J. A., DeFries, R., Asner, G. P., Barford, C., Bonan, G., Carpenter, S. R., Chapin, F. S., Coe, M. T., Daily, G. C., and Gibbs, H. K.: Global consequences of land use, *Science*, 309, 570–574, 2005.
https://www.researchgate.net/publication/7704227_Global_Consequences_of_Land_Use
28. G.Z. Ndhlovu and Y.E. Woyessa (2021). Use of gridded climate data for hydrological modelling in the Zambezi River Basin, Southern Africa, *Journal of Hydrology*
29. Gender Analysis and Gender Action Plan: Strengthening Biodiversity and Ecosystems Management and Climate-Smart Landscapes in the Mid to Lower Zambezi Region of Zimbabwe
30. Gumbo, D. J., Moombe, K. B., Kandulu, M. M., Kabwe, G., Ojanen, M., Ndhlovu, E. and Sunderland, T.C.H. (2013). Dynamics of the charcoal and indigenous timber trade in Zambia: A scoping study in Eastern, Northern and Northwestern provinces. Occasional Paper 86. CIFOR, Bogor, Indonesia. https://www.cifor-icraf.org/publications/pdf_files/OccPapers/OP-86.pdf
31. Hansen, M. C., Potapov, P. V., Moore, R., Hancher, M., Turubanova, S. A., Tyukavina, A., Thau, D., Stehman, S. V., Goetz, S. J., Loveland, T. R., Kommareddy, A., Egorov, A., Chini, L., Justice, C. O., and Townshend, J. R. G.: High-resolution global maps of 21st-century forest cover change, *Science*, 342, 850–853, <https://www.science.org/doi/10.1126/science.1244693>
32. <https://documents1.worldbank.org/curated/en/099051424165047993/text/P1558271e8d82d0ab1ae5b11896562a7fc1.txt>
33. <https://documents1.worldbank.org/curated/en/255741537429237774/pdf/130035-WP-PUBLIC-Zambezia-ERP-Brochure-sml.pdf>
34. <https://openknowledge.fao.org/server/api/core/bitstreams/f850df4c-9823-4b02-9d0a-b304b6df972b/content>
35. https://www.adaptation-fund.org/wp-content/uploads/2015/08/Namibia_DRFN_full_proposal_Agra_revised_combined.pdf
36. https://www.adaptation-fund.org/wp-content/uploads/2023/03/AFB.PPRC_.31.8-Proposal-for-Zimbabwe.pdf
37. https://www.adaptation-fund.org/wp-content/uploads/2024/03/AFB.PPRC_.33.Inf_.10-Proposal-for-Botswana.pdf
38. <https://www.fao.org/4/x6685e/X6685E12.htm>
39. <https://www.greenclimate.fund/sites/default/files/document/24870-reducing-ghg-emissions-deforestation-and-forest-degradation-and-enhancing-rural-livelihoods.pdf>
40. <https://www.grida.no/resources/5213>
41. https://www.thegef.org/sites/default/files/documents/10250_Project_Document.pdf

42. https://www.thegef.org/sites/default/files/documents/10254_Project_Document.pdf
43. https://www.thegef.org/sites/default/files/documents/10255_Project_Document.pdf
44. <https://www.zambezi.org/hydrology/river-flows>
45. https://www.zimparks.org.zw/wp-content/uploads/2024/07/Zambezi-Victoria-Falls-GMP_April_2024-Final.pdf
46. Hughes, D.A. and. F. Farinosi (2020) Assessing development and climate variability impacts on water resources in the Zambezi River basin. Simulating future scenarios of climate and development. Journal of Hydrology: Regional Studies Volume 32, December 2020, 100763.
47. Illegal logging of Rosewood: <https://www.occrp.org/en/investigations/chinese-companies-and-namibian-elites-make-millions-illegally-logging-the-last-rosewoods>
48. Interactive World Forest Map & Tree Cover Change Data|GFW: <https://www.globalforestwatch.org/map/> last access: 15 August 2024
49. Jane Turpie, Brad Smith, Lucy Emarton & Jon Barnes (1999). Economic Value of the Zambezi Basin Wetland, Zambezi Basin Wetlands Conservation and Resource Utilisation Project, IUCN Regional Office for Southern Africa, University of Cape Town, South Africa. <https://portals.iucn.org/library/sites/library/files/documents/1999-098.pdf>
50. John Tyler Fox , Mark E. Vandewalle and Kathleen A. Alexander (2017). Land Cover Change in Northern Botswana: The Influence of Climate, Fire, and Elephants on Semi-Arid Savanna Woodlands. <file:///C:/Users/Personal/Downloads/land-06-00073-v2.pdf>
51. Jonathan Timberlake (1998), Biodiversity of the Zambezi Basin Wetlands: Review and Preliminary Assessment of Available Information Phase 1. https://biodiversityfoundation.org/wp-content/uploads/BFA-No.3_Wetlands-Biodiversity_1.pdf
52. Jones, B.T. Chobe Enclave. IUCN/SNV CBNRM Support Programme: Gabarone, Botswana, 2002.
53. Joos-Vandewalle, S. The Effects of Urbanisation on Non-Timber Forest Product Dependencies: A Case Study of Three Settlements in the Chobe District of Northern Botswana; University of Cape Town: Cape Town, South Africa, 2015. <https://open.uct.ac.za/items/9cf1baad-44e9-43a3-abdc-4f19d97094ac>
54. Kasane: <https://botswanawildlife.com/kasane.html>
55. Maidment, R. I., Allan, R. P., and Black, E. : Recent observed and simulated changes in precipitation over Africa, Geophys. Res. Lett., 42, 8155–8164. <https://agupubs.onlinelibrary.wiley.com/doi/10.1002/2015GL065765> , 2015
56. Manyinga-Integrated-Development-Plan-2022-2031 <https://www.manyingacouncil.gov.zm/wp-content/uploads/2022/12/Manyinga-Integrated-Development-Plan-2022-2031-1.pdf>

57. Matsa, M. M., Dzawand., and Mupepi, O. (2023). Binga's VaTonga communities involvement in Zambezi river fishery resource harvesting and management. *Scientific African*. DOI: 10.1016/j.sciaf.2023.e02041. Available at: <file:///C:/Users/Laptop04/Downloads/BINGAFISHINGPAPER.pdf>
58. Matsa, M. M., Dzawand., and Mupepi, O. (2023). Binga's VaTonga communities involvement in Zambezi river fishery resource harvesting and management. *Scientific African*. DOI: 10.1016/j.sciaf.2023.e02041.
59. Ministry of Lands and Natural Resources (MLNR) and Ministry of National Development Planning (MNDP). 2019. Zambia's First REDD+ Safeguards Summary of Information. Forestry Department and National Safeguards Technical Working Group (NSTWG), Lusaka, Zambia. 52 pp.
60. MOSI-OA-TUNYA/VICTORIA FALLS WORLD HERITAGE SITE (Zambia / Zimbabwe) Report to the World Heritage Committee on the mission carried out from 20 to 25 November 2006. <file:///C:/Users/Personal/Downloads/mis509-nov2006.pdf>
61. Muhammad Amjad, M. Tugrul Yilmaz, Ismail Yucel and Koray K. Yilmaz (2020). Performance evaluation of satellite- and model-based precipitation products over varying climate and complex topography, *Journal of Hydrology* Volume 584, May 2020, 124707. <https://www.sciencedirect.com/science/article/abs/pii/S0022169420301670>
62. Namibia Map: <https://www.citypopulation.de/en/namibia/cities/>
63. NAREC (Natural Resource and Environment Centre) (2017). Characterisation of current agricultural activities in the Zambezi River Basin. University of Malawi, P.O. Box 280, Zomba.
64. New Era: Government seizes Timber in Kavango West: http://the-eis.com/elibrary/sites/default/files/downloads/literature/NAM_2022_05_Government%20seizes%20timber%20in%20Kavango%20West_New%20Era.pdf
65. Petra Hulsman *, Hubert H.G. Savenije, Markus Hrachowitz. 2021. Satellite-based drought analysis in the Zambezi River Basin: Was the 2019 drought the most extreme in several decades as locally perceived? *Journal of Hydrology: Regional Studies* 34 (2021) 100789
66. PIDACC Zambezi Pre-feasibility Study Synthesis Report, 2021
67. PLAAS, 2022. Climate Change and Rural Livelihoods in Southern Africa: A Research and Policy Agenda. Bellville, Institute for Poverty, Land and Agrarian Studies
68. Published by the United Nations Environment Programme (UNEP), 2015 Copyright © UNEP 2015. file:///C:/Users/Personal/Downloads/Benefits_of_Forest_Ecosystems_in_Zambia.pdf
69. Regional timber trade flows and trends for Africa: https://afchub.org/documents/1710412594regional_timber_final_.pdf
70. Republic of Botswana. Population and Housing Census, 2011; Statistics Botswana: Gaborone, Botswana, 2011

71. Richard Beilfuss (2012). A Risky Climate for Southern African Hydro: assessing hydrological risks and consequences for Zambezi River Basin Dams, Researchgate, October 2012. [file:///C:/Users/Personal/Downloads/BeilfussZambezi_Climate_HydropowerRiskreport_Final%20\(1\).pdf](file:///C:/Users/Personal/Downloads/BeilfussZambezi_Climate_HydropowerRiskreport_Final%20(1).pdf)
72. Richard Beilfuss, Paul Dutton and Dorn Moore (2000). Land Cover and Land Use Change in the Zambezi Delta. Chapter 2 in Biodiversity of Zambezi Basin Wetlands Vol. III. Land Use Change and Human Impacts. https://www.researchgate.net/publication/313727101_Land_Cover_and_Land_Use_Change_in_the_Zambezi_Delta_Chapter_2_in_Biodiversity_of_Zambezi_Basin_Wetlands_Vol_III_Land_Use_Change_and_Human_Impacts
73. Ronco, P., Fasolato, G., Nones, M., Di Silvio, G. (2010). Morphological effects of damming on lower Zambezi River. *Geomorphology* 115 (2010) 43–55.
74. SADC (Southern African Development Community). (2019). SADC and EU launch a programme to strengthen capacity of SADC member states to undertake climate change adaptation and mitigation actions. Accessed online on 1 Apr 2020: <https://www.sadc.int/news-events/news/sadc-and-eu-launch-programme-strengthen-capacity-sadc-member-states-undertake-climatechange-adaptation-and-mitigation-actions/>
75. Sanchez, S.G. (2020). <https://www.diva-portal.org/smash/get/diva2:1244639/FULLTEXT01.pdf>
76. Saskia Keesstra, Joao Nunes, Agata Novara, David Finger, David Avelar, Zahra Kalantari, Artemi Cerdà. The superior effect of nature-based solutions in land management for enhancing ecosystem services. *Science of The Total Environment* Volumes 610–611, 1 January 2018, Pages 997–1009. <https://www.sciencedirect.com/science/article/abs/pii/S0048969717320752>.
77. Schleiss, A., Matos, J., 2010. Zambezi River Basin. pp. 1–8. <https://infoscience.epfl.ch/server/api/core/bitstreams/cf83b31d-9658-4c64-8bea-b398692975a3/content>
78. Seddon, N. 2022. Harnessing the potential of nature-based solutions for mitigating and adapting to climate change. *Science*, 376(6600), 1410– 1416. <https://doi.org/10.1126/science.abn9668>
79. Simwinji, N. (1997). Summary of existing relevant socio-economic and ecological information. Report to IUCN on Zambia's Western Province and Barotseland. <https://www.cbd.int/financial/values/zambia-valuebarotse.pdf>
80. Southern African Development Community (SADC) (2024). Communiqué of the Extra-Ordinary Virtual Summit of SADC Heads of State and Government on El Niño Induced Drought and Floods. Accessed online on 27 June 2024: <https://www.sadc.int/document/communique-extra-ordinary-virtual-summit-sadc-heads-stateand-government-el-nino-induced>
81. Strategic Plan for the Zambezi Watercourse 2018-2040 - Basin Development Scenarios. Available at:

- https://www.zambezicommission.org/sites/default/files/publication_downloads/basin_development_scenarios_report.pdf
82. The Chobe Zambezi Flood Plain: https://link.springer.com/chapter/10.1007/978-3-030-86102-5_7
 83. The Programme for Integrated Development and Adaptation to Climate Change (PIDACC) In the Zambezi Watercourse Regional Investment Programme Report. Zambezi Watercourse Commission (ZAMCOM), Harare, Zimbabwe
 84. The World Bank (2010). Project Information Document. file:///C:/Users/Personal/Downloads/Morphological_effects_of_damming_on_lowe.pdf
<https://documents1.worldbank.org/curated/es/262091468010487349/489670PID0AFR0Lake0Malawi0rev0Box338924B.doc>
 85. Types of vegetation Namibia: <https://atlasofnamibia.online/chapter-6/types-of-vegetation>
 86. UNEP/EA.5/Res.5 (2022). Nature-based Solutions for supporting sustainable development. Available from <https://wedocs.unep.org/bitstream/handle/20.500.11822/39864/NATURE-BASED%20SOLUTIONS%20FOR%20SUPPORTING%20SUSTAINABLE%20DEVELOPMENT.%20English.pdf?sequence=1&isAllowed=y>
 87. United Nations Environment Programme (2022). Nature-based Solutions: Opportunities and Challenges for Scaling Up. Nairobi.. https://catalogue.unccd.int/1953_nature_based_solutions.pdf
 88. USAID/Zambia (2008) Country Profile. <https://www.usaid.gov/zambia/fact-sheet/usaidezambia-country-profile>
 89. USDA (2011). USDA Forest Service Technical Assistance Africa Program: Project Summary. Prepared by Erika Cohen, Matthew Edwardsen, Steve McNulty, Ge Sun, and Matthew Wingard. January - September 2011. file:///C:/Users/Personal/Downloads/Report_USFSAfricaTechnicalAssistantProgramSummary.pdf
 90. Vanishing Multipurpose Indigenous Trees: https://www.researchgate.net/publication/305815874_Vanishing_Multipurpose_Indigenous_Trees_in_Chobe_and_Kasane_Forest_Reserves_of_Botswana
 91. Volume 602, November 2021, 126749
<https://www.sciencedirect.com/science/article/abs/pii/S002216942100799X>
 92. Waters, C. N., Terrington, R. L., Cooper, M. R., Raine, R. J., & Thorpe, S. (2016). The construction of a bedrock geology model for the UK: UK3D_v2015.
 93. Wildlife And Livestock Activities In Chobe Enclave, Botswana: https://www.researchgate.net/publication/348541268_WILDLIFE_AND_LIVESTOCK_ACTIVITIES_IN_CHOBE_ENCLAVE_BOTSWANA
 94. World Bank (2010). <https://www.sciencedirect.com/science/article/pii/S2214581820302378#bib0180>

95. WWF. 2018. Integrated Flow Assessment for the Luangwa River. Phase 1: Basin Configuration of EFlows. WWF Zambia, Lusaka, Zambia. https://wwfafrica.awsassets.panda.org/downloads/lutr_geomorphology.pdf
96. Zambezi Nature, People and Climate Investment Plan Workshop Summary & Livingstone Outcomes 19-22 February 2024, Zambezi Watercourse Commission (ZAMCOM), Harare, Zimbabwe
97. Zambezi Watercourse Strategic Plan for The Zambezi Watercourse (2018-2040), Basin Investment Scenarios Background Document, Zambezi Watercourse Commission (ZAMCOM), Harare, Zimbabwe
98. ZAMCOM (2017) Situation Analysis and Strategic Directions Report, Zambezi Watercourse Commission (ZAMCOM), Harare, Zimbabwe
99. ZAMCOM (2019). Strategic Plan for the Zambezi Watercourse, Zambezi Watercourse Commission (ZAMCOM), Harare, Zimbabwe
100. ZAMCOM, SADC, SARDC. 2015. Zambezi Environment Outlook 2015. ZAMCOM, SADC, SARDC. Harare, Gaborone. https://www.zambezicommission.org/sites/default/files/publication_downloads/zeo_zambezi_environment_outlook.pdf