



Project Identification Form (PIF) entry – Full Sized Project – GEF - 7

Integrated Transboundary River Basin Management for the Sustainable Development of the Limpopo River Basin

Part I: Project Information

GEF ID

10182

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI☐ CBIT☐ NGI**Project Title**

Integrated Transboundary River Basin Management for the Sustainable Development of the Limpopo River Basin

Countries

Regional, Botswana, Mozambique, South Africa, Zimbabwe

Agency(ies)

UNDP

Other Executing Partner(s)

Global Water Partnership – Southern Africa (GWP-SA)

Executing Partner Type

Others

GEF Focal Area

International Waters

Taxonomy

International Waters, Focal Areas, Communications, Stakeholders, Gender results areas, Gender Equality, Capacity, Knowledge and Research, Freshwater, River Basin, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approach, Convene multi-stakeholder alliances, Private Sector, Large corporations, Civil Society, Academia, Non-Governmental Organization, Local Communities, Awareness Raising, Behavior change, Education, Public Campaigns, Beneficiaries, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Capacity Development, Access and control over natural resources, Participation and leadership, Access to benefits and services, Knowledge Generation and Exchange, Knowledge Generation, Knowledge Exchange, Learning

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Duration

54 In Months

Agency Fee(\$)

570,000

Submission Date

10/10/2019

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IW-3-5	GET	1,814,286	6,610,000
IW-3-6	GET	3,485,714	10,000,000
IW-3-7	GET	700,000	2,000,000
Total Project Cost (\$)		6,000,000	18,610,000

B. Indicative Project description summary

Project Objective

To promote sustainable development in the Limpopo River basin through the basin-wide cooperation and the evidence-based joint management and planning by basin countries, coordinated by the LIMCOM with strong stakeholder engagement throughout the implementation of its Integrated Water Resources Management (IWRM) Plan and the development of the Strategic Action Programme for the Limpopo River Basin (LRB).

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Capacity Building of LIMCOM & its Member States for joint planning and the basin-wide SAP and IWRM implementation	Technical Assistance	1: Capacity of LIMCOM & its Member States strengthened for the improved basin-wide joint planning & management and the IWRM implementation	1.1 Technical Capacity of LIMCOM and Member States Strengthened through development of: <ul style="list-style-type: none"> - LIMCOM Environmental Monitoring Framework (Hydrological, Water Quality, Ecological, Sedimentation monitoring) - Capacity Development Strategy to guide various capacity building activities of LIMCOM and member states (linked to Comp 3) 1.2 Institutional Capacity at LIMCOM and its member states strengthened through: <ul style="list-style-type: none"> - data Sharing Protocol, facilitating data and information sharing and exchange - Environment and Ecosystem Task Force established under Technical Task Team (TTF) - Programme Coordination capacity for effective preparation, implementation and monitoring of SAP and IWRM Plans 	GET	1,114,286	5,600,000

1.3 Operational Capacity of LIMCOM Secretariat strengthened through:

- Operational and financial Management structure of the LIMCOM developed (Accounting Systems, Procurement Systems, Financial Management Systems, HR Policies & Manuals, Host Country Agreement, etc.)
- Institutional Functional Analysis conducted for LIMCOM to suggest a sustainable structure of LIMCOM
- LIMCOM Organigram developed for Council approval
- Costed Sustainability Plan for LIMCOM developed for Council approval.

1.4 Inclusive and participatory IWRM practices supported through:

- the establishment of the national Inter-sectoral committees for each member state to support SAP preparation and IWRM implementation
- the development and implementation of the Gender-responsive Stakeholder Engagement Plan
- the implementation of the Communication Strategy/Plan to support the implementation of the Stakeholder Engagement Plan

2: Filling critical knowledge gaps Technical Assistan

GET

2,900,000

5,460,000

to support joint
planning and
future
development
scenario
analysis

ce

Outcome 2: Priority
knowledge gaps filled to
update the Limpopo
Monograph

Outcome 3: Newly acquired
knowledge about the
basin disseminated
through the **updated
Monograph (TDA)** and
policy briefs, leading to the
strategic decision making
and the basin-wide IWRM
implementation

2.1 **Joint Basin Survey**

conducted for key river health
indicators

- An exchange with ORASECOM
to learn about their JBS
practices (linked to Comp 5)
- key river health indicators
agreed
- JBS conducted by the
countries supported by partners
- JBS institutionalized as a 5-
yearly practice

2.2 **Ecological water requirements (e-flow)**

established to support the future
water resources planning in a
sustainable manner through:

- the identification of additional
ecological water requirement
stations for monitoring
- ecological water requirement
surveys over the entire season
(wet and dry)

2.3 **Sedimentation Transport Monitoring and Modeling**

capacity strengthened through:

- An exchange with OKACOM to
learn about their sedimentation
transport monitoring practices
(linked to Comp 5)
- Sedimentation transport
modeling

- Sedimentatoin monitoring at selected key locations in the basin
- the training of those who participate in monitoring practices
- the establishment of the Sedimentation Committee under LIMCOM TTT

2.4 Assessment of **ecological impacts of alluvial aquifer abstraction practices**

2.5 **Policy and Governace Review** related to the Limpopo Basin IWRM to update the baseline

2.6 **Future WR development scenario analysis** through:

- Integrated Flow Assessment to support the IWRM and analyze future development options, taking into account e-flow requirements as well as climate change and variability
- Various water resources development scenarios developed, taking in to account different investment options (e.g. WDM, conjunctive use) and sector development options
- Economic, Financial and Investment analyses conducted

3.1 **Limpopo Monograph**
updated, including the causal
chain analysis and the future
development scenario analysis

3.2 All new data/knowledge fed
into **LIMIS** to support **DSS**

3.3 **Policy Briefs** produced to
connect science to management
and policy discussions

3: Informed Strategic Planning and Decision Making to implement the basin-wide IWRM (Science-to-Governance)	Technical Assistance	Outcome 4: Transboundary and national priorities agreed and endorsed as SAP and NAPs to guide the future development and investment	4.1 Limpopo IWRM Plan (equivalent to Strategic Action Programme: SAP) for the Limpopo River Basin drafted for negotiation	GET	700,000	1,660,000
			4.2 Four National Action Plans (one for each Member State), accompanying SAP developed			
			4.3 SAP M&E framework developed based on the Theory of Change			
			4.4 SAP Investment Plan developed			
			4.5 SAP for the Limpopo River Basin, together with NAPs , endorsed at the ministerial level			
			4.6. A roundtable organized among investors and partners to support SAP implementation			
4: The IWRM Plan implementation pilots	Investment	Outcome 5: Participatory IWRM practices demonstrated to address sedimentation issues	5.1 Community-based SLM demos piloted to reduce sedimentation and to improve productivity	GET	600,000	850,000
			5.2 SLM demo(s) piloted in partnership with private sector			

5: Knowledge exchange and information sharing for replication and upscaling	Technical Assistance	Outcome 6: Replication and Upscaling supported through exchange of knowledge, best practices and lessons learned	6.1 Exchanges with other RB Os and relevant regional institutions, in particular with OKA COM, ORASECOM, SADC Water Sector, and the Nairobi Convention, to support the effective and efficient delivery of Outcomes 1- 4 and the source-to-sea approach.	GET	400,000	1,570,000
			6.2 Project results and knowledge products developed and disseminated nationally, regionally and globally.			
			6.3 Active contribution to the learning and knowledge sharing activities and events organized by the GEF IW:LEARN, including the GEF IWC.			
			6.4 Timely Project M&E to inform adaptive management for successful delivery of project results, including MTR and T E.			
Sub Total (\$)					5,714,286	15,140,000
Project Management Cost (PMC)						
				GET	285,714	3,470,000

Sub Total(\$)		285,714	3,470,000
Total Project Cost(\$)		6,000,000	18,610,000

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	UNDP (CapNet)	Grant	Investment mobilized	200,000
Beneficiaries	LIMCOM	In-kind	Recurrent expenditures	1,200,000
Government	Botswana	Grant	Investment mobilized	1,200,000
Government	Botswana	In-kind	Recurrent expenditures	1,200,000
Government	Mozambique	Grant	Investment mobilized	480,000
Government	Mozambique	In-kind	Recurrent expenditures	480,000
Government	South Africa	Grant	Investment mobilized	1,600,000
Government	South Africa	In-kind	Recurrent expenditures	1,500,000
Government	Zimbabwe	Grant	Investment mobilized	300,000
Government	Zimbabwe	In-kind	Recurrent expenditures	300,000
Donor Agency	USAID Resilient Water	Grant	Investment mobilized	8,000,000
Donor Agency	UK CRIDF	Grant	Investment mobilized	1,300,000
Donor Agency	GIZ	Grant	Investment mobilized	500,000
CSO	Global Water Partnership	Grant	Investment mobilized	200,000
Beneficiaries	Communities (TBC)	In-kind	Recurrent expenditures	50,000

Others	Local NGOs	In-kind	Recurrent expenditures	50,000
CSO	Global Water Partnership	In-kind	Recurrent expenditures	50,000
Total Project Cost(\$)				18,610,000

Describe how any "Investment Mobilized" was identified

• UNDP CapNet has committed to support the LIMCOM on the IWRM training. • Governments of Botswana, Mozambique, South Africa and Zambia will each commit to the IWRM implementation activities in the Limpopo River basin in their respective territories through their national budget, without which the project interventions would unlikely achieve the expected results and outcomes. With these investments, we can expect the countries to collect data related to ecosystem health indicators of the basin, contribute to the organization of regional meetings, mobilize national and local stakeholders, coordinate with other relevant projects/programmes/initiatives, at the country level, etc. • USAID, UK, GIZ and GWP-Southern Africa have committed their support to the LIMCOM IWRM Implementation through their own projects supporting LIMCOM, which will support the complementary activities to the project interventions. All these partner-supported projects are closely coordinated by the LIMCOM Secretariat to ensure synergies and avoid duplications. • Global Water Partnership – Southern Africa (GWP-SA) is proposed to be the GEF Executing Agency for this project on behalf of the LIMCOM. GWP-SA is expected to mobilize some investment through their operational budget and/or networks to ensure the sufficient execution support is offered to LIMCOM and its contracting parties throughout the project implementation period. The details will be identified during the project development phase.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Regional	International Waters	International Waters	6,000,000	570,000	6,570,000
Total GEF Resources(\$)					6,000,000	570,000	6,570,000

E. Project Preparation Grant (PPG)

PPG Amount (\$)

200,000

PPG Agency Fee (\$)

19,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Regional	International Waters	International Waters	200,000	19,000	219,000
Total Project Costs(\$)					200,000	19,000	219,000

Please provide justification

For the regional project supporting the LIMCOM and its 4 contracting parties, we would definitely need \$200k to support the project development to ensure proper stakeholder engagement in the process.

Core Indicators

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

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

Indicator 3.2 Area of Forest and Forest Land restored

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

Indicator 3.3 Area of natural grass and shrublands restored

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

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored


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

Indicator 7 Number of shared water ecosystems (fresh or marine) under new or improved cooperative management

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

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

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Limpopo Basin	1			
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Indicator 7.2 Level of Regional Legal Agreements and Regional management institution(s) (RMI) to support its implementation (scale of 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Limpopo Basin	3			
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Indicator 7.3 Level of National/Local reforms and active participation of Inter-Ministeral Committees (IMC; scale 1 to 4; See Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Limpopo Basin	1			
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Indicator 7.4 Level of engagement in IWLEARN through participation and delivery of key products(scale 1 to 4; see Guidance)

Shared Water Ecosystem	Rating (Expected at PIF)	Rating (Expected at CEO Endorsement)	Rating (Achieved at MTR)	Rating (Achieved at TE)
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Limpopo Basin	1			
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	500,000			
Male	500,000			
Total	1000000	0	0	0

Part II. Project Justification

1a. Project Description

1a. *Project Description*. Briefly describe:

Basin Context:

The Limpopo River Basin

The Limpopo River Basin (LRB) covers four riparian countries - Botswana, Mozambique, South Africa and Zimbabwe - with an estimate catchment area of 408 000 km². The River flows north from South Africa, where it creates the border between South Africa and Botswana and then the border between South Africa and Zimbabwe, before crossing into Mozambique and draining into the Indian Ocean. The distance from the confluence of the Marcio and Crocodile Rivers in South Africa to the Indian Ocean at Xai in Mozambique is estimated at 1 750 km

The River basin is home to an estimated 18 million people in the four riparian states, with major cities such as Gaborone, Francistown (Botswana), Pretoria, parts of Johannesburg and Polokwane (South Africa) and Bulawayo (Zimbabwe). These major cities are major water users, supplying water to industry, power stations and municipalities. The basin also supports agro-industry with large scale irrigation as well as rain-fed subsistence agriculture. The countries exhibit considerable macro-economic and development variability. The Gross Domestic Product (GDP) per capita (with 2011 PPP \$) in 2015 shows: Botswana US\$ 14,876; Mozambique US\$ 1,116; Zimbabwe US\$ 1,688; and the Republic of South Africa US\$ 12,390^[1].

The Limpopo River Basin also hosts protected areas and a number of biodiversity hotspots. The Great Limpopo Transfrontier Park, comprising the Kruger National Park in South Africa, the Limpopo National Park in Mozambique, and the Gonarezhou National Park in Zimbabwe, is located in the basin and covers an area of approximately 3,577,144 ha^[2]. The transfrontier conservation area includes a wider area around this transfrontier park, including rural and urban areas in which communities live.

Access to water is of strategic importance to social and economic development in all parts of the Basin. Large urban centers such as Gaborone, Pretoria, Johannesburg and Bulawayo are the major users of domestic water within the Basin. On average, the greatest water user by sector in the four Limpopo River riparian states is irrigation, which accounts for approximately 50% of the total water demand. South Africa uses the most water because of its large

population, and correspondingly high irrigation and mining sector water requirements. Zimbabwe's demands are about 50% of South Africa's but the allocation is dominated by urban supply and irrigation. Mozambique and Botswana use the least water. Mozambique's demands are largely dominated by irrigation and Botswana's demands are largely dominated by urban and rural water supply[3].

Water allocation between upstream and downstream areas and among urban and rural users is an essential challenge for the future water management of the Limpopo River Basin. For economic growth to take place equally in the Limpopo transboundary basin, and particularly in the Mozambican part of the basin, it is critical that stable and secure water supply is provided to avoid droughts.

Located in southern Africa, where global circulation models indicate climate change impacts will be significant, the Limpopo River Basin is subject to adverse impacts from climate change and variability. The basin population suffers frequently from droughts and floods, with their limited coping capacity with such extreme events. Climate change impacts due to reduced rainfall, decreased recharge of aquifers, increased evapotranspiration, and saltwater intrusion can lead to a reduced availability of water for various uses including for agriculture, forestry, and human and animal consumption. Erosion and saltwater intrusion could also reduce soil fertility affecting agricultural productivity.

1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description);

Global Environmental (and Transboundary) Problems and their Immediate Causes:

Increasing water scarcity and hydrological variability, exacerbated by climate change

The climate in the Limpopo River Basin ranges from tropical rainy along the coastal plain of Mozambique to tropical dry savannah and tropical dry desert further inland, south of Zimbabwe. The Limpopo River Basin experiences short rainfall seasons, except for some of the outer limits of the basin that have higher rainfall and longer seasons. Rainfall varies from a low of 200 mm in the hot dry areas to 1500 mm in the high rainfall areas. The majority of the basin receives less than 500 mm of rainfall per year. The hot dry areas which receive an estimated 200–400 mm of annual rainfall are located mostly within the main Limpopo River Valley itself. The rainfall concentration index has been estimated at 60% and above, and this limits crop production because most of the annual rainfall is received in a short period of time. Rainfall is highly seasonal and unevenly distributed spatially, with about 95% occurring between October and April, typically concentrated in a number of isolated rain days and in isolated locations. Rainfall also varies significantly from year to year. Evaporation within the Limpopo River Basin varies from 1 600 mm/year to more than 2 600 mm/year. The highest evaporation occurs in the hot Limpopo River Valley. High levels of evaporation mean that the soil dries up quickly and this reduces the amount of water available for plant uptake. This results in crops being more prone to drought. Dryland subsistence farming is generally not viable in this condition, given the variable rainfall, high evaporation and high evapotranspiration.

Water scarcity poses the greatest threat to livelihoods, economies and ecosystems of the Limpopo River Basin. Shortfalls are met via inter basin transfers and balancing the deficits from the ecosystem allocations. As of 2000, the Limpopo had a Water Crowding Index (WCI) of 4,219, well beyond that of 2,000 which is regarded as being a marker of water stress and a barrier to further human development. The water demand by sector and country is shown in the table below (Data source: LIMCOM Monograph[4]).

Country	Water Demand by Sector MCM/Year							Total MCM/Year
	Forestry	Livestock	Thermal Power	Mining	Industrial	Domestic	Irrigation	
Botswana		20	3	8		53	7	91
Mozambique		21				32	274	327
South Africa	83	45	223	285	327	901	1,974	3,838
Zimbabwe		14		6	1	86	96	203
Total	83	100	226	299	328	1,072	2,351	4,459

Water usage is currently dominated by irrigation (53%) followed by Municipal Water Supply (24%); mining and industrial use at 7% each, with rest divided evenly across the forestry, thermal power and livestock sectors. The denaturalized Runoff is estimated at 4055 MCM/year, while the total demand is estimated at 4,459MCM/Year. An increase in water demand in the basin is forecast as 46% by 2025, with urban demands rising the fastest[5].

Water scarcity is exacerbated by high human population density, land degradation, pollution, and climate-induced floods and droughts. Modification of the hydrological regime is prevalent in the Crocodile West and Oliphants river systems. Reduction in streamflow for irrigation and water supply results in reduction in the availability of water for downstream ecosystems. Increased sedimentation in the river system is making the situation worse, causing the reduction of water storage capacity at manmade structures every year. Reduced water availability is expected to affect inland coastal salinity, and coastal integrity. Salt water intrusion in the Lower Limpopo Basin region is expected to reach 30 km inland by 2030, over an area as large as 83 sq. km.[1]

[1] INGC (2009) Synthesis report. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique. [van Logchem B and Brito R (ed.)]. INGC, Mozambique

In addition, the Limpopo River Basin is subject to extreme climatic (and manmade) events such as droughts, floods, and cyclones. Flooding is a major problem in the lower Limpopo River, across the coastal floodplain in Mozambique in the Lower Limpopo–Chokwe basin. In wet times, the Gaza Province in Mozambique is at risk of floods due to upstream dams' operating rules and climate impacts upstream. The floods of 2000 were estimated to have had

significant long-term impacts on the economy of Mozambique, with some experts suggesting as much as a 20% reduction in GDP as a direct result of the floods.

The basin is also prone to droughts, which affect the livelihoods of millions of people in the 4 countries. In Zimbabwe (upper Umzingwane) for example, 50% of the costs relating to droughts are linked to “ante impacts from increased weather risk”.^[7] Increased dryness is expected to affect natural ecosystems such as wooded vegetation; this could impact the energy security of rural villager’s dependence on charcoal and fuelwood. In poverty-stricken areas in the Mozambican part of the Limpopo Basin, as well as drier parts of Botswana and Zimbabwe, increasing climate dryness could make access to potable water and sanitation more difficult. Seasonal drought early warning is thus vital for the whole region.

Immediate causes

The basin currently does not have a basin-wide water resources modeling capacity to manage the current and future water resources development activities in a sustainable manner, except for some intensive modeling efforts related large inter-basin transfer schemes. Water resources modeling and planning are done mostly at the national level, which is not adequate to predict or manage potential (and mostly unintended) transboundary impacts of water resources management of decision made by one country on other countries. In particular, the absence of a basin-wide river flow forecasting system has limited the extent to which existing and planned reservoirs and dams can be operated to maximize water resources conservation and regulation of the river flows to protect water resources and transport infrastructures from flood destruction.

Capacity variance across the basin states, largely resulting from the different stages of development where each country is at, is hindering effective coordination and collaboration at the transboundary level to realize a basin-wide water resources modeling and forecasting system, which supports the basin-wide planning and joint management of the transboundary water resources.

Water quality degradation

The environmental status of the rivers in the basin varies from natural (in the national parks) to highly modified. Effluents from industrial and urban uses in the Olifants headwaters around Gauteng and decant of acid mine drainage from defunct coal mines on the Mpumalanga Highveld results in severe contamination of waters further downstream. The perilous state of wastewater treatment plants causes influx of nutrient-enriched waters into the river tributaries (from Gauteng Province into the Crocodile West River in South Africa). Return flows from agricultural areas contribute pesticides, herbicides and nutrients to the waters. Metals precipitating into river sediments are released during floods and transported downstream. Adverse effects are experienced 300km away from the pollutant source, with the consequence that ecosystems are exposed to poor water quality water over very large distances.

Immediate causes

Existing policies and regulations regarding water quality control are inadequate in the context of rapid development in the basin. The capacity to enforce the existing policies and regulations at the national, sub-national and local level are severely limited due to limited technical, financial and human resources. Costs required to treat water and improve water quality are disproportionally born by municipalities and public sectors, and not enough investments made from private sector which utilize and benefit from water resources. These have all contributed to the water quality degradation in the basin. Further, at the transboundary level, water quality monitoring practices, regulations, policies are not harmonized across the riparian states. Also, little means and mechanisms exists to predict, measure and manage any potential impacts of activities in one riparian states on water quality in the other riparian states.

Land degradation

Land degradation has led to reduced ecosystem productivity, widespread poverty and poor health for people in this area. While there is an insufficient database of land degradation and desertification, in particular lacking data on spatial distribution, a general observation is that the most serious land degradation in the Limpopo River Basin occurs on the rangelands, in particular the communal grazing areas. In the Upper Umzingwane, for instance, increased severity and occurrence of drought and highly erratic rainfall and water scarcity are drivers of degradation. The loss of vegetation in the headwaters increases sediment load and often leads to dramatic change in the character of the Limpopo tributaries to less stable, more seasonal rivers characterized by a rapidly shifting series of channels and amplifying flooding. The increase in sediment load due to land degradation has tangible and cumulative impacts on the capacity of dams downstream. Climate variability and changes also have a profound effect on accelerating erosion and land degradation.

Immediate causes

Where rain-fed agriculture is practiced, lack of knowledge on various sustainable land management practices has led to the degradation of land and loss of productivity, which further exacerbates the poverty and leaves those who depend their livelihoods on those land more vulnerable. Unplanned or poorly planned development activities in the basin caused land degradation and reduced some intangible ecosystem services that the healthy land can provide to the basin population (e.g. water retention, water recharge capacity, flood control, etc.). Impacts from the land degradation can be felt more severely at places some significant distance away from the place where the land was degraded, but there is currently little means or mechanisms to monitor, manage or control the transboundary impacts of the land degradation in the basin.

Increasing pressures on the groundwater resources

Groundwater plays a crucial role in supplying water for farming and domestic uses in the Limpopo River Basin, primarily because of the aridity of basin, while the detailed figures on quantity and dependence on groundwater are unknown. The extent of aquifers is not known, which makes it difficult to predict the effects of groundwater usage in one location on groundwater users elsewhere. Important transboundary aquifers include the Ramotswa dolomite basin (an extension of the Transvaal Super group dolomites into Botswana) and the Tuli Karoo Basin between Zimbabwe and Botswana. The groundwaters in the Ramotswa dolomite basin have been severely polluted by inappropriate strategies for dealing with the sanitation needs of the Ramotswa community with urban settlements and meat industries^[8]. Transboundary aquifers are at high risk of over-extraction and contamination, due to lack of governance mechanisms.

Immediate causes

While it is well known that the groundwater resources are critically important to provide water security and support development in some parts of the basin, aquifer are not well understood, nor is the recharge rate, which is essential for sustainable management of aquifer resources. For some aquifers, even their boundaries are not well understood. Legislation for managing groundwater exists, but is not enforced in the basin. Groundwater monitoring capacity is limited across the basin. It is extremely difficult to manage resources when they are not monitored adequately.

Root causes:

Increasing basin population as well as increasing population density in some areas in the basin, widespread poverty, development pressure in all countries, limited policy and institutional set-up to monitor and manage the basin resources in a sustainably manner at the local, sub-national, national and transboundary level all contributed to the increasing water stress, water quality degradation, land degradation and pressures on ground water resources. They will continue posing further stresses on the future water, energy, food security in the basin. Extreme weather events, such as drought, floods, cyclones, are expected to increase, due to climate change and variability, which further put stresses on the river ecosystem and the basin population.

In addition, the uneven distribution of wealth, capacity, resources, opportunities across the basin will further add complexities when trying to address the environmental problems observed in the basin listed above. Four basin states in the LRB are at various levels of economic development with varying level of human and economic resources at disposal. Botswana and South Africa are more advanced with their economic development with their upper-middle income country status. They manage to attract foreign investments for further development. They have a relatively strong human resources capacity base, although not without their respective constraints, in the SADC region. Mozambique and Zimbabwe are still under developed with their least development country status. This socio-economic context in the basin contribute to the uneven distribution of wealth, capacity, resources and opportunities across the basin, resulting in uneven capacity to utilize and manage resources that they are endowed with as well as uneven capacity to manage disaster risks and cope with disastrous events when any of such risks are realized.

Barriers to be addressed:

In order to address one of the most prevalent root causes – poverty and resource requirements for development –the basin states need to jointly build their respective and joint capacity to plan for future development of the basin in the sustainable manner. Such efforts will support them achieve the Vision for the Limpopo River Basin, agreed in January 2019, and address some of the immediate causes identified at the local, the sub-basin, and the basin levels.

Further, given the socio-economic context in which the LRB is situated and considering the fact that the uneven distribution across the four basin states would not be leveled any time soon, it becomes critically important to address these transboundary challenges through cooperative actions by the basin states, and establish a harmonized, basin-wide approach to development as well as environmental conservation so that no one country is allowed to advance their development with costs born by others. This points to the importance of promoting and strengthening basin-wide cooperation through the LIMCOM for economically, socially and environmentally sustainable development of the LRB.

The following four limitations that are currently prevalent in the basin are identified as barriers to be addressed through this project in order to promote and strengthen the basin-wide cooperation among the four basin states in the LRB, with a particular focus on the joint planning capacity of the basin by the LIMCOM for their sustainable future:

1. Limited institutional, technical, financial capacity for joint planning and management at the transboundary basin level.
2. Limited data, information, and knowledge of the resources and ecosystems in the basin shared at the basin level.
3. Lack of a long-term strategy and policy planning efforts at the basin level, supported by data and science as well as strong political commitment.
4. Limited engagement of various stakeholders and resources users in the planning and implementation of the IWRM in the basin in order to address global and local challenges the basin is facing.

Further, following the guidance provided by GEFSEC during the PIF review process, it has been suggested that the project will place strong focus on the institutional capacity building and only a few selected and targeted substantive issues of transboundary nature, corresponding to the available financial resources. Based on this guidance from GEFSEC, lack of sedimentation transport monitoring and control as well as e-flow analysis are identified as two priority transboundary knowledge gaps to be filled by GEF interventions in order for the basin to achieve the sustainable and effective management of its natural resources. Subsequently, this project will deal with all the four barriers identified above in relation to those specific technical foci.

2) the baseline scenario and any associated baseline projects,

A number of transboundary and national initiatives, financed by the countries themselves as well as partners, provide the baseline for this project.

The four riparian states in the Limpopo River basin have realized their commitment to the joint management of the Limpopo River basin in a number of ways in the past years, most notably through **the signing of the LIMCOM Agreement and the establishment of the LIMCOM**. The Limpopo basin riparian states signed in 2005 an agreement for the joint management of surface and groundwaters in the river basin. This agreement includes the establishment of a River Basin Commission and forms the basis for the development of common objectives, and harmonized laws and regulations for the management of the surface and groundwater resources. The commission objectives are “to advise the Contracting Parties and provide recommendations on the uses of the Limpopo, its

tributaries and its waters for purpose and measures of protection, preservation and management of the Limpopo” (LIMCOM Agreement 2003). LIMCOM has established its permanent secretariat in Maputo. The Secretariat facilitates the work of the Commission, which is the decision-making body of LIMCOM. While its current capacity is limited, the LIMCOM has established several partnerships to strengthen its institutional capacity, especially that of the Secretariat.

Past regional studies within the Limpopo basin

The Joint Limpopo Basin Scoping Study (2010), with support from the SADC transboundary water resources management programme which was funded by BMZ and DFID and implemented by GIZ, identified key challenges and proposed steps to be taken in order to implement sustainable water resources management and development in the basin. The Scoping Study mentions a process of developing a Monograph leading to scenario development and a Long-Term IWRM Strategy 2030 (which will now be the Strategic Action Programme (SAP), to be developed with support from UNDP-GEF).

The Scoping Study provided the basis of undertaking the IWRM Planning process at the basin level, which resulted in the LIMCOM IWRM Plan for 2011 – 2015. The LIMCOM IWRM Plan (2011-2015), with its main goal “to develop the capacities (individual, organizational and institutional) in the riparian states for the sustainable management and development of the Limpopo River Basin”, provided a framework for the implementation of the LIMCOM Agreement and for the effective cooperation with international cooperating partners (ICPs) which provided support to implement the LIMCOM Agreement.

Following the Scoping Study, the Monograph was developed in 2013, also with support from the SADC transboundary water management programme which was funded by Australian Aid, German Cooperation, and UK Aid and implemented by GIZ. The Limpopo River basin monograph largely presents a current baseline data for the basin. The Monograph collated information on water resources, water quality, availability, uses, climate variability, environmental water requirements etc. It describes a process to develop the long-term IWRM Strategy – which aligns well with the SAP process. In addition to the Monograph, LIMCOM launched the Limpopo River Awareness Kit (RAK) and the Limpopo Information Systems (LIMIS) through the support from the same SADC transboundary water management programme.

In addition to the ICP support provided to LIMCOM through the SADC transboundary water management programme, another major support to LIMCOM during the 2011-2015 period was provided through the Resilience in The Limpopo Basin (RESILIM) Program, financed by USAID. The goal of RESILIM was to improve transboundary management of the Limpopo River Basin and enhance the resilience of its people and ecosystems with its three strategic objectives: (i) Reducing climate vulnerability by promoting the adoption of science-based adaptation strategies for integrated transboundary water resource management (ii) Conserving biodiversity and sustainably managing high-priority ecosystems and (iii) Building the capacity of stakeholders to sustainably manage water and key ecosystems. RESILIM outcomes include : (i) Major advances on policy and governance that fully invested Basin governments in efforts to secure water, protect biodiversity, and adapt to climate change, along with plans and tools to strengthen day-to-day management of these objectives (ii) Foundational contributions to the scientific evidence base essential to effective management of water and biodiversity in the Basin, and provision of related decision-making tools and (iii) Significant investments in helping people and communities build resilience through new climate-friendly livelihoods and stronger systems for resolving conflicts and managing competition for resources. The project interventions will be building upon the baseline strengthened by RESILIM and other supports, and will be implemented in a coordinated manner with the Resilient Waters, a follow-up phase of the RESILIM. (See the co-financing section.)

The LIMCOM IWRM Plan was designed to be a 5-year rolling plan and updated recently as the IWRM Plan for 2018-22, with support from RESILIM. The IWRM Plan for 2018-2022 highlights the need to develop a long-term strategy 2030. LIMCOM envisions that the SAP and its development process will meet this need for the basin. All interventions proposed for UNDP-GEF support in the project are directly contributing to the implementation of the IWRM Plan for 2018-2022.

In addition to the cooperation among all four riparian states through LIMCOM, the Limpopo River basin countries cooperate through several bilateral agreements. Such agreements include (i) Agreement establishing the Joint Permanent Technical Water Committee between Botswana with South Africa (1987) (ii) the Agreement between Botswana and South Africa to transfer water from the Molatedi Dam on the Marico River, a tributary of the Limpopo, in South Africa to Gaborone in Botswana (1988) (iii) the Joint Water Commission between Mozambique and South Africa (1996); (iv) the Joint Water Commission Agreement between Mozambique and Zimbabwe to address issues related to transboundary watercourses, including the Pungwe, Buzi and Save River basins (2002); and (v) the Joint Water Commission between the Republic of South Africa and Zimbabwe (RSAZ JWC), with a principal objective to ensure sustainable development, equitable utilization of water resources and guides the interests of both countries for mutual benefit. The existence of these bilateral agreements that are relevant to the Limpopo River Basin will be fully taken into consideration during the institutional capacity strengthening efforts of the LIMCOM for the joint management of the Limpopo River Basin.

On groundwater management in the region, the SADC Hydrogeological Mapping Project was implemented as a response to a growing need for transboundary groundwater information, with financial support from International Cooperating Partners. The project contributed to the Regional Groundwater Management Programme of the SADC Regional Strategic Action Plan for the Integrated Water Resources Management (SADC 2009). The project developed a SADC Hydrogeological Map, which provides information on generalized hydrogeological characteristics for the entire SADC region, focusing on the extent and geometry of regional aquifer systems. The aquifers most critical for the Limpopo basin are (i) the Tuli Karoo Sub-basin (Botswana, South Africa, Zimbabwe) and (ii) the Ramotswa Dolomite Basin (Botswana, South Africa). Although the extent of these aquifers needs to be verified, this data is useful and should be fully considered in the basin-wide IWRM for the Limpopo River Basin.

Some national initiatives projects in the Limpopo basin that also provide the baseline for this project are summarized below.

Botswana

Due to severe floods in the Limpopo basin, the Government of Botswana prioritized programs on rural development and disaster preparedness with a focus on the management of the country's surface water resources including the Limpopo River Basin. Through partnerships with the Climate Research for Development in Africa Program of the United Nations Economic Commission for Africa, Botswana initiated the climate resilience program to improve access to information and decision-making. However, the country's Middle-Income status led to the withdraw of financial support from donor agencies unfortunately, which affected the implementation of the program, while it remains as their priority.

The Department of Water Affairs of Botswana initiated the water hyacinth control program in the Limpopo basin after it realized the floating weeds from the Crocodile River (in South Africa) into the Limpopo River during the 2010 floods. The Department engaged South Africa to develop a joint strategy for management of the water hyacinth, which was a threat to the basin.

Mozambique

At the national level Mozambique is implementing a National Water Strategy. The water resources management and development in Limpopo River Basin in Mozambique is managed by ARA Sul. Mozambique has embarked on a decentralization policy that concerns both the management of water and the development of autonomous regional water administration with higher power given to the provincial authorities. Several initiatives to manage and improve the water information system are being supported within the country with support from the World Bank.

The general budget support for water services development in the country is between 30-35 million USD per year under the National Rural Water Supply and Sanitation Program (PRONASAR) programme which is supported by DFID, UNICEF, Embassy of Netherlands, SDC Switzerland and CIDA (Canada).

Several initiatives are being implemented for flood risk management in the Limpopo River Basin aimed at increasing the capacity of Mozambique to prepare for and manage flood events. The World Bank approved a 70 million USD loan for 2011-2017 to support implementation of a Mozambican national water resources development project, of which 12,5 million was devoted to implementation of structural and non-structural measures for reduction and mitigation of climate risks in the vulnerable Limpopo basin.

South Africa

The Department of Water and Sanitation (DWS) of South Africa identified the need for the development of the Limpopo Water Management Area Strategy north of the Limpopo basin. Various projects were undertaken to ensure effective and efficient current and future management of the water resources. For example, the Water Resources Situation Assessment in the Limpopo Water Management Area aims to determine the water resources availability, requirements and water shortages in order to provide necessary information to develop future water supply strategies for the Limpopo basin.

The water augmentation project in Mokolo and Crocodile rivers (west) analyzed options for transferring water from the Mokolo River and Crocodile River (West) to the Steembokpan and Lephalale areas to augment future water supply and allocation in those areas. A Pre-Feasibility Study was also undertaken to identify different options and recommend the preferred schemes. A study to classify all significant water resources in the river catchment was undertaken to protect the country's water resources as well as to ensure a balance between the need to develop and sustain them.

DWS in 2014 developed a Reconciliation Strategy for the Limpopo River Basin to reconcile future water requirements with water supply for a 25-year planning horizon, and to provide a framework for decision making with regards to both securing supply and managing the water requirements. DWS also has a water quality programme which has an effective monitoring system of several parameters. Work is also being done with the Botswana Department of Water Affairs to harmonize and manage the hyacinth caused by eutrophication.

South Africa, being by far the most data rich country among all the basin states and being advanced in its water resources planning efforts in the Limpopo River basin, will provide a strong baseline for the project and for the LIMCOM's efforts to realize the joint management. The LIMCOM intends to extend the models used in South Africa to cover the entire basin in order to develop a basin-wide model to support the management decisions. Also, LIMCOM intends to facilitate data and information sharing in the basin among the basin states.

Zimbabwe

The country has been divided into seven catchments namely Gwayi, Manyame, Mazowe, Mzingwane, Runde, Sanyati and Save. The whole area that eventually drains into the Limpopo River is one catchment namely Mzingwane. This catchment comprises all the four major sub basins of the Limpopo within Zimbabwe (Shashe, Mzingwane, Bubi and Mwenezi). The Mzingwane Catchment Council oversees the management and development of water resources in the catchment – and has developed a Catchment Outline Plan to guide implementation. In the Mzingwane catchment, which comprises the major hydrological catchments contributing between a quarter and a third of the run-off of the Limpopo Basin, any interventions in the catchment have important downstream implications. An assessment by the International Food Policy Research Institute (IFPRI) of the impact of climate change on irrigation potential in the Limpopo Basin, including Mzingwane catchment in Zimbabwe was completed.

The assessment of surface water resources in Zimbabwe is done based on climatic and hydrological data collected by the Meteorological Department and Zimbabwe National Water Authority. The two organizations have several stations for data collection spatially located throughout the country. Reliability of the data is affected by a number of factors that include condition of equipment, condition of site in the case of flow gauging and human errors in collecting data. There is therefore a need to carry out data quality checks before the data can be used for assessment of water resources or design purposes.

With support from the World Bank a Strategy for Managing Water Quality and Protecting Water Sources was developed. The World Bank received funds from the Analytical Multi-Donor Trust Fund (AMDTF) and allocated part of the funds for the benefit of the Government of Zimbabwe to prepare such a strategy to support the implementation of its New Water Policy. The strategy focuses on water quality and water pollution as well as source degradation of surface water and groundwater, among others.

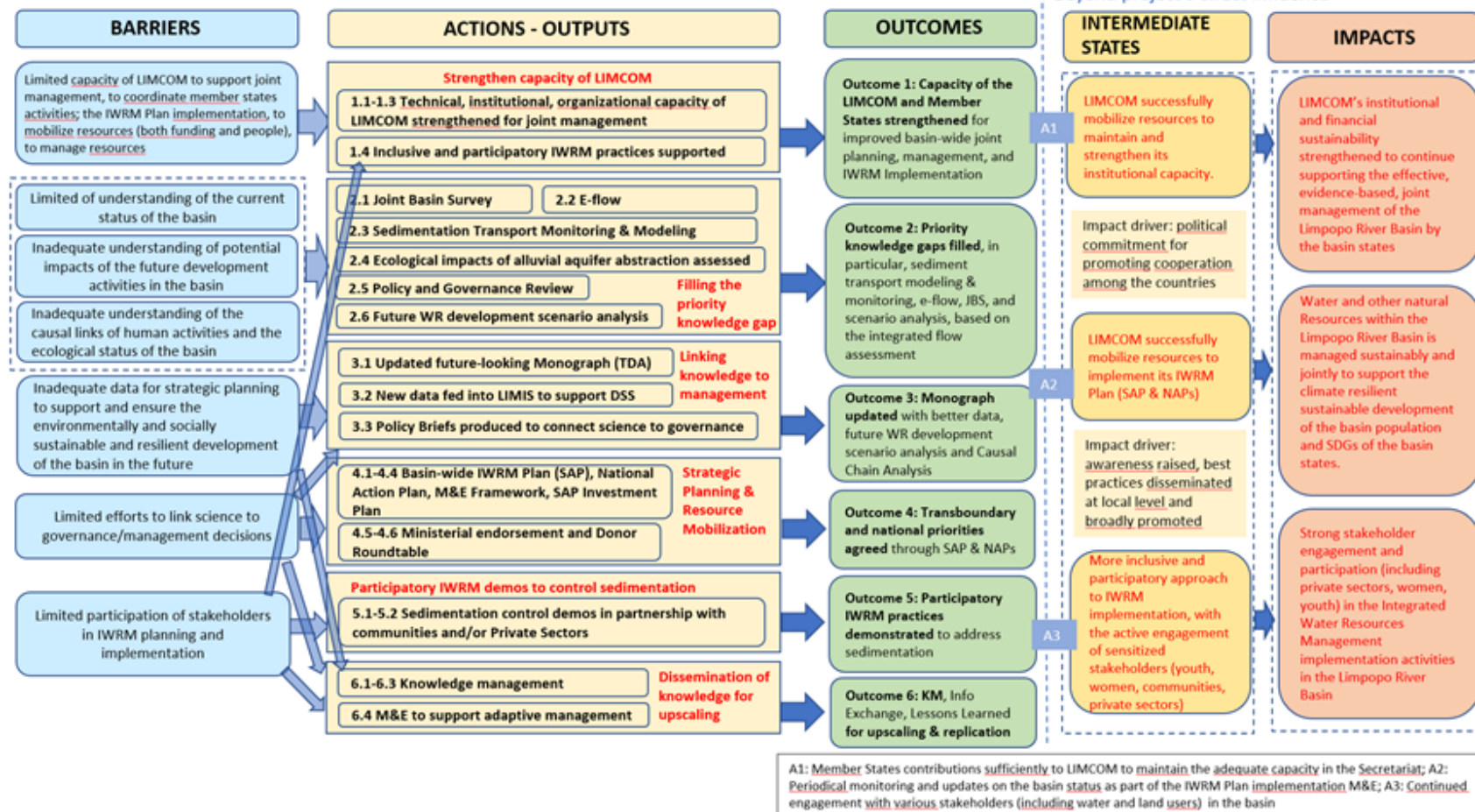
3) the proposed alternative scenario with a brief description of expected outcomes and components of the project;

Interventions proposed to be financed by GEF are all related to the four barriers identified above, will cover the incremental costs of the actions required to foster transboundary IWRM through stronger basin-wide cooperation in the LRB, and are targeted to realize various transboundary benefits, building upon the baseline activities (to be) carried out by basin states individually or sometimes collectively, or through initiatives financed by other partners supporting the LIMCOM. The proposed alternative scenario with GEF support will significantly contribute to the LIMCOM's and its member states' joint and collective efforts to realize their basin vision: "A Dynamic, Prosperous and Sustainable River Bains for ALL."

Proposed set of Project Components and Outcomes as well as indicative sets of Outputs and Activities under each Outcome are presented below. They are building upon the past and ongoing initiatives in the basin and are designed to be complimentary to the forthcoming co-financing activities. All interventions proposed for the GEF support, including those under Comp 4 (with the limited geographical coverage and scope for each Output due to its pilot scale), are targeted and designed to deliver transboundary benefits/impacts at the result level and contribute to strengthening the joint management and planning capacity and practices at the transboundary basin level, facilitated by LIMCOM.

To ensure the sustainability of the project results and impacts beyond the project, all interventions proposed are in line with LIMCOM's mandates and will be designed with the LIMCOM's current and future capacity in mind. Where necessary and appropriate, exit/sustainable strategies and risk managemnet measures will be developed and agreed with LIMCOM even before GEF investments are committed.

A strong focus is placed on the institutional capacity building of the LIMCOM (Comp 1), with an aim for the LIMCOM to be able to directly implement projects financed by the GEF or others. The theory of Change underlining the project intervention is presented below:

Limpopo TDA-SAP: Theory of Change**Component 1: Capacity Building of LIMCOM and its Member States for joint planning and the basin-wide SAP and IWRM implementation**

This component is largely linked to the Programme 1: Institutional Strengthening, of the LIMCOM's IWRM Plan (2018-2022), and is essential to increase the regional cooperation in the Limpopo River Basin and to support the IWRM implementation at the basin level. Comp 1 is meant to address the most urgent and prioritized institutional capacity needs to strengthen the LIMCOM's Secretariat function. While its indicative outputs are listed below, detailed inputs will be finalized during the project development phase through close consultation with LIMCOM and their partners.

LIMCOM has identified that the development and adoption of the LIMCOM Data Sharing Protocol (Under Output 1.2) as one of the first and urgent priority actions to address three core challenges that basin is facing through joint planning and management at the basin level. LIMCOM identified the following three issues as their core challenges in the basin:

- 1) Frequent disasters - droughts and flooding- due to the uneven and seasonal variation of rainfalls experienced in the region, exacerbated by climate change and variability,
- 2) Water quality - pollution of the aquatic ecosystems being a serious concern that potentially can hamper socio-economic development and health of the people and the environment, and
- 3) Water scarcity- water demand from all sectors will increase, creating a need for a better planning of the available surface and ground water at the basin level to ensure effective, efficient and equitable allocation of the resource.

While each basin state is making efforts to address them individually, their efforts would not be effective unless they are linked to the basin-wide efforts on the same issues due to their transboundary effects. Data Sharing Protocol will facilitate LIMCOM's basin-wide, collective efforts to address the issues, building upon existing national-level efforts. Even more broadly, the Data Sharing Protocol will be instrumental for the basin-wide planning, management and monitoring during the SAP implementation phase in the future.

An adequate operational, financial and administrative capacity at the LIMCOM Secretariat is crucial to ensure the sustainability of the LIMCOM, to ensure that the Secretariat can provide effective support to the Commissioners, who make management decisions jointly that will affect the future of the basin. At the same time, we need to be cautious not to place unrealistic expectations on a RBO Secretariat, which needs to be kept small enough to be financially sustained through regular contribution by its member states. In southern Africa, where a number of RBOs have been established and some SADC member states are required to make contributions to multiple RBOs from their limited national budget allocation in order to fulfill these international commitments, it is critically important to prioritize which capacity of a RBO Secretariat to be strengthened first.

LIMCOM expects that an forthcoming institutional analysis and governance review will identify the key elements to ensure LIMCOM's sustainability and deliver recommendations for the member states to consider. The outcomes and recommendations of the institutional analysis and governance review will inform the LIMCOM Sustainability Plan, which outlines the minimum resources needs for the LIMCOM to perform its core functions, how to meet such resource needs, etc..

LIMCOM Secretariat is still at its infancy and will need significant support to build its institutional capacity even in terms of human resources. GEF investment will put a strong focus in strengthening the function of the Commission. In particular, it is proposed that 1 Operational Manager (with expertise in procurement and experience in setting up a functioning operations team), 1 Admin and Financial Assistant, and 1 Communication Officer will be supported by the GEF investment (under Output 1.3) throughout the project implementation period, in addition to the project manager and technical experts, as needed, to implement the project. This will compliment the commitment by the USAID Resilience Waters to providing three technical experts to the Secretariat during its

project implementation period. The details of the project design related to the institutional capacity building and their institutional sustainability must be developed through close consultations with LIMCOM as it bears financial implications to LIMCOM and its member states beyond the project. The discussions will take place during the project development phase.

The Stakeholder Engagement Plan and the Communication Plan for the LIMCOM (under Output 1.4) will ensure the fully inclusive approach of LIMCOM in implementing its IWRM Plan in the basin. Findings from the Gender Analysis conducted during the project development phase, leading to the Gender Action Plan, findings from the Social and Environmental Safeguard Screening, also conducted during the project development phase, leading to the Environmental and Social Management Plan and/or the Indigenous People Plan, as necessary, will also provide inputs to the Stakeholder Engagement Plan. The Stakeholder Engagement Plan will ensure, among other things, gender mainstreaming and women and youth empowerment, and youth engagement in various activities organized and/or coordinated by LIMCOM (Programme 5 of the LIMCOM IWRM Plan). The Stakeholder Engagement Plan will be followed in the implementation of activities under Comp 4, in particular. The Communication Plan will support the project on effective communication, dissemination of results, and sensitization efforts across all Components.

Outcome 1: Capacity of LIMCOM and its Member States strengthened for the improved basin-wide joint planning & management and the IWRM implementation

Output 1.1: Technical capacity of LIMCOM and its Member States strengthened through:

- Development of the LIMCOM Environmental Monitoring Framework (Hydrological, Water Quality, Ecological, Sedimentation monitoring); and
- Development of the Capacity Development Strategy to guide various capacity building activities of LIMCOM and its Member States

Output 1.2: Institutional capacity of LIMCOM and its Member States strengthened through:

- Development and adoption of the LIMCOM Data Sharing Protocol, which facilitates data and information sharing and exchange
- Establishment of the Environment and Ecosystem Task Force under the LIMCOM's Technical Task Team (TTT) to support the work of TTT.
- Strengthening the Programme coordination capacity of LIMCOM for effective implementation and monitoring of SAP and IWRM Plan(s)
- Development of the LIMCOM Sustainability Plan, based on the Institutional Review and Governance Analysis

Output 1.3 Operational Capacity of LIMCOM Secretariat strengthened through:

- Operational and Financial Management Structure of the LIMCOM developed (Accounting Systems, Procurement Systems, Financial Management Systems, HR Policies & Manuals, Host Country Agreement, etc.)

- Institutional Functional Analysis conducted for LIMCOM to suggest a sustainable structure of LIMCOM
- LIMCOM Organigram developed for Council approval
- Costed Sustainability Plan for LIMCOM developed for Council approval

Output 1.4: Inclusive and participatory IWRM practices supported through:

- Establishment of National Inter-sectoral Committees for each Member State to support the SAP and NAP development, negotiation and IWRM implementation
- Implementation of a Gender-responsive Stakeholder Engagement Plan
- Development and implementation of a Communication Plan to support the implementation of the Stakeholder Engagement Plan

It is important to note that co-financing (from USAID through its Resilient Waters) is secured to update the Limpopo Information Systems (LIMIS), which is currently not operational and not hosted by LIMCOM. With USAID support, LIMIS will be revived, made fully functional and transferred to LIMCOM Secretariat to support the IWRM implementation. This is a significant contribution from USAID to Outcome 1 (esp. Output 1.1). USAID also expressed their support to LIMCOM on the development of the Decision Support Systems (DSS) for the LIMCOM.

Further, USAID will support the development of Operational (including Finance and Administration) Policies and Guidelines for LIMCOM to strengthen LIMCOM Secretariat's capacity. This will be an important co-financing to Outcome 1 (esp. Output 1.2).

Component 2: Filling critical knowledge gaps to support joint planning and future development scenario analysis

This component is largely linked to the Programme 3: Environmental Water Management, and the Programme 4: Water Management and Development, of the LIMCOM IWRM Plan (2018-2022) and developed based on recommendations from the Limpopo River Basin Monograph Study (2013). Two Outcomes are included under Component 2.

The Monograph Study was a baseline study finalized in 2013, with support from UK Aid, Australian Aid, and German Cooperation through the SADC transboundary water project implemented through GIZ. It was building upon the scoping phase of the Joint Limpopo River Basin Study completed in 2008, and provided the basis for the development of the LIMCOM IWRM Plan (2018-2022), which was supported by USAID.

Building upon the Monograph, LIMCOM requested GEF support through UNDP to develop the Transboundary Diagnostic Analysis (TDA), instead of a simple update of the Monograph. TDA will not only serve as an update of the Monograph Study but also include the causal chain analysis and the future water resources development scenario analysis, which will provide vital link between science and governance, ensuring that the basin knowledge will inform policy discussions and decisions, leading to the development of a robust SAP. TDA development will be based upon the ongoing and past fact-finding efforts in the Limpopo River Basin both at the national level and at the transboundary level, including the Scoping Study and the Monograph. TDA development activities will include the Monograph update, Causal Chain Analysis, and the future water resources development scenario analysis, as per the request from the LIMCOM.

Through the Outcome 2 activities as shown below, a few selected critical knowledge gaps identified in the basin will be filled. Yet, many other knowledge collection, updates and gap-filling of missing knowledge will be done by co-financing activities. In particular, UK CRIDF support will provide valuable information related to Climate Change and Disaster Management, which is the Programme 2 of the LIMCOM IWRM Plan (2018-2022), and USAID Resilience Waters will provide deepened knowledge on a transboundary aquifer within the basin, invasive aquatic weeds, etc.

Regarding the fact-finding efforts on the groundwater resources in the basin, the project will assess ecological impacts of alluvial aquifer abstraction practices. Alluvial aquifer abstraction is fairly commonly practiced by communities in the basin, as an alternative means to secure their water resources needs during the dry season when there is no or limited surface flow. While replication of such practice is considered as one of climate change adaptation measures for small scale farmers, we do not know much about potential ecological impacts of such practices. Thus, the project will provide some scientific evidence to the LIMCOM on such practice to support their discussion around the practices and whether they could indeed consider the alluvial aquifer abstraction practice as a viable climate change adaptation measure. Apart from that, it is important to note that LIMCOM has successfully mobilized partners (SADC GMI, USAID Resilient Waters, IWMI, A4Labs, IUCN) to improve the knowledge base which will contribute to the improved groundwater resources management in the LRB (Priority Intervention 4.5 of their IWRM Plan); thus, they requested GEF support to focus on filling knowledge gaps in other priority issues. Knowledge related to the groundwater resources in the basin generated through co-financing activities will be fully captured in the TDA-SAP-NAP development process.

For the LRB, there exist relatively good baseline data, gathered through the past studies and assessments, including (but not limited to) the Scoping Study and the Monograph, yet there are still significant knowledge gaps for LIMCOM to support effectively the joint planning and management efforts by the basin countries. Given the resource constraints by GEF and taking into account GEF-7 IW Strategies, LIMCOM identified that 1) sedimentation transport modeling and monitoring and 2) e-flow monitoring (to set the e-flow requirements) as priority activities to be supported by GEF to fill key knowledge gaps during the TDA development process. Strengthening knowledge base on these two issues would contribute to the environmental sustainability in the joint management and planning effort at the transboundary level and subsequent policy decisions.

Sedimentation transport modeling and monitoring is considered critically important for the sustainable management of the LRB, especially because a number of dams in the LRB are observed to have lost their expected productivity/capacity gradually due to sedimentation over years. To scientifically validate such observation, and to identify cost effective ways to implement countermeasures, the UNDP-GEF project is requested to support LIMCOM to develop a

sedimentation transport monitoring and modeling activities, as well as sustainable land management activities at a pilot scale in the basin with an aim to reduce sedimentation.

LIMCOM's efforts related to e-flow will be built upon and coordinated with similar ongoing efforts at the national level found in the basin. LIMCOM considers the basin-wide approach to the e-flow is critical to adequately conserve or restore the LRB ecosystem in the future, while allowing much needed development activities to take place in the basin to support the socioeconomic development of the basin population and of the basin states. With its importance on the environmental aspect of the IWRM Plan and implementation, LIMCOM requested this intervention be included in the UNDP-GEF project. The support to e-flow establishment is fully in line with the GEF-7 IW Strategy. It may also be useful to note that the results from the GEF interventions to establish the e-flow requirements for dry and wet seasons carried out in the Orange-Senqu River basin has provided useful information to influence the dam operations of the basin to ensure the environmental sustainability in their IWRM Plan implementation.

Outcome 3 is about the packaging of the data, information, and scientific knowledge (generated through all outputs under Outcome 2) for consumption by policy makers, other targeted audience and wider dissemination to raise awareness of the general public.

LIMCOM DSS development is supported by USAID Resilient Waters together with the LIMIS

Outcome 2: Priority knowledge gaps filled to update the Limpopo Monograph.

Output 2.1: Joint Basin Survey (JBS) conducted for key river health indicators

- An exchange with ORASECOM to learn about their JBS practices (linked to Comp 5)
- Key river health indicators agreed
- JBS conducted by the countries supported by partners
- JBS institutionalized as a 5-yearly practice

Output 2.2: Ecological water requirements (e-flow) established to support the future water resources planning in a sustainable manner through:

- Identification of additional ecological water requirement stations for monitoring
- Ecological water requirement surveys over the entire season (wet and dry)

Output 2.3 Sedimentation Transport Monitoring and Modeling

- An exchange with OKACOM to learn about their sedimentation transport monitoring practices (linked to Comp 5)

- Sedimentation transport modeling
- Sedimentation monitoring at selected key locations in the basin
- Training of those who participate in monitoring practices
- The establishment of the Sedimentation Committee under LIMCOM TTT

Output 2.4 Assessment of ecological impacts of alluvial aquifer abstraction practices

Output 2.5 Policy and Governance Review related to the Limpopo Basin IWRM to update the baseline

Output 2.6: Future water resources development scenario analysis through:

- Integrated Flow Assessment to support the IWRM and future development planning, taking into account e-flow requirements as well as climate change and variability
- The development of various water resources development scenarios, taking into account different investment options (e.g. water demand management (WDM), conjunctive use and management of surface water and groundwater resources) and sector development options
- Economic, Financial and Investment analyses conducted for future scenarios

Outcome 3: Newly acquired knowledge about the basin disseminated through the updated Monograph (TDA) and policy briefs, leading to the strategic decision making and the basin-wide IWRM implementation

Output 3.1 Limpopo Monograph updated, including the causal chain analysis and the future development scenario analysis

Output 3.2 All new data/knowledge fed into LIMIS to support DSS

Output 3.3 Policy Briefs produced to connect science to management and policy discussions

Component 3: Informed Strategic Planning and Decision Making to implement the basin-wide IWRM (Science-to-Governance)

This component will largely address Programme 1: Institutional Strengthening, in the LIMCOM IWRM Plan (2018-2022), and essential to support their long-term sustainable development efforts to realize the Vision for the basin.

The Monograph Study suggested that the next step after the completion of the monograph is a development of the basin's strategic vision, followed by the development of basin development scenarios and the IWRM Strategy. LIMCOM initiated the visioning exercise in 2018, through a wide stakeholder engagement process, with support from the Global Water Partnership – Southern Africa. The visioning exercise was concluded in January 2019 with its Vision Statement: **"A Dynamic, Prosperous and Sustainable River Basin for ALL"**.

In 2018, LIMCOM requested GEF support through UNDP to develop the Strategic Action Programme for the LRB as a long-term strategic document that supports the Vision (i.e. SAP will act as the Long-Term IWRM Strategy, recommended in the Monograph Study and included in the IWRM Plan under Programme 1). They wish to develop the SAP with the time horizon of 20-25 years, and its implementation is supported by the 5-yearly IWRM Plan. The latter will act as an implementation plan for the SAP at a more operational level rather than a long-term strategic document. As the current IWRM Plan (2018-2022) will come to an end, the project will also support the development of the next phase IWRM Plan (2023-2027) during the project implementation through this Component.

LIMCOM currently does not regard their IWRM Plan as an equivalent to SAP. They developed their IWRM Plan as a document at more operational level. Activities and potential interventions desired in the basin are presented in a thematic grouping, based on the outcomes from the scoping study and the Monograph, but they were not yet prioritized and no necessary/potential trade-offs or any other policy-level negotiations carried out among basin states before they were adopted. They seek for GEF support to develop a SAP for the Limpopo River Basin, as a negotiated policy document at a strategic level with longer time period and most importantly with strong political commitment (through the expected ministerial endorsement). During the project development phase, a further clarity will be sought on how the SAP and the IWRM Plan will relate to each other, and whether or not the SAP and the IWRM Plan will be regarded as one and the same, etc.

NAPs will accompany the SAP and will be a document that links the transboundary priorities (presented in the SAP) with national development and sectoral priorities in the respective countries. NAPs may present issues that are considered as priority in a country, even when the issues are not included in the SAP as transboundary priority. From the past experience in the Cubango-Okavango River basin and in the Orange-Senqu River basin, the development of NAP for each basin state prior to the SAP endorsement had facilitated the ministerial endorsement (and Cabinet approval) process of the SAP for each basin. Therefore, it is proposed that the UNDP-GEF project will support the NAP development together with the SAP development.

SAP Investment Plan (Output 4.4) is about attracting investments required to implement SAP in general; thus, it will not exclusively target PS investments. A roundtable proposed is just one means/platform to attract resources once the Investment Plan is drafted, while other potential platforms will be considered for the same objective.

Outcome 4: Transboundary and national priorities for the sustainable management of the Limpopo River basin agreed and endorsed as SAP and NAPs to guide the future development and investment

Output 4.1: Limpopo IWRM Plan (an equivalent to the Strategic Action Programme (SAP)) for the Limpopo River Basin drafted for negotiation.

Output 4.2: Four National Action Plans (one for each Member State), accompanying SAP, developed and approved at the national level

Output 4.3: SAP M&E framework developed, based on the Theory of Change

Output 4.4: SAP Investment Plan developed and a roundtable organized among investors and partners to support SAP implantation

Outcome 4.5: SAP for the Limpopo River Basin, together with NAPs, endorsed at the ministerial level.

Component 4: the IWRM Plan implementation pilots

This component will demonstrate some on-the-ground activities at a pilot scale to address the sedimentation issues through improved land management, with engagement of communities and private sector in the basin.

Component 4 will not only pilot some sedimentation control measures to demonstrate their effectiveness but also demonstrate the participatory approach to the IWRM implementation. The Stakeholder Engagement Strategy and the Communication Plan, developed under Component 1, will be referred to closely during the implementation of the Comp 4.

Results from each Output will collectively inform SAP and NAP development process, the SAP investment plan development process, and provide evidence and data during the SAP investment discussions, especially for the replication and upscaling of the successful interventions. The specific location for each SAP demo will be selected during the project development phase.

Sustainable Land Management (SLM) demos are intended to monitor the impacts of SLM in the sedimentation reduction and to improve the land productivity in the long run. Sedimentation monitoring at the demonstration site will be linked to the sedimentation transport modeling and monitoring efforts (Comp 2). Measuring how effective SLM interventions are to reduce sedimentation would provide useful information to explore an option of creating a potential Payment

for Ecosystem Services (PES) scheme in the basin for the sedimentation control. Quantifiable data coming from these outputs should help determine whether such PES scheme would be at all viable to be considered.

Outcome 5: Participatory IWRM practices demonstrated to address sedimentation issues

Output 5.1: Community-based Sustainable Land Management demonstrations piloted to reduce sedimentation and to improve land productivity

Output 5.2: Sustainable Land Management demonstration(s) piloted in partnership with private sector to reduce sedimentation and to improve economic productivity

Component 5: Knowledge exchange and information sharing for replication and upscaling

This component will support the knowledge exchange and information sharing with other RBOs in the region to support the effective and efficient delivery of the project results. It will also support some dialogue between the LIMCOM and the Nairobi Convention (in particular, the Nairobi Convention Focal Point of Mozambique) to start the Source-to-Sea partnership. Further, it will ensure the project's active participation in the knowledge exchange and information sharing activities organized by IW:LEARN, with at least 1% of the project budget allocated to such activities.

At the SADC level, LIMCOM will ensure that the project results, and their contribution to the SADC Water Sector Regional Strategic Action Plan, will be communicated to SADC. UNDP will communicate the same to other International Cooperating Partners (ICPs) supporting SADC through the SADC Water Sector Reference Group.

Also at the SADC level, but with particular focus on the groundwater management, the project will work closely with the SADC Groundwater Management Institute (GMI), which signed a MOU with LIMCOM in December 2018 for collaboration on groundwater issues in the Limpopo River Basin. SADC GMI supported LIMCOM to establish its Groundwater Task Committee, which is now regarded as the institutional structure to drive groundwater management in the LRB. The project intervention in particular will support the following, related to the LIMCOM-SADC GMI collaboration or more generally, the promotion of the conjunctive management of surface water and groundwater resources in LRB:

- ensure the recommendations from the Groundwater Committee will be fully considered by the LIMCOM discussions.
- ensure the findings from researches and assessment of groundwater be fully integrated into TDA, SAP and NAP development process.
- ensure the groundwater information be well captured in LIMIS
- assess environmental impacts of the sub-surface water capture (alluvial aquifer abstraction), commonly practices in the basin, on the riverine ecosystem.

- produce at least one IW:LEARN Results Note focusing on the conjunctive management of the surface water and groundwater management in the LRB for wider dissemination.

Outcome 6: Replication and Upscaling supported through exchange of knowledge, best practices and lessons learned

Output 6.1: Exchanges with other RBOs and relevant regional institutions, in particular with OKACOM, ORASECOM, SADC Water Sector and the Nairobi Convention, to support the effective and efficient delivery of Outcomes 1 – 4 and the source-to-sea approach. The project will support LIMCOM's active participation in the knowledge and information exchange opportunities and platforms organized by the SADC Water Sector, including but not limited to the participation in the biennial SADC RBO Dialogue.

Output 6.2: Project results and knowledge products developed and disseminated nationally, regionally and globally.

Output 6.3: Active contribution to the learning and knowledge sharing activities and events organized by the GEF IW:LEARN, including the GEF International Waters Conference (IWC), the production of at least 2 International Waters Results Notes, and the establishment of the project website, linked to the IW:LEARN site. As customary to all GEF IW projects, the project will allocate at least 1% of the total project budget to ensure that it will contribute to the knowledge management activities for the global GEF IW portfolio, organized by IW:LEARN.

Output 6.4: Timely Project M&E to inform adaptive management for successful delivery of project results, capturing best practices and lessons learned, including MTR and TE.

4) alignment with GEF focal area and/or Impact Program strategies;

The project is fully aligned with the Objective 3 of the International Waters Focal Area: Enhance water security in freshwater ecosystems, in the GEF-7 Programming Directions. The proposed project interventions, especially including co-financing activities, will be relevant to all three areas of strategic actions under this objective.

The Limpopo River basin is facing multiple stressors at the transboundary basin level which presents both opportunities for cooperation and potential for conflicts. The countries sharing the basin had demonstrated their firm commitment to the transboundary cooperation through the establishment of the Limpopo Watercourse Commission (LIMCOM). Through the proposed project interventions, the countries will aim to enhance water security in freshwater

ecosystems through advance information exchange (IW 3-5) and through regional and national cooperation on shared freshwater resources (IW 3-6). While the investments in water, food, energy and environmental security (IW 3-7) is rather limited at this foundational phase of the GEF support to LIMCOM, the limited investments made during this foundational phase are expected to generate knowledge which will support replication and upscaling in the future.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

Incremental Cost Reasoning and Expected Contributions from the baseline investments:

The baseline investments from the basin countries have successfully established the LIMCOM, a transboundary River Basin Organization to foster transboundary cooperation among the member states to realize the basin-wide planning and management. The countries further made their financial commitments to contribute \$50,000 per country annually (as of 2019) to sustain the Permanent Secretariat of LIMCOM. The proposed regional project, to be financed by GEF, would not be successful without those baseline investments and political commitments made by the countries.

Building upon the baseline investments from the member states to LIMCOM, which are critically important to keep the LIMCOM operational with the functional Secretariat, GEF support will enhance the institutional, operational and technical capacity of LIMCOM Secretariat and ensure its sustainability through the LIMCOM sustainability plan, which will all contribute to the long-lasting transboundary benefits. GEF support will also result in a long-term strategic document (SAP) for LIMCOM, which will guide any future investments by the national governments, by international cooperating partners, and/or by the private sector in the basin so that they will be aligned with strategic priorities agreed for the basin.

Building upon the Limpopo Monograph (which was a State of the Basin rapidly put together based on the already available data), LIMCOM requested GEF support through UNDP to develop the TDA. TDA will not only fill some key knowledge gaps identified during the Limpopo Monograph development, but also include the Causal Chain Analysis and the future development scenario analysis. GEF support will fill priority knowledge gaps at the basin level (mostly through the activities under Comp 2) to collect key data to be included in the TDA, but the TDA would not be completed without the baseline investments made by the countries for various water resources monitoring activities and studies conducted at the national levels.

The inclusion of the future water resources development scenario analysis in the TDA is a practice piloted successfully for the Cubango-Okavango River basin, and is proposed to be included in the Limpopo TDA as well as it is considered equally important and relevant for the Limpopo River basin. The natural resources of the Limpopo River basin will need to be utilized further to support the development needs of the basin countries and its population for them to achieve their respective SDG targets. In order to ensure future development activities are sustainable and improve all three pillars of sustainable development (economic, social and environmental) and achieve the balance between the efforts to maintain or restore its ecosystem integrity and the development efforts,

some analyses on trade-offs will provide useful information to policy decision makers to determine future development trajectory. GEF support on the future water resources development scenario analysis will inform LIMCOM's technical advice to its member states and influence the future decision making for the basin's sustainable development by the member states.

Co-financing:

Co-financing from four international cooperating partners (ICPs), already identified during the PIF development stage, will each bring significant contribution to the achievement of the project objective as well as of the long-term vision of the LIMCOM, and they are fully complimentary to the proposed GEF support.

Co-financing from UNDP CapNet^[1] will support various IWRM trainings at the local, national and transboundary levels either directly or through the Water Net, its network partner in the SADC region.

Co-financing from USAID through its Resilient Water Project^[2] will provide significant technical and institutional capacity strengthening support to LIMCOM Secretariat as well as technical support to increase the knowledge base of the Limpopo River basin, which will be fully complimentary to the proposed support by GEF to LIMCOM. USAID will provide one Water and Environment Expert, one Hydrologist, and one Communication Expert, all to be based in the LIMCOM Secretariat and support a number of activities, including the development of LIMCOM website, revising and updating the LIMCOM River Awareness Kit, supporting the development of a basin-wide hydrological modeling, establishing the Biodiversity Task Force under the LIMCOM's existing Technical Task Force to strengthen the linkage between LIMCOM and the management issues related to transfrontier parks within the basin and their management bodies. It will provide support to revive LIMIS and make it fully functional so that it will become part of the LIMCOM's Decision Support Systems, and will continue (from the RESILIM^[3], USAID's previous support to LIMCOM, which ended in 2017) to deepen the understanding of the Ramotswa Karstic Transboundary Aquifer Further, which will make a valuable contribution to the TDA and SAP. USAID will further support LIMCOM on the review of the existing LIMCOM Agreement and the development of policies and guidelines related to Operations, Administrations and Financial Management for LIMCOM in 2019-2020, while GEF project will be still under development, to strengthen LIMCOM's institutional capacity.

Co-financing from UK-Aid through CRIDF (Climate Resilient Infrastructure Development Facility)^[4] will be largely targeted to support LIMCOM to deliver various activities prioritized under the Programme 2 of the LIMCOM's IWRM Plan (2018-2022): Climate Change and Disaster Risk Management^[5], in line with their aim and scope of support. CRIDF will support LIMCOM to establish an Early Warning Flood Forecasting Systems, to be managed by the LIMCOM Flood Task Force, identify strategic water infrastructure for disaster management, develop recommendations for upgrading strategic infrastructure for disaster reduction, and develop climate scenarios. All these activities will make valuable contribution to TDA and future development scenario analyses, then will guide SAP discussions and negotiations.

Global Water Partnership – Southern Africa (GWP-SA) has been active in the SADC region supporting SADC member states individually as well as RBOs in the region on transboundary water cooperation in general, in partnership with SADC Water Sector. It was also supporting LIMCOM as one of the consortium partners to delivery activities funded by USAID RESILIM. Co-financing from GWP-SA will include from general coordination support to the LIMCOM Secretariat to technical support to align LIMCOM's strategic framework with the SADC Nexus Investment Framework, which potentially include the LIMCOM Nexus Assessment to identify opportunities and investments. Such support will contribute to the TDA and SAP development process.

In addition to the above, there are a few more potential co-financing activities that might make significant contribution to the achievement of the project objective, if realized, but their details and level of commitment will need to be confirmed during the project preparatory phase.

6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

The project will directly address the need for multinational cooperation supported by LIMCOM, and more broadly by SADC. The project, together with co-financing partners, will strengthen LIMCOM's institutional, technical and coordination capacity so that it can function effectively as a hub for harnessing, coordinating and channeling political and economic interests from both public and private sectors in the basin.

Through the development of the Transboundary Diagnostic Analysis and Strategic Action Programme, the countries will agree a set of transboundary priorities for the basin, which will guide both transboundary and national investments in the future. Securing political commitment to the transboundary priorities for the basin will provide a strong foundation for future cooperation and collaboration among the basin states to realize various benefits to be generated in the basin. Political commitment from all member states to LIMCOM SAP as well as to SADC revised Protocol on shared watercourses will become particularly important when national policies are required to be adjusted to achieve the better harmonization at the basin level.

The project will promote the effective IWRM (SDG6.5) at the transboundary, national and local levels. It will ensure the inclusion of the improved knowledge of two transboundary aquifers in the basin and climate information, produced by the co-financing activities, into the Limpopo River basin TDA, which will support the promotion of the conjunctive management of surface and groundwater resources as well as climate-resilient basin planning in the basin.

It will further support the participating countries to carry out informed policy dialogue at the basin level to address increasing water, energy, food demands in the future and how they can be met in the environmentally sustainable and socially inclusive manner for the basin population. The tangible contributions to be made by GEF investment to this policy dialogue is the development of the future water resources development scenarios, the future development scenario analysis and the inclusion of the findings from the future development scenario analysis in the Limpopo TDA.

GEF support will also support the countries to establish the ecological flow for the Limpopo River basin. If respected, the e-flow will provide environmental safeguards to the riverine ecosystems (another GEB expected from the project) – and indirectly social safeguards to those populations whose livelihoods depend on the healthy and productive ecosystems – in the basin while decisions related to water allocation is made by the basin states separately as well as collectively.

7) innovation, sustainability and potential for scaling up.

Innovation:

The project will try to promote the “Source to Sea” concept through awareness raising and promoting some dialogue with stakeholders that LIMCOM haven’t interacted with in the past, e.g. the Nairobi Convention (with its Secretariat or through its National Focal Point for Mozambique). This will be the first attempt to provide an institutional linkage between the Limpopo River basin ecosystem (LIMCOM) with the Western Indian Ocean Large Marine Ecosystem (Nairobi Convention) in the source-to-sea context. What shape this potential collaboration or cooperation should take to be useful will be explored during the project implementation through sensitization and awareness raising, and through scientific knowledge to be collected during the TDA development process. It is expected to evolve gradually, just like when UNDP promoted the source-to-sea approach to the ORASECOM and the Benguela Current Commission to link the Orange-Senqu River basin ecosystem and the Benguela Current Large Marine Ecosystem (The very first application of the Source-to-Sea in Africa).

Sustainability:

Four governments’ firm commitment to the establishment of LIMCOM provides a strong basis for the sustainability of impacts, in particular transboundary benefits, delivered by this project. Therefore, the project interventions will be designed to support and catalyze the Governments’ various efforts to strengthen LIMCOM’s institutional, technical and operational capacity. For each intervention proposed in this project, how the expected results delivered by the intervention will be sustained beyond the project duration has been considered, which will contribute to the Sustainability Strategy of the project when that is developed during the project preparatory phase. During the project preparatory phase, these considerations will be expanded in more details through discussions with the governments and stakeholders.

Some outputs proposed in this project will directly contribute to the sustainability of LIMCOM. Strategic Action Programme will provide a long-term strategy that will guide future investments in the basin by the governments, private sector, and international cooperation partners so that these investments will collectively contribute to the achievement of the Vision for the basin. Future development scenario analysis, to be included in the TDA, will also influence the policy discussions and decisions on the future development trajectory and strategy at the basin level, which will have a long-lasting impact.

The sustainability of the LIMCOM as a RBO will need to be critically examined through the institutional functional analysis, the development of the LIMCOM Organigram, and financial implications on all recommendations taken fully into account when developing the LIMCOM's Sustainability Plan. The LIMCOM had gone through a period where its sustainability was questioned after past donor support to the LIMCOM was completed. The same experience should not be repeated. The LIMCOM's Sustainability Plan should be costed and negotiated well in advance before the project closure.

Overall, the project will ensure the strong sense of ownership by the countries over the deliverables delivered with support from the project. This was the key aspect of the success in ensuring the sustainability of the project results that we observed through the UNDP-GEF support to the Cubango-Okavango River basin, working closely with OKACOM as well as through the UNDP-GEF support to the Orange-Senqu River basin, working closely with ORASECOM. The same practice will be replicated here at the Limpopo River basin, working closely with LIMCOM.

Potential for scaling up:

-

All proposed SAP demonstration activities under Component 4 will be designed with the replicability and scalability in mind. Each of the four proposed IWRM demonstration activities will address a targeted priority issue for the basin, identified during the Limpopo Basin Scoping Study and the Monograph study. The demonstration, with its limited investment scale and limited geographical scope, will not be expected to yield significant stress reduction results at the basin scale, but it will be expected to present quantifiable evidence to support potential environmental and transboundary benefits from these investments, if replicated and upscaled across the basin at a scale that matters. It will also aim to demonstrate how various stakeholders in the basin can actively take part in the IWRM implementation in practice in general, and in stress reduction activities in particular. The best practices and lessons learned from the demonstration projects will be codified and disseminated to further promote the replication potential.

[1] <http://www.cap-net.org/>

[2] <https://zw.usembassy.gov/united-states-to-improve-water-security-for-river-basin-communities/>

[3] <https://www.usaid.gov/documents/1860/fact-sheet-resilience-limpopo-basin-program-resilim-olifants-catchment-june-2013>

[4] <http://cridf.net/>

[5] LIMCOM identified 6 Programmes in their IWRM Plan (2018-2022). They are:

Programme 1: Institutional Strengthening

Programme 2: Climate Change and Disaster Management

Programme 3: Environmental Water Management

Programme 4: Water Management and Development

Programme 5: Gender Mainstreaming, Youth and Stakeholder Engagement

Programme 6: Nexus Approaches

1b. Project Map and Coordinates

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

A basin map is included in the Annex A.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

the process of the IWRM Plan (2018-2022) finalization (with support from the USAID Resilient Waters Project), LIMCOM developed its "IWRM Overview" which presents a list of activities to be implemented through the IWRM Plan. The IWRM Overview was developed based on inputs from member states. In addition, LIMCOM recently (in January 2019) completed its Visioning Exercise, with support from UK CRIDF. The LIMCOM Visioning Exercises involved national consultations at all four basin states to reach out to local communities, CSOs, Private Sectors (farmers, mining companies, etc.) active in the basin and utilizing resources of the basin to ensure that the wide range of basin stakeholders were consulted in this visioning exercise.

The PIF development was guided by inputs from LIMCOM member states and national and local stakeholders gathered during these national and regional workshops. Further, UK CRIDF, USAID Resilient Water project, and GWP-Southern Africa were directly consulted during the PIF development to ensure good synergies and complementarity across all its support to LIMCOM. The synergy between the UNDP-GEF project and the potential future support by GIZ has been ensured by LIMCOM Executive Secretary, based on the LIMCOM IWRM Overview.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

A wide range of stakeholders will be consulted and engaged in the process of defining details of project interventions during the project preparation and will be participating in the project implementation. Basin stakeholders have been mapped during the LIMCOM's visioning exercise. Based on the existing stakeholder list for LIMCOM, the project will develop a stakeholder engagement plan to ensure the inclusive and participatory IWRM implementation during the project implementation.

A number of civil society organizations (including national and international NGOs) are active in the basin with activities relevant to IWRM, working in partnership with governments, local communities, and/or private sectors. They will be invited to local, national and/or regional workshops where proposed project interventions will be discussed for their inputs and comments.

In particular, should any project activities be planned in areas where Indigenous peoples are present, indigenous people will be fully consulted during the project design to ensure FPIC and an Indigenous People Plan will be developed as per UNDP's Social and Environmental Safeguard Policy.

outs from the private sectors with interests in the improved water resources management in the basin will be actively sought through close consultations with them during the project preparation, in particular in the design of SAP implementation demonstration activities (Comp 4) through which active private sector participation and potential investments) will be piloted.

At the national level, the project will support multi-sectoral coordination across different government institutions, at national, sub-national, and local levels, which are required for the IWRM implementation and for the realization of the LIMCOM's vision. While LIMCOM was established as a water commission, it requires constructive interactions with other sector ministries to achieve its vision effectively and to support the sustainable development of the basin population. While the majority of these multi-sectoral coordination efforts will be linked to the establishment of national inter-sectoral committees in all basin states during the project implementation phase, the preparatory work towards it will start during the project preparatory phase. Relevant government institutions will be identified during the preparatory phase, consulted during the project design, and will fully engage in the project implementation.

At the regional level, SADC Water Division is also an important stakeholder in the region, providing the enabling policy environment to all SADC member states for international cooperation for joint water resources management through the revised Protocol on Shared Watercourses and the Regional Strategic Action Plan. A representative from the SADC Water Division will be invited to regional consultation meetings for their inputs and comments on the proposed project interventions. They will be most likely invited to be a part of Project Steering Committee during the project implementation.

Further, another important regional institution that was identified for LIMCOM and proposed to develop some institutional linkage/partnership with LIMCOM is the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean (or, the Nairobi Convention, in short). The Nairobi Convention interaction between the LIMCOM and the Nairobi Convention is a partnership between governments, civil society and the private sector, working towards a prosperous Western Indian Ocean Region with healthy rivers, coasts and oceans. The project will support the initial interactions between the LIMCOM and the Nairobi Convention as a way to explore a source-to-sea approach and its potential benefits in the future, connecting the Limpopo River basin ecosystem and the coastal and marine ecosystems of the Western Indian Ocean, which meet at Mozambique. These interactions will be supported during the project implementation phase.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

A part of the Project Preparation Grant requested will be invested in the Gender Analysis and the development of the Gender Action Plan, based on the findings from the Gender Analysis, to ensure that the project will contribute to the gender mainstreaming efforts in the basin by LIMCOM and its Member States. The Gender Analysis during the project preparation phase will also inform the Project's Results Framework and the design of the project interventions so that the Results Framework will include effective gender-sensitive indicators and the project interventions will include gender-responsive measures to address gender gaps identified through the Gender Analysis or promote gender equality and women's empowerment in the basin. Social and Environmental Safeguard Screening that will be conducted based on UNDP policy and guidance during the project preparation phase will also inform the project design to ensure that the project is overall gender-responsive.

SADC Water Sector has identified and trained Gender Focal Point in Ministries in charge of water in all SADC member states, including the four countries participating in this project. The participation and engagement of those Gender Focal Points during the project development and implementation phases will be ensured.

The three results areas listed above will be fully considered when the details of the project interventions are developed so that the project's expected contribution to those three results areas will be maximized.

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

closing gender gaps in access to and control over natural resources; Yes

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

Private sector engagement will be explored in two ways through this project: 1) through Components 1 & 2, LIMCOM will explore innovative ways to bring private sectors on board in the water resources planning for now and for the future. Their inputs will be taken into consideration in the future development scenarios. Private sectors to engage include not only those sectors traditionally active in the basin (agriculture, mining, industry) but also emerging sectors such as tourism and aquaculture; and 2) through Component 4, LIMCOM will explore a public-private partnership (PPP) potential in addressing transboundary priority concerns at a demonstration scale to catalyze private sector financing to address a selected basin priority. Such demonstration should be designed with future replication and upscaling potentials in mind, as the intention for the PPP through the demonstration is to influence future investment options of private sector towards more water secure future.

During the project preparation phase, what is the most effective way to bring the private sector in planning and/or in implementation will be discussed with private sector themselves, and other stakeholders who had experience in engaging in a successful partnership with some companies on improved water management in the basin or in the region. (e.g. South Africa's Strategic Water Partners Network, in partnership with 2030 Water Resources Group; ORASECOM, etc.)

5. Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved or may be resulting from project implementation, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable)

5. Risks

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risk	Rating	Risk Mitigation
Basin states will not be willing to release their data for use by LIMCOM. This will pose a significant risk to the achievement of the project outcomes, as TDA, LIMIS and joint basin planning activities in general will all depend on data from basin states.	Low	The LIMCOM member states have all signed the SADC revised shared watercourse protocol, which provide the legal basis for the member states to cooperate for joint management of the shared watercourse, such as the Limpopo River basin. Further, LIMCOM Council has prioritized the development of its Data Sharing Protocol, facilitating data and information exchange as part of its institutional capacity strengthening efforts and requested GEF support to achieve this output specifically.
Political commitment on the SAP, developed based on the TDA, will not be secured	Low	<p>During the early stage of discussions at LIMCOM in 2018 regarding a potential GEF support to LIMCOM, it was clarified that LIMCOM will need to make a political commitment to the Limpopo SAP through the endorsement at the ministerial level by all member states, once SAP is developed with GEF support. Two of LIMCOM's member states (Botswana and South Africa) were also already familiar with GEF's TDA-SAP approach through their involvement in the Cubango-Okavango River basin and in the Orange-Senqu River basin; thus, clear about this requirement.</p> <p>With a clear acknowledgement of this, LIMCOM member requested GEF support on the development of SAP as their long-term strategic document for the basin. Thus, there is little chance for the lack of political commitment later.</p> <p>Having said that, it will be critically important to engage multiple sectors and high-level government officials from the early on the TDA-SAP process to increase the strong sense of ownership on the SAP.</p>
Lack of inter-sectoral coordination and consultation is the major hurdle to	Low	The TDA-SAP-NAP development process requires a strong inter-sectoral, multi-country consultation process. The project will sup

<p>and consultation is the major hurdle to IWRM implementation and every effort needs to be made to overcome it at the local, national and basin-wide levels.</p>		<p>sectoral, multi-country consultation process. The project will support LIMCOM to establish inter-sectoral committees in all member states to support this process. Multi-sectoral coordination at the technical level will be strengthened through the TDA development process, while multi-sectoral coordination at the policy and political levels will be strongly promoted through the SAP and NAP negotiation process.</p> <p>Strong engagement of communities and local stakeholders in the IWRM implementation will be ensured not only through the implementation of the Stakeholder Engagement Plan and the Communication Plan but also through the implementation of the SAP demonstration projects.</p>
<p>Poor coordination among various projects supporting LIMCOM funded by different entities, leading to sub-optimal results delivery or duplication or work.</p>	Low	<p>LIMCOM's IWRM Overview, finalized and included in its latest IWRM Plan of 2018-2022 (a 5-year implementation plan for LIMCOM) have been the guiding document used by LIMCOM to coordinate various initiatives supporting LIMCOM. The PIF development was guided by it, in close consultation with LIMCOM ES and other ongoing projects (namely USAID Resilient Water and UK CRIDF). The details of the project interventions during the preparatory phase will be also guided by the same document and the close consultations with partners.</p> <p>Once the project implementation starts, then the project will strengthen LIMCOM's coordination capacity through Comp 1 activities so that the future initiatives will be also coordinated with the ongoing initiatives effectively for the maximum synergies and to avoid duplication.</p>
<p>Further ecosystem and water quality degradation in the basin due to the development pressure in the basin and uncoordinated development activities across the basin. Development pressure is high in the basin and some major development decisions are made outside of LIMCOM discussion.</p>	Moderate/High	<p>The project will support LIMCOM in the development of future water resources development scenarios, taking into account e-flow requirements, potential impacts from climate change and variability. This exercise, to be included in the TDA, will inform policy makers beyond the water sector about potential positive and negative impacts from different water resources development scenarios and help establish common knowledge base across the member states. With this information, LIMCOM can support policy</p>

ssions or mandates.	cy makers directly involved in LIMCOM as well as those who are not to make more informed decisions about potential future development options that are supported by the basin resources and that would affect the basin resources at the same time.
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6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

Institutional Structure of the Project and M&E Coordination at the Project Level:

Project will be governed by the Project Steering Committee (PSC), the highest decision-making body for the project. PSC will include representatives from LIMCOM member states, LIMCOM Secretariat, UNDP, and a UNDP Implementing Partner (= GEF Executing Agency). A representation of SADC is also proposed to be part of the PSC (to be confirmed during the Project Preparation phase). The PSC will meet at least once a year to monitor the project's implementation progress and progress towards the expected results. PSC will approve the project's work plan and budget, provide strategic guidance and decisions to the Project Manager and ensure that the project is well coordinated with other regional and national initiatives and other co-financing activities to maximize the potential synergies.

Project Management Unit (PMU), headed by the Project Manager, will be responsible for the timely implementation of work plans approved by the PSC and for the day-to-day activities of the project. UNDP Implementing Partner (=GEF Executing Agency) of the project will be responsible for all recruitment and procurement of goods and services in a timely manner within the budget approved by PSC. The PMU is proposed to be hosted by the LIMCOM Secretariat in Maputo, Mozambique (to be confirmed during the preparation phase).

Due to its current limited capacity and limited track records of financial management, LIMCOM is not yet eligible to be selected as an Implementing Partner (IP) by UNDP. Subsequently, it is proposed that GWP-SA will perform as the UNDP IP (= GEF EA) for this project and execute the project on behalf of the LIMCOM and its member states. Their duties as GEF EA will include, but not limited to, the timely procurement of goods and services required to carry out project activities and deliver the expected project outputs in time, in scope and in budget; the financial management of the project resources; and the timely financial and technical progress reporting to UNDP quarterly. Further, through consultations with GEFSEC, it was clarified that, as the GEF EA, GWP-SA is expected to build LIMCOM Secretariat's execution capacity throughout the project implementation period so that by the time the project is completed, the LIMCOM's capacity will be strengthened to start executing donor-funded projects directly without the involvement of a third party as an Executing Agency.

Coordination with other relevant GEF-financed projects and other initiatives:

-

Coordination efforts with other initiatives supporting the LIMCOM will be led by LIMCOM, supported by the LIMCOM Secretariat. During the project implementation, UNDP-GEF Project will strengthen the LIMCOM's coordination capacity through the development of SAP, SAP M&E framework (Comp 3), and the monitoring framework for the implementation of SAP and the IWRM Plan (Comp 1). Most of coordination efforts by LIMCOM will be done through the existing LIMCOM structure and procedures.

The PIF has been developed with close coordination and collaboration with USAID Resilient Waters project, UK CRIDF, and GWP-Southern Africa, the three partners that are currently supporting the LIMCOM. During the preparatory phase, any other partners identified by LIMCOM (e.g. GIZ) will be consulted to ensure the synergies and complementarity and avoid duplication.

For coordination with ongoing and forthcoming GEF-financed projects, the following projects are identified as most relevant.

Regional:

GEF, through the World Bank, has been supporting the strengthening of transboundary and national groundwater management in the SADC countries. The currently ongoing project (the 2nd phase) support the operationalization of the SADC Groundwater Management Institute (GMI), established at the University of Free State as a center of excellence, and finding more about some selected transboundary aquifers in the SADC region, including the Ramatswa Dolomite Aquifer (shared by Botswana & South Africa) and the Tuli Karoo Basin Aquifer (shared by Botswana, South Africa, and Zimbabwe), which are both located in the Limpopo River basin. Any knowledge collected by the SADC Groundwater project on those two aquifers will be incorporated in the Limpopo TDA and considered in the discussions related to the groundwater-surface water conjunctive management in the basin. Also, the SADC Groundwater project's efforts to strengthen legal, policy and regulatory frameworks that govern groundwater management at national and transboundary levels, and guidelines, standards and management tools developed at the SADC level for improved groundwater management will be utilized in the Limpopo River basin, when they are applicable. The project will work closely with SADC GMI. LIMCOM and SADC GMI have recently agreed that the SADC GMI would support LIMCOM's newly established Groundwater Task Force. This agreement ensures that SADC GMI will be closely working with LIMCOM on issues related to groundwater and conjunctive management in the future.

GEF, through UNDP, have been investing in the Cubango-Okavango River basin (since mid-1990's) and in the Orange-Senqu River basin (since mid-2000's) and supported them to develop their respective TDA, SAP and NAPs, and strengthen joint management of the basins through their respective RBOs (OKACOM and ORASECOM). Both basins are now at SAP implementation phase, financed by their member states as well as multiple partners, including GEF. Both OKACOM and ORASECOM have a lot to share with LIMCOM as the LIMCOM will go through the TDA, SAP and NAP development phase. For example, OKACOM has included future water resources development scenario analysis in its TDA. Also, OKACOM is now embarking on the sedimentation modeling and monitoring as a critical knowledge gap filling prioritized in the SAP. ORASECOM has been practicing a Joint Basin Survey in the last decade and accumulated some best

practices and lessons learned. All these activities are included in this PIF, as prioritized by LIMCOM for UNDP-GEF support. This project will coordinate with these two regional projects closely to share knowledge, best practices and lessons learned so that the LIMCOM can achieve its intended Outcomes from this project effectively and efficiently.

GEF is also supporting the sustainable management of the coastal and marine ecosystems of the Western Indian Ocean through UNDP (WIO LME SAPPHIRE) and UNEP (WIO SAP), both executed by the Nairobi Convention Secretariat. The Limpopo TDA-SAP project will be facilitated initial dialogues and exchange of information between LIMCOM and the Nairobi Convention to realize a Source-to-Sea approach by linking the Limpopo river basin - the WIO coastal and marine ecosystems.

National:

Mozambique has submitted a PIF (GEF ID 10100) in 2018, through UNDP, to request for \$9mil from LDCF to increase climate resilience at local level through the development and implementation of Local Adaptation Plans (LAPs). The proposed interventions will support local communities in adopting climate-resilient agricultural and water management practices, to introduce adequate technologies to improve production, and to access markets to sustain climate-resilient livelihoods. Through tailored and participative investments, associated with technical training and involving local youth and women, the project will primarily support the implementation of the LAPs as developed for each of the targeted districts. These plans do include many of the activities prioritized to enhance the adaptive capacities of farming communities through promotion of resilient technologies and practices. The project will support 5 districts to implement their defined LAPs, and will support some additional districts/provinces to develop their LAPs. The five districts where LAPs will be implemented will be chosen during the PPG among a list of 11 districts. The list currently includes three districts within the Limpopo River basin: namely, Massingir (Gaza); Massingira and Vilanculos (Inhambane). If any districts in the Limpopo River basin are included in the full-sized project, then the LIMPOPO project will closely coordinate its national and regional activities with these national climate change resilience project in Mozambique, as the increasing the climate resilience is a prioritized issue in the Limpopo River basin and in LIMCOM discussions.

South Africa is currently implementing a GEF-5 SLM project (GEF ID:5327) with UNDP support to address soil erosion and land degradation to restore the ecological functioning and resilience in the Karoo, Eastern Cape and the Olifants landscapes. Olifants River is one of the major tributaries of the Limpopo River and a hotspot for sedimentation concerns identified during the Limpopo River basin scoping study and by the Limpopo Monograph. Thus, this national GEF-5 SLM project in South Africa, especially its activities in the Olifants landscape is highly relevant to the Limpopo project. UNDP will ensure that the two projects share information and where appropriate, knowledge and experience gathered by the South Africa SLM project will be incorporated in the Limpopo TDA, SAP and NAP discussions.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

- National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC
- National Action Program (NAP) under UNCCD
- ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury
- Minamata Initial Assessment (MIA) under Minamata Convention
- National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD
- National Communications (NC) under UNFCCC
- Technology Needs Assessment (TNA) under UNFCCC
- National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD
- National Implementation Plan (NIP) under POPs
- Poverty Reduction Strategy Paper (PRSP)
- National Portfolio Formulation Exercise (NPFE) under GEFSEC
- Biennial Update Report (BUR) under UNFCCC
- Others

The project is consistent with national priorities of the participating countries as stipulated in their respective national and sectoral development plans and strategies. It is also consistent with priorities in the region.

Botswana:

The long-term development planning in Botswana is guided by the Vision 2036., which emphasizes that water resource management and development planning need to be fully integrated in the economic development of the country.

The Department of Water Affairs has developed a draft National Water and Wastewater Policy for the country in 2010, which is firmly based on IWRM principles. Botswana also developed an IWRM and Water Efficiency Plan (2012) supported by a UNDP-GEF Botswana IWRM project, which has been instrumental in driving water resources management. The government also has established a dedicated division to deal with transboundary water resources management issues in DWA, demonstrating how important the transboundary water management issue is for Botswana.

Mozambique:

its Agenda 2025 – The Nation's Vision and Strategies, Mozambique emphasizes water supply, water security and ensuring that they receive fair benefits from the international rivers that flow through Mozambique as their priorities for development. With respect to water resources management the Vision recognizes that the country is extremely vulnerable to natural disasters and any change in the environment, such as droughts, floods, or cyclones, has serious consequences for the living quality of people and disorganizes their livelihoods.

Impacts of climate change is recognized as a major barrier to the country's development efforts; thus, climate change adaptation and vulnerability reduction are the country's key development priorities. In this light, Mozambique produced a National Adaptation Programme of Action (NAPA) in 2007. In its NAPA, Mozambique identified key vulnerabilities to droughts (frequent in central and southern regions of the country) and desertification, floods not just from precipitation but also from the existence of a number of river basins, and tropical cyclones affecting the coastal regions. Water resources management is identified as one of their four key priorities listed in NAPA. The project will contribute not only to the water resources management priority, but also the other three priorities both directly and indirectly. The four key priorities are: i) strengthening early warning systems; ii) strengthening the capacity of farmers to deal with climate change; iii) reduction of the impacts of climate change along the coastal zone; and iv) water resources management.

The Mozambique National Water Policy (2007) aims to decentralize water resources management to autonomous entities at the basin and provincial levels. Five (5) Regional Water Authorities (ARAs) in Mozambique are responsible for the management of water resources and each ARA manages several basins being simultaneously close enough to expedite management and coordination with political authorities. ARA-SUL is operational within the Limpopo basin and is responsible for a suite of water resource management and related functions including operation and maintenance of dams, monitoring, flood management, and water use licensing. River basin management institutions (UGBs) are intended to be established to manage water resources at a catchment scale. In order to create a more participative environment River basin management committees (RBCs) are being established as consultative bodies to work with the UGBs. The project is in consistent with and will support the country's increasing efforts to realize the decentralized governance mechanism for water management at the catchment level.

South Africa:

The National Development Plan (NDP) - Vision for 2030, is a long-term national development framework with the aim of eliminating poverty and reduce inequalities. In Chapter 4 on economic infrastructure the NDP deals with the development of water resources.

Water Resources Management is primarily governed by the National Water Act (36 of 1998) (NWA). In the context of transboundary water management, 'meeting international obligations' is stipulated as one of the purposes of the Act. The Department of Water and Sanitation (DWS) has nine DWA regional offices. Within the Limpopo basin three regional offices, namely the Mpumalanga Regional Office, the Limpopo Regional Office and the North West Regional Office are present taking responsibility for the Olifants Limpopo and Crocodile West water management area (WMAs) respectively. The NWA makes provision

for the establishment of Catchment Management Agencies (CMAs) and Water User Associations (WUAs). The CMA will eventually have powers and delegated functions to enable the CMA to issue water use authorizations and to issue compliance monitoring and enforcement directives. WUAs are an important element of the framework in that they manage local resources and operate localized infrastructure in this regard. The project is in consistent with and will support the country's efforts to strengthen capacity of those CMAs and WUAs in the basin.

Zimbabwe:

With Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimAsset): "Towards an Empowered Society and a Growing Economy" (2013-2018) and the Zimbabwe's "10-Point Plan for Economic Growth" list water security as a priority for their development. Further, they emphasize the importance of increasing agricultural productivity as well as investments in water infrastructure.

In 1998, a new Water Act and the Zimbabwe National Water Authority Act (ZINWA Act) were passed, representing a shift from centralized water management to a decentralized system of water management based on river basins and a strong degree of stakeholder participation. The Zimbabwe National Water Authority Act of 1998, Section 5(1)d, states a primary goal is to "Promote an equitable, efficient and sustainable allocation and distribution of water resources". The Water Act (1998) sets the parameters for access to and use of water as well as providing for the establishment of catchment and sub-catchment councils composed of elected representatives. The Department of Water Resources Planning and Management of the Ministry of Environment, Water and Climate (now the Ministry of Agriculture, Land and Resettlement, Rural Development, Water and Climate as from September 2018) is responsible for policies on water resources planning, development and management, while the Zimbabwe National Water Authority (ZINWA) is the implementing arm of the ministry. The Zimbabwe National Water Policy (2013) embraces IFRM as one of the key policy statements for promoting stakeholder participation in the planning, implementation and management of water resources so as to ensure sustainability in the management of the water resources. The Zimbabwe National Water Authority (ZINWA) was established by the Water Act, and is responsible for the development and management of the national water resources in Zimbabwe. Catchments and sub-catchment councils are responsible for water resources management at local level. The project is in consistent and will support the country's efforts to manage water resources in a decentralized manner at the basin and catchment level and will contribute to the capacity building and engagement of the relevant bodies.

Rio Conventions and associated Plans and Communications:

The Project is consistent with implementation of the three Rio conventions ratified by all basin countries. All Limpopo basin countries are parties to the UNFCCC and have signed and ratified the Kyoto Protocol. By ratifying the UNFCCC, the Basin states have committed to the implementation of measures to adapt to climate change. The project will contribute to the achievement of country commitments—more so, the NDCs, NAPA, the national climate change strategies, and the national disaster risk management strategies. Linking the project interventions to NDCs will help align investments and mainstream climate investment needs into broader growth plans within the basin. By reducing economic losses and increasing productivity, the programme will directly support climate resilient growth.

All basin countries are Parties to the UNCCD. They have also developed and submitted National Action Programmes (NAPs). The project is consistent with the country NAP as tools for operationalizing the implementation of the objectives of the convention. Thematic actions in support of the UNCCD, in the Limpopo basin countries include: Integrated water management; Agro-forestry; Soil conservation; Rangeland management; Ecological monitoring and early warning

systems and Sustainable agricultural farming systems

The basin countries are also consistent with the UNCBD convention, the SADC regional biodiversity strategy as well as the individual country strategies on conservation of biological diversity. The SADC Regional Biodiversity Strategy aims to provide a framework for cooperation and implementation of provisions toward sustaining the region's biodiversity. The Strategy outlines tactics for addressing focal areas that cut across several sectors – forestry, wildlife, agriculture etc. This is based on a scope of developing programmes to enhance economic development without compromising sustainable use. The Strategy also suggests activities for its funding and implementation, encouraging SADC Member States to develop projects in biodiversity focal areas.

SADC Regional Water Policy and Strategy (2005)

The project is consistent with the SADC Regional Water Policy and Strategy which is aimed at providing a framework for sustainable, integrated and coordinated development, utilization, protection and control of national and transboundary water resources in the SADC region. This policy is intended to support the SADC Common Agenda of socio-economic development and regional integration and improvement of the quality of life of all people in the region. Themes of relevance to the Limpopo river basin include (i) fostering Regional Cooperation in Water Resources Management (ii) Water for Environmental Sustainability (iii) Security from Water-related Disasters (iv) Water Resources Information and Management (v) Stakeholder Participation and Capacity Building and (vi) policy provisions covering institutional arrangements at regional and national levels and for Shared Watercourse Institutions like the Limpopo Water Course Commission.

SADC Revised Protocol on Shared Watercourses (2000)

The SADC Revised Protocol on Shared Watercourse sets the policy, legal and institutional environment for establishment of trans-boundary river basin cooperation institutions such as LIMCOM. The principles of the Protocol are operationalized through the Regional Water Policy (2005) and Strategy (2006) implemented through SADC Regional Strategic Action Plans (RSAPs), which are implemented in a phased manner to reflect the evolving needs and capacities of the region. SADC is now implementing its fourth RSAP (RSAP IV - (2016 – 2020)). The Protocol contains generic rules for the management of shared rivers, but does not contain basin-specific rules, which must be developed in this case by the shared watercourse institutions like LIMCOM. SADC has come up with "Guidelines for the Implementation of the Revised Protocol ", which were adopted by SADC Ministers responsible for Water in July 2018. In 2010, the Southern African Development Community (SADC) Water Division launched a series of guidelines to assist with the strengthening of river basin organizations in the SADC region. One of the guidelines which will be key to the strengthening of the LIMCOM is the "Guideline for Strengthening River Basin Organizations - Establishment and Development (2010)". The purpose of the guideline for Establishment and Development is to establish a set of procedures to assist governments to establish appropriate institutions, such as river basin organizations, to facilitate the cooperative management of shared watercourses. The proposed GEF project will help contribute to the achievement of these commitments and compliance with international treaties.

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The entire Component 5, with an indicative budget of \$400,000 (or over 6% of the total budget) is dedicated to the knowledge management, reflecting the importance that the project puts on the knowledge management and information sharing to achieve the project's intended results and overall impacts effectively and efficiently.

LIMCOM being one of the newer RBOs established in the SADC region, it would be very useful to organize targeted exchanges with other RBOs in the region going through the TDA, SAP and NAP approaches. Especially with OKACOM, which includes Portuguese as one of their official language, Mozambique, which tends to be disadvantaged due to language in these multilateral discussions that are often conducted only in English, can learn effectively without language barriers.

For information and knowledge exchange with initiatives beyond the SADC region, the project will participate actively in IW:LEARN activities and IW:LEARN organized events, including GEF International Waters Conference. As customary to all GEF IW projects, the project will allocate at least 1% of the total project budget to ensure that it will contribute to the knowledge management activities for the global GEF IW portfolio, organized by IW:LEARN.

MTR and TE are also included explicitly in the Component 5 to make sure that they will be adequately resourced.

Further, all new data and knowledge generated through activities under Comp 2 will be uploaded onto LIMIS for wider sharing and utilization to support LIMCOM's DSS, and/or made available through the LIMCOM's website^[1].

^[1] LIMCOM currently does not have its own website, but has a plan to develop one in 2019 with support from the USAID Resilience Waters project. The project website will be linked to the LIMCOM website once the LIMCOM website is up and running.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

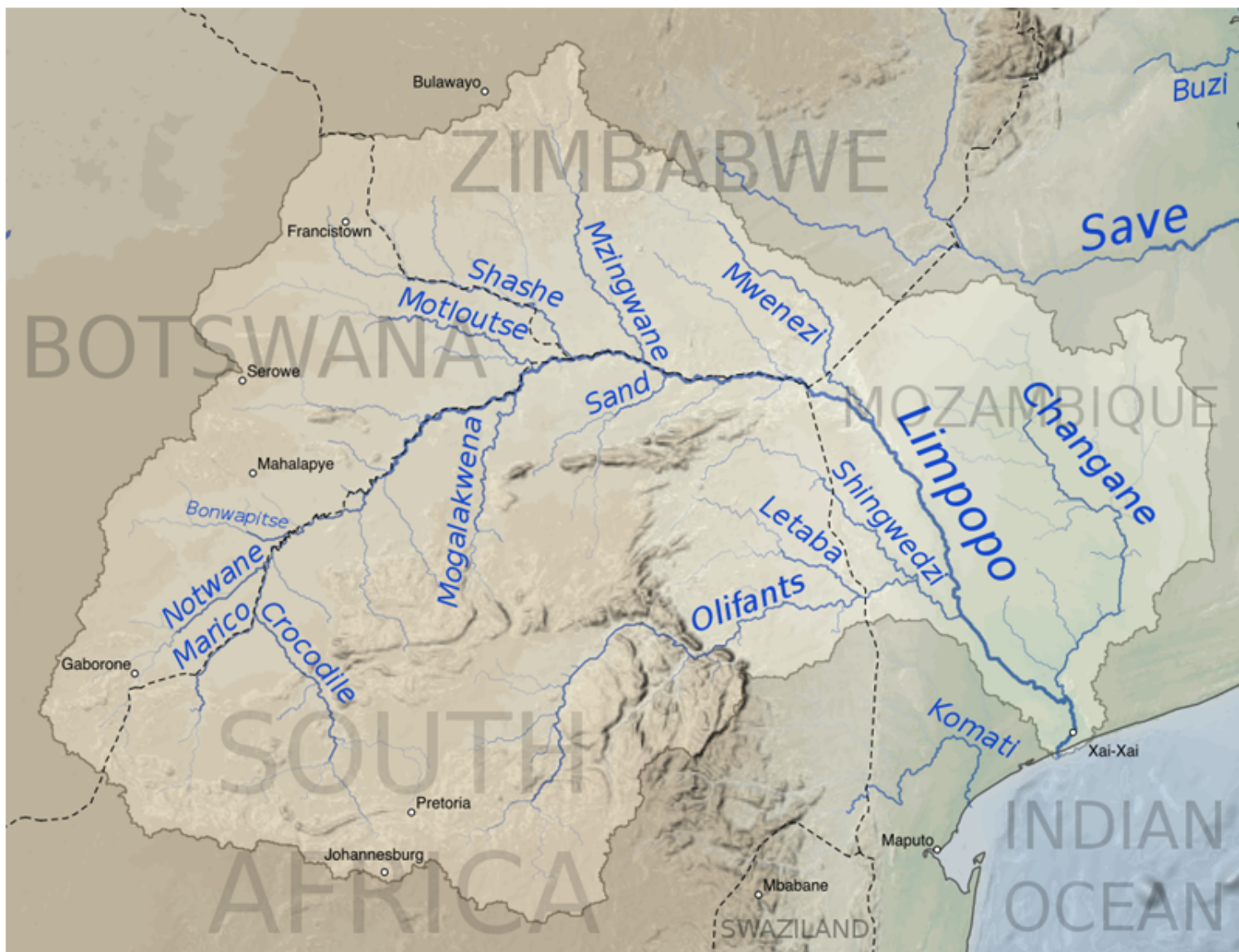
Name	Position	Ministry	Date
Monade Nemane GEF OFP Mozambique	CEO	MINISTERIO DA TERRA AMBIENTE E DESENVOLVIMENTO RURAL FUNDO NACIONAL DE DESENVOLVIMENTO SUSTENTAVEL REPUBLICA DE MOCAMBIQUE	10/2/2018
Zaheer Fakir GEF OFP South Africa	Chief Policy Advisor International Relations and Governance	DEPARTMENT OF ENVIRONMENTAL AFFAIRS REPUBLIC OF SOUTH AFRICA	10/5/2018
T. Mundoga GEF OFP Zimbabwe	Deputy Director Natural Resources	MINISTRY OF ENVIRONMENT, TOURISM AND HOSPITALITY INDUSTRY REPUBLIC OF ZIMBABWE	10/2/2018
Botshabelo Othusitse GEF OFP Botswana	Deputy Director Department of Environmental Affairs	MINISTRY OF ENVIRONMENT, NATURAL CONSERVATION AND TOURISM, REPUBLIC OF BOTSWANA	11/1/2019

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

Map of the Limpopo River drainage basin, with tributaries labeled

(Data from GTOPO3, HYDRO1k, and Natural Earth)



(Source: Created by Keenan Pepper, Feb 2018)

