

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title

Strengthening integrated transboundary management of the Incomati and Maputo river basins

Region

Regional

GEF Project ID

11180

Country(ies)

Regional

Eswatini

Mozambique

South Africa

Type of Project

FSP

GEF Agency(ies):

UNDP

GEF Agency ID

6703

Executing Partner

Global Water Partnership in Africa

Incomati and Maputo Watercourse Commission Secretariat

Executing Partner Type

CSO

Others

GEF Focal Area (s)

International Waters

Submission Date

4/12/2023

Project Sector (CCM Only)

Taxonomy

International Waters, Focal Areas, Transform policy and regulatory environments, Influencing models, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Local Communities, Stakeholders, Civil Society, Private Sector, Beneficiaries, Gender Mainstreaming, Gender Equality, Targeted Research, Capacity, Knowledge and Research, Enabling Activities, Capacity Development, Learning, Knowledge Generation, Knowledge Exchange

Type of Trust Fund

GET

Project Duration (Months)

72

GEF Project Grant: (a)

7,105,936.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

675,064.00

Agency Fee(s) Non-Grant (d)

0.00

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

7,781,000.00

Total Co-financing

23,600,000.00

PPG Amount: (e)

200,000.00

PPG Agency Fee(s): (f)

19,000.00

PPG total amount: (e+f)

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

219,000.00

8,000,000.00

Project Tags

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

Project Summary

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

The Incomati and Maputo River basins are very important for sustaining livelihoods as they are the source of natural resources for water, food and energy security for households. The water resources in the basin are also critical for economic development supporting the agriculture sector and cities like Mbabane and Maputo. Also, these basins are habitat to biodiversity of global importance found in several nature and game reserves of the Lubombo Transfrontier Conservation Area. The Inkomati estuary and Maputo Bay are critical habitats and breeding ground for various species of aquatic birds, turtle, fish and shrimp^[1]. Despite their importance, these river basins experience severe droughts, floods and cyclones; alteration of river flows and sedimentation; pollution and water scarcity due to high local dependance on natural resources for livelihoods, agricultural expansion, rapid urbanization, industrialization, and climate change. To address these issues, this project aims to strengthen integrated transboundary management of water resources of these adjacent river basins through implementing an approach that enhances linkages between terrestrial and coastal and marine ecosystems. This will be achieved through: i) strengthening regional governance frameworks for transboundary basin management, including application of source-to-sea management approach and building cooperation arrangements with coastal management institutions ; ii) Facilitating a knowledge-based approach for source-to-sea management; iii) supporting basin-wide and coastal zone strategic planning and investment mobilisation using a source to sea approach; iv) piloting innovative integrated approaches for environmental security and inclusive livelihoods; and v) effective knowledge generation and sharing for upscaling. The two basins and TFCA extend from high mountains of Eswatini, Mozambique and South Africa to large plains along the coastline of Indian Ocean in South Africa and Mozambique. This geographical location presents an opportunity for this project to mainstream source-to sea approach across components with focus on integrated solutions to the issue of water, food, energy and ecosystem (WEFE) security. Through engagement of multiple stakeholders at all levels of governance to plan and manage water resources, a transformational change based on knowledge will be driven. Collaboration between the Incomati and Maputo River Basin Commission, Lubombo Transfrontier Conservation Area, Nairobi Convention Secretariat and relevant Ministries and Departments in the three participating countries will be strengthened to ensure interventions on water resources management are well linked with priorities for biodiversity conservation in the area to contribute to improved management of coastal areas and reduce pollution of marine ecosystems from land sources. These interventions will contribute to the overall global targets to improve cooperative management of shared water ecosystems, conserve biodiversity, restore degraded lands, manage coastal and marine ecosystems and build resilience.

[1] UNDEP/Nairobi Convention Secretariat (2010): Environmental Profile of the Inkomati River Basin, UNEP, Nairobi, Kenya

Indicative Project Overview

Project Objective

To promote integrated source-to-sea management of the Incomati and Maputo River Basins and coastal zones to ensure environmental security and inclusive livelihoods.

Project Components

Component 1: Strengthening regional governance frameworks for transboundary basin management, including application of source-to-sea management approach

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
900,000.00	4,500,000.00

Outcome:

Outcome 1.1: Institutional, technical, and operational capacity of INMACOM strengthened for better collaboration with TFCAs and coastal management institutions

Outcome 1.2: Effective mechanisms for transboundary cooperation, data and information exchange between INMACOM, TFCAs, coastal management institutions and between Member States in place.

Outcome 1.3: Efficient source-to-sea coordination structures operational in the basins.

Outcome 1.4: Gender equality enhanced through creation of an enabling policy and organisational framework.

Output:

Output 1.1.1: Institutional, technical and operational capacity needs assessment carried out and short-, mid-, and long-term capacity development plan developed to enhance cooperation and coordination in promoting a source-to-sea approach

Output 1.1.2: Linkages facilitated by SADC – to strengthen cooperation and coordination of joint activities between the INMACOM, TFCAs and coastal management institutions.

Output 1.1.3: INMACOM comprehensive organizational procedures strengthened in order to strengthen accountability of the Secretariat

Output 1.1.4: Technical task teams (under the INMACOM Technical Steering Committee) on Groundwater, Flood & Drought Task-Team operations strengthened

Output 1.2.1: Procedures for data and information exchange between INMACOM and TFCA and between Member States adopted and applied

Output 1.2.2: Establish working arrangements with relevant coastal management institutions at national and regional level e.g. the Nairobi Convention

Output 1.3.1: National Intersectoral Committees and a cross-sectoral transboundary coordination forum for source-to-sea management established, including INMACOM, TFCA, coastal management institutions and other key role-players

Output 1.3.2: Awareness of source-to-sea management approach strengthened among key role-players and approach applied in practice through integration into decision making processes

Output 1.3.3: SADC secretariat support for horizontal integration – coordination of RBOs, TFCA and coastal management institutions enhanced.

Output 1.4.1: Gender equality strengthened in INMACOM through development and implementation of a gender policy and strategy

Output 1.4.2: Gender equality strengthened in the established National Inter-sectoral Committees and transboundary source-to-sea coordination committee (see output 1.3.1)

Component 2: Facilitating a knowledge-based approach for source-to-sea management

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
2,300,000.00	6,840,000.00

Outcome:

Outcome 2.1: Scientific baseline for source-to-sea based management of the basins established to enable science-based planning, development, and management of the IncoMaputo River Basins

Outcome 2.2: Basin-wide information and knowledge management tools developed to improve the science – policy interface

Output:

Output 2.1.1.: Joint Basin Survey for key ecosystem health parameters carried out

Output 2.1.2: Information from existing hydrogeological assessments collated and gaps identified (linked to development of TDA under Output 2.2.1)

Output 2.1.3: Environmental flows for priority catchments determined

Output 2.2.1: Transboundary Diagnostic Analysis for the Incomati-Maputo Basins and Lubombo TFCA carried out, including application of the source-to-sea concept

Output 2.2.2: IncoMaputo Environmental Monitoring Framework developed

Output 2.2.3: Existing Water Information System (WIS) and Decision Support System (DSS) within INMACOM Secretariat strengthened with new information

Output 2.2.4: Livelihood risk management plan aimed at enhancing resilience developed and operationalised

Output 2.2.5: Development of a strategy to address sand mining activities

Component 3: Support basin-wide and coastal zone strategic planning and investment mobilisation

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
764,531.00	3,200,000.00

Outcome:

Outcome3.1: National and transboundary priorities integrated into Strategic Action Programme (SAP) and National Action Plans endorsed by Member States

Output:

Output 3.1.1: SAP for the transboundary basin and coastal zone developed through an inclusive participatory approach and endorsed by the three governments

Output 3.1.2: Three National Action Plans (NAPs) linking country priorities to regional priorities approved at national level.

Output 3.1.3: Investment Plan for implementing the SAP and the NAPs developed and adopted by the three governments.

Output 3.1.4: A donor-round table to mobilise resources for the SAPs and NAPs facilitated

Component 4: Creating sustainable livelihoods through enhancing water, food, energy and environmental security

Component Type	Trust Fund
Investment	GET
GEF Project Financing (\$)	Co-financing (\$)
2,400,000.00	6,536,190.00

Outcome:

Outcome 4.1^[1]2: Livelihoods demonstration projects addressing various environmental issues and ensuring sustainability through livelihood enhancement for lessons learnt, upscaling and replication

[1] Outcome 3.1 requires additional elaboration during the PPG phase, in which site-specific information will be collected to ensure the selected investments are optimally selected and designed with respect to local social, environmental and economic circumstances.

Output:

Output 4.1.1: Conservation and rehabilitation activities undertaken in the transboundary river basin e.g., promotion of sustainable land management practices.

Output 4.1.2: Conservation based livelihood and business opportunities that ensure gender equality and social inclusion explored in conjunction with TFCA and implemented in pilot sites (incl., sustainable fishing in Lake Mandejene and estuary in Bela Vista and vegetation removal, mangrove restoration in estuarine in the Maputo Bay areas, designing of PES schemes, clean cooking technologies; solar farming)

Output 4.1.3: Uptake of environmentally friendly technologies taking into account gender considerations supported and applied in pilot sites, (e.g., conversion of irrigation system on small farms, installation of rainwater harvesting and small-scale storage systems), alternative solutions to sand mining in construction sector

Component 5: Knowledge generation, communication, and dissemination

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
200,000.00	600,000.00

Outcome:

Outcome 5.1: Effective knowledge generation and sharing mechanism established and actively used

Output:

Output 5.1.1: INMACOM actively participated in knowledge/experience sharing at regional SADC (e.g., biennial SADC RBO workshop) and international level, including on the IW Learn platform and through participation in the GEF IW-LEARN programme

Output 5.1.2: At least 1 exchange visit with other RBOs and/ or relevant regional institutions carried out to share source-to-sea management experiences

Output 5.1.3: Regular peer-to peer learning and experience exchanges between local stakeholder communities ensuring inclusivity (especially those involved in demonstration projects) facilitated

Output 5.1.4: Communication Strategy and Plan developed to facilitate targeted communications to stakeholders driving outreach, awareness raising and dissemination of outputs/results

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing (\$)	Co-financing (\$)
203,027.00	800,000.00

Outcome:

Effective programme and project monitoring and evaluation ensured

Output:

1. Gender-responsive programme monitoring, and evaluation (M&E) system established within INMACOM
2. Project M&E system set-up and quarterly results reporting
3. Mid-term and terminal evaluation of the project carried out

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)

Component 1: Strengthening regional governance frameworks for transboundary basin management, including application of source-to-sea management approach	900,000.00	4,500,000.00
Component 2: Facilitating a knowledge-based approach for source-to-sea management	2,300,000.00	6,840,000.00
Component 3: Support basin-wide and coastal zone strategic planning and investment mobilisation	764,531.00	3,200,000.00
Component 4: Creating sustainable livelihoods through enhancing water, food, energy and environmental security	2,400,000.00	6,536,190.00
Component 5: Knowledge generation, communication, and dissemination	200,000.00	600,000.00
M&E	203,027.00	800,000.00
Subtotal	6,767,558.00	22,476,190.00
Project Management Cost	338,378.00	1,123,810.00
Total Project Cost (\$)	7,105,936.00	23,600,000.00

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

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

Project background

1. The project area covers the two adjoining transboundary river basins of the Incomati and the Maputo, shared between Eswatini, Mozambique, and South Africa, as well as the Lubombo Transfrontier Conservation Area (TFCA) shared between the same countries, and predominantly located in these two river basins (see maps in Annex C). The **Incomati River Basin** covers a surface area of about 46,800 km². The 450 km long river originates in the mountains and plateau of South Africa's Limpopo and Mpumalanga Provinces at an altitude of about 2000 m before flowing through Eswatini and finally discharging into the northern part of the Maputo Bay/Mozambique. **The Basin has 37 proclaimed nature and game reserves[1]³**. The land area of the **Maputo River Basin** covers about 30,000 km². The headwaters of the basin originate in South Africa, and the main tributaries flow through the southern half of Eswatini (Usuthu) and further south through South Africa (Phongola), before joining on the South Africa / Mozambique border and flowing to the estuary in Maputo Bay. The Maputo Bay is 70,000 ha in extent and incorporates estuarine, mangrove and marine ecosystems. **The two basins have a population of around 3.4 million inhabitants (2million in Incomati and 1.4 million in Maputo) whose livelihoods mainly depend on natural resources and subsistence agriculture (mainly in Mozambique) as about 76% of the population live in rural areas. Commercial forestry, tourism, mining and manufacturing industries are growing with the basin.**

2. The climate in both basins **and the TFCA** varies from hot and humid in the Mozambique coastal plain to cool and dry in the upper reaches in South Africa. The flow regimes are characterised by high flows during the wet season, from November to March and relatively low flows in the dry season, from April to October. On average, 60% to 80% of the mean annual flow occur in a few months of the year. As a consequence, there are frequent extreme floods and droughts in the basin, particularly in Mozambique. **The IPCC report[2]⁴ shows that in East Southern Africa (ESAF) where the two basins are located, there is observed decrease in mean precipitation and, observed and projected increase in heavy precipitation and flooding. The report also notes observed and projected increase in aridity, agricultural and ecological droughts; observed and projected increase in meteorological droughts; projected increase in fire weather conditions; increases in mean wind speed; increase of average tropical cyclone wind speeds and associated heavy precipitation and of the proportion of category 4-5 tropical cyclones. In 2018-2019 the southwest Indian Ocean tropical cyclone season was remarkable with estimated 1380 deaths and USD 2.3 billion damages. It is projected that these hazards will increase exposing vulnerabilities affecting human lives, agriculture, water, health, infrastructure, and other aspects of life[3]⁵**.

3. Agriculture is the predominant economic activity in both basins and the main water user. This includes large-scale commercial operations for both irrigated and rain-fed agriculture, as well as subsistence level farming. **Two agricultural activities dominate the basin, both in terms of land and water use and economy: rain-fed commercial tree plantations and irrigated sugarcane cultivation. Sugarcane production in the Incomati basin captures as much as 67% of all water used for irrigation and provides employment to a more than 30,000 people directly**

employed[4]⁶. Cotton is also grown in the basin in Nokaneng, Nkomazi and Makhatini in the Inkomati Catchment with most of it using dryland farming. Other important economic activities (and hence water users) include stock-farming, mining, industrial activities, like wood pulp milling and textile. In Eswatini, the textile industry is the second largest employer after the sugar industry employing more than 25,000 people of which 80% are women. Water supply to the textile industry is critical as it is approximated to take about 2.7 litres of water to produce one T-shirt[5]⁷. In Eswatini 80% of the textile industry is in Matsapha and Siteki in the Maputo River Basin and produce waste estimated at 950 tonnes/year[6]⁸. Water supply for the city of Maputo is currently on a small scale but is likely to increase over time due to the growing water demand of the city. In Maputo Bay shrimp fishing is an important economic activity that depend on water quality of the Incomati and Maputo rivers.

4. The **Lubombo Transfrontier Conservation Area (TFCA)** is over a total area of 11,169 km² shared by Eswatini, Mozambique and South Africa. The Memorandum of Understanding to formalise the establishment of the Lubombo Transfrontier Conservation and Resource Area was signed by the Mozambique, South Africa and ESwatini (formerly Swaziland) Governments in 2000. In 2002, the three countries established the Lubombo TFCA Commission to strengthen the joint management of the area. Lubombo boasts the first marine TFCA in Africa, the Ponta do Ouro-Kosi Bay TFCA, where Mozambique's Ponta do Ouro Partial Marine Reserve turtle monitoring programme links up with the one across the border in South Africa's iSimangaliso Wetland Park (largest estuarine system in Africa). Other areas of particular conservation importance are the Great Escarpment, the Barberton Mountain Land, the area between Komati River and the Lebombo Mountain Range, the higher altitude areas surrounding Sabie and Graskop; the Kruger National Park, the Sabi Sand, Manyeleti, Songimvelo and Malolotja Game Reserves, and the Special Bobebe Reserve in Mozambique. The Ndumo-Tembe-Futi TFCA which is part of the Lubombo TFCA was established to create a corridor that links elephants in South Africa to those in the Maputo Special Reserve. The Kruger National Park plays an important role in the catchment management fora set up by the Inkomati Catchment Management Agency (ICMA) in South Africa, which concern the provision of environmental minimum flows, to maintain ecosystem services and biodiversity in the park[7]⁹. It includes important rivers such as the Sabie river with no significant changes in water flows compared to the Komati and Crocodile sub-catchments given that it flow through a natural vegetation. Also, water flows in the Futi river that is important for migration of elephants between Kruger and Maputo National Parks have been reducing over time. The project interventions in this area will be well developed at the PPH Phase.

5. Although not yet well implemented, there is a long history of cooperative water resources management between the three basin States. The first cooperative platform was established in 1983 with the Agreement between the three governments on the establishment of a Tripartite Permanent Technical Committee (TPTC) to oversee the two river basins. The continued process of co-operation eventually led to the signing of the Interim IncoMaputo Agreement (IIMA) in August 2002. In 2016, the TPTC endorsed the Kingdom of Eswatini as the permanent host of the Incomati and Maputo Watercourse Commission (INMACOM) Secretariat. The agreements for the formalization and hosting of the INMACOM were signed in November 2021. An interim Executive Secretary has been appointed by means of secondment from the Government of Eswatini but the establishment of the Secretariat remains in its infancy and considerable strengthening is required for INMACOM to deliver on its mandate. The Lumbobo TFCA is guided by an agreement that all three Member States have signed and committed to. Policy guidance for the TFCA is provided by a Ministerial Committee which also monitors the progress in the implementation of the agreement. A Senior Officials' Technical Committee consisting of representatives from relevant ministries develops action plans for the development and management of the TFCA and translates decisions of the Ministerial Committee into operation guidelines. This project will build on these agreements to

strengthen the capacity of the INMACOM secretariat to support cooperation of the three members states and to coordinate activities with the TFCA and coastal management institutions (mainly ministries of environment of the three countries) for improved transboundary natural resources management. It also builds on the achievements of the Nairobi Convention Secretariat on reducing pollution to coastal and marine ecosystems within the basin.

Global environmental problems and climate vulnerabilities that the project will address

6. High water demand and associated changes in the flow regime

Water shortages have been identified as a major problem caused by the increased demand of river water to meet the needs for agriculture, urban and industrial developments. This reduction has also had an impact on the water quality and has resulted in saltwater intrusion into the estuaries and groundwater aquifers. The *Environmental Profile of the Incomati River Basin*^{[9][10]} developed under the framework of the UNEP-GEF WIO-LaB project to implement the Nairobi Convention notes that water demand in the Basin is increasing and is outstripping the available water resources. The study also identifies the alteration of river flows in terms of quantity and timing and the alteration in river sediment loads as two main problems in the river-ocean interaction in the basin. The sectors identified as driving river flow alteration and degradation of water quality are agriculture, urbanisation, mining, energy production, and industry – and this is resulting in a wide range of impacts on the marine environment, including the physical degradation of marine ecosystems. There are many stakeholders with different interests and water requirements. A specific concern is that at present the vast majority of water use (especially irrigated agriculture) takes place in (upstream) South Africa, substantially less in Eswatini, with only marginal irrigation in Mozambique. This limits development option in the lower parts of the basin (in Mozambique), which is currently the on average poorest area in the basins.

7. The construction of dams and reservoirs on different rivers within Incomati and Maputo River Basins has decreased their flow regimes. The study conducted by Riddell et al further shows that environmental flows and cross-border requirements are often not met during the dry season in the Komati, Incomati and Crocodile catchments [9][11]. This study also shows that streamflow reduction from the mean monthly flows during the 1960s coincides with the conversion of land to forestry, namely eucalyptus, and irrigated agriculture. Recent estimates suggest that streamflow reduction withdrawals are in the order of 1241 Mm³/yr from afforested areas in the whole basin, whilst irrigated agriculture accounts for 555 Mm³/yr, compared to agreed 2338 Mm³/yr for the Incomati Basin as a whole[10][12]. On the Komati River, irrigated agriculture is significant, particularly sugarcane. Land used for agriculture and forestry is four-times larger than it was 40-years ago and irrigation requires more water than any other activity – almost 70%. The upstream dams of Nooitgedacht and Vygeboom in the Incomati River Basin, are mainly used to supply cooling water to the coal-fired power stations outside the basin[11][13]. There are other several water transfers out of the basins, which can be regarded as a form of resource capture[12][14]. Eswatini exports enormous quantities of water per year from the Komati River to the Umbeluzi catchment, mainly for

agriculture purposes. On the Maputo River Basin in South Africa - there are two large schemes that transfer water from the upper Mkhondvo (Heyshop Dam on the Assegaai River) and Ngwempisi (Westoe, Jericho, Morgenstond Dams) catchments to the Vaal system for power generation. The Pongalapoort Dam transfers water to the Mhlatuze Catchment which is also outside the Maputo River Basin. In addition, the Incomati River basin tributaries can be considered highly disconnected from an ecological perspective, with a high density of irrigation abstraction weirs, especially on the Komati River. This prevents ecological migrations of aquatic biota such as fish and eels, and impacts local water quality. The Crocodile River is the only remaining major tributary with a source to sea connection with the absence of a large impoundment. The Maguga Dam in Eswatini and the Drikoppies Dam in South Africa on the Komati River; Inyaka Dam and Corumana Dam in the Sabie-Sand sub-catchment in Mozambique and the Kwena Dam in the Crocodile System in South Africa reduce the amount of water available for different uses downstream. The Maguga Dam has a 20MW hydropower station. The Kwena Dam is used for irrigation purposes. Works are planned at Moamba Major Dam on the Lower Incomati River, a new dam on the Mozambican side aimed at augmenting water supply to the Greater Maputo Metropolitan region. Similarly, the raising of the Corumana Dam on the Sabie River, a major tributary from 700Mm³ to 1100Mm³, now completed, will be used to further augment Maputo's water supplies, provide further hydro-electric production and flood attenuation capacity for the lower Incomati. In the Komati system, the flow regulation and water abstractions have strong impacts on streamflow^{[13]¹⁵}. In the Maputo River Basin, there are also major dams developed to supply irrigation schemes; the Bivane Dam, the Pongolapoort Dam (the largest dam in basin), the Lavumisa balancing dam, the Nyetane and Sivunga dams are some of the critical water resources for agriculture^{[14]¹⁶}. There are numerous other smaller dams used for irrigation in small holdings, firefighting in forest plantation areas, aquaculture, livestock watering and rural domestic water supply. As indicated above, a number of bulk industry and mining activities are taking place in the basins – in the Maputo River Basin there are mines for gold (Klipwal Mine); coal (Protea, Savmore, Taaiboschpruit and Maloma Mines) and talc (Masala Talc Mine). Main industries in the basin are processing wood (at Sappi Usutu Pulp Mill) and sugar mills (at Pongola and Ubombo) and cotton (Makhathini Cotton Ginnery in the Middle Usuthu catchment). There are also several water abstractions for urban water supply schemes including for Mbabane (the capital city) and Manzini in Eswatini. There are also a hydropower schemes in the basin operated by the Eswatini Electricity Board in the Lusushwana Catchment downstream of Mbabane.

8. Although not yet well understood, this reduction of freshwater has drastic effects on the Incomati Estuary and Maputo Bay ecosystems that are important for biodiversity, reducing water salinity and nutrients supply from sediments deposition, ameliorating flood damage and supplying water to local populations. These changes also have negative impacts on local livelihoods. For instance, the Macaneta wetlands are used by a range of stakeholders that practice fisheries, agriculture (mainly rainfed at the edges of the dunes), free-range livestock keeping and the gathering of a variety of natural resources (e.g. reeds, wood for energy and construction, wild fruits, etc.)^{[15]¹⁷}. Maputo Bay is the second most productive fishing ground in the country due to rich nutrient environment which allows for the establishment of coastal and marine habitats mainly mangroves and seagrass beds. The small-scale shallow water shrimp and *Hilsa kelee* (commonly known as magumba) fisheries provide value to the economy. Magumba is mainly fished with surface gill nets operated by artisanal fishing boats. On the other hand, subsistence fishers, mostly women and children, catch smaller shrimp species, penaeids and sergestids, with beach

seines, and “quinias”, commonly known as “cutanda” nets^[16]¹⁸. Data from 2015 shows that semi-industrial fisheries had a production of 771 tonnes, subsistence and artisanal produced 8 800 tonnes and 13 tonnes for sports and recreation. The catches in the Maputo Bay include crustaceans (penaeid, sergesteid and aristeid shrimps, lobster, crabs), fish (kelee shad, tuna, billfish, sharks, sardines, sillagos, mackerel, grunts, croakers, mullets, seabreams, wrasses, grunts, groupers, scads, flathead, wahoos) and Cephalopods (squid)^[17]¹⁹.

9. These issues of competition over water use, if not solved present a risk of local and transboundary conflicts if a more balanced water use regime is not found that includes the development interest of the lower parts of the basin (including the estuary based local economies) and the ecosystem needs, especially in terms of ecosystem resilience to climate extreme events. Consensus around a shared vision on the rivers’ future development, observing the basic principles of equity and sustainability in the water allocation and management of the river basin is critical. Therefore, there is a need to update the water allocations across the Incomati and Maputo river basins based on ecological water requirements and harmonize them across the member states and develop a robust environmental monitoring framework to inform decision-making on water allocation. South Africa has gazetted e-flow requirements in the Sabie, Crocodile and Komati sub-catchments which are partially implemented and these can be a basis to inform the process.

10. Unsustainable use of natural resources

Conservation efforts in the Incomati-Maputo basin are hindered by illegal use of natural resources due to poverty and rapid human population growth. The two basins have a huge rural population that relies on natural resources for their livelihood and water, food, and energy security. The drier middle and lower parts of the basins are particularly vulnerable to deforestation because of uncontrolled fuelwood harvesting for household use and sale. The use of wood as fuel high is prevalent, the high intensity of wood extraction alters the ecosystem structure and composition. Wood consumed for pulp and paper mills comes from commercial forests which have programmes on afforestation and reforestation. However, a lot of the commercial forestry have huge water demands and studies need to be conducted to better understand the impacts. Also, timber harvesting, poaching and encroachment for cultivation of commercial crops such as sugar canes and rice in critical ecological zones are increasing. Sand mining across the basin and overfishing for subsistence and commercial purposes in the lower reaches of the Phongolo River and the Maputo River are other issues of critical concern.

11. Deteriorating water quality

Declining water quality is a key environmental and socio-economic concern in the basin. The main causes for this problem are high nutrient loads from poorly managed agricultural runoff in the Komati catchment, Usuthu catchment and Phongolo, inadequate wastewater treatment, industrial and mining effluent, and sedimentation caused by erosion and sand mining. The Kaap River and the lower reaches of the Crocodile River were identified in the 2006 Joint Incomati Basin Study as the main sources of poor water quality – due to return flows from urban development, irrigation, and mining. The trends observed

indicated positive rise in Total Dissolved Solids, Electrical Conductivity and Sodium and Chloride concentration in the downstream direction in all river systems. There was also a tendency towards river systems becoming more alkaline with noticeable increase in pH levels. The main industrial activities are pulp and paper and sugar mills, along the Crocodile River in South Africa, in the Lower Incomati river catchment in Mozambique and in the Usuthu catchment in Eswatini^{[18]²⁰}. There is also pulp and paper processing in the Elands River catchment in South Africa. Effluent from these rivers have a heavy organic load and more studies need to be conducted to understand the impact of this industry on river systems. In the Komati River Catchment, the main water quality issues are bacterial problems (from cattle grazing, sewage effluent from poorly functioning wastewater treatment works in Seekoetspruit and lower Teespruit, runoff from poor sanitation) nutrient enrichment. The Lower Komati Catchment is highly impacted by frequent and extended periods of flow cessation, clearing of bank vegetation and sand mining which reduces bank stabilisation and led to alien vegetation encroachment. The main water quality issues are nutrients (with associated benthic algal blooms) and bacterial contamination, increased water temperatures and slight salinisation when the river stops flowing^{[19]²¹}. A large part of the river basins have also been invaded by alien plants. Large areas in the upper Phongolo and upper Mkhondvo catchments in South Africa and the mountains that form the watershed between the Ngwavuma, Mkhondvo and lower Usuthu catchments are invaded by large stands of wattle in the Maputo River Basin. The environmental impacts are, among others eutrophication and spread of dead zones in coastal and marine waters. Eutrophication is mainly in the Lower Incomati between Xinavane and Marracuene in Mozambique due to high nutrient supply associated with agricultural activities. The degradation of freshwater, terrestrial and marine environment has a direct impact on crucial ecosystem services, livelihoods, and food security, especially for the poorest people. Incomati River is characterized by high suspended sediment load particularly during flood periods- this is attributed to poor land use practices, deforestation, dredging operations, sand extraction and river channel erosion. Sand extraction, which leads to modification of the river channel topography, is common in the Middle and Upper Incomati River Basin in Ressano Garcia and Moamba. A study for the Maputo River Basin found that there in 2007 there were 21 known wastewater treatment works in the basin, however data was largely unavailable to assess the pollution they contribute. The study also notes that in catchments with large irrigation schemes, as much as 80% of the pollution load originated from agricultural return flows. Other concerns noted with regards to key water quality concerns – are salinization, nutrient enrichment from fertilizers, suspended sediment and turbidity from poor land-care, microbial pollution from human settlements, organic pollution from industry, acid mine drainage from disused mines and groundwater quality^{[20]²²}.

12. Climate change, especially increase in extreme weather events

The two basins are experiencing a marked increase in the number and severity of extreme weather events, i.e., droughts and floods are primarily experienced in the downstream areas of the two basins (Mozambique) and cause major destruction of infrastructure and cost human lives. A Flood Risk Management study conducted by the Climate Resilient Infrastructure Development Facility (CRIDF) shows that there is increasing incidence of extreme floods on the Lower Incomati River impact sugarcane farmers in the area. The study noted that the 2000 flood event had a total immediate economic cost (including direct, flow and relief costs) on Mozambique of about USD 550 million in the Lower Incomati River Basin. Droughts regularly affect the entire basins and result in crop failure causing economic losses for the commercial sector and undermine the livelihoods of small-scale and subsistence farmers for

example in 2015/16 an ENSO-induced drought in had a huge impact on agriculture productivity - sugarcane production dropped by 15% in Eswatini compared to the previous season. The problem is most acutely felt among the rural poor who do not have the resources to rebuild after extended drought events. In the Maputo River Basin, droughts have also impacted fishing in the Phongolo as communities depend on the pans that are reliant of releases of floods from the Pongolapoort Dam. Previous extreme events like Cyclone Domoina in 1984 led to the destruction of fishing ponds in Lowveld area in Eswatini.

Underlying drivers of environmental change and barriers to be addressed:

13. Barrier 1: Limited technical, institutional and operational capacity of INMACOM

INMACOM, mandated to advise the basins States with regards to the collaborative management t of the two basins, is still a relatively new institution and the three Member States are still establishing the modalities for fully operationalizing the secretariat. While the Members States (in 2019) received a grant with a limited amount of seed funding from the Kingdom of the Netherlands to implement activities of the Commission, this funding was primarily for programme activities with only a small portion for the organizational development of the Commission. The INMACOM Secretariat in its current state therefore has very limited capacity to deliver on its mandate and needs to be strengthened. Organisational capacity constraints in terms of limited staff, absence of effective operational management procedures/ guidelines (e.g., for financial management, procurement, human resources management) prevail and need to be addressed as a priority. The technical task teams of the Commission, especially the drought task-team, require strengthening

14. Barrier 2: Data and information gaps due to lack of continued basin monitoring

Data and information gaps, and the absence of a harmonised basin monitoring and data collection regime between the Basin States is an inherent barrier towards understanding the status of the basins and the development of science-based management interventions. While all countries undertake some national level monitoring (mostly of flow levels, less on water quality and even less on other environmental parameters), this information is not used in a harmonised system that models the impacts on the basins holistically. A coordinated basin-wide environmental monitoring system is essential in creating a basin-wide picture to underpin evidence-based management decision-making and is essential for the effective functioning of the IncoMaputo Water Information System (WIS) and Decision Support System (DSS).

15. Barrier 3: Inadequate transboundary data and information exchange

As indicated above, the two basins are prone to climate related disasters especially floods and droughts. Data acquisition of hydrological flow is critical, especially near-real-time data for flood situations. Member states have set up hydrometeorological networks in their countries and this is a key element of flow forecasting for early warning for both floods and droughts events. To fully capture basin-wide climate risk (especially flood early-warning) it is necessary to transmit data from river gauging stations to a dedicated flow forecasting centre that covers the whole basin. Article 12 of the Tripartite Interim Agreement states that parties should exchange information regarding the hydrology, geo-hydrogeology, water quality, meteorological and environmental conditions. Likewise, other data, for

example for water quality and other environmental monitoring indicators needs to be collected and shared on a basin-wide scale, especially to capture the full impact on the marine environment in the context of source-to-sea management. The harmonisation of data and information collection is key for ensuring that the data is usable and comparable for decision making purposes, as is the efficient exchange of data and information between INMACOM and TFCA and between Member States and the use of such information in joint decision making.

16. Barrier 4: Lack of coordination between relevant management authorities

Although the two basins and the Lubombo TFCA cover partially overlapping geographical areas, the coordination between the respective management structures is currently very limited. The overlapping geographical areas present an opportunity for collaboration and development of an integrated approach that maximises on synergies and creates potential resource efficiencies. **The alignment of the overall mandates of INMACOM, TFCA needs to be established through formal agreements. Moreover, improved cooperation with institutions managing coastal and marine ecosystems within the basin is required to achieve greater outcomes.** The SADC has been implementing the Nexus Dialogue programme which has led to the development of the WEF Governance Framework aimed at fostering sectoral and regional integration for the water, energy, and food sectors. The SADC Directorate of Infrastructure (housing the water and energy units) coordinates the harmonisation of the work of RBOs in the region whilst the SADC Directorate of Food, Agriculture and Natural Resources (FANR) works with TFCAs. It is important to build on this governance framework to strengthen cross-sectoral coordination in the project area, especially with a view to implementing a source-to-sea management approach. At the same time, it is critical that awareness is being raised among these management role-players, as well as stakeholders on the benefits of the source-to-sea management concepts, tools for implementation and the importance of cross-sectoral coordination to do so. This approach will deliver lessons for the region that will be taken up through the SADC secretariat to other RBOs and TFCAs.

17. Barrier 5: Critical scientific knowledge gaps

Livelihoods and economic opportunities in the Incomati and Maputo basin countries are based on the use of natural resources. Nutrient recycling, habitat for plants and animals, flood control, and water supply are among the many beneficial services provided by aquatic ecosystems. Land-use changes driving deforestation and soil degradation, water withdrawals for agricultural and industrial use, and contamination have a profound and often negative impact on the availability and quality of the resource. Deforestation results in degradation and desertification of watersheds and catchment areas reducing the amount of usable safe water available downstream. Ecosystem services underpin economic development, and therefore understanding the economic value of ecosystems in planning, priority setting, investment and decision making is key. While these interlinkages are well understood for the basin in generic terms, the available information is currently a patchwork of largely national level studies. A comprehensive basin-wide assessment of the environmental status of the two basins does not exist, and there remain critical knowledge gaps, notably on the resource potential of groundwater. Especially the interlinkages between freshwater and marine ecosystems require further targeted study and a clear mapping of climate risks in the area is needed. Analytical frameworks such as joint basin-surveys, environmental flows assessment, and a Transboundary Diagnostic Analysis with a source-to-sea diagnosis all provide a sound basis for interrogating these linkages and developing a shared understanding of ecosystem status, functioning and economic value.

18. **Barrier 6: Absence of key transboundary management instruments**

Despite a relatively long history of cooperation over the Incomati and Maputo water resources critical management instruments needed today have not yet been developed. Initially the focus of transboundary management was on water allocation for economic uses. Over time this has expanded to considering environmental water uses, i.e., environmental flows. Particularly the ecologically sensitive areas in the two basins require the maintenance of appropriate environmental flows to ensure their ecological integrity. Currently there are no agreed instream flow requirements for the two basins. Likewise, (basin-wide) instruments to manage the serious concern of excessive sand mining do not exist, and neither does a comprehensive basin-wide climate mitigation plan. **Limited cross-sectoral collaboration is a concern at both transboundary and national level. Despite a long history of cooperation over shared water resources under the umbrella of the TPTC, water resources development has so far focused primarily on an (interim) allocation between countries, without adopting a fully integrated, basin-wide management approach that considers the use of water and other natural resource on a transboundary level. The lack of harmonised management extends beyond water and includes a lack of coordination (at transboundary and national levels) between water and other natural resource management bodies, notably for TFCA, and between freshwater and marine management entities.**

19. **Barrier 7: Lack of basin-wide development and investment plan**

Most development and investment in the basin are currently done at national level and through national initiatives. This bears the risk of fragmented and uncoordinated development that does not take the needs of the respective other basin State and the environment adequately into account. Another effect is that funding windows that are only available to joint/ regional development initiatives cannot be tapped into, thus reducing the overall investment funding available for the basin. The two basins would benefit from a more coordinated, harmonised basin-planning and development approach such as is facilitated through a Strategic Action Programme (SAP). Importantly, a SAP needs to be complemented with a targeted investment and resource mobilization plan, specifically for transboundary environmental investments and management interventions that cannot easily be unlocked through national level programming and budgeting.

20. **Barrier 8: Lack of investment into novel sustainable development and management practices**

There is currently limited investment into novel sustainable development practices promoting integrative approaches. The use of such approaches has significant potential for creating avenues for sustainable growth that is decoupled from environmental degradation in systems like the Incomati and Maputo basins. By keeping resources in the loop for longer, and through actions such as reducing waste, reusing goods, and recycling materials, government, citizens, and businesses alike can successfully lay the foundation for a circular economy. This will therefore be piloted in one of the demonstration projects.

21. Decision-makers in the two basins currently do not have many viable examples of on-the-ground interventions promoting water, food, energy and ecosystem security practices within their local context. Concrete examples need to demonstrate the socio-economic and environmental benefits derived from such integrated approaches. There are also limited partnerships and joint action among the public and private sectors, and rural communities promoting gender equality, social inclusion and contributing to

building resilience to climate change. There is a need to showcase that the application of these concepts can create jobs and ensure sustainable livelihoods to encourage replication and scaling-up.

22. This project has been chosen because it provides the opportunity to address the above-mentioned natural resources governance barriers in an integrated and holistic manner, engaging stakeholders at all levels of governance, ranging from INMACOM as a transboundary basin organization and TFCA management bodies, via national level government and non-government stakeholders, to community level stakeholders that directly benefit from the demonstration projects. Through interlinking governance structures for land, protected area, freshwater and marine management, the project is intent on establishing for the first time in the region a truly integrated natural resources governance framework, including, critically, the implementation in practice of the source-to-sea management approach. Implementing a source-to-sea approach will ensure that unsustainable land-based activities are identified, and upstream and downstream environmental, social, and economic linkages are stressed to stimulate coordination across sectors and segments. In the IncoMaputo basins a source-to-sea approach will contribute to providing holistic solutions to address the stream flow reductions due to transfers and impoundments, impacts of nutrient loads from unmanaged agriculture, wastewater and urban runoff that cause dead zones in coastal and marine waters. It will also address the change flow regime which has been caused by high diversion of water leading to little water reaching the seas, depriving coastal ecosystems of water, sediment, and nutrients they need. Continuing to implement governance frameworks that do not include perspectives that promote upstream and downstream linkage and only focused on one sector or segment leads to the continued degradation of freshwater, terrestrial and marine environments. This degradation leads to water, food, energy and environmental insecurity.

23. The project builds on the ongoing tripartite collaboration on transboundary waters and transfrontier conservation area management between the three countries. In terms of institutional strengthening the project further complements ongoing support of INMACOM from the Kingdom of the Netherlands. The scientific components of the project (TDA, environmental flows etc.) build on previous joint studies conducted from 2007-2011 under the Progressive Realisation of the IncoMaputo Agreement (PRIMA) Programme and fill critical knowledge gaps left to be addressed after these studies (especially on groundwater and climate vulnerability risk assessment). Likewise, they expand the work carried out for the GEF funded WIO-Lab TDA, which included an (albeit cursory) assessment of the impacts of rivers on the Agulhas/ Somali current marine environment. Although not termed this at the time, this work can be considered as a precursor to the source-to-sea concept and the proposed project provides an opportunity to interrogate the freshwater/ marine environment linkages in the two basins further and establish the scientific-technical basis to implement the source-to-sea approach in on-the-ground coordination and management. In terms of its community level investment component (i.e., demonstration projects) the project paves new ground in the project area and provides much needed innovation in enhancing water, food, energy and ecosystem security. Critically the project will identify key gaps at the national level – and carry out policy analysis to better understand national reform needs, competing and conflicting sector policies and areas of policy and regulation that need to be strengthened to support the implementation of the source-to-sea approach.

[1] Joint Incomati Basin Study: Main Report (2006)

[2] Sixth Assessment Report (Working Group I – The Physical Science Basis) Regional fact sheet – Africa https://www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC_AR6_WGI_Regional_Fact_Sheet_Africa.pdf

- [3] Mavume, A. F., Banze, B. E., Macie, O. A., & Queface, A. J. (2021). Analysis of Climate Change Projections for Mozambique under the Representative Concentration Pathways. *Atmosphere*, 12(5), 588. <https://doi.org/10.3390/atmos12050588>
- [4] KOBWA (2017) Komati River Basin Climate Change Adaptation Strategy and Action Plan 2016-2026
- [5] Copenhagen Business School (2019). Swaziland: The garment industry in its economic, political, and social context (2019) https://www.cbs.dk/files/cbs.dk/country_background_notes_swaziland_17-08-2019.pdf
- [6] UNIDO & EEA (2018) Kwaluseni Waste Survey Report https://stopopenburning.unitar.org/site/assets/files/1089/eswatini_kwaluseni_municipality_final_report_on_baseline_study-_aug2018.pdf
- [7] Riddell, E., et al.: A methodology for historical assessment of compliance with environmental water allocations: lessons from the Crocodile (East) River, South Africa, *Hydrol. Sci. J.*, 59, 831–843, doi:10.1080/02626667.2013.853123, 2013.
- [8] UNEP/Nairobi Convention Secretariat (2010): Environmental Profile of the Inkomati River Basin, UNEP, Nairobi Kenya, 82p
- [9] *ibid*
- [10] Van Eekelen, M. W., Wim GM Bastiaanssen, C. Jarmain, B. Jackson, F. Ferreira, P. Van der Zaag, A. Saraiva Okello et al. "A novel approach to estimate direct and indirect water withdrawals from satellite measurements: A case study from the Incomati basin." *Agriculture, Ecosystems & Environment* 200 (2015): 126-142.
- [11] Okello et al.: Drivers of spatial and temporal variability of streamflow in the Incomati River basin *Hydrology and Earth System Science*, 19, 657-673 <https://d-nb.info/1143420780/34>, 2015
- [12] CRIDF: IncoMaputo Engagement Strategy, 2017
- [13] Okello et al.: Drivers of spatial and temporal variability of streamflow in the Incomati River basin *Hydrology and Earth System Science*, 19, 657-673 <https://d-nb.info/1143420780/34>, 2015
- [14] Joint Maputo River Basin Water Resources Study: Basin Characteristics, Land Use and Water Resources Infrastructure.
- [15] Incomati River Delta (Mozambique): <https://www.wioder.org/28/incomati-river-delta>
- [16] Louro et al: Fisheries in the Western Shores of the Ponta Do Ouro Partial Marine Reserve, Southern Moazambique: Towards a holistic approach to management, <http://ctv.org.mz/wp-content/uploads/2021/04/Full-report.compressed.pdf>, 2017.
- [17] *ibid*
- [18] IncoMaputo TPTC (2006). Joint Incomati Basin Study: Main Report
- [19] Dept. of Water and Sanitation, RSA (2006) Komati Catchment Ecological Water Requirements Study
- [20] IncoMaputo TPTC. (2006) Joint Maputo River Basin Study

B. PROJECT DESCRIPTION

Project description

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

Theory of Change

24. The theory of change builds on the analysis of key barriers to enhancing transboundary cooperation in the management of terrestrial and marine ecosystems in the IncoMaputo river basins. It then proposes an intervention strategy to be followed to reach the proposed outcomes, which contribute to long-term impacts. The proposed project will ensure that there is coordinated planning and management of terrestrial ecosystems with coastal and marine ecosystems. Through building a scientific understanding of the system from source to sea, promoting a holistic planning approach that is based on an understanding of the impact of land-based activities on the ecosystem and demonstrating approaches that will address environmental problems in the transboundary river basins and TFCA, the project will enhance water security, food security, energy security and environmental security. It will also contribute to reducing the impacts on the land-based activities on the Maputo Bay which is a critical ecosystem. Without the project the business-as-usual approach of uncoordinated planning and management of terrestrial ecosystems and coastal and marine ecosystems will perpetuate environmental insecurity, leading to loss of livelihoods that depend heavily on natural resources. It will also have a huge impact on wildlife in the region as loss of biodiversity due to land degradation, nutrient enrichment and over exploitation of natural resources. This will lead to losses in the tourism sector and reversing the impact on conservation.

25. To achieve improved water, food, energy and environmental security the following actions are required and proposed:

- Strengthening the regional governance (Component 1) through building the institutional capacity of the INMACOM, enhancing coordination and cooperation with TFCAs and coastal management institutions and enhancing capacity to address gender inequality, will be critical in the removal of Barrier 1 (on limited capacity) and Barrier 4 (lack of coordination with other key institutions).
- Building a scientific knowledge-base (Component 2) is critical in the removal of Barrier 5 (on knowledge gaps). A solid knowledge base will support decision-making in developing robust plans which will guide management and development of the basins and development of key transboundary management instruments addressing Barrier 6 (absence of key transboundary instruments).
- Carrying out inclusive basin-wide and coastal management strategic planning (Component 3) and developing an investment strategy will remove Barrier 7 (lack of basin-wide and coastal plan). A strategic plan that promotes a source-to-sea approach will ensure that investments are made to ensure environmental security removing Barrier 8 (lack of investments).
- Implementing community-based gender-sensitive livelihood projects that address the key drivers of water, food, energy and environmental insecurity (Component 4) will contribute to removal of Barrier 8.

- Through enhancing knowledge generation and communication (Component 5) the barrier on limited stakeholder participation will be removed – as awareness and outreach activities will be central in engaging widely.

26. The expected overall impact of the combined interventions of the project will be reduced pressure on natural resources due to effective, integrated transboundary management, and investments in sustainable livelihood options and environmental security. The project contributes to key articles in the Interim IncoMaputo Agreement (IIMA) on protection of the environment, minimum cross-border flows, drought and flood management, sustainable utilization of water resources and ensuring water requirements for the ecosystem.

27. The project also contributes to the Nairobi Convention – a regional treaty that works to protect, manage and develop the Western Indian Ocean. Through better coordination with the TFCAs – the project will also contribute to reducing biodiversity losses. Currently, there is no investment that has been made at a transboundary level to address some of the critical information gaps and develop a long-term strategic plan that will address the root causes for the environmental problems.

28. Intermediate States (beyond the project's direct influence): Component 1 on strengthening regional governance frameworks will contribute to INMACOM's institutional capacity being built and becoming financially stable. INMACOM will also develop formalized relationships with TFCAs and coastal institutions which will ensure the implementation of a source-to-sea approach which will promote linkages between terrestrial, coastal and marine ecosystems. The main assumption being that INMACOM is receiving contributions from all countries to ensure it has capacity to take forward work initiated by this project.

29. Intermediate States (beyond the project's direct influence): Components 2 and 3 will ensure that INMACOM, the TFCAs and the coastal institutions make decisions based on science and successfully mobilise resources to implement the SAP endorsed by the Ministers of the three countries. In the long-term it will be important that the tools developed to support transboundary management of resources are used to influence policy and drive implementation.

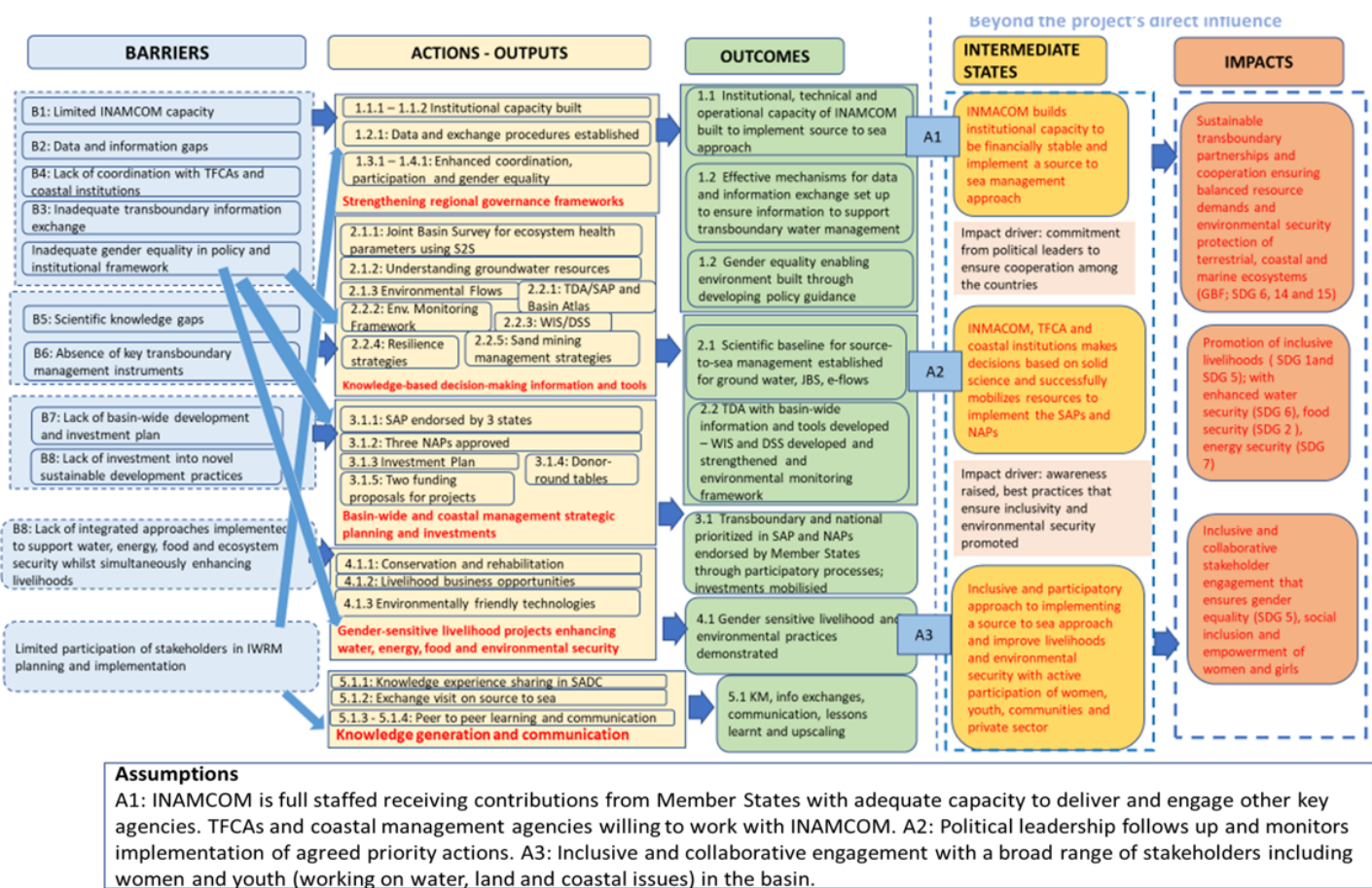
30. The overarching impacts identified for the project are:

- Impact 1: Sustainable and inclusive transboundary partnerships and cooperation ensuring balanced resource demands and protection of terrestrial, coastal and marine ecosystems (contributing the SDG 6 on water, SDG 14 on oceans and SDG 15 on land degradation neutrality)
- Impact 2: Promotion of inclusive livelihoods (contributing the SDG 1 on reducing poverty and SDG 5 on gender equality) with water security (SDG 6), food security (SDG 2 on no hunger), energy security (SDG 7)

- Impact 3: Inclusive and collaborative stakeholder engagement that ensures gender equality (SDG 5), social inclusion and empowerment of women and girls.

31. The diagram overleaf provides a schematic overview of the theory of change, showing the environmental problems, barriers to be addressed and how they are addressed through the project, leading to the expected impact. The main assumptions underlying the casual connections in the Theory of Change is the continued cooperation that the Member States and the willingness of stakeholders to participate in the planning and delivery of solutions in the transboundary basin. A more detailed description of the project components follows thereafter

Theory of Change:



32. Project components

The project comprises six (6) components with a total of nine (10) outcomes and 28 outputs.

Component 1: Strengthening regional governance frameworks for transboundary basin management, including application of the source-to-sea management concept

This component directly addresses barriers 1 through 4 in that its four outcomes focus on the strengthening of transboundary management frameworks and creating the necessary information baseline for evidence-based

transboundary decision-making. The three Basin States have recognized this shortcoming and therefore prioritized the strengthening of management integration as a key element of the proposed project. **Component 1 of the project addresses this through strengthening of the new transboundary basin commission INMACOM**, as well as interventions targeting the integration with TFCA and marine management organizations in an effort to apply the source-to-sea management concept in the management of the project area. As a transboundary platform INMACOM is central to this approach and its institutional strengthening will ensure that the continued cooperation between the three Basin States is elevated to true collective management involving a broad range of stakeholders. Critical in this component will be the strengthening of how the basin states will consider issues of gender equality in the implementation of their strategies. Component 1 is critical in ensuring that a strong institutional foundation is set up to support transboundary cooperation and drive joint management of the river basins.

33. Outcome 1.1: Institutional, technical, and operational capacity of INMACOM strengthened to collaborated with TFCAs and coastal management and is critical to support INMACOM as a nascent organisation to effectively fulfill its transboundary coordination and management mandate. This is done through strengthening of institutional structures and processes, and human resource capacity strengthening at organizational and individual levels. GWPSA will support INMACOM in the development of these systems that will enhance operational capacity of the secretariat. The capacity development plan will be critical in providing a structured response to address the identified needs. It is expected that SADC WaterNet the regional institution driving capacity development in Southern Africa will work with INMACOM; this will ensure that a lot of experiences gathered from working with RBOs are transferred ensuring the robustness of this solution. A key component of the Flood and Drought Task Team is to support better coordination and management of water-related disasters in the basin, it will therefore be critical to involve dam operators who are involved in developing and implementing operational rules of the existing infrastructure. For example, the Komati Basin Water Authority (KOBWA) that manages two dams in the Komati River Basin are a member of the Task team as they already manage models supporting water allocation. Working with the SADC Groundwater Management Institute the Member States of INMACOM will establish and operationalise the INMACOM Groundwater Committee (IGC) that will assist in championing the conjunctive management of surface and groundwater in the basin.

34. Outcome 1.1 is implemented through the following four outputs:

Output 1.1.1: Institutional, technical and operational capacity needs assessment carried out and short-, mid-, and long-term capacity development plan developed to enhance transboundary cooperation and coordination in promoting a source-to-sea approach.

Output 1.1.2: Institutional, technical and operational capacity of INMACOM enhanced through implementation of priority actions identified in capacity development plan

Output 1.1.3: INMACOM comprehensive organizational procedures finalized and implemented.

Output 1.1.4: INMACOM technical task teams on Groundwater and the Flood & Drought Task-Team established and operations strengthened

35. Outcome 1.2: Effective mechanisms for transboundary cooperation, data and information exchange between INMACOM, TFCAs, coastal management institutions and between Member States in place consolidates transboundary information sharing as a basis for evidence-based decision-making. This will be supported through the development and adoption of transboundary data and information exchange procedures.

These procedures are critical in supporting the implementation of the Agreement – and ensuring countries work towards an agreed approach to harmonise data collection and exchange. This action is critical in enabling collection of data for water information system. To address issues of floods and droughts data and information on the flows will be critical; data on several water quality parameters is also critical in the two basins as evidenced by the high levels of eutrophication. Data and information on sedimentation monitoring needs to be collected and shared amongst the two institutions and the three countries. During the PPG phase discussions will be held with the Member States to ensure there is a formal agreement on the type, frequency, and use/purpose of the data and information to be exchanged. The discussions to be facilitated during PPG will also look into the jurisdictions and sectors within and across countries – this discussion will also be linked to identifying the key components of the Environmental Monitoring Framework proposed in Output 2.2.2 below. Lessons learnt in the USAID Resilient Waters Programme on strengthening interactions between RBOs and TFCAs will be built on in order to establish effective mechanisms of cooperation.

36. The outcome 1.2 is implemented through the following output:

Output 1.2.1: Procedures for data and information exchange between INMACOM and TFCA and between Member States adopted and applied

Output 1.2.2: Establish working arrangements with relevant coastal management institutions at national and regional level e.g., the Nairobi Convention, ministries of environment.

37. **Outcome 1.3: Efficient source-to-sea coordination structures operational in the basins** focuses on cross-sectoral integration of transboundary natural resources management, with emphasis on the adoption of a source-to-sea management approach and the establishment of suitably integrated management structures for that. This harmonisation of management structures is envisaged horizontally between relevant transboundary entities in the three basin states (i.e., INMACOM, TFCA management bodies, coastal management bodies etc.) as well as vertically between transboundary and national level institutions. The source-to-sea approach elevates transboundary cooperation to new levels of integration and cooperation and will also receive support from SADC secretariat to enable horizontal integration. The main assumption is that the countries will embrace the source-to-sea approach and commit to integrating its implementation into the transboundary institutional arrangements.

38. The outcome is implemented through the following outputs:

Output 1.3.1: National Intersectoral Committees and a cross-sectoral coordination forum for source-to-sea management established, including INMACOM, TFCA, and other key role-players.

Output 1.3.2: Awareness of source-to-sea management approach strengthened among key role-players and approach applied in practice.

Output 1.3.3: SADC secretariat support for horizontal integration – coordination of RBOs, TFCA and coastal management institutions enhanced.

Outcome 1.4: Gender equality enhanced through creation of an enabling policy and organizational framework focus on strengthening how INMACOM addresses issues of gender through ensuring that an enabling environment is created. This will entail developing a gender policy and strategy for INMACOM – and ensuring that structures a put in place to drive its implementation. SADC Gender Focal Points for the Water Sector and the National Gender Machinery who have been supporting the gender response in the regional water programme will be engaged to support this work. The action is critical in ensuring that gender inequalities are addressed in transboundary environmental challenges. Empowerment and participation of women in decision-making processes will be critical in ensuring no one is left behind.

The outcome is implemented through the following outputs:

Output 1.4.1: Gender equality strengthened in INMACOM through development and implementation of a gender policy and strategy.

Output 1.4.2: Gender equality strengthened in the establishment and operations of the National Inter-sectoral Committees and transboundary source-to-sea coordination committee (see output 1.3.1)

39. Component 2: Facilitating a knowledge-based approach for source-to-sea management. builds on and complements the outcomes of component 1. A central building bloc of collaborative management is joint environmental monitoring of the basins and their resources and making science-based management decisions. As described above the main barriers to this at present are substantial data and information gaps in some critical fields (such as groundwater management and risk assessment), inefficient data and information exchange, and the lack of a central repository for data and information and the use of such in the joint decision-making. **Component 2 of this project will address the critical information gaps** through conducting a Joint Basin Survey and several, interlinked elements, namely the filling of scientific information gaps in the development of a TDA and supporting studies on groundwater and climate risk mapping. The assessments will also increase the understanding of the interlinkages of the activities in the terrestrial ecosystem and the marine ecosystem. INAMCOM and the TFCA have a keen interest in ensuring sustainable development in the 3 countries through holistic and integrated environmental planning and management. Through Component 2, the project further supports translating science-based decision-making into actual management application on the ground. This is done, through the development of transboundary management instruments (determination of environmental flow regimes; development of strategies for sustainable sand mining, and risk mitigation strategies to build resilience). It will further support the development of tools to support the science-policy interface. Tools developed will include an environmental monitoring framework and updating of the Water Information System and associated Decision Support System for science-based collaborative decision-making. These tools will ensure that decisions in managing the transboundary river basin using a source-to-sea approach will enhance environmental security.

40. Outcome 2.1: Scientific baseline for source-to-sea based management of the basins established focuses on the increasing the understanding of the basin issues. A Joint Basin Survey will be conducted with the Member States and key officials and this will be aimed at deepening the understanding of basin issues. Consolidation of relevant scientific-technical information through studies to fill critical information gaps currently present (e.g., sustainable groundwater use potential and environmental flows). Groundwater activities will be implemented through a formalized cooperation with the SADC Groundwater Management Institute (as of 1st quarter 2023 discussions are advanced to sign an MoU with INMACOM). Activities will be facilitated by the INMACOM Groundwater Committee working with SADC GMI, focused on identifying pertinent groundwater issues on conjunctive management of water resources and coastal aquifers in the TDA process. As part of the TDA process

(linked to Output 2.2.1), information will be collated from existing hydrogeological assessments and gaps will be identified – prioritized actions to address issues identified in the TDA will be incorporated into the SAP. The development and adoption by the three Basin States of transboundary basin management instruments (the TDA, SAP and NAPs) is also supported as this is important to ensure science-based decision-making is applied in practical management. In establishing the baseline, the project will work with coastal and marine institutions like the Secretariat of the Nairobi Convention, Western Indian Ocean Marine Science Association (WIOMSA), and the Sustainable Seas Trust as key stakeholders. In determining the environmental flow requirements interaction with the TFCAs and coastal zone management institutions, to identify critical sites and priority catchments will be critical.

Output 2.1.1.: Joint Basin Survey for key ecosystem health parameters carried out.

Output 2.1.2: Information from existing hydrogeological assessments collated and information gaps identified (linked to development of TDA under Output 2.2.1)

Output 2.1.3: Environmental flows for priority catchments determined.

41. The outcome is implemented through the following outputs:

Outcome 2.2: Basin-wide information and knowledge management tools developed. Developing tools to improve the science – policy interface Updating the TDA (as comprehensive basin assessment incorporating studies done under Outcome 2.1) using a source-to-sea approach will be critical to increase an understanding of the drivers and pressures in the interaction between the land-based activities and the marine ecosystem. The TDA/SAP process will be guided by the IW:Learn Programme Manual on TDA-SAP Methodology. The process will be collaborative and participatory involving government, civil society, local researchers/academia, women groups youth and private sector. Based on the information gathered during the TDA and other existing sources the IncoMaputo Basin Atlas will also be developed to raised awareness. Focus will also be on developing basin-wide environmental monitoring framework based on formally agreed areas by the Member States, as well as updating the existing Water Information System (WIS) (within the INMACOM Secretariat developed with assistance from the Netherlands government) as a central repository for all relevant water and natural resources management information. The use in management decision-making of the stored information will be ensured through the enhancing the Decision-Support System that provides scientific-based technical guidance to Commission and other relevant role-players. Basin monitoring and the use of the WIS/ DSS can only be effective if there is efficient and transparent sharing of relevant (monitoring) data and information. Understanding the impact of land-based activities on the coastal and marine ecosystem will be critical – working with the TFCAs, coastal management institutions and the RBOs is important in this regard ensures a more comprehensive approach. RBOs in some cases have limited mandates – and having a formal working relationship with TFCAs addresses this concern. In developing the TDA – a comparative analysis of laws, policies and regulations will be undertaken to assess where policy, institutional or regulatory areas need to be strengthened in each country. Guidelines and frameworks from WIOSAP on water quality monitoring and the integrated ecosystem monitoring framework will be critical in this exercise. Tools on understanding vulnerabilities and risks from WIOSAP will be used to provide an understanding on the risks in the two basins and propose measures and plans to increase resilience to the identified risks. The project will focus on understanding the key vulnerabilities and risks (from existing information) and developing management strategies as part of the SAP to ensure broader resilience. Resilience building will focus on the interactions within the source-to-sea system.

Output 2.2.1: Transboundary Diagnostic Analysis for the Incomati-Maputo Basins and Lubombo TFCA carried out, including application of the source-to-sea concept (including a Basin Atlas).

Output 2.2.2: IncoMaputo Environmental Monitoring Framework developed.

Output 2.2.3: Water Information System (WIS) and Decision Support System (DSS) within INMACOM Secretariat updated with new information.

Output 2.2.4: Vulnerability & Risk management strategies developed and operationalized to increase resilience to identified risks.

Output 2.2.5: Development of a strategy to address sand mining activities.

42. Component 3: Support basin-wide strategic planning and investment mobilisation development of a long-term strategic action plan to address the environmental problems using a source-to-sea approach guided by the outcomes of the TDA. This activity is critical in setting a strategic focus as to how the basin challenges will be addressed. Investment plans will also be developed to ensure that there is a clear pathway towards sourcing funds for implementation. **Component 3 promotes the development of the SAP and associated investment plan for the two basins.** The SAP and its related NAPs will be a critical instrument endorsed by Ministers to drive a long-term strategic process to address the transboundary environmental challenges. The absence of an integrated investment plan for the entire transboundary basins is cited as a main reason for both lack of investment and fragmented investment. Component 3 will ensure that actions that will promote sustainable management of freshwater resources using a source-to-sea approach are prioritized for investment and implementation. The investment plan will allow for innovative mechanisms to finance the SAP to be and two of them piloted. Two funding proposals will be developed to take forward the source-to-sea approach working with all relevant stakeholders (transboundary water, TFCA and coastal management institutions).

Outcome 3.1: National and transboundary priorities integrated into Strategic Action Programme (SAP) and National Action Plans endorsed by Member States (Eswatini, Mozambique and South Africa) addresses the lack of a basin-wide investment prioritization and resource mobilization plan that is cited by stakeholders as a critical weakness in the management of the basins. This will be addressed through the following outputs:

Output 3.1.1: SAP for the transboundary basin developed endorsed by the three governments.

Output 3.1.2: Three National Action Plans (NAPs) linking country priorities to regional priorities and promoting WEF nexus, regional integration and inclusiveness developed and approved at national level.

Output 3.1.3: Investment Plan for implementing the SAP and the NAPs developed and adopted by the three governments.

Output 3.1.4: Facilitate a donor-round table to mobilise resources for the SAPs and NAPs

43. Component 4: Creating sustainable livelihoods through enhancing water, food, energy and environmental security is directed to unlocking innovative economic development and livelihood solutions through the application of WEF nexus approach, as well as promotion of technological transition in key water use sectors. **Component 4 will be directly supported through the implementation of demonstration projects that unlock the potential for livelihoods through enhancing water, food, energy and ecosystem security, conservation-**

based livelihoods and piloting alternatives to sand in construction sector. Likewise, the demonstration projects will see the introduction of sustainable technologies in important economic sectors in the basin, notably for the biggest water use sector, agricultural irrigation. Engagement with private sector players in driving implementation of the demonstration projects will be critical in delivering this Component. Component 4 will ensure cross-cutting issues such as gender mainstreaming and climate resilience are adequately addressed. The following are some of the key criteria that will be considered in a screening tool to be used by INMACOM and the TFCA or coastal management institutions (depending on geographic location) working with local institutions to select the pilot projects (to be refined at the PPG phase). :

- is the proposed demonstration project addressing the key drivers of environmental insecurity identified in the basin
- transboundary impact of the selected intervention (is the intervention promoting a source-to-sea approach i.e. ensuring that it addressed land-based activities that impact terrestrial and marine ecosystems)
- is the project contributing to addressing poverty issues in the basin (through ensuring water, food and energy security)
- long-term sustainability and economic viability beyond the project lifespan
- does the intervention address issues related to resources sustainable management and use of water, food and energy resources in the basin.
- does the intervention promote gender equality and social inclusion – to empower and involve women and youth.
- does the intervention promote innovative and scalable solutions (replicability and potential to upscale and outscale) aligned and adding value to on-going actions.
- does the intervention support national and local development priorities
- does the initiative promote climate resilient development and is there potential to contribute to climate mitigation
- does the project have a project promoter (owner) that will ensure its sustainability
- does the project have clear partners to support implementation and scaling? Is there scope for private sector engagement and involvement

Outcome 4.1 Livelihoods demonstration projects addressing various environmental issues and ensuring sustainability through livelihood enhancement for lessons learnt, upscaling and replication will be implemented through the following outputs:

Output 4.1.1: Conservation and rehabilitation activities undertaken for the river systems, e.g., promotion of sustainable land management practices in areas where sand mining is happening notably in the Middle and Upper Inkomati River Basin, in Ressano Garcia and Moamba (in Mozambique); Lomati and Driekoppies Catchments; piloting, production of construction material alternative to sand that can be used widely in the region; address pollution loading in areas of high industrial development and settlements like Mombela, Maputo, Mbabane, Manzini, Tonga and Mastuhese activities will be coordinated with local government authorities who are implementing projects to address these problems. Areas where the project can work with private sector (e.g., Illovo

Sugar) is Lower Inkomati between Xinavane and Marracuene where eutrophication is increasing due to high nutrient supply associated with agricultural activities.

Output 4.1.2: Conservation based livelihood and business opportunities that take into consideration gender equality and social inclusion explored in conjunction with TFCA and implemented in pilot sites (incl., fishing working with communities living in Lake Madenjene, the lower reaches of Phongolo River and the Maputo River; alien vegetation removal in the upper Phongolo, and upper Mkhondvo Catchments and the watershed area between Ngwavuma, Mkhondvo and lower Usuthu catchments, mangrove restoration in estuarine in Maputo Bay area, and exploring the establishment of PES schemes)

Output 4.1.3: Uptake of environmentally friendly technologies and actions that address gender inequalities and social exclusion supported and applied in pilot sites, (e.g., conversion of irrigation system on small farms, installation of rainwater harvesting and small-scale storage systems)

44. **Component 5 Knowledge generation, dissemination and learning** ensures that the important elements of knowledge-management and sharing, are we integrated and central to supporting the implementation of the project. This Component will also drive learning and ensure a robust knowledge management system is put in place with INMACOM.

45. Given the importance of generating and sharing knowledge to capture and apply lessons learnt, **Outcome 5.1: Effective knowledge generation and sharing mechanism established and actively used** is the project's dedicated knowledge management outcome through which the learning results of the other outcomes will be consolidated and shared. Knowledge sharing is foreseen through the sharing in international fora of knowledge reports and presentations/ lessons learnt etc. A focus is placed on generating and sharing experiences with the application of the source-to-sea approach in an African basin management context. Importantly, knowledge sharing is not only foreseen at (transboundary) institutional level but also at community level, especially between and with the demonstration project to share best practice and encourage replication of successful approaches. Emphasis will be placed on generating guidance tools for the application of the source-to-sea concept and the WEF nexus application, based on the practical experience made during the implementation of the project. **Communication Strategy and Communication Plan will be developed to ensure that there is targeted communication with key stakeholders – the strategy will be supported by a stakeholder engagement strategy that will ensure that the target audience is well defined. The plan will identify actions that need to be taken to ensure there is strategic outreach, awareness raising and dissemination of the project results.**

46. The outcome is implemented through the following outputs:

Output 5.1.1: INMACOM actively participated in knowledge/experience sharing at regional SADC (e.g., biennial SADC RBO workshop) and international level, including on the IW Learn platform and through participation in the GEF IW-LEARN Programme

Output 5.1.2: At least 1 exchange visit with other RBOs and/ or relevant regional institutions carried out to share source-to-sea management experiences.

Output 5.1.3: Regular peer-to peer learning and experience exchanges between local stakeholder communities promoting inclusivity (especially those involved in demonstration projects) facilitated.

Output 5.1.4: Communication Strategy and Plan developed to facilitate targeted communications to stakeholders driving outreach, awareness raising and dissemination of outputs/results.

48. Effective Programme and project monitoring and evaluation ensured creates both a long-term programme M&E framework for INMACOM, and an M&E framework for the project itself. The long-term M&E framework for INMACOM will strengthen the Commission's ability to deliver larger programmes, especially the SAP that is to be developed under this project. Importantly, both the long-term programme M&E system and the M&E system for the project will include gender-responsive indicators that enable the effectiveness of gender mainstreaming into programming and on-the-ground implementation of projects. The outcome is implemented through the following outputs.

1. Gender-responsive programme monitoring and evaluation (M&E) system established within INMACOM
2. Project M&E system set-up and quarterly results reporting ongoing
3. Mid-term and terminal evaluation of the project carried out

49. Overall, the project will create several global environmental benefits. The strengthening of INMACOM, in conjunction with the practical and integration of transboundary natural resources management entities under the conceptual umbrella of the source-to-sea concept establishes for the first time a fully integrated natural resources management regime in the area. This will ensure more holistic management and contribute to reduced pressures on environmental resources.

50. The basin monitoring system, WIS/ DSS and information exchange procedures will enable the Basin States to coordinate environmental monitoring and to develop and implement coherent evidence-based approaches to the management of water and other environmental resources in the basins.

51. The development and implementation of environmental flow regimes for critical catchments is expected to greatly contribute to addressing the many environmental and social problems associated with the changed hydrological regime of the two basins, especially improving the ecological functioning of critical habitats and ecosystems throughout the basins, including the estuaries and related marine environments.

52. The project's innovative approach of creating green and blue WEFEE nexus based economic and livelihood opportunities will contribute to ensuring that a better balance between environmental and economic interests in water resources development is found. The piloting of this approach in practice for subsequent replication holds the potential to introduce a shift from current natural resource exploitation based to alternative livelihoods that will reduce the overall pressure on the basins' natural resources.

53. The project engages stakeholders at various levels. Notably, INMACOM as an international basin commission, as well as the relevant TFCA management structures. By nature of these entities, this automatically engages a broad range of national government ministries, and regional management bodies (e.g., catchment agencies, conservation

agencies, marine & coastal management agencies). Through the demonstration projects local community level stakeholders will be engaged and benefit directly from the intervention. With the focus of the demonstration project on the possibility for replication, the project also holds the potential for initiating of creation sustainable long-term benefits for a much larger number of community level stakeholders.

54. Private sector stakeholders are actively involved in project preparation and, subsequently policy formulation once the project is under implementation, especially through the multi-stakeholder platform to be established. Several outputs of the project (e.g., implementation of e-flows; climate risk planning etc.) require the active involvement of private sector stakeholders. This will build on ongoing engagement between the INMACOM and national government role-players such as TFCA management structures on the one hand, and some private sector stakeholders, especially large-scale agricultural companies. Possibilities for private sector involvement in the demonstration projects, e.g., through PES schemes, as investors in community agriculture etc., will be explored further during the PPG phase.

55. Due to its current limited capacity of financial management, INMACOM 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 for this project and execute the project on behalf of the INMACOM and its member states while INMACOM will be the main project Responsible Party. GWP-SA is expected to build the capacity of the INMACOM Secretariat to execute project activities throughout the project implementation period so that by the time the project is completed, they will be strengthened to start executing donor-funded projects directly without the involvement of a third party as an Executing Agency. In order to ensure implementation of a holistic source-to-sea approach, other Responsible Parties to support the implementation of identified activities in the TFCA and in coastal zone will be identified and their capacity assessed at the PPG phase. These may include the Nairobi Convention Secretariat, Peace Parks Foundation, the ministries of environments and other relevant national or local institutions. The Project Steering Committee (PSC) will include representatives from INMACOM member states, INMACOM Secretariat, TFCA representatives from each member state, coastal management institutions (to be identified during project preparation), UNDP and GWP SA). A representation of SADC is also proposed to be part of the PSC (to be confirmed during the Project Preparation phase). The project Management Unit (PMU) is proposed to be hosted by the INMACOM Secretariat in Mbabane, Eswatini.

Coordination and Cooperation with Ongoing Initiatives and Project.

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

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

No,

Coordination efforts with other initiatives at the regional, national, and local levels will be led by INMACOM supported by the INMACOM Secretariat. For coordination with ongoing and forthcoming GEF-financed projects, the following projects are identified as most relevant:

At the Regional level: 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) focuses on strengthening legal, and regulatory frameworks – and providing guidelines, standards, and management tools. The project will work closely with SADC GMI through an MoU that is currently being discussed. GEF, through UNDP has been investing in the Cubango-Okavango River Basin and the Orange-Senqu River Basin. Support has been provided to development TDA, SAP, and NAPs for each one, similar investments are being made in the recently approved GEF funded projects in the Limpopo River Basin and the Cuvelai-Kunene through UNDP. There is also a GEF investment, through IUCN, in the Buzi, Pungwe, Save River Basin implementing similar activities leading to the development of a SAP. For example, OKACOM and LIMCOM can share experiences in developing an Environmental Monitoring Framework and ORASECOM its vast experience in conducting Joint Basin Surveys and its collaboration with the Benguela Current Large Marine Ecosystem project on source to sea approach for the restoration of the Orange River mouth. Also, as already mentioned GEF is supporting the sustainable management of coastal and marine ecosystems in the Western Indian Ocean. Investments have also been made by GEF in the Benguela Current Commission through UNDP which will provide lessons learnt to build on. GEF funded West Indian Ocean-LaB (implemented between 2004 – 2010) which focused on main threats to coastal and marine ecosystems looking at land-based activities and sources of degradation identified through a TDA and the WIO-SAP Project that addressed the main threats identified in the TDA. The WIO-SAP project developed several guidelines that will be instrumental to support the implementation of the proposed INMACOM project. These include guidelines for mangrove restoration, seagrass restoration, environmental flow assessments that will contribute to delivery of several proposed activities under this project. Also, the SAPPHIRE UNDP-GEF project developed a regional integrated ecosystem monitoring framework, a Water Quality Monitoring Framework and a Regional Framework for Coastal and Marine Water Quality Framework that will be critical in the implementation of a number of activities under Outcome 2.

At the national level the project builds on past and ongoing GEF funded projects: **Eswatini** includes the preparatory grant (GEF ID: 3390) for Lower Usuthu Smallholder Irrigation Project (LUSIP) funded under GEF-4 and taken forward by IFAD and the AfDB. SCCF, through UNDP, under GEF-4 (GEF ID: 3603), implemented a project aimed at strengthening institutional capacity for IWRM in the context of climate variability and change, integrate climate risks into plans and legislation and restore degraded ecosystems. It also provides key lessons on implementing demonstration projects with key local institutions. The project also built the capacity of the Eswatini delegation participating in the IncoMaputo TPTC. Under GEF-5, UNDP is supporting the Eswatini National Trust Commission to develop, expand and effectively manage protected areas to protect biodiversity (GEF ID:5065) – these included areas under the Lubombo TFCA.

Mozambique has several GEF funded projects that this proposed work can build on – the project being implemented by the World Bank under GEF 7 (GEF ID:10583) aimed at managing targeted conservation landscape to improve livelihoods is a critical one to link with and find areas of synergy. The project also targets to work in the Maputo Special Reserve and Ponta do Ouro Partial Marine Reserve (crucial nesting area for loggerhead and leatherback turtles) on the Maputo Bay and part of a cross-border marine reserve with the iSimangaliso Wetland Park, a World Heritage Park in South Africa in the Lubombo TFCA. The LDCF funded

project which is being developed, and implemented by UNDP, on scaling up local adaptation and climate-risk informed planning for resilient livelihoods (GEF ID:10100) is also key to the implementation of the proposed interventions.

South Africa has a SLM project (GEF ID:5327) with UNDP support to address soil erosion and land degradation to restore the ecological functioning and resilience several landscapes. This national GEF-5 SLM project in South Africa, is highly relevant to the IncoMaputo. UNDP will ensure that appropriate, knowledge and experience gathered by the South Africa SLM project will be shared. Other relevant GEF projects that the intervention will build on and link with is the project on strengthening capacity for the management of invasive alien species (GEF ID 10524); another on reducing human-wildlife conflict (GEF ID:10612) and a project on catalysing financing and capacity for the biodiversity economy around Protected Areas (GEF ID:10341). These projects will provide knowledge and lessons learnt to support implementation.

At the transboundary level – the project will also build on relevant past and ongoing non-GEF projects that have supported transboundary water resources management and the TFCA. The three countries have been supported by the Government of the Netherlands through the Progressive Realization of the IncoMaputo Agreement (PRIMA). PRIMA Phase I was implemented from 2007-2011 with a primary objective of providing technical information, institutional and governance assessments that would facilitate the drafting of a comprehensive agreement to replace the Interim one. Several joint studies that improved the understanding of the basin were developed through this support. – this encompassed a hydrological analysis, land-use assessment, water use and water balances (current and future), institutional assessment and groundwater. From 2021, the Government of the Netherlands has been supporting PRIMA Phase II – which is developing a management information system, a disaster management plan, preparing a draft Comprehensive Agreement, building capacity of stakeholders, and supporting some of the staff costs for the Interim secretariat staff. All the three countries are also part of the Blue Deal Partnership working with Dutch Water Authorities to promote water resources management and ensure access to clean, sufficient, and safe water. The SADC Transboundary Water Management Programme implemented by GIZ supports the implementation of the Regional Strategic Action Plan (RSAP) and continues to facilitate stakeholder engagement and awareness of IWRM issues.

The EU has also been supporting the WEF Nexus Regional Dialogue project with GWP SA as the implementing partner – the project has facilitated national dialogues in all three countries initiating a process to domesticate the approach and build capacity. The FCDO, funded Climate Resilient Water Infrastructure Development Facility (CRIDF) has also supported INMACOM in setting up a Flood Forecast and Early Warning System, within the basin the facility has also worked with KOBWA to develop a Climate Change Action Strategy and Plan. CRIDF has now come to an end, as of April 2023 – however, relevant outputs critical to the implementation of the proposed project will be built on. Within the TFCA, there are activities being funded at the regional level from the SADC TFCA Facility (funded by KfW and implemented by IUCN), and the Peace Parks Foundation is playing a critical role in managing biodiversity in the Lubombo TFCA. The USAID Resilient Waters Project which ended early 2023 focused on building linkages between RBOs and TFCAs – one of their key activities was the development of the GLTFCA Freshwater Strategy and developing an agreement to be signed between GLTFCA and LIMCOM. Research institutions like IWMI (development of a hydrological model) and the Water Research Commission (research transboundary ecological risk and potential for transboundary e-flows frameworks) are also providing support to INMACOM The catchment institutions Inkomati-Usuthu Catchment Management Agency (IUCMA), Ara-Sul in Mozambique and the Joint River Basin Authorities in Eswatini are also implementing a number of activities that the project will build on in order to better understand the basin and carry out the demonstration studies.

Core Indicators

Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
5000	0	0	0

Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Cropland	5,000.00			

Indicator 3.2 Area of forest and forest land under restoration

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 woodland under restoration

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

Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

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

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
15000	0	0	0

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

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

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

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

Type/Name of Third Party Certification

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

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
15,000.00			

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

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
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Documents (Document(s) that justifies the HCVF)

Title

Indicator 7 Shared water ecosystems under new or improved cooperative management

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Shared water Ecosystem	Incomati,Maputo			
Count	2	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)
Incomati	1			
Maputo	1			

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

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

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

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

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

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

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	4,800			
Male	7,200			
Total	12,000	0	0	0

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

The project follows a dual approach. On the one hand there is a focus on strengthening transboundary management organisations and instruments and improving the knowledge base for transboundary management. This will on the other hand be complemented by local level demonstration projects focused on the reversal of environmental degradation and investments in alternative livelihood options. The exact nature, scope and location of the demonstration projects need to be determined during the PPG stage. Only this will allow for accurate determination of target levels for the above core indicators.

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation- such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the "Project description" section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	Moderate	The project includes investments in local level demonstration projects, including in the field of agriculture. There is a risk that such investments could be affected by extreme climate events, i.e., severe floods or prolonged droughts. Likewise, investments in small-scale storage and water harvesting infrastructure could be affected by such events. Also, the project sites are exposed to tropical cyclones - ReliefWeb notes

		that in April 2019 when Mozambique was struck by two consecutive major cyclones, more than 1.7 million people were impacted and a total of USD 3.4 billion was needed for recovery and reconstruction. Site specific mitigation measures will be developed at PPG phase.
Environment and Social	Low	The project area enjoys a good level of social cohesion an overall good neighbourly relations between the basin States and communities. Environmental pressure, and as a result social pressure, is rising in the project area, but this is not expected to negatively affect project implementation. To the contrary, during the stakeholder consultations for the PIF there was great support for the proposed interventions and consensus that these interventions will contribute to addressing some of the environmental and social pressures in the basin.
Political and Governance	Low	The Incomaputo basin countries have a long history of coordination and willingness to implement joint management activities. The proposed activities of developing basin-wide frameworks are proposed by the countries themselves and have involved stakeholders from a wide variety of sectors. It is therefore assumed that there is an ongoing willingness to develop and implement basin-wide joint management frameworks and the project will provide the necessary technical support to strengthen these frameworks.
Macro-economic	Moderate	The project's investment component complements ongoing investments/ initiatives from the governments and aims at showcasing avenues for re-directing government and private

		<p>sector investments towards sustainable approaches (WEFE nexus etc.). Given the ongoing macro-economic pressures caused by Covid and other global crises, it is possible that government spending in the water sector will be reduced or redirected, thereby reducing the replication scope of the investments piloted in the demonstration projects</p>
Strategies and Policies	Low	<p>The three governments have concluded an interim management agreement for the two basins. This is further embedded in a broader, regional framework set by the Revised SADC Protocol on Shared Watercourses, SADC Water Policy and Strategy, and a SADC Regional Strategic Action Plan (RSAP 5). There are no known national policies that directly contradict this regional policy framework, nor the national policy frameworks of other basin States. Care will be taken to identify any conflicting policies or distorting incentives; and any compliance and enforcement issues.</p>
Technical design of project or program	Moderate	<p>The focus of the project's technical assistance components is on strengthening institutional and management capacity, including intersectoral coordination. The establishment of the proposed transboundary source-to-sea coordination structures requires a willingness from all relevant role-players to engage in such an activity. While this willingness is well-established in terms of water management bodies and conservation of biodiversity the project treads new ground in linking water management, TFCA, and coastal/ marine management entities. While this may require considerable groundwork,</p>

		<p>based on consultations undertaken with different entities (including TFCA, Peace Park Foundation, Nairobi Convention Secretariat, etc.), it can be assumed that there is a general willingness for such cooperation from relevant sectors, as evidenced by existing transboundary coordination (at sector level). The investment component of the project requires further elaboration during the PPG phase to ensure that the financial sustainability of the business models that the project aims to create is ensured.</p>
<p>Institutional capacity for implementation and sustainability</p>	<p>Moderate</p>	<p>INMACOM is a nascent organisation with moderate management capacity in its newly established Secretariat. However, the Commission is built on ongoing cooperation between the three countries and has the full political backing of all basin States. This project is central to strengthening the implementation and management capacity of the INMACOM Secretariat, notably through component 1.</p>
<p>Fiduciary: Financial Management and Procurement</p>	<p>Low</p>	<p>INMACOM itself has currently very little capacity to implement a project of this size. However, the financial management and procurement for the project will be carried out by the executing agency (GWP-SA), who have a long-standing, proven record of successful project implementation in the region, including several GEF IW project currently under implementation. GWP-SA, together with the project PMU (located in the INMACOM Secretariat) will ensure that through the project (notably component 1) the financial management and procurement capacity of INMACOM is strengthened to enable them to</p>

		implement large-scale projects in the future.
Stakeholder Engagement	Low	There is a long-standing history of stakeholder consultation in the two basins, both at national level through government initiatives, as well as through past transboundary projects. Each country has local catchment management agencies in place that engage stakeholders on a regular basis. The consultations for the development of this project have proven that a wide range of stakeholders can be mobilized with minimal effort for project activities.
Other		
Financial Risks for NGI projects		
Overall Risk Rating	Low	

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

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

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

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The project fully aligns with the GEF 8 programming strategy for international waters. The bulk of project interventions falls under objective 3 ‘enhance water security in shared freshwater ecosystems. The programming directions stress the need of data as a pre-requisite for informed management and decision-making, an aspect that features strongly in the project design, notably in the development of the basin monitoring system, WIS and DSS. Likewise, the conjunctive use of groundwater and surface water is highlighted as a focus of GEF 8 and is considered in the project design in the interventions dealing with groundwater resource potential mapping. Overall, the project includes numerous elements that are highlighted as priorities in the programming directions, such as

- a) the development of a TDA and SAP,
- b) support to policy/ legal reform (sand mining strategy, e-flows strategy, transboundary data exchange procedures
- c) building of management capacity (INMACOM strengthening, intersectoral management structures, community level management structures)
- d) establishment of disaster risk management plans (climate risk mapping and climate risk mitigation plan)
- e) promotion and practical application of nexus approaches (demonstration projects)
- f) de-risking innovation through piloting innovative technologies and approaches (demonstration projects)

Through its source-to sea focus, the project also contributes to programming objective 1 ‘accelerate joint action to support a sustainable blue economy’, especially by means of creating multi-stakeholder cooperation frameworks including freshwater, marine, and protected area management stakeholders.

Likewise, options for nature (conservation based) livelihoods and payment for ecosystem services will be explored through the demonstration projects. The project aims to enable the "youngest" of the SADC river basin commissions to be able to fulfill its mandate. Eswatini as the host country for INMACOM has voiced keen interest for GEF support during national and regional consultations over the last years. The intention to seek a comprehensive approach and aim at regular institutionalized cooperation between INMACOM, the Lubombo TFCA, and coastal management institutions is innovative. The approach will build on lessons on source-to-sea linkages in the region from ORASECOM and BCLME and from other regions.

This project contributes to Goal A of the Kunming-Montreal Global Biodiversity Framework (GBF) by ensuring that the integrity, connectivity, and resilience of ecosystems in the IncoMaputo River Basin and Lumbobo TFCA are maintained, enhanced, or restored, substantially increasing the area of natural ecosystems under conservation. With regards to the Targets, this project contributes to reducing threats to biodiversity in particular Target 1 which focuses on ensuring that all areas are under participatory integrated biodiversity inclusive spatial planning addressing land and sea use change. It also contributes to Target 2 on "areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration" and Target 3 promoting effective conservation and management of well-connected and equitably managed governed systems in this case the protected areas in the Lumbobo TFCA, the IncoMaputo watercourse and the coastal and marine ecosystems in the Maputo Bay.

The strengthening of transboundary basin management also contributes to shared SADC regional objectives, notably under the Revised SADC Protocol on Shared Watercourses, the SADC Regional Water Policy and Strategy, as well the Regional Strategic Action Plan (RSAP) 5. Likewise, the strengthening of INMACOM, improvement of basin monitoring, data generation and sharing for collaborative decision-making also support the Basin States' efforts to implement the Interim IncoMaputo Agreement (IIMA).

The three countries adopted the UN General Assembly Resolution [A/RES/63/124](#) on the Law of Transboundary Aquifers on 11 December 2011 that encourages States to make appropriate bilateral or regional arrangements for the proper management of their transboundary aquifers.

Also, the agreement of the three countries to establish Incomaputo and Incomati Watercourse Commission references its foundation on:

- The convention on the Law of the Non-Navigational Uses of International Watercourses adopted by the UN general Assembly in 1997 that is the only treaty governing shared freshwater resources that is of universal applicability. Some key guiding principles set out in the document include: the equitable and reasonable utilization of international watercourses; the application of appropriate measures to prevent harm to other States sharing an international watercourse; and the principle of prior notification of planned measures.

- The Chapter 18 of the Agenda 21 of the United Nations Conference on Environment and Development: "Protection of the Quality and Supply of Freshwater Resources"

The three countries also have made commitments on climate change adaptation under their NDCs and National adaptation plans and on biodiversity conservation under NBSAPs.

The three countries' social and economic development is anchored in their national development plans – in Eswatini through a 5-year running from 2023 – 2027. In Mozambique, the Agenda 2025 is the blueprint that guides development – and in South Africa the National Development Plan 2030 is the key development instrument. All the three countries have developed policies and strategies to deal with climate change, biodiversity, water supply, water resources management, biodiversity conservation. The Water Policy (2018) in Mozambique aims to decentralize water resources management to autonomous entities at the basin and provincial level; in Eswatini the Water Policy (2016) enables the function of the Joint River Basin Authorities

which oversees the management of river basins in the country. In South Africa the National Water Act (1999) makes provision for the establishment of the Catchment Management Agencies and Water User Associations. The entities will play a critical role in the implementation of this project – and in facilitating stakeholder engagement. All three countries have acts that support the establishment and management of protected areas – which form a critical part of the Lubombo TFCA. In South Africa three key pieces of legislation collectively define the principles and procedures of governing biodiversity management in the country: the National Environmental Management Act (NEMA) of 1998, the Protected Areas Act of 2003, and the Biodiversity Act of 2004. The Environment Law (*Lei do Ambiente*, Law number 20/97) is the basis for all legal instruments relating to environmental conservation in Mozambique. In Eswatini, the Environmental Management Act, Act Number 5 of 2002, is central to the environmental laws. It establishes a framework for environmental protection and the integrated management of natural resources on a sustainable basis. The Act promotes the enhancement, protection, and conservation of the environment, and it provides for the sustainable management of natural resources. Overall, existing policies supporting the TFCAs in the three countries, provide for the ecosystem management concept – however, transformative environmental policies are needed to embrace the potential and rights of rural communities in conservation of biodiversity. The policies should also promote an integrated approach that recognises the linkages between the terrestrial ecosystem and the coastal and marine ecosystems. The countries have also developed instruments to manage climate change.

D. POLICY REQUIREMENTS

Gender Equality and Women’s Empowerment:

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

Yes

Stakeholder Engagement

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

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

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

INMACOM consulted the Technical Committee comprising of government officials from the three countries on the proposed focus areas that the proposed GEF project should cover. The proposed activities were presented and discussed at several of the Technical Committee meetings in November 2021 and in April 2022. A broader stakeholder workshop was held on the 4th of August in Nelspruit, South Africa, where a range of key stakeholders from government, the private sector, and civil society were consulted on the key issues and proposed activities to be considered for the PIF – the objectives of the meetings were to discuss and understand

the key transboundary issues in the basins and proposed ways to address these. The consultation also discussed the proposed project objectives based on the confirmed issues and the GEF International Waters programme directions. Finally, the stakeholders, through in-depth group work activities, identified the priority environmental, social, and governance concerns in the basin and prioritised interventions in response to these concerns. Based on the findings of these discussions the stakeholders jointly agreed on the priority outcomes and outputs for the project. These were subsequently validated and confirmed through individual follow-up consultations with key government and NGO role-players. More key stakeholders in the basin will be identified through a comprehensive stakeholder mapping to be conducted during the project preparation at the PPG phase looking at the different sectors interacting in the source to sea system. The stakeholder mapping will assess the interest and power dynamics regarding transboundary management of natural resources.

The stakeholders will include the following groupings as a minimum:

- Agriculture: commercial farmers throughout the basin, small-scale farmer associations (mainly for sugar cane (e.g., LUSIP in Eswatini and cotton), commercial forestry plantations)
- Industry: private sector companies working in paper and pulp mills (Mondi Sappi), sugar mills (Illovo Sugar Company (in all 3 countries), Tongaat Hulett, Royal Eswatini Sugar Company), the Eswatini Sugar Association (bringing together growers and millers) cotton ginnery (Makhatini Gin), textile industry (in Eswatini there are several factories represented through the Eswatini Textile and Apparel Traders Association)
- Tourism operators – operating in the TFCA and the coastal areas in Maputo Bay. This also include private operators like lodges and hotels.
- Women Groups – for example the Hluvukani Varime Cooperative in the Maragra Sugar Scheme; the Vukani BoMake for women in the textile industry
- Civil Society support water resources management, management of the TFCA and coastal and marine ecosystems (e.g., international players: WWF, IUCN, IWMI, local NGOs etc.)
- TFCA stakeholders: working to promote conservation in the protected areas (e.g.; Peace Parks
- Associations working in the coastal Marine ecosystems: Semi-Industrial Fishing Association, AMAPIC- Associacao Mocambicana de Armadores de Pesca Industrial de Camarao (Association of Industrial Shrimp Fishing Shipowners), Sociedade Industrial De Pesca (SIP)
- The River and Environmental Management Cooperation (REMCO) initiated in 2009. This is a platform which brings together operational entities involved in water resources development, management and use. It is a collaborative framework between operational water management institutions in three Southern African riparian countries (Eswatini, South Africa and Mozambique) sharing the Incomati and the Maputo river basins.
- SADC TFCA Network which strives to provide a platform for TFCAs to overcome challenges through shared learning, knowledge management and collaboration. The platform brings together TFCA Focal Points from each SADC Member State, FCA International Coordinators, international and regional NGOs, international cooperating partners, private sector, academia representatives.
- The lead counterparty agencies (to be confirmed during the project preparation phase) in each country will be the catchment institutions established to support management of resources in each country and working closely with the transboundary institutions;
- Eswatini –Joint River Basin Authorities an operational organisation within the Ministry of Natural Resources and Energy overseeing the management of the Komati, Lomati, Usuthu, Lubovane, Ngwavuma. The JRBA works with different stakeholders and will have the capability to convene and consult with other sectors.

- Mozambique – ARA Sul is the agency responsible for the river basins in southern Mozambique (including Maputo and Incomati) and has stakeholder platforms through River Basin Committees which bring in a range of players in the basins South Africa the Incomati-Usuthu Catchment Agency (IUCMA) which is established to manage the water resources in the IncoMaputo basins in South Africa – and works with a range of private sector stakeholders and the TFCAs in the basin.

The table overleaf provides, and overview of the stakeholders consulted.

COUNTRY	NAME OF DELEGATE	INSTITUTION	Date for consultation
Republic of South Africa	Dr Gordon Obrien	University of Mpumalanga	August 2022
	Gedion Siziba	Department of Water & Sanitation	Nov 2021
			August 2022
			Feb 2023
	Duduzile Mthembu	Department of Water & Sanitation	Nov 2021
			August 2022
	Sipho Magagula	IUCMA	Nov 2021
			August 2022
	Kennedy Mandaza	Department of Water & Sanitation	Nov 2021
			August 2022
	Koena Meso	Department of Water & Sanitation	August 2022
Dr Eddy Riddell	SAN Parks	August 2022	
Johan Eksteen	MTPA Mpumalanga Tourism & Parks Agency	August 2022	
Nancy O'Farrell	Crocodile Major Irrigation Board	August 2022	
Andre van der Merwe	Lomati/Komati Irrigation	August 2022	
Dr Andy Blackmore	Ezemvelo Wildlife KZN	August 2022	
KOBWA	Sakhiwe M. Nkomo	Komati Basin Water Authority	August 2022
IUCMA	Dr Tendai Sawunyama	Inkomati Usuthu Catchment Management Agency	August 2022
			Feb 2023
ARA SUL, IP	Edgar Chongo	General Director, ARA SUL, IP	August 2022
	Messias Macie	National Director for Water Resource Management - DNGRH	Nov 2021
			April 2022
			Feb 2023

Republic of Mozambique	Raul Mutevuie	National Director of Water supply and Sanitation - DNAAS	Nov 2021 April 2022 Feb 2023
	Justino Marengula	ARA Sul	August 2022 Feb 2023
	Ezquiel Goncalves Manjate	ARA Sul	July 2022
	Claudio Afonso	National Director of Climate Change - MTA	Dec 2022
	Delfim Vilissa	National Irrigation Institute - INIR	August 2022
	Bartholomew Soto	Peace Parks	May 2023
Kingdom of Eswatini	Doctor Hlongwane	Chairperson - Joint River Basin Authority Project Board	August 2022
	Mapule Magagula	Department of Water Affairs – Acting Director	Nov 2021 April 2022 Feb 2023
	Thulani Methula	Director Conservation - National Trust Commission (representative for Lubombo)	Feb 2023
	Hlobisile Sihlongonyane	Ministry of Tourism and Environmental Affairs	Feb 2023
	Sindy Mthimkhulu	CEO – Joint River Basins Project Board	Dec 2023
	Hannah Laufer-Rottman	Palms for Life	Jan 2023
	Bruce Jameson	Palms for Life (and independent)	Jan 2023
	Rex Brown	Independent Water and Development Expert	Jan 2023
Secretariat	Trevor Shongwe	Interim Executive Secretary	Jan 2021 – August 2022
	Edward Mswane	Interim Executive Secretary	August 2022 - ongoing
SADC Secretariat	Dumisani Mndzebele	Programme Officer	Jan 2022 July 2022
SADC GMI	Jame Sauramba	Executive Director	April 2023
Nairobi Convention Secretariat/UNEP	Jared Bosire	Project Manager, WIO-SAP	May 2023
Nairobi Convention Secretariat/UNEP	Timothy Andrew	Project Manager, SAPPHIRE	May 2023

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

Private Sector

Will there be private sector engagement in the project?

Yes

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

Yes

Environmental and Social Safeguard (ESS) Risks

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

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			

E. OTHER REQUIREMENTS

Knowledge management

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

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

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

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
UNDP	GET	Regional	International Waters	International Waters: IW-3	Grant	7,105,936.00	675,064.00	7,781,000.00
Total GEF Resources (\$)						7,105,936.00	675,064.00	7,781,000.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

200000

PPG Agency Fee (\$)

19000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
UNDP	GET	Regional	International Waters	International Waters: IW-3	Grant	200,000.00	19,000.00	219,000.00
Total PPG Amount (\$)						200,000.00	19,000.00	219,000.00

Please provide justification

Sources of Funds for Country Star Allocation

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

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
IW-3	GET	7,105,936.00	23600000
Total Project Cost		7,105,936.00	23,600,000.00

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co- financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Government of Eswatini	Grant	Investment mobilized	3500000
Recipient Country Government	Government of Eswatini	In-kind	Recurrent expenditures	500000
Recipient Country Government	Government of Mozambique	Grant	Investment mobilized	3000000

Recipient Country Government	Government of South Africa	Grant	Investment mobilized	3300000
Donor Agency	WB	Grant	Investment mobilized	4000000
Donor Agency	AfDB	Grant	Investment mobilized	2800000
Donor Agency	JICA	Grant	Investment mobilized	6200000
GEF Agency	UNDP	Grant	Investment mobilized	300000
Total Co-financing				23,600,000.00

Describe how any "Investment Mobilized" was identified

In collaboration with UNDP Eswatini and GWP SA; INMACOM Secretariat organized a consultation workshop and meetings with different stakeholders to discuss the project concept and the PIF. During these consultations, stakeholders with investment mobilized under the co-financing table above shared ongoing and upcoming projects with possible synergies and complementarity with the components of this project. Co-financing amounts were estimated based on the projects' timeframe and the time co-financiers' staff would spend on supporting this project.

Peace Park Foundation supports some initiatives of FTCA. They indicated that they are interested in the project and they will provide co-financing but there have been delays in sharing information and their co-financing will be included at the PPG phase.

The Netherlands financing to INMACOM is up to 2023. Negotiations for further financing are taking place and co-financing amount will be confirmed at the PPG phase.

CRIDF funding came to end on 30 April 2023 and it is not yet clear whether another phase will be provided. More consultations will be done at the PPG phase.

GIZ confirmed that they do not have a project in the Incomati-Maputo basin for now. Also, further engagement with them will be done at the PPG phase.

KfW is funding the SADC TFCA Facility through IUCN but currently, there is no funding in the Lubombo. They will be consulted at the PPG phase.

Nexus Concept project funded by EU is ending in September 2023. Further engagement will be done at the PPG phase.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Pradeep Kurukulasuriya	4/12/2023	Madeleine Nyiratuza		madeleine.nyiratuza@undp.org

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

Name	Position	Ministry	Date (MM/DD/YYYY)

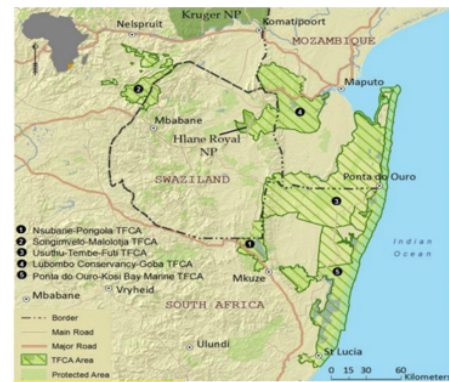
Ms. Khangeziwe Glory Mabuza	Principal Secretary	Ministry of Tourism and Environmental Affairs/Eswatini	3/13/2023
Mr Zaheer Fakir	Acting Deputy Director General	Department of Environment, Forestry and Fisheries/South Africa	3/16/2023
Mr Claudio Afonso	National Director of Climate Change	Ministry of Land and Environment/Mozambique	2/28/2023

ANNEX C: PROJECT LOCATION

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



Map of the Incomati and Maputo Basins



Map of the Lubombo TFCA



Map of the Maputo Bay

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

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

Title

Pre-SESP INCOMAPUTO project 31 March 2023

ANNEX E: RIO MARKERS

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

ANNEX F: TAXONOMY WORKSHEET