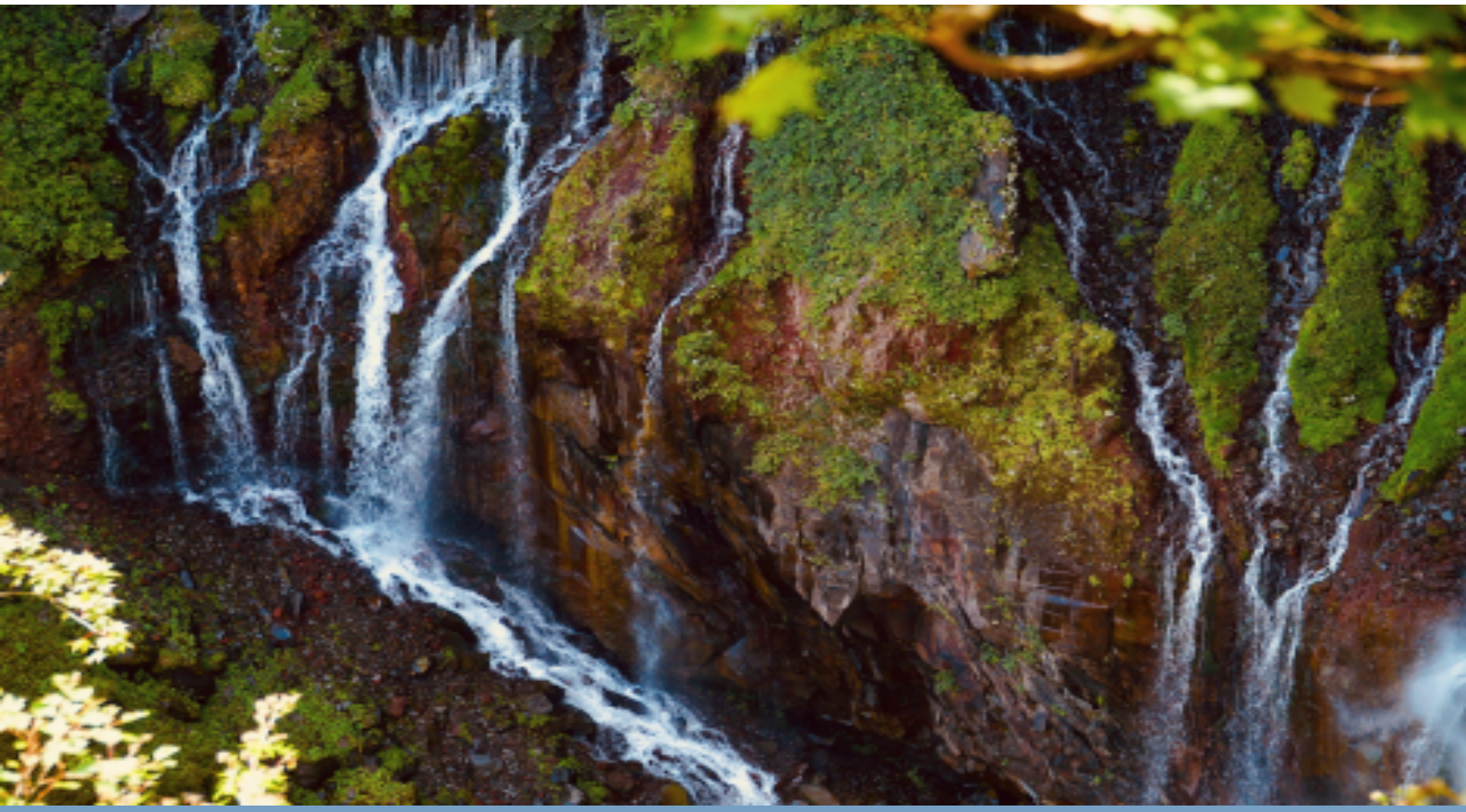
INDEPENDENT MID-TERM REVIEW (MTR) FOR THE GEF BUPUSA PROJECT

Management of Competing Water Uses and Associated Ecosystems in The Pungwe, Buzi and Save Basins



FINAL REPORT

CONSULTANCY TO CONDUCT AN INDEPENDENT MID-TERM REVIEW (MTR) FOR THE GEF BUPUSA PROJECT: MANAGEMENT OF COMPETING WATER USES AND ASSOCIATED ECOSYSTEMS IN THE PUNGWE, BUZI AND SAVE BASINS

FINAL REPORT

Date: 11 December 2023

CONSULTING

Commissioned By:
IUCN and GWP-SA

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LIST OF ACRONYMS & ABBREVIATIONS

ACRONYM	DESCRIPTION
ARA	Administração Regional de Águas (Regional Water Administration - Centro & Sul)
BUPUSA	Buzi, Pungwe and Save
COVID-19	Coronavirus Disease of 2019
DRR	Disaster Risk Reduction
DNGRH	National Directorate for Water Resources Management
F2F	Face to Face
GWPSA	Global Water Partnership Southern Africa
IUCN	International Union for Conservation of Nature
IWRM	Integrated Water Resources Management
JWC	Joint Water Commission
LIMCOM	Limpopo Watercourse Commission
M&E	Monitoring and Evaluation
MS	Member State
MTR	Mid-Term Review
OKACOM	Permanent Okavango River Basin Water Commission
ORASECOM	Orange-Senqu River Commission

PMU	Project Management Unit
PSC	Project Steering Committee
RBO	River Basin Organisation
RISDP	Regional Indicative Strategic Development Plan
RSAP	Regional Strategic Action Plan
SADC	Southern African Development Community
SADC-GMI	Southern African Development Community – Groundwater Management Institute
SAP	Strategic Action Programme
SDG	Sustainable Development Goals
SWI	Shared Watercourse Institution
TDA	Transboundary Diagnostic Analysis
WASH	Water Sanitation and Hygiene
WEF	Water-Energy-Food
ToC	Theory of Change
ZAMCOM	Zambezi Watercourse Commission
ZINWA	Zimbabwe National Water Authority

1 EXECUTIVE SUMMARY

The Buzi, Pungwe and Save rivers (BUPUSA) flow through Zimbabwe and Mozambique, representing opportunities for sharing benefits, but also possible risks and water insecurity in the case of a lack of cooperation. A common vision is crucial to address present and future challenges in all three basins related to competing water uses and extreme weather events, like cyclones, floods, and droughts.

The main goal of the GEF-BUPUSA project is to improve water security, climate change resilience, and sustainable livelihoods. For this reason, the outcomes of the project focus on three topics: (1) flood and drought warning and mitigation; (2) ecosystem conservation and restoration for sustainable livelihoods; and (3) integrated basin planning.

Given that there was a long lag between the project development (2016) and effective start of implementation (2021), it was anticipated that several changes had occurred. When IUCN as implementing agency, engaged GWPSA to execute, the project commenced with a thorough Inception Phase and report. The original objectives, indicators, and outputs in the ProDoc were revisited and better contextualised to address relevance, emergent needs, and sustainability.

The GEF-BUPUSA Project had a challenging start due to covid restrictions, which limited stakeholder engagement and delayed deployment for fieldwork. Despite this, much progress and catch up has been achieved by the mid-term.

An overall statement on progress per component is as follows:

Component 1: Good progress as planned by mid-term for most outputs. The flood characterisation is well developed– as evidenced in the Flood Feasibility study, FFEWS Inception Report and FFEWS Design Report.

For flood risk and vulnerability, the production of maps and use thereof was purposefully postponed awaiting the calibration of the model first. This was not originally planned this way but a better approach as this will enhance quality of the maps. Pilot site selection has been done and the development of the tools for use in the community-based projects will commence in the next period.

Up until very recently, the drought assessment was off-track (due to primarily procurement constraints), however, a promising start up progress with the appointment of the consultant, inception report and workshop has now been done.

Component 2: Much has been achieved in the ecosystems and e-flows component and in line with the planned schedule. There is a concern, however, on the limited capacity for e-flows at country level. A plan to circumvent this challenge need to be in place for the effective achievement of this component.

Component 3: The institutional and transboundary cooperation activities have progressed well – the highlight being the establishment of BUPUSACOM and the finalisation and sign off the four agreements. The national scoping, drafting of the technical thematic reports and the causal chain analysis for the development of the TDA is complete. The collation of these to draft the TDA itself is on track. Nothing is reported on the SAP as the SAP activities were planned for outside of the mid-term period.

Progress in all components has, to a large degree been implemented as planned, but where there are challenges or delays (discussed in section 2), these have been and / or are likely to be overcome. This is evidenced by the team's track record of catch up, solution finding and high-quality delivery. Implementation and management approaches have effectively led to delivery of most of the planned outputs due by mid-term and this has been done in an engaging manner at basin, national, catchment and local levels. A tremendous achievement of the project itself is in the way the team and systems were set up and have evolved. The project team is highly experienced, skilled, and committed. The team has also embraced adaptive management and is proactive in finding solutions to emerging challenges and delays. Ownership and accountability are not only evident between member states but also among the GWPSA-PMU team, IUCN, and the PSC (which is inclusive of key role players).

The project is relevant and responsive to member state and stakeholder needs. There is, therefore, ownership of the project and commitment to transboundary cooperation. The strong relations and trust between the countries, has developed over many years and recently demonstrated through the finalisation of the respective basin agreements and establishment of BUPUSACOM.

Effectiveness and efficiency have been incorporated throughout implementation - from the initiation of tasks and development of terms of reference, procurement, implementation of

activities, financial management and quality review of the outputs. Ensuring the high quality and accurate technical outputs is well appreciated - given that the evidence will affect lives and inform decision-making for transboundary water management and development in BUPUSA.

IUCN and GWPSA management envisage no major risks that would hamper successful completion by the end of 2024. The PMU and GWPSA are commended for their proactive, thorough, and committed approach to implementation of the GEF-BUPUSA project.

The MTR process has identified a few areas that might be further considered by the executing and implementing teams, as well as the PSC. As such, recommendations have been made primarily on knowledge management and uptake (noting the highly technical outputs and limited capacity of potential users), local community engagement to manage expectations (on water quality and basic access), strategic stakeholder engagement, gender, as well as certain financial aspects and sustainability.

2 EVALUATION BACKGROUND

2.1 The Context

The Southern African Development Community (SADC) is comprised of 16 Member States (both mainland and island states) with water resources that are typified by spatial and temporal variability and extremes. Water resources are critical for SADC's economy and environment, but these resources are coming under increasing pressure due to a variety of factors including population growth, socio-economic development, climate change (SADC,2021) and deteriorating water producing ecosystems – strategic water source areas. With SADC's water resources being unevenly distributed and 40% of its people lacking access to adequate safe drinking water supply, the emphasis on water security is increasingly central to various regional instruments, such as the Regional Indicative Strategic Development Plan (RISDP). The plan emphasises an integrated and collaborative approach between different sectors to help achieve regional goals of economic growth, equity, peace and a sustainably environment, and the need for integrated water resources management (IWRM) is critical.

On the mainland of Southern Africa there are 15 major shared river basins, and this has prompted the need for strong transboundary and regional cooperation coupled with harmonisation of legislation, strategies, and policies to ensure peace in the region (SADC, 2021). SADC's Regional Strategic Action Plans (RSAPs) on integrated water resources development and management play an important role in guiding the management and development of regional water resources and they operationalise the principles and objectives of the SADC Revised Protocol on Shared Watercourses (SADC, 2000). With the support of the SADC Secretariat and the SADC Water Division, the establishment of river basin organisations (RBOs) across the region has helped to further support transboundary water resources management.

The most recent SADC RSAP V details the action plan that is structured under three pillars: Governance and Integration, Infrastructure Development, and Water Resources Management and aims to promote a water secure future for a resilient, peaceful, and prosperous SADC region. With the increase in climate change-related impacts on water resources coupled with the COVID-19 pandemic, the need to integrate water resource management with climate and pandemic resilience has never been more evident. In addition, the interlinkages between different sectors (including the water-energy-food nexus) are explored in RSAP V, noting the

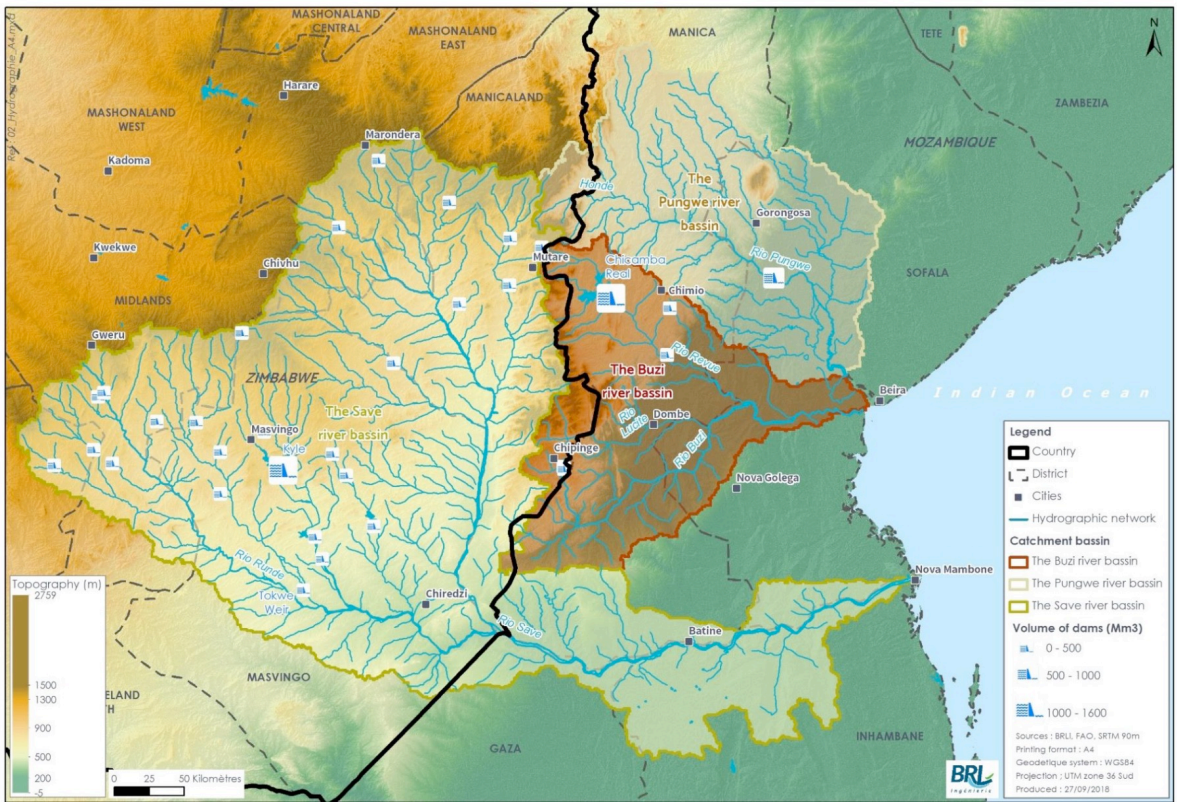
priority of the region to address poverty alleviation through food security and access to energy and clean water (SADC, 2021).

One of the key elements to achieve and maintain water security is promoting collaborative approaches to transboundary water resources management within and between states to promote water resource sustainability and cooperation. In the RSAP V, the effective development and management of Transboundary River basins and aquifers remain a priority.

The transboundary water basins relevant to this assignment are the Pungwe, Buzi and Save, which are shared bilaterally by Mozambique and Zimbabwe.

2.2 Project Background

The three transboundary basins extend over an area of almost 180,000 km², with Pungwe and Buzi covering each one almost 30,000 km² and Save Basin covering almost 110,000 km². The following map presents the geographical extent of the three basins.



The three basins are located along the Beira corridor, an important economic corridor that links Beira harbour to the hinterland, with associated impacts on the environment (pollution

from mining activities, intensive agriculture, deforestation, saline water intrusion etc.). Populations in the basins have become highly vulnerable to climate hazards (i.e., floods, droughts, and cyclones), whose occurrence is likely to increase with climate change aggravation.

The increasing development of upstream water uses is now raising the issue of equitable water allocation and the accompanying dimension of environmental flows that have particular importance in a transboundary context. These resource aspects are of the highest importance for the communities that derive their livelihoods from ecosystem services, in a context of endemic poverty and low resilience to climate change impacts.

The GEF BUPUSA Project "Management of competing water uses and associated ecosystems in Pungwe, Buzi and Save basins" is a GEF-funded project, being implemented by the International Union for Conservation of Nature (IUCN) and executed by the Global Water Partnership Southern Africa (GWPSA). Strategic orientation of the project is provided by the Joint Water Commission for Buzi, Pungwe, and Save River Basins, the bilateral institution for cooperation on water issues between Mozambique and Zimbabwe. The target is conservation and sustainable use of the Transboundary water basins resources, including their risk mitigation components within the three 3 river basins. The project is facilitating the ability of the two riparian countries (Mozambique and Zimbabwe) to strengthen transboundary cooperation and management of water resources and associated ecosystems for improved water security, climate change resilience and sustainable livelihoods in the shared Pungwe, Buzi, and Save basins. Project activities are coordinated at the bi-national level by a Project Management Unit (PMU), hosted by ARA-Centro in Beira (the National Executing Agency for Mozambique).

The project's main objective is to strengthen the management of transboundary water resources and connected ecosystems for sustained ecological benefits and improved resilience for riparian communities. It will contribute to the conservation of the three basins' aquatic ecosystems and wetlands through the sustainable management of transboundary water basins. The project seeks to promote holistic approaches to the water-food-energy nexus, with specific interest on connected ecosystems and has a double focus of developing capacities for managing water resources and to design participatory and community-based strategies.

2.3 Purpose and Objectives of the Evaluation

The goal of this mid-term review (MTR), as specified in the terms of reference (ToR), was to analyse whether the GEF BUPUSA project is on track, to identify difficulties or challenges encountered, and to identify corrective measures required to improve elements of project implementation. The MTR evaluated project performance based on its relevance, effectiveness, and efficiency. Furthermore, the MTR examined the project strategy, coordination, co-financing, stakeholder participation, communication, execution of environmental and social safeguards, impact of COVID-19, and sustainability concerns. The approach and methodology consisted of three work packages as outlined in Figure 1-1.

Figure 2-1: Overall Approach and Methodology

A standard UNDP GEF MTR was undertaken, following guidance as laid out in the reference document: UNDP, 2014. Guidance for Conducting Midterm Reviews of UNDP-supported, GEF-financed Projects.

While the MTR was conducted independently, the external MTR Team regularly engaged with the Implementing and Executing agents (including PMU) to seek guidance critical to the MTR as well as co-create essential design frameworks that were not undertaken when the PIF was originally developed. The analytical framework for the evaluation is summarised in Table 1-1:

Table 2-1: Evaluation Analytical Framework

Evaluation matrix:	Based on an initial review of available project documentation and following the guidance of the evaluation ToR and the UNDP guidelines for conducting mid- term evaluations of GEF projects, an evaluation matrix was developed and presented in Annexure 2. This matrix guided the data collection and analysis. The evaluation matrix included the evaluation questions considered under each criterion, as well as the qualitative and quantitative indicators to operationalise these questions, sources of information and data collection methods. Gender equity issues were considered in a cross-cutting manner throughout the matrix.
Scorecard:	This framework provided in the ToR was used to provide specific ratings on performance criteria, including progress towards results, project implementation and adaptive management, and sustainability.

3 PROJECT PERFORMANCE AND IMPACT

3.1 Attainment of Objectives and Planned Results

3.1.1 Achievement of Outputs and Activities

In this section – an overview of progress to date of all four components is presented. General progress discussion is backed up by the detail on achievement or not of the mid-term target is presented in Table 1. The project is overall satisfactory and on-track to achieve expected results as planned.

Component 1 - Floods and Droughts Management in the Pungwe, Save and Buzi Basins Improved, and Related Risks Mitigated

Output 1.1.1. Increased network density with real-time data transmission and increased frequency of data sharing between the two countries

Early in the process, the project carried out a study aimed at deciding which river gauging stations should be upgraded for the purpose of flow monitoring, water resources assessments, floods and drought monitoring, flood forecasting and operationalization of the Buzi, Pungwe and Save River Basins Transboundary water sharing agreements.

The Hydrometric design report, completed in September 2021, has been reviewed in this mid-term review and the proposed hydrometric stations should greatly improve transboundary water resources management and minimize the impact of floods on the more than 6 million people living within the basin.

The existing (pre-project) hydrometric network for the Buzi, Pungwe and Save River Basins comprised some stations offering real-time transmission of data, which play an important role in transboundary water resources and flood management. The study highlighted the need for capacity building, repairs to existing key gauging stations and the need to address sustainability of stations in the post-project phase. Vandalism at several of the existing gauging stations has led to these not being operational (or at least reduced to readings taken from gauge plates by observers).

The design study acknowledges that the proposed network of 12 stations will not adequately cover the flood prone areas nor the needs for monitoring of environmental flows. It has, therefore, been proposed to work with other partners involved in the basin strengthening the

flood monitoring efforts. In this respect, the design report proposes repairs to some telemetry stations set up by other projects. The Pungwe and Save basins have been prioritized since there is ongoing support on upgrading network in the Buzi Basin in both countries.

In addition to the equipping and operationalization of the 12-water level measurement river stations, the design study advised that four (4) Acoustic Doppler Current Profilers (ADCP) are obtained. ADCPs are generally regarded as the most accurate and practicable of flow measurement methods in rivers. These are required for the measurement of flows at each of the water level measurement stations. While water levels will be measured automatically on a continuous basis, accurate measurements covering the full range of flows (from dry season minima to flood flows) are also required to establish and/or verify the water level to flow relationship (rating curve). When this relationship is accurately established, the river flows can be automatically calculated. Change in member state preferences is described in Table 2 1 (Achievement of Outputs & Activities).

It should be noted during that in the interviews with Mozambique, the regional administrations of waters - the ARA IP (public institute), requested the GEF BUPUSA Project to support flow measurement. The vision of the ARAs, IP is that this kind of exercise enables updating the rating curves and this will enhance the early warning system response for flood and droughts.

The GEF BUPUSA Project has carried out the installation of gauging stations including the use of radar sensors at some stations, in the Pungwe and Save basin. Installation in the Buzi basin is waiting for the environmental licence.

Despite the initial COVID-19 delays, implementation of the activities under this output on increased network density with real-time data transmission and increased frequency of data sharing between the two countries, is advanced.

Output 1.1.2 – Flood risk & vulnerability characterized

Flood Forecasting and Early Warning System (FFEWS) design was completed and through a stakeholder consultation meeting, the design report was formally approved. This enabled the development of the BUPUSA flood model configuration. The relevant models were set up for the BUPUSA Basin following the input and approval of the FFEWS design report. As part of the FFEWS, seven (7) Hydrologists were trained on HEC-HMS, HEC-RAS and HEC-ReSim modelling.

Consultations with Member States were done on the FFEWS, and a Capacity Building Strategy was prepared and shared with Member States. This will guide Member States in enhancing their flood forecasting systems.

Overall, for the project target (being the full set up and operationalising of a Flood Forecasting and Early Warning System (FFEWS) and building institutional capacity to operationalise the FFEWS), advances have been made. This includes equipping DNGRH, ARA Centro, ARA Sul, ZINWA Save, ZINWA Runde, and the Department of Water Resources Development in Zimbabwe for real-time capacity for monitoring floods. Member States passed a resolution for DNGRH to serve as the Regional Centre for Flood and Drought Monitoring, in a dialogue facilitated under Activity "*Support flood modelling development for flood hazard and vulnerability mapping*' during Year 1 of project implementation.

At project inception and to date, hydrological bulletins are being issued daily, weekly, and monthly. There is also a WhatsApp Group that was established, however, the number of people getting early warnings of floods was limited at baseline and the frequency of sharing information was low. The project is endeavouring to increase access to information and the frequency of sharing it, in alignment with relevant clauses of the Data Sharing Protocol which was also developed with the support of the project. However, the overall project target will only be reached when the FFEWS currently being set up is operational and transmitting early warnings.

The FFEWS set up is work in progress and earmarked for completion by April 2024, after the oncoming rainy season (November to March) has been used to check how well the model is calibrated. The FFEWS will be informing the issuance of flood alerts and projected areal extent of forecasted flood events.

The criteria for selection of pilot sites for implementation of the FFEWS is finalized. This will be followed by the identification of capacity requirements and identification of active community members using the screening and selection criteria for participation designed by the Project. This means that most of the indicators that relate to engaging the districts and communities are still set at baseline values, which does not reflect the progress being made with setting up the system. Data collection and surveys are ongoing as well a preliminary configuration. The model will be set up for the whole basin, but detailed modelling will only be done for hotspots/pilots. The selection of pilots is currently being finalised. SMS warning is yet to commence. This will only be possible after the FFEWS system is operational.

The installation of real-time capacity for monitoring floods will guarantee a better response in the three basins. This initiative will increase the number of communities where it will be possible to provide potential flood alerts based on real-time, local water level data.

Main challenges

- Difficulty in bringing stakeholders together due to different agendas.
- Creating capacity building in ARAs IP to measure the flows in the rivers. This activity should help the regionals administrations in updating the rating curves.
- Lack of gender balance in the stakeholder participants.
- Expectations – water quality monitoring & tangible projects to address basic access (Mozambique).

Output 1.1.3 – Drought risk & vulnerability assessed

There have been significant delays with this task to assess basin community resilience. ToRs were developed, approved by the Member States, and advertised but due to drought experts being rare in the region, there were limited applications. No contract was awarded, and the consultancy was readvertised. Only in mid-May 2023 was a consultant appointed. The draft inception report was prepared, submitted and workshopped in July 2023. The report guides Member States on how the drought and vulnerability assessment will be conducted.

Output 1.2.2 – Project progress towards outcomes documented and shared with all stakeholders

See section 3 (processes affecting the attainment of project results), and recommendations section.

Component 2 - Conserving and Restoring Ecosystems for Sustainable Livelihoods

Output 2.1.1 – Shared diagnosis of ecosystems status, functioning and economic value established

See Table 2-1 and recommendations section.

Output 2.1.2 – Strengthened environmental flow management framework for improved decision making

See Table 2-1 and report below.

The budget allocated for the assessment of environmental flows (E-flows) was not sufficient to cover the costs of a comprehensive E-flows assessment for all three basins. The cost of

such an exercise on the Save River, which is relatively highly developed would have been prohibitive. During the Inception Phase, the two countries agreed to concentrate the available resources on an adequately detailed E-flows assessment of only the Pungwe basin (E-flows ref in Pungwe agreement plus Pungwe most pristine). Carrying out such an assessment is a time-consuming process with a need for intensive consultation.

The environmental flows assessment was conducted by a multidisciplinary team of experts. A key initial step was to assess the status of the basin. This included:

- A Socio-economic assessment, documented in a socio-economics report (March 2023)
- Homogeneous Delineation (mapping out homogenous reaches so that the selected sites could be representative of the different conditions around the catchment), documented in Delineation and Preliminary Status and Trends Interim Report (October 2022).
- Trends assessment documented in Delineation and Preliminary Status and Trends Interim Report (October 2022)
- Estuarine biophysical assessment documented in Hydrodynamic Modelling of the Pungwe Estuary (June 2023)
- Riverine biophysical assessment and a hydrogeology assessment (this covered all three basins) documented by SADC Groundwater Management Institute.

As part of the delineation exercise, six sites were identified for monitoring environmental flows. These points were used to represent the homogenous reaches and will be key for transboundary flow allocations. These assessments have been instrumental in developing a joint understanding of the biophysical status of the basin by the two Member States and this provides the basis of an agreement on how to manage and share the water resources of the Pungwe basin.

The environmental flows assessment and the hydrogeological assessment reports were presented for review and identification of priority ecosystems by Member States. A key milestone was the GEF-BUPUSA E-Flows Scenario Selection and Hydrogeology workshops held in both countries in June 2023.

Whilst SADC GMI undertook the Groundwater (GW) assessment, it is unclear whether the SADC-GMI National Focal Groups (NFGs) in Mozambique and Zimbabwe (which were established in 2020) were engaged in the GW assessments and workshops. This is being

flagged here for future GW work in BUPUSA as the NFGs in both countries can play a supporting role with respect to stakeholder engagement, capacity development and resource mobilization coordination on GW initiatives in the 3 basins. Efforts should be made to make the linkages between initiatives and institutions. The Chair of the NFGs also link to SADC WRTC as they form part of the hydrogeological sub-committee of SADC. These are strategic linkages which may prove useful in SADC RBO and GW efforts.

The main challenge expressed by some interviewees with the e-flows component is the lack of capacity in member states for this highly complex technical subject. The specific aspects of E-flows capacity that is required needs to be further assessed. Who needs what capacity regarding E-flows? What are the officials of the ARAs, water departments and catchment councils supposed to know and be skilled in regarding E-flows?

It was discovered through the MTR engagement that through the IUCN BRIDGE initiative in 2015, WaterNet developed and implemented a series of E-flows capacity building sessions, addressing both theory and practice in field. The training appears to have been comprehensive and included tools for hydrological, ecological, and social assessments. Training was held in the basin in Manica (Mozambique side) and Mutare (on the Zimbabwean side).

Implementation of E-Flow assessments requires a multidisciplinary approach, hence a wide spectrum of experts, including high level officials (directors and senior scientists from Mozambique's Water Administration and Zimbabwe's Water Authority) and technical members with different backgrounds (legal advisors, economists, engineers , biophysical and social scientists), responsible for basin planning, management and adaptation, were gathered from each country for participation in the training. E-flow assessments were conducted in various locations in the basin, where trainees worked with data, undertook analyses, and developed e-flows. Equipment was also secured to enable trainees to conduct assessments on their own.

This is mentioned here as it raised a few questions on the still current E-flows capacity challenge that has been raised. Would it be useful to build on this WaterNet course to contextualise and update the material and approaches with WaterNet and the current GEF BUPUSA E-flows assessments on Pungwe and team? The BRIDGE E-flows training reports and trainee lists were developed but not released to the MTR team in time to investigate further.

It would be worthwhile exploring further and understanding exactly what capacity was developed and with whom. What E-flows capacity is still needed, and with which mandated institutions? It might be that research institutions and experts will in most cases be called in to conduct E-flows assessments and that the ARAs and Catchment Councils (for example) would not need such E-flow assessment capacity but be skilled enough to implement an E-flows management plan. However, when the concern is raised by stakeholders/officials that a lack of E-flows capacity is a challenge in the basins, this needs to be further understood and addressed – based on what essential basic E-flows skills are required by the mandated institutions and others.

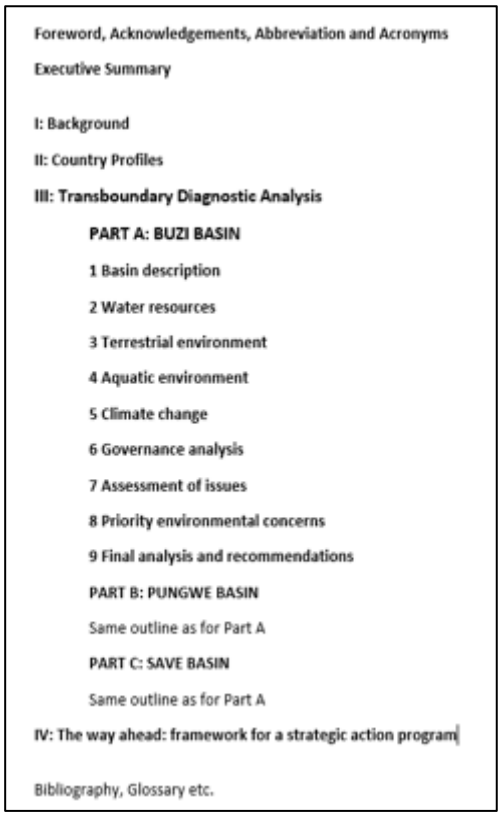
The suggestion would be to review the WaterNet E-flows material and approach, update and contextualise based on current E-flows work in GEF BUPUSA and consider rolling this out once the specific E-flows capacity required and lacking is understood.

Component 3 - Integrated Basin Planning for the Pungwe - Buzi – Save River Basins

Output 3.1.1 - Pungwe-Save-Buzi Transboundary diagnostic analysis (TDA) developed, building on existing Monographs, and Pungwe-Save-Buzi Strategic Action Program (SAP) developed, building on the TDA and IWRM regional (SADC) / basin / national plans & adopted at ministerial level (JWC)

Most of the components under component 3 are on track or have been achieved. However, most of them are dependent on the TDA which was not yet completed at the time of conducting this MTR.

A single TDA report is being compiled but includes separate chapters for each of the three catchments. As per the agreed Table of Contents laid out in the Inception report for this Output, the TDA is being set out as indicated in the box. As shown, Sections I and II are common to all three basins. Then there is Section III which comprises a standalone sub-chapter on each basin.


Foreword, Acknowledgements, Abbreviation and Acronyms

Executive Summary

I: Background

II: Country Profiles

III: Transboundary Diagnostic Analysis

PART A: BUZI BASIN

1 Basin description

2 Water resources

3 Terrestrial environment

4 Aquatic environment

5 Climate change

6 Governance analysis

7 Assessment of issues

8 Priority environmental concerns

9 Final analysis and recommendations

PART B: PUNGWE BASIN

Same outline as for Part A

PART C: SAVE BASIN

Same outline as for Part A

IV: The way ahead: framework for a strategic action program

Bibliography, Glossary etc.

The same approach will be used for the SAPs and NAPs. Thus while the TDAs and SAPs for each basin appear together in one report for the TDA and one for the SAP, it is possible to extract the relevant sections and have standalone TDAs and SAPs. This can be useful when looking for funding and support from development partners.

The issue is going to be trying to figure out the resources required to finance activities identified in the TDA for SAP and NAP considerations. Given the likely gap between the end of this GEF BUPUSA phase and a follow up phase of support (which might be 1-2 years, member states are concerned about the risk of lack of continuity between projects. The PMU/IUCN and GWP are therefore, already working towards leveraging financial resources for continuing the efforts of GEF BUPUSA and beyond.

Output 3.1.2 – Institutional capacity for integrated planning strengthened

The cooperation between the two countries goes as far back as the development of the Mutare water supply Pungwe project. This project was the nexus of all that has transpired i.e., PP1, PP2 leading to the water sharing agreement for the three basins Pungwe, Buzi and Save.

WaterNet also supported early efforts to develop the human capacity on water law, negotiations, and environmental flow assessments, towards an enabling environment for the establishment of a tri-basin agreement.

Realising the benefits of cooperation and in line with the SADC Protocol, the governments of Mozambique and Zimbabwe established a Joint Water commission (JWC) in 2002. The JWC, the cooperative instrument between the riparian states, acts as a technical advisor to the

parties on all technical matters relating to the development and utilization of water resources of common interest. In parallel to the technical work, the JWC has made remarkable progress on negotiations and elaboration of the following transboundary Agreements:

- Co-operation on the Development, Management and Sustainable Utilisation of the Water Resources of the Pungwe Watercourse (signed in July 2016),
- Co-operation on the Development, Management and Sustainable Utilisation of the Water Resources of the Buzi Watercourse (signed in July 2019)
- Co-operation on the Development, Management and Sustainable Utilisation of the Water Resources of the Save Watercourse (signed in May 2023),
- The Establishment of the Buzi, Pungwe and Save Watercourses Commission (BUPUSA COMMISSION) – (signed in May 2023), and
- The Hosting of the BUPUSA Commission Secretariat (signed in May 2023).

The Buzi, Pungwe, and Save Watercourses Commission (BUPUSACOM) was launched in Beira, Mozambique, on 19 July 2023, following the signing of the BUPUSA Watercourses Commission Establishment Agreement in Harare, Zimbabwe on 17 May 2023. The tri-basin institution will have oversight on the planning, development, and management of the water resources within the Buzi, Pungwe, and Save (BUPUSA) River Basins, which are exclusively shared by Mozambique and Zimbabwe. The Commission will strengthen the institutional framework for developing and implementing the BUPUSA Strategic Action Programme (SAP). Four key strategic documents have come out of the project to date - towards the desired outcome of a Shared Water Resources Strategy and Programme for Joint Ecosystem-Based Management of the 3 Basins, surpassing the overall project target of 3. The project finalised the Save Water sharing agreement, the BUPUSA Watercourse Commission Establishment Agreement, the BUPUSA Watercourse Commission Hosting Agreement and the BUPUSA Roadmap thus far. Starting with an interim secretariat, establishment of the institution proper is still to be realized but much groundwork for capacity building has been achieved and a long-standing trusted relationship is in place among the member states.

Output 3.1.3 – Funds raised for SAP implementation

n/a yet.

Component 4 – Project Management

Output 4.1.1 - Project management team established and functional

The GEF BUPUSA Project management unit (PMU) was successfully set up at the executing agency at GWPSA offices in Pretoria as well as two satellite teams in Beira and Mutare. The PMU has a high calibre full staff complement which provides capacity required to implement the GEF BUPUSA project, actively supporting member states and building the capacity in member states – in the basins.

There are clear roles and lines of accountability – from the consultants to the PMU and GWPSA technical and financial management. The team is proactive in identifying when external technical expertise needs to be brought in to review project outputs. As part of the approach to infuse the project with a capacity building and engaging approach, technical stakeholders at country level in the PSC are also involved in output review. This allows them to engage in the content, be involved project responsibilities as well as develop their capacity and thus also of their relevant mandated institution.

Output 4.1.2 - Project evaluation and audit mission carried out.

See Table 2-1

3.1.2 Overall assessment of implementation progress at the mid-term

Considering planned versus actual implementation progress, the GEF BUPUSA Project team has done well to recover from the negatively impacting delays at the start due to COVID-19, which hindered stakeholder engagement and field work. The team had the opportunity to reflect deeply on the original project intentions and activities and as such a very thorough inception phase was carried out at the 're-start' in 2021. This led to a more demand driven, responsive and realistic revision of the work plan and budget. Notable additions addressed the importance of accountable, responsible basin institutions as opposed to localized and nationally driven activities.

Tremendous progress has been made in this (largely captured under component 3), which contributed to basin institutional and operational capacity, enabling environment, and planning through the agreements. In addition, BUPUSA road map was developed, which aims to address development and sustainability of the RBO and its programmes. In this regard, both IUCN and GWPSA are indeed committed partners to BUPUSA as they are actively trying to resource mobilise to sustain the operations and programmatic activities of the 3 basins, beyond this specific GEF initiative.

The TDA process has completed national scoping studies and developed the series of thematic reports. In terms of highlighting the importance of all technical outputs, the MTR team is questioning how these can inform the Transboundary Diagnostics Analysis – apart from scoping, causal chain analysis workshop and thematic reports. How is this knowledge incorporated? Whilst not everything can go into TDA (even if it is relevant) how does the team ensure that critical information is retained and used so that it can inform actual transboundary water management and not be disregarded for sustainable development of BUPUSA.

Similarly, for the many detailed technical assessments, the MTR team has wondered how these will translate into meaningful action in the basins. How will the knowledge be made digestible and used? The project needs to consider utility of the knowledge and how the knowledge helps define clearer delivery of tangibles in the basins. This is perhaps an aspect that needs further attention in the NAP/SAP process.

All but a few outputs seem to be completed or on track and the implementing agency estimates that overall - performance is at 70%. IUCN HQ is also pleased with the results thus far.

Where concerns were raised, it was related to the member state capacity for E-flows, delays in drought risk and vulnerability, pilots, community engagement and capacity building. The critical need to develop capacity and equip people on the ground was frequently raised. This put much weight on the community-based projects and associated maps and tools. These are critical aspects of the project which will yield meaningful, on the ground benefits regarding vulnerability to droughts and floods.

Overall project implementation is satisfactory and on track to achieve its objective by end of the project.

Table 3-1: Achievement of Outputs and Activities

COMPONENT 1: Management of floods and droughts in the Pungwe, Save and Buzi basins is improved, and related risks mitigated					
Outcomes	**Midterm Target**	**End of project Target**		**Result to Date (from project start)**	**Comment on Progress and Challenges (and Rating)**
Improved water resources monitoring, warning, and information systems in support of flood risk management - Number of administrations with **real-time capacity of monitoring floods & droughts**	3	6		8	At mid-term, there are several outputs on which progress has been made towards this outcome . **Results/outputs**: hydrometric design report, equipment installed and/or rehabilitated; real time monitoring & transmission – Zimbabwe side **Progress: HS**
Improved water resources monitoring, warning, and information systems in support of flood risk management - Percentage of riverine communities in flood-risk areas covered by **Early-Warning Systems involving both communities and administrations** -	45%	90%		10%	Output 1.1.1, *increased network density with real-time data transmission and increased frequency of data sharing between the two countries* **Results/outputs**: Data sharing protocol, Early warning system developed. **Progress: MS**
Improved National and Transboundary Capacity for Integrated Management of Floods and Droughts - Number of **transboundary meetings held by the**	3	6		4	Capacity assessment & capacity development plan. Capacity building sessions and meetings held with basin structures. **Progress: MS**

riparian institutions on flood and droughts management					
Outputs	**Midterm Target**	**End of project Target**		**Result to Date (from project start)**	**Comment on attaining outputs & implementation status (%)**
Increased network density with real-time data transmission and increased frequency of data sharing between the two countries	6	12		7	58%: *Number of hydrometric stations with telemetric transmission operational in the basin.* The mid-term target is 6 and the actual achievement is 7 stations installed and are operational. 4 of these are already telemetrically transmitting data to institutions on the Zimbabwe side. On the Mozambique side: This activity is still ongoing mainly to complete in the Buzi basin where the equipment is not installed yet because of the lack of the environment license for construction of houses for equipment, required by the Ministry of Land and Environment. The server was installed however due to the lack of internet at the time of installing the radars it was not possible to test the data transmission. The internet connection is sometimes uncertain at DNGRH.
Increased network density with real-time data transmission and increased frequency of data sharing between the two countries	4	8		2	25%: *Number of meteorological stations with telemetric transmission operational in the basin*. This is being set up in partnership with UNESCO and others. At mid-term, Terre Des Hommes Italy (TDHI) installed two automatic weather stations in partnership with ZINWA.

					None of the met stations with telemetric transmission are operational yet as this is dependent on UNESCO – who agreed to install and rehabilitate meteorological stations. Equipment was procured but field work hasn't commenced. This dependency on others to deliver (yet there are different implementation schedules) is temporarily challenging, but collaboration and alignment of activities to avoid duplication is more efficient and strategic in the longer term.
Increased network density with real-time data transmission and increased frequency of data sharing between the two countries	2	4		2	50%: *Number of ADCPs procured*: 1 large and 1 small ADCP procured and made operational by mid-term. Training on the use of ADCPs was also completed. Budget limitations and member state preference for more stations to be equipped with data loggers & equipment means that the 4 ADCP target by end of project has changed. Member States have been trained to install the data loggers and mentored by the service provider. Data Sharing Protocol was finalized and approved by the JWC and is undergoing internal clearance and sign-off in both Countries.
Increased network density with real-time data transmission and increased frequency of data sharing between the two countries	1/month	3/month		1/month	50%: *Frequency of data exchange* (water quality, ecological data, meteorological data, hydrological data, hydro morphological data). The mid-term target is once per month, and it is being achieved.
Flood risk & vulnerability characterised – maps	50 km^2	+150 km^2		0	0% No flood risk and vulnerability maps produced yet as decided to wait for calibration of model so that maps would be more accurate.

Flood risk & vulnerability characterised	1	1		0	60%: Flood forecast model: consultant appointed, inception, design & approval through stakeholder engagement achieved. Training of hydrologists from mandated institutions in the basins was conducted for modelling. With the time remaining it is important that the consultant fulfil the development of the hydrological model for flood forecast, to facilitate the calibration of the model during the rainy season 2023-24.
Flood risk & vulnerability characterised – equipment	4 Computers+TV screens and Wifi	6 Computers+TV screens and Wifi gadgets		2 servers, 4 computers, Wifi	80%: equipment purchased and set up for flood risk & vulnerability set up
Flood risk & vulnerability characterised – maps	75	200		0	0% - no progress – as approach has been changed and maps will only be developed after calibration.
Flood risk & vulnerability characterised – district use maps	2	6		0	0% - no progress on districts using maps as the maps have not been produced – see above. target
Drought risk & vulnerability assessed - MODELLING	1	1		0	5% Related to drought hazard- the process and vulnerability assessment activities were delayed due to challenges with procurement for the drought Consultant, which explains the limited progress. The consultant has commenced work on data collection to build the model.

					The executing agency and Mozambique authorities need to dedicate special attention in this task.
Drought risk & vulnerability assessed – USE MAPS	2	6		0	0% - no progress as overall drought vulnerability work was delayed.
JWC, member States and communities' capacities for flood and drought management strengthened	20M/25F	50M/75 F		20M/8F	23%: male quota trained however females trained is only 8 but target 25!
JWC, member States and communities' capacities for flood and drought management strengthened	+2/week	.+5/ week in a flooding season		0	0% as this has not been achieved yet due to delays with drought risk component.
JWC, member States and communities' capacities for flood and drought management strengthened	6	12		0	With regards to community-based projects and capacity development the implementation pace needs to improve, especially regarding the preparatory activities in the identification of capacity requirements and identification of active community members for participation in the Project. The FFEWS can run concurrently with the training and equipping of the communities unless the modelling is required to visualize the extent of flooding events before identification of communities.
Project progress towards outcomes documented and shared with all stakeholders – ARAs & CCs	6	12		4	33% only 4 of the 6 achieved by mid-term.

Project progress towards outcomes documented and shared with all stakeholders – WEBSITE UPDATES	1	2		1	50% - achieved the mid-term target with website updates.
Project progress towards outcomes documented and shared with all stakeholders – COMMS SHARING	1	2		1	50% - achieved the target for mid-term

COMPONENT 2: Conserving and restoring ecosystems for sustainable livelihoods					
Outcomes	**Midterm Target**	**End of project Target**		**Result to Date (from project start)**	**Comment on Progress and Challenges (and Rating)**
Improved Water Ecosystems of the Pungwe, Save and Buzi Basins for Sustainable Functions and Services to People and Nature	2	4		4	At mid-term, there are several outputs on which progress has been made towards Outcome 2.1, *Improved Water Ecosystems of the Pungwe, Save and Buzi Basins for Sustainable Functions and Services to People and Nature*. **Progress HS**
Outputs					
Shared diagnosis of ecosystems status, functioning and economic value established – diagnoses	0	+1		2	60%: The objective of the socio-economic component of the EFlows study was to (i) provide a delineation of socio-economic zones; (ii) provide a baseline description of the Pungwe Basin from a socio-economic perspective; (iii) provide a framework for analysing the socio-economic trade-offs involved in water allocation, and the indicators that

					will be used to assess the impacts of different flow scenarios on societal wellbeing;
Shared diagnosis of ecosystems status, functioning and economic value established - GW hotspots	0	+1		4	100%: 4 GW hotspots assessed but were not planned by mid-term – thus task completed ahead of schedule.
Strengthened Environmental Flow Management Framework for improved decision-making methodological guidance pilot sites with e-flows, legal texts, data sharing, staff trained M:F)	1 0 0 1 M:F 20:10	2 6 1 1 25:20		1 6 0 1 28M/7F	100%: Number of pilot sites with e-flows determined and adopted for implementation. The end of project target is to have six pilot sites identified and adopted for implementation and all 6 were adopted for implementation by mid-term, which is excellent progress. -0%: The legal text is to be written by the end of the project – no specific progress target is specified for mid-term. 90%: A data and information sharing protocol, *"the Rules and Procedures between the Republic of Zimbabwe and the Republic of Mozambique on the Sharing of Data and Information Related to the Development and Management of the Buzi, Pungwe and Save Watercourses"* was reviewed by stakeholders and finalized in August 2022, this was well in advance of the mid-term target. -Number of staff trained for e-flows determination (male/female). Training was carried out in September 2022. By mid-term, the target is 20 males and 10 females. At mid-term, the total number of trainees, at 35 persons is more than the target but only 7 females have been trained, 3 short of the mid-term target.

					While the assessment began during the first year, the identification and approval of the reports by the Member States has been concluded by the mid-term. Once the data sharing protocol becomes actively implemented and the legal obligations of each country agreed, the environmental flow monitoring sites will be at the heart of the transboundary water resources management process. At mid-term achieving this goal looks likely by the end of project.
COMPONENT 3: Integrated basin planning for the Pungwe - Buzi – Save river basins					
Outcomes	**Midterm Target**	**End of project Target**		**Result to Date (from project start)**	**Comment on Progress and Challenges (and Rating)**
Zimbabwe and Mozambique JWC Agree on Updated Shared Water Resources Strategy and Programme for Joint Ecosystem Based Management of Pungwe- Buzi-Save River Basins	1	3		4	**Progress towards this outcome is considered Satisfactory S.**
Outputs	**Midterm Target**	**End of project Target**		**Result to Date (from project start)**	**Comment on attaining outputs and implementation status (%)**

Pungwe-Save-Buzi Transboundary diagnostic analysis (TDA) developed, building on existing Monographs, and Pungwe-Save-Buzi Strategic Action Program (SAP) developed, building on the TDA and IWRM regional (SADC) / basin / national plans & adopted at ministerial level (JWC) - **water balance reviewed**	1	3		3	100%: BUPUSA TDA Water Balance Thematic Report (April 2023). This report maps the current and predicted future water demands for the three basins and assesses how these demands can be balanced with predicted water availability. It has made use of detailed water demand information of both the current and potential future situations in all three basins.
Pungwe-Save-Buzi Transboundary diagnostic analysis (TDA) developed, building on existing Monographs, and Pungwe-Save-Buzi Strategic Action Program (SAP) developed, building on the TDA and IWRM regional (SADC) / basin / national plans & adopted at ministerial level (JWC) - **TDA developed, and validated by JWC**	1	1		½	60%: The TDA is based on several contributory studies. These include 6 national scoping reports (2 reports per country per basin) and five thematic reports: • Water Governance Thematic Report for the Buzi, Pungwe, and Save Shared River Basins (June 2023). This report provides a consolidated overview of relevant governance frameworks (agreements, legislation, policies, institutional set-ups) for the three basins, both at transboundary and national levels. The review is not limited to water governance, but also the governance of other areas important for the TDA, such as land management, agriculture etc. • Draft Groundwater Summary Report. This report describes the Buzi, Pungwe and Save basin hydrogeology and identify hotspots and groundwater connections to terrestrial ecosystems. It also includes estimates on groundwater availability and yields and identifies the potential for conjunctive use of surface and groundwater resources.

					It also analyses the influence of key groundwater parameters (levels, salinity, turbidity, quality) on groundwater dependent ecosystems, including the estuaries and mangrove area. • TDA Thematic Report on Climate (May 2023). This report assesses the mid-, and long-term impacts of climate change on the hydrologies of the three basins, with an emphasis on the occurrence of extreme climate events (floods and droughts) and the likely impacts on ecosystem resilience and water availability for economic and environmental uses. Use has been made of existing models and literature. • Water Quality and Transboundary Diagnostics Analysis of the Buzi, Pungwe and Save river basins (July 2023). This report characterizes the water quality of the three river basins. The key water quality parameters, the types and sources of water pollution and resulting impacts to be considered, are described. The report also describes mid to long-term projections for the expected development of the water quality situation in the basins and anticipated impacts. Recommendations for water quality-related interventions have been provided. *While these reports would appear to be complete, their presentation in terms of format, cover page and degree of validation is inconsistent. It is important that this issue is addressed before finalization of the TDA since these are critical annexes.*

					Mid-term Status: *The TDA report is at least 60% complete (1 September 2023). If the work on the completed 6 national scoping reports and the 5 thematic reports is fully considered, the percentage is probably higher. According to the Lead Consultant for the TDA, Daniel Malzbender, the draft TDA will be complete by 21st September. Given that the indicator for this part of Output 3.1 is defined as "A TDA developed, and validated by the Joint Water Commission ", this is equivalent to 80% complete. The current plan is to present the TDA at a workshop in October 2023 and at the same workshop to launch development of the SAP, including a long list of potential interventions. The TDA is to be validated in March 2024 and forwarded for ministerial approval.*
Pungwe-Save-Buzi Transboundary diagnostic analysis (TDA) developed, building on existing Monographs, and Pungwe-Save-Buzi Strategic Action Program (SAP) developed, building on the TDA and IWRM regional (SADC) / basin / national plans & adopted at ministerial level (JWC) – *SAP N/A now*	0	1		Yet to commence	0-20%: The other part of Output 3.1 is the development of the SAP with *endorsement by at least one minister in each country.* No formal progress in terms of drafting a formal report, has been made and by mid-term this was not planned. However, after discussions with the TDA/SAP Team Leader it is evident that some significant progress has been made, essentially in the identification of potential interventions because of the Causal Chain Analysis carried out within the TDA. A value of 20% is estimated for progress on the SAP.
Institutional capacity for integrated planning strengthened experts *deliberating on GW*	1M/1F	2M/2F		0	No progress yet though 1 male and one female were to have engaged in the JWC on GW hotspots.

projects in support of the JWC (male/female)					
Institutional capacity for integrated planning strengthened - *transboundary learning opportunities materialized*	4	8		6	90%: The project has done well in transboundary learning opportunities being materialised, participation and inputs from GEF BUPUSA in international conferences and participation in IW Learn (GEF TWM platform).
Institutional capacity for integrated planning strengthened - *international conferences with contribution from the project*	8	4		8	
Institutional capacity for integrated planning strengthened - *IW Learn Participation*	1	3		2	
Institutional capacity for integrated planning strengthened - *resource mobilization strategies developed*	0	3		0	N/A **Output 3.1.3 – Funds raising for SAP implementation** This component is still at its infancy since the SAP is not yet in place to flag the areas of further cooperation within the basin, but the BUPUSA road map clearly outline the processes still to be undertaken to achieve this.
Institutional capacity for integrated planning strengthened - *international donors' conference*	0	1		0	N/A
COMPONENT 4: Project Management					

Outcomes	Midterm Target	End of project Target		Result to Date (from project start)	Comment on Progress and Challenges (and Rating)
Project is Effectively and Efficiently Managed	1	1		PMU is fully constituted & functional	PMU is fully constituted and functional **Progress towards this outcome is considered Satisfactory HS**
Outputs	**Midterm Target**	**End of project Target**		**Result to Date (from project start)**	**Comment on attaining outputs & implementation status (%)**
Project management team established and functional - regional project coordinators hired	1	1		1	100%: The Project Management Unit was constituted in the First Year and is fully functional. The Regional Coordinator was hired, with administrative and financial support functions for the project provided from the Pretoria office by GWPSA. Instead of 1 bilingual assistant, 2 interns were hired: one in Zimbabwe and 1 in Mozambique. 40% of each of their time supports administrative duties and procurement, 60% of their time is technical support to the project. This arrangement was deemed more efficient to facilitate procurements within the Member States, and indeed it has proved to be so, although there are still challenges mostly linked to financial systems within the two countries.
Project management team established and functional - administrative and finance officer hired	1	1		1	
Project management team established and functional - bilingual administrative assistant hired	1	1		2	
Project management team established and functional - fully equipped offices	2	2		2	

					The Beira Office is equipped and IWRM expert and intern for Mozambique are station in Beira. The Mutare office is equipped and the IWRM expert for Zimbabwe and intern are at the Mutare office. The Regional Coordinator is to finalise re-location to Beira once the paperwork is in place (diplomatic permits, complicated and delayed by Covid-19 in the first year of implementation).
Project evaluation and audit mission carried out - evaluations carried out	1	2		1	MTR current – almost complete.
Project evaluation and audit mission carried out - audits carried out	2	4		2	Annual GWPSA internal audits have been conducted on the project each year The IUCN Supervisory mission was undertaken in 2022. Mid-term evaluation in progress.

3.1.3 Relevance

The GEF BUPUSA Project addresses many relevant issues and responds to the needs identified by stakeholders during the project design consultations and through the thorough inception phase- to ensure relevance. These are bulleted below:

- The basins and their people are vulnerable to extreme events of droughts and floods, and this has caused loss of life and destruction as well as social and economic losses.
- A focus on data and information (collection and sharing) in the project is most relevant towards being more prepared. Inclusion of the early warning system for floods and droughts and developing the required capacity was critical, given the risks in the basins. To collect data, installation of monitoring stations and developing the necessary capacity is critical. It is most relevant that the project encourages investment in information, institutions, and infrastructure (both built and natural)
- There are high levels of poverty and people depend heavily on the natural resource base for their basic sustenance and livelihoods, the project has a strong focus on ecosystems, people and economies and local communities.
- GEF BUPUSA Project addresses most relevant issue of E-flows and their significance for basin planning and scenario development. Previous agreements did not establish E-flows.
- The relevance of the GEF BUPUSA Project will help the countries to respond to national as well as basin climate and development priorities. It will also assist the countries to consider how they embrace certain global agendas and frameworks such as the Sendai Framework for DRR and the SDGs.
- Given the number of shared river basins in the region, cooperation in transboundary water management and development is a priority in SADC. The GEF BUPUSA project enhances trust and cooperation between Mozambique and Zimbabwe, and this has been evidenced by the commitments made and participation in joint activities and shared watercourse guiding instruments / agreements that have been co-developed and signed. Significant in this regard is the establishment of BUPUSACOM to enable the transboundary water resources management and development.

To be even more relevant, more consideration can be given to the following:

- Water quality issues and monitoring could be emphasized more as there is a perception among some key stakeholders that water quality of surface and groundwater is receiving inadequate attention.

- The status of ecosystems and valuation might include a stronger focus on the state and value of ecological infrastructure in terms of ecosystems services provided by different vegetation cover, groundwater aquifers and wetlands for flood attenuation services as well as natural water purification. There is an opportunity to also elaborate on Nature-based Solutions (NbS) in the context of the GEF BUPUSA project. NbS is also attracting much support from international cooperating partners, in particular in the climate resilience building space.

3.1.4 Effectiveness

Consensus is a prerequisite for transboundary water problems. However, achieving it is normally a laborious and a time-consuming process and ensuring all partners and key stakeholders stay engaged and committed is a daunting challenge. Nonetheless, the tri-basin team has ensured effective delivery and fostered effective buy-in towards sustained interest and results. The establishment of BUPUSA commission is on track and the creation of the strategic basin plan is also on track and the fact that these results are being generated and everyone acknowledges them is a positive sign and must surely mean that the approaches and methodologies being used are effective.

The evidence suggests that the GEF BUPUSA project has successfully delivered on the communications and knowledge sharing front. The communications team has been very busy with – numerous communication outputs , links on many events and achievements. The team is commended for the effort and visibility; however, it appears to be one-way. Who is reading/following links etc – is it monitored? Are communications targeted? What has been the purpose of the current communications, and would it be useful and more effective if it was targeted? See also sections 3.3 and 3.4.

3.1.5 Efficiency

Efficiency is best described as whether every dollar spent is in line with what it was intended. Considering the budget and expenditure, budget allocation between components (where PMU costs are well contained) and the bulk of the resources dedicated to meaningful project activities, in the way the tasks are executed (see implementation approach section 3.1.1) then the project is being implemented and managed in an efficient but also effective manner.

Looking at the outputs generated from the project so far, the time spent and the budgetary provision, where there is no sign of overspending then - it is certainly being managed efficiently.

3.1.6 Review of Outcomes to Impacts (ROTI)

The MTR team has developed a draft Theory of Change as part of the review process, as one was not developed in the project design stage. Please see Figure 2-1. The draft Theory of Change has been developed from project documentation and the results framework.

Annex 4 summarises the progress towards results and includes the MTR team's opinion on the likelihood of achievement of outcomes, based on outputs delivered or to be delivered (see Annex 4 attached).

3.2 Sustainability and Catalytic Role

The MTR team appreciates the catalytic role of IUCN through building on the series of BRIDGE phases. IUCN is a committed partner to BUPUSA and has assured BUPUSA of its continued efforts in facilitating and leveraging resources for sustained action in the basins. Now with GWPSA executing the project, it has strategically commenced engagements with potential new partners and working towards targeting funders such as GCF so that basin priorities can be addressed. Both IUCN and GWPSA and their roles, responsibilities and levels of commitment will certainly help BUPUSA secure additional resources to continue the impactful work in the three basins.

While it is important to have strong reliable partners to leverage resources, it is ultimately the basin structures and member states and the people living in the basin that must drive actions to overcome the challenges there. Member states are committed and have contributed in-kind and through small scale infrastructure projects towards co-financing of GEF BUPUSA. In future, this commitment at least at member state level will translate into contributions to sustain the operations of the secretariat to help develop priority programmes and leverage resources for sustainable transboundary water management, development, and cooperation.

Programme Objective: to strengthen transboundary cooperation and management of water resources and associated ecosystems for improved water security, climate change resilience and sustainable livelihoods in the shared Pungwe-Buzi-Save basins (Zimbabwe and Mozambique)

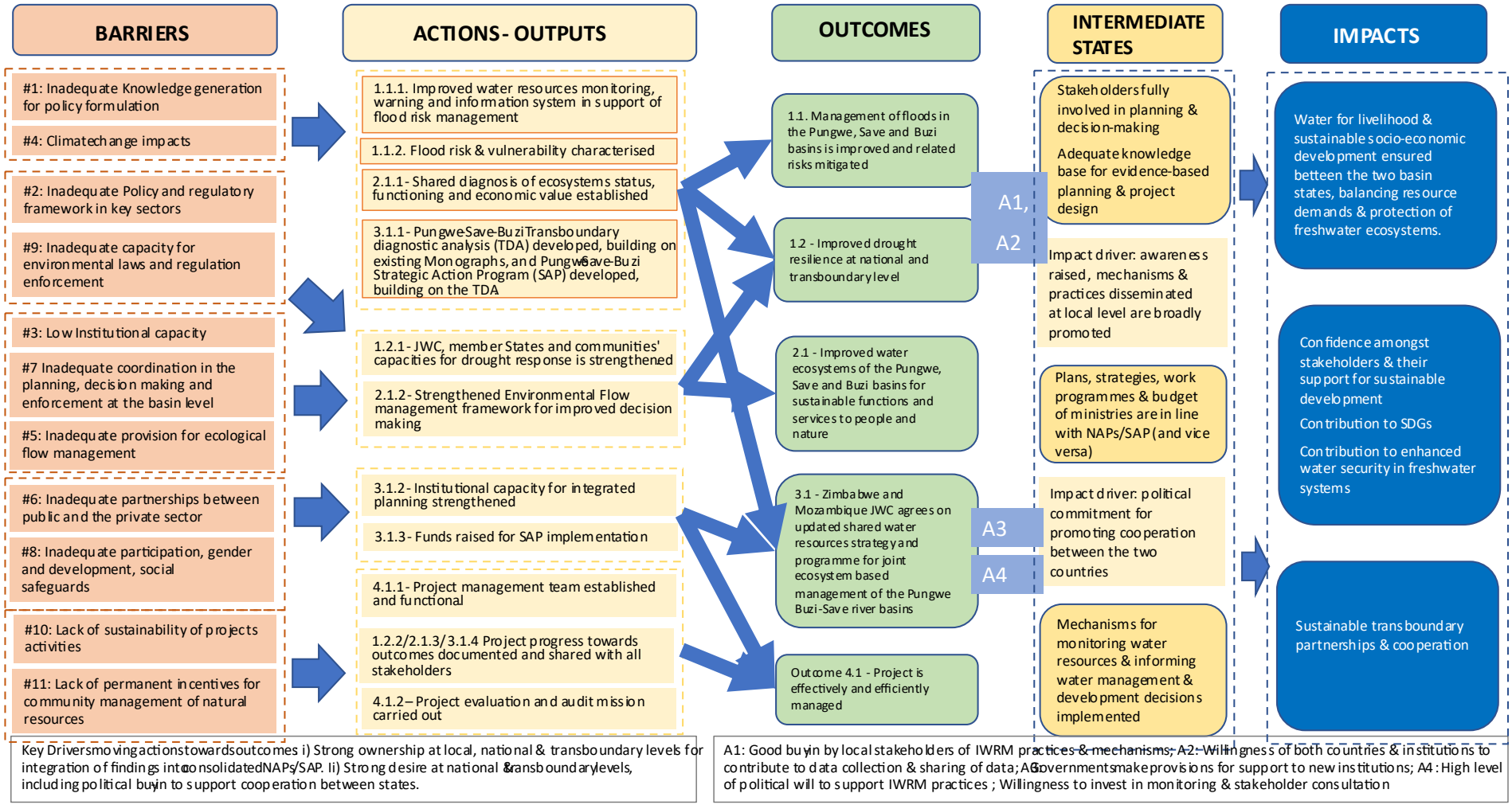


Figure 3-1: Draft Theory of Change

Figure 3: Draft Theory of change for GEF BUPUSA Project - *Management of Competing Water Uses and Associated Ecosystems i*

4 PROCESSES AFFECTING THE ATTAINMENT OF PROJECT RESULTS

4.1 Implementation Approach and Adaptive Management

This section highlights and categorises key aspects of the implementation approach followed by the GEF BUPUSA team and provides an account of the project structures and workings to demonstrate the adaptive management approach embraced by the tri-basin team.

4.1.1 Noteworthy Implementation Approaches

Inception Phase Approach: The inception phase was thorough and ensured that revisions to the project design were more responsive to needs of the countries, were relevant and adopted a strategic view for sustainability. An institutional component on BUPUSACOM was added to foster transboundary water management and cooperation (TWM&C), integrated planning and coordination, as well as accountability for basin initiatives. Data and information sharing is key to effective and meaningful TWM&C, and this meant that monitoring infrastructure needed to be prioritized.

Strategic Partnership Coordination: During the delays in effective start up, it was apparent that other Partners were urgently responding to the needs in the basins, given the recent extreme events. Organisations such as UNESCO, UNICEF, RED CROSS, FAO World Food Programme all wanted to commence activities to support the basin challenges. The project team thus proactively engaged these partners to enter strategic partnerships with them to foster collaboration and identify synergies, as well as avoid duplication. Partnerships were also formalized with these other funders, and this contributes to the GEF BUPUSA co-financing requirements – such as through CRIDF and UNESCO.

On another partnership matter, it was encouraging to learn that 5 WaterNet masters students are directly supporting knowledge generation in BUPUSA through undertaking research on doing research on water quality (gold panning, saline intrusion, and land degradation). The same studies are being conducted on both sides of the border (2 in Zimbabwe and 3 in Mozambique). These studies will directly input into the TDA. Good collaboration to address information gaps and for students to do applied research – helping solve real on the ground issues. Water quality issues was also raised as a concern in the stakeholder interviews.

Infusing Technical Assessments with Institutional and Individual Capacity Development: In the GEF transboundary projects there is a strong focus on complex technical assessments (often undertaken by consultants). It is envisaged that these technical assignments will inform basin planning and sustainable development of the 3 basins. These need to be better understood and capacity therefore needs to be developed to achieve this. The GEF BUPUSA project team has tried to infuse capacity development of mandated institutions and communities into the technical components. This was a very good approach that infused capacity building into the scientific assessments and basin agreements. This was achieved through involving member state teams in day-to-day tasks of the PMU (such as reviewing TORs for technical assignments) as well as incorporate a capacity building element into technical workshops at national and catchment and ARA levels. This approach could be complemented well by a strong focus on knowledge management – transform technical reports into more user-friendly knowledge products. The focus was also to ensure that the project yields tangible benefits for local communities and mandated institutions. Once the benefits are visible or understood, value of the project is appreciated and at the same time there is a greater understanding of what the project can deliver (i.e., encourage more realistic expectations). The basin interventions need to be sustained by the people and institutions in the member states of the basins. Understanding and demonstration of benefits will lead to a better sense of value, which might encourage buy in and investment and thus lead to better chances of sustainability.

Infusing Continuity and Sustainability into the BUPUSA Transboundary water management and cooperation approach: The team and especially the managers at GWPSA and IUCN are not only preoccupied with delivery in the current project but also exploring how the current activities and outputs will lead to future priority activities – cognizant of the BUPUSA road map and implementation of the SAP.

4.1.2 Adaptive management in the GEF BUPUSA team

The project's work plan is thorough and encompasses all the key components towards strengthening the management of transboundary water resources and connected ecosystems for sustained ecological benefits and improved resilience for the riparian communities.

The implementation arrangements are structured into two tiers, in accordance with the regional and country-specific dynamics of the project. The project is implemented by the IUCN and executed by GWP-SA together with the Government of Mozambique (GoM) and

Government of Zimbabwe (GoZ). The GWP SA serves as the lead executing agency and houses the regional Project Management Unit. The Project Management Unit was successfully established (facilitated by the GWP, in collaboration with the IUCN) as the implementing agency. Project activities are being coordinated at the bi-national level by a Project Management Unit composed of a Project Coordinator, with the M & E, Finance and Administration and Communications specialist function provided by GWP-SA as executing agency.

The host institutions of the PMU is ARA-Centro in Beira (the National Executing Agency for Mozambique) in collaboration with ARA-Sul under the updated institutional mandates in Mozambique and ZINWA Save Catchment in Mutare, Zimbabwe. The PMU reports technically, financially, and administratively to the executing agency and technically to the project steering committee.

At transboundary level the highest decision-making body is the JWC. Regular meetings of the project steering committees have been held to provide effective supervision of project management and implementation.

The implementation mechanisms of the project facilitate the practise of adaptive management. The schedules for completing deliverables and work plans have been rescheduled, and budgets have been updated in line with guidance from the project steering committee.

The involvement of the project steering committee facilitates the implementation of adaptive management strategies at both the regional and country levels. The project management unit, the implementing and executing agencies assume significant functions in facilitating communication and fostering agreement between the basin Member States.

The implementing agency plays a role in facilitating adaptive management by its involvement in various activities such as assessing work plans, making recommendations for improvements, proposing revisions to budgets and timeframes, and providing support for the implementation of this transboundary project. The project management unit has demonstrated aptness to employ adaptive management strategies on a frequent basis to address delays in implementation of project activities, and the diverse challenges that emerge at the national level.

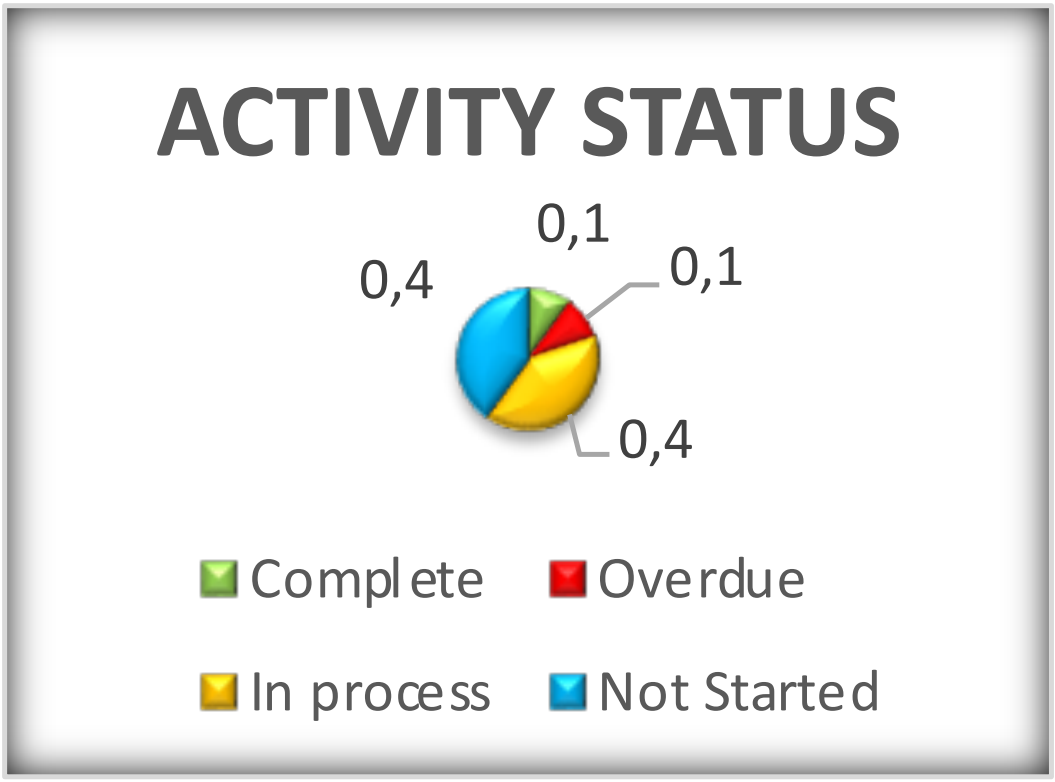


Figure 4-1: Project Implementation Status as of 1 September 2023 (Source: GWP SA Project Management Dashboard)

4.2 Stakeholder Participation and Public Awareness

Effective stakeholder participation plays a crucial role in the successful implementation of transboundary water resources management initiatives.

There was widespread agreement among the key stakeholders interviewed, that the stakeholder engagement and collaborative processes for the project have been well crafted. It was echoed by the Member States, partners, and selected beneficiaries that the GEF BUPUSA project design was informed by national level priorities (Mozambique and Zimbabwe) and framed with inputs from the participating countries. Design was also informed by regional actors to ensure alignment with the SADC region's water security and economic prosperity development agenda. It was affirmed by the same stakeholders that the participating Member States, and their perspectives were considered.

Additionally, a project inception workshop was organised, where participants had the opportunity to examine work plans and familiarise themselves with project timelines, whilst exploring ideas to extend the reach of positive benefits.

Stakeholder engagement is facilitated through the Joint Water Commission and the Project Steering Committee, which convene at regular intervals to contribute insights and supervise project work plans, decision-making processes, and coordinating efforts.

Text Box: Stakeholder Consultations During the Design Phase of the BUPSA Project (Source: BUPUSA Progress Inception Report (nd)

- An inception workshop was held in February 2018, enabling the start of discussions about the logical framework, the pilot sites and the co-financing.
- Two national meetings for discussing the pilot sites were held in April 2018 followed by a regional pilot site validation workshop held in May 2018, where stakeholders held work sessions and gave feedback on the outcomes, outputs and activities of the project components as well as for the institutional set-up for the project management and coordination.
- Field missions were conducted in May and June 2018 with relevant stakeholders, to visit the pilot sites and meet riverine populations, water users and decentralised administrations and these enabled an overview of the basin challenges.
- A final workshop was held in July 2018, where representatives of the proposed executing agencies and the GEF national focal points reviewed and amended the core contents of the draft Project Document: the logical framework, list of activities and institutional setup.

The PSC has the following representation:

- High level government representatives from the Line Ministries to chair on a rotational basis (Ministry of Public Works, Housing and Water Resources (MOPHRH) – DGNRH, in Mozambique, and Ministry of Lands, Agriculture, Fisheries, Water and Rural Development (MLAFWRD) – Department of Water Resources, in Zimbabwe)
- GEF National Focal persons: MITADER (Ministry of Environment, Mozambique), and Ministry of Environment, Climate, Tourism and Hospitality (MECTH) – Department of Environment, in Zimbabwe)
- Representatives from National Executing Agencies (ARA-Centro and ARA-Sul in Mozambique, ZINWA Save in Zimbabwe)
- Representatives from other key public administrations (Catchment Councils, Rural Development Councils etc)
- ZINWA Runde in Zimbabwe

- Stakeholders' representatives (1 in each country)
- 1 non-permanent member to be invited upon the main issues to be dealt with (to review)
- The BUPUSA Secretariat
- A senior manager from the bilateral executing agency (to review)
- IUCN also participates as an observer.
- The Project Coordinator (PMU) represents the Secretariat.

Notable deviation from the ProDoc, is the absence of representatives from regional or local NGOs and the private sector to serve as observers.

The minutes of the Project Steering Committee meetings document extensive deliberations and active engagement from committee members in various key areas. These include the evaluation and sanctioning of yearly work plans, endorsement of annual budgets, assessment of project advancements, and facilitation of collaboration among participating Member States and the Project Management Unit.

The GEF BUPUSA project has achieved significant outcomes through engaging stakeholders in collaborative efforts. Notably, the project has successfully fostered collaboration between the governments of Mozambique and Zimbabwe towards the conservation and sustainable management of water resources within three transboundary water basins (Pungwe, Buzi, and Save rivers) jointly shared by Mozambique and Zimbabwe.

Notably, the project actively involves a wide range of stakeholders through implementation of the many activities, including governmental bodies, development partners, research and academia, private sector through expert support for consultancies commissioned under the project. The programme management unit, implementing agency, executing agency, and the GEF Operational Focal Points have made meaningful contributions in promoting discourse and consensus-building in the tri-basin.

The project has successfully forged collaborative processes by enhancing and progressing the existing transboundary collaboration on water resources management in the tri-basin. This collaboration has been evolving over time through various initiatives, such as the endorsement of a transboundary Pungwe agreement and the subsequent establishment of the BUPUSA Watercourse Commission.

Engagements with the tri-basin stakeholders revealed that the BUPUSA project, which was formulated with the active participation of stakeholders, has resulted in notable advancements in the three basins, addressing climate hazards such as floods, droughts, and cyclones.

The initiative has garnered widespread agreement among the participants who were interviewed, indicating a positive performance in terms of involvement. These focal points were consulted to ensure their perspectives were considered. Additionally, a one-week inception workshop was organised, where participants had the opportunity to examine work plans and familiarise themselves with project parameters.

The aforementioned serves as evidence of efficient stakeholder engagement practises in the BUPUSA project with consequent benefits related to the management of transboundary water resources.

Whilst the stakeholder engagement has been extensive and positive for GEF BUPUSA project, a couple of suggestions are made on deeper engagement with the private sector and at regional SADC level. These are included in the recommendations section.

4.3 Communication

The project achieved notable progress in enhancing project communications. A Communications Strategy and Action Plan were developed, which encompassed the creation of the IW-Learn and BUPUSACOM websites (GWP-SA, 2023). The executing agency has within its structures a Communications Expert responsible for facilitating the implementation of the Communication Strategy and Action Plan. In line with the Project Document, the project executing agency established an online repository of knowledge products on MS SharePoint, periodically submits articles to IW-Learn for publications, periodically participates at Multistakeholder Regional dialogues to share, and gain knowledge with other River Basin Organisations, and relevant transboundary water resources management stakeholders. Furthermore, the Project Management Unit, the implementing, and executing agencies host sessions at conferences and regional symposia to share outputs and preliminary outcomes from the project.

There has been significant content shared through the GWPSA weekly and monthly newsletter, annual reports, and social media platforms such as LinkedIn, Facebook, and Twitter. There has been a concerted effort to share information products in English and

Portuguese, with articles typically following a theme approach, focusing on topics such as drought and its impact on water quality, among other related subjects. These findings have been successfully reproduced on the GEF IW land portal.

There is limited evidence of community-level stakeholder outreach activities having been periodically conducted. An area that should be strengthened to enhance awareness regarding the project, as well as emphasising the project's significance to the Government and its advantageous outcomes for the target communities. Process documentation will enable sharing of updates on the significant activities that have been executed and the lessons that have been documented since the project's initiation.

Despite the huge investment in knowledge sharing and dissemination platforms, there has been no tracking of the reach and impact of the communication endeavours. Website analytics, social media metrics, email campaign reports, surveys, and feedback from stakeholders will be useful ways to ascertain the extent to which the communication endeavours have successfully engaged and influenced distinct stakeholder groups. By collecting and analysing data from the different communication platforms, the project executing agency and project management unit can methodically assess the extent and influence of their communication and information dissemination endeavours, so facilitating the formulation of evidence-based judgements and the enhancement of plans to achieve desired reach and impact.

Text Box 2: Significant Achievements that have Resulted from the BUPUSA Project (Source: BUPUSA Project Implementation Report, nd)

The project has overseen the process of the launch of a new River Basin Organisation, the BUPUSA Watercourse Commission (BUPUSACOM) by facilitating the finalisation of 3 Strategic policy documents, the Save Water Sharing Agreement, the BUPUSA Hosting Agreement, and the BUPUSA Establishment Agreement

4.4 Knowledge Management and Learning

Knowledge management in the GEF BUPUSA currently is knowledge sharing and dissemination primarily through various platforms (SADC RBO workshop, the SADC Regional Multi-stakeholder Dialogue, the WaterNet symposium and internationally at World Water Week and IW Learn) and facilitating panel discussions to highlight key issues for learning.

Knowledge is also shared at in-country Stakeholder meetings (including Catchment and sub-catchment Council meetings in Mozambique and Zimbabwe).

The project does not visibly consider knowledge management (KM) in its broader sense as in the KM cycle – of knowledge generation, organizing and re-packaging knowledge into various Knowledge Products (KPs) for different users and how this might be coupled with capacity development, to facilitate its use. Key is to assess utility of knowledge generated for uptake – not only internally where one output informs another but also KPs for users out there in the field and the real-life institutions such as local communities (in the pilot community-based projects), catchment managers and councils and the ARAs, as well as national level institutions. How is GEF BUPUSA packaging the knowledge being generated and documented so that the knowledge can be used, taken up and ideally – institutionalized so that benefits of using the knowledge may be realized?

In addition, the project should also consider upscaling and replication, and how the knowledge and experience from GEF BUPUSA can be documented to assist others beyond the specific sites in the basins? Applying the knowledge must also be monitored and fed back into new knowledge generation. These are iterations in the KM cycle, which enhances learning and adaptive management. How may these inform the current project M&E to serve as a MEL - M&E and learning?

4.5 Gender Equality and Social Inclusion Mainstreaming in the Project

The project has made considerable strides in mainstreaming Gender Equality and Social Inclusion (GESI) in the design and implementation of the GEF BUPUSA project. Notably, a GESI analysis was undertaken which culminated in the development of a project GESI Action Plan. The GESI Action Plan aims at promoting inclusive and equitable development within the BUPUSA basin and its surrounding areas. The executing agency has GESI experts with expertise in gender analysis and mainstreaming, thus there is competency to effectively integrate GESI considerations in the implementation of the project.

Initially, a GESI Action Plan was not designed for CEO endorsement for this GEF 6 project. However, during the project implementation/supervision mission by IUCN in 2022, this was identified as a priority to address. A gender baseline was subsequently conducted, and reports were produced for the project.

The executing agency reported that there has been a notable increase in the effectiveness of staff training in e-flows determination, specifically in terms of gender representation.

Text Box 3: Contributions to Gender Equality (Source: BUPUSA Progress Report, nd)

…"The initiative has currently achieved 78% of its aim, as the target personnel encompasses individuals affiliated with institutes of higher education who have been integrated into the project. Nevertheless, there is a disparity in the availability of females for training. The current distribution of individuals participating in the project consists of 28 males and 7 females, whereas the desired overall project aim is 25 males and 20 females"…

The GESI Action Plan committed to ensure integration of GESI considerations throughout the human resources recruitment processes. Specifically for the youth involvement, parity was indicated as desired outcome yet the two interns that were recruited at the time of the MTR were male. The project executing agency and project management unit attributed this to the general low representation of women in the transboundary water resources management space. However, it was noted during the document review process that the ToR for the recruitment of interns was silent on GESI considerations.

The project executing agency has successfully maintained a database that is disaggregated by gender, for meetings, and capacity building workshops etc. However, there is no evidence of how disability has been integrated in the execution of project activities this far.

The GESI Action Plan articulated a commitment to implementing a gender transformational approach with the aim of addressing the observed gaps and disparities in GESI that were revealed during the GESI baseline studies. The commitment to a GESI transformative approach is commendable, however, the project is yet to provide evidence of transformation "tangible benefits" for poor men, women, the youth, and people with disability.

4.6 Country Ownership

The project demonstrates a commendable level of country ownership and assumes implementation obligations. Notable support has been provided by Catchment Management Agencies (ARA Centro and ARA Sul in Mozambique, ZINWA Save and ZINWA Runde). The promotion of national ownership was fostered through initial dialogues conducted during the formulation phase of the project.

The assessment revealed that there is strong political support for the project priorities as demonstrated through the officiation of the signing of the transboundary agreement for the protection of the shared Save River Basin by presidents of the Republic of Mozambique and the Republic of Zimbabwe. It's noteworthy that there are various contributing elements that exert an influence on stakeholder participation, and these factors are also applicable in this context. In basins vulnerable to extreme events, the urgency to address the challenge also fosters cooperation, joint ownership, and coordination.

The project design and institutional arrangements led to the establishment of national budgets and project management units, which were hosted. These units were responsible for annual work planning and the implementation of activities.

The project steering committee was established to provide supervision and facilitate inter-institutional coordination. The contributions made by country representatives during PSC meetings have exerted an impact on the reconfiguration of activities, the Terms of Reference for consultants, and modifications to project work plans. The implementation of this approach has proven beneficial for enhancing project coordination and facilitating adaptive management.

Country stakeholders at national, catchment and local level have actively participated in the activities of GEF BUPUSA, which would indicate a belief in the value of the transboundary project.

The two member states have also contributed in-kind (staff, offices, vehicles etc.) and identified other small scale infrastructure projects in their respective countries that contribute to co-financing of GEF BUPUSA project.

Of all BUPUSA agreements for the three basins and the JWC for the two countries, none refer to member state financial contributions, except for meeting costs in the JWC agreement (Article 4). It is perhaps still early days in the establishment of BUPUSACOM, but as the institution evolves, and as more benefits are realised from transboundary initiatives led by BUPUSACOM and partners – it would be reasonable to expect that member states will demonstrate their commitment and ownership through making contributions to sustain the value-added service of the BUPUSACOM Secretariat. In the shorter term, countries will be

required to maintain equipment installed and databases set up in this phase of the project. This understanding needs to be confirmed and agreed upon.

4.7 Financial Management

The evidence presented by the executing agency demonstrated that the project finances are managed transparently in line with international best practices (Annual financial statements, project financial management dashboard, monthly reconciliations, co-financing tracking tool etc). Through the implementation of financial controls, the executing agency has mitigated financial risks, thus increasing the efficient utilisation of resources to accomplish the project objectives. No specific project audits were commissioned at the time of the MTR. However, the executing agency (GWP SA) is audited annually. A reflection of prudent accounting practices. To date, two external audits have not found irregularities in the use of the GEF contribution. However, there are notable challenges relating to tracking of countries co-financing commitments and reporting.

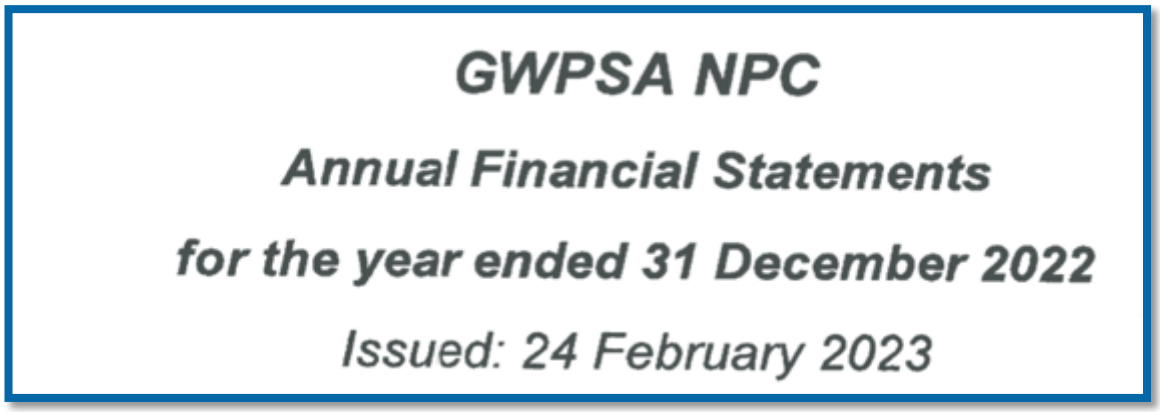


Figure 4-2: Screenshot of the Annual Financial Statements Cover Page Issued

The project management unit, executing and implementing agencies reported delays in processing and transferring of disbursements. The delays were associated with compliance to effectively manage the project financial resources, enhance transparency, and guarantee adherence to the standards and GEF financial management stipulations. From the implementing agency's perspective, there were moderate challenges related to the timeliness of financial project reporting. While the executing agency reported slow spending (especially at the start of the project) due to delay in contracting with IUCN, and expert consultants.

The executing agency established a procurement process that is both transparent and competitive for the acquisition of products, services, and consultants, in strict adherence to the procurement rules set forth by the Global Water Partnership.

Of the 4-year budget, there are similar annual allocations except for year 2 – which was particularly loaded due to hydrometric/equipment and many studies commissioned. It was planned to be busy year also to pick up the pace of implementation. Expenditure is generally on track and GWPSA is confident that due to implementation, they will be able to absorb the funds and do so efficiently and within budget.

It should be noted that variances between budget and expenditure are not explained. Whilst this may not be a donor requirement, it would prove helpful from a monitoring, evaluation, and learning perspective to understand these variances better and once understood the team can adapt and improve effectiveness and efficiency.

The issue of decentralising funds has been continuously raised since the beginning of the project. Country teams and PSC continue to raise this issue despite GWPSA's explanations as to why this is not possible. The reasons relate to GWPSA NPC's own financial management policies and procedures as well as bank restrictions and a lack of legal persona for the project's receiving entities. Funds also cannot be sent directly to government entities as one cannot impose due diligence assessments (required by donors) on government. It is advised that a detailed explanation is presented again at the next PSC meeting to ensure that all do understand the real constraints.

4.8 IUCN Supervision and Backstopping

As per project design, the IUCN serves as the implementing agency for the project and has been responsible for managing the project funds on behalf of the Global Environment Facility. In its capacity as the project-implementing agency, IUCN has provided support to the Executing Agency (GWPSA) to facilitate the implementation of administrative and financial tasks. Additionally, IUCN has played an instrumental role in facilitating collaboration and complementarity with other GEF Agencies, and related projects being implemented by IUCN. It is evident from the minutes of meetings, and workshops as well as conversations with the executing agency that IUCN has periodically conducted monitoring and evaluation of project performance in line with IUCN and GEF procedures.

In general, the IUCN has exhibited a significant degree of involvement as an implementing agency. The initial phase of communication with the PMU was characterised by a lack of fluidity, however, it is widely acknowledged that there has been a subsequent improvement in this regard. During the Mid-Term Review, the Task Manager offered significant assistance by advising the evaluating team to explore prospective strategies that enhance project performance and advance implementation.

4.9 Monitoring and Evaluation

Monitoring and Evaluation (are two separate but interconnected processes that aim to track (monitoring) and make a judgment (evaluation) on the effectiveness of programmes and projects, as well as examine their contribution to development outcomes (Kusek et al., 2004). Inadequately constructed or ineffective monitoring and evaluation systems will inherently possess limited capability in detecting the status of programme performance. It is commendable to note that the executing and the implementing agencies have established monitoring and evaluation processes for the GEF BUPUSA project that is enabling them to track progress towards attainment of project goals. It is evident that the monitoring and evaluation activities and processes have facilitated the implementation of adaptive management strategies and delivery of tasks and outputs.

Noteworthy is that the project monitoring and evaluation framework encompasses the essential components of a robust monitoring and evaluation framework which includes programme indicators, baseline, targets, data sources, timeframe, and responsible individuals. This kind of structure represents an easy-to-follow guide that allows stakeholders to identify how respective evaluation questions will be addressed readily (McDavid et al., 2018 and Markiewicz and Patrick, 2015).

Furthermore, it was evident that a project dashboard was developed and is being utilised during the weekly planning meetings to ascertain how the project is progressing. However, there is need to elevate the evaluation function within the project management, to ensure periodic assessment of the extent to which the project is achieving its intended results (what worked well and what did not work (and why), programme relevance and the extent to which the programme meets the stakeholders' expectations).

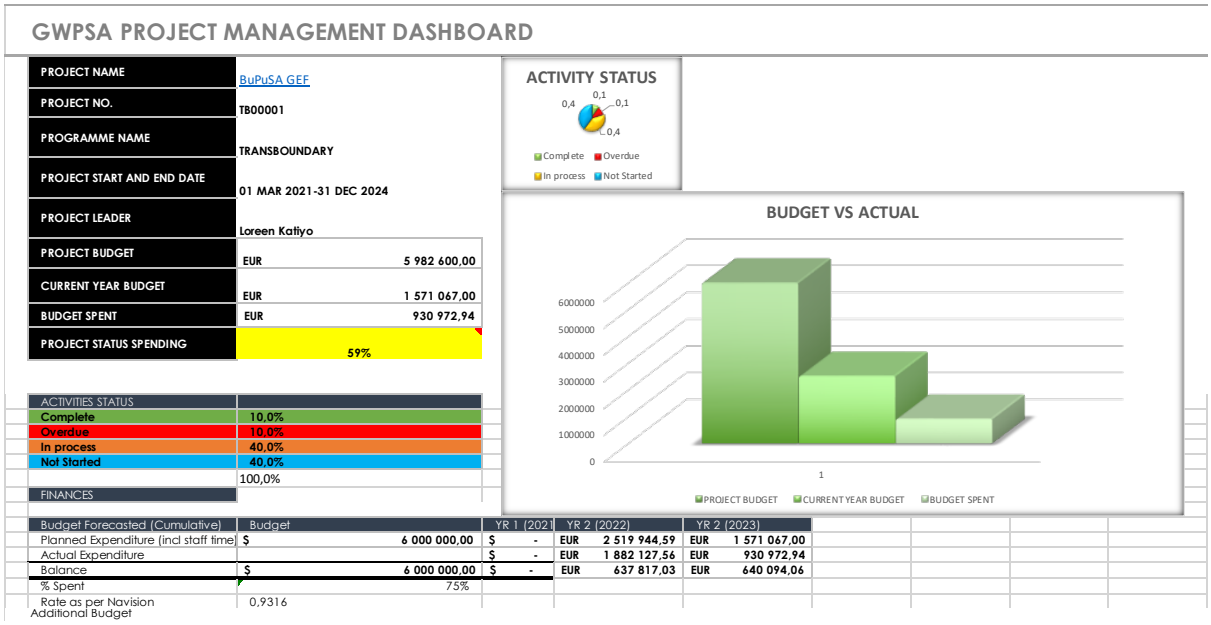


Figure 4-3: BUPUSA Project Management Dashboard (Source GWP SA Management Dashboard)

It is important for the project management unit, the executing agency, and the implementing agency to view the monitoring and evaluation system as a cohesive system that facilitates project implementation through reflection and communication, enabling effective planning and management throughout the project's duration.

Equally important is the need to ensure the monitoring data and project outputs serves multiple functions, including but not limited to programme administration, learning and knowledge dissemination, accountability, and compliance, as well as decision support. Being mindful that the extent to which monitoring, and evaluation data is sought for and its level of significance are contingent upon the existence and potency of demand (Mackay, 2007).

All project activities involve stakeholders, beneficiaries, decision makers in mandated institutions at different levels. There are continuous and regular ways of obtaining feedback through this engagement with stakeholders. The project currently uses mainly the JWC at a political level and the PSC at a country and project level for feedback.

The project monitoring and evaluation could seek feedback from others too, going beyond these two main platforms for reporting progress. Whilst progress is shared at local stakeholder platform meetings, outputs might also be shared (in an appropriate form) with local communities. This allows others to engage with the outputs and share their feedback on the outputs. This aspect highlights two related issues – one of knowledge management and

packaging and another of feedback and learning. The outputs need to be accessible and digestible.

Local IWRM advisors of Beira and Mutare offices do frequently report progress to stakeholders, but perhaps this could be done in a more focused learning manner. This will benefit the project M&E (broadening access and input through platforms) but helps make the presentation more engaging and – more effective than predominantly one-way sharing of progress.

It is clear from the evidence provided and consultations with the project management unit, the executing agency, and implementation agency that monitoring and evaluation within the project context is designed and implemented to track activities and outputs. As we move towards achieving outcomes – where we have less direct influence and control, how can we successfully track outcomes? There does not appear to be a tracking system in place to track outcomes and benefits. Keeping effective tabs on changing behaviour is needed to monitor outcomes. How do we influence our partners to track these outcomes through their internalization and institutionalisation of the outcomes? How do we creatively feed this into their individual and institutional performance?

5 LESSONS LEARNED, CONCLUSION, AND RECOMMENDATIONS

5.1 Lessons Learned

Collaborative Governance: The establishment of a governance system that is collaborative and inclusive is fundamental for successful implementation of transboundary projects. This means that all riparian countries, stakeholders, and relevant organisations need to be involved. It is imperative to provide unambiguous definitions for the roles and responsibilities of all involved, of the implementing and executing agencies, as well as project governance structures. The emphasis in clear project implementation structures such as identifying IUCN as an implementing agency, establishing the Project Steering Committee and Project Management Unit has led to the success of the project thus far.

Undoubtedly, the execution of the project to date has served as a valuable learning experience for the project management unit, the executing, as well as the implementing agencies, and the national level actors involved. Through the adaptive management approach used to overcome challenges has meant that they are now more equipped to effectively oversee a project with such distinctive attributes and manage and implement accordingly.

Adaptative Management: The implementation of adaptive management is crucial to effectively attain desired project objectives, and results. Additionally, it is crucial for the PMU and executing agency to build-in outcome mapping as part of their internal monitoring and evaluation mechanisms to demonstrate the change achieved from implementation of the GEF BUPUSA project.

The importance of adequate preparation and readiness cannot be overstated when it comes to maximising the effectiveness of a condensed implementation timeframe. The implementation of a sub-regional project involving national governments, marks a significant milestone for Mozambique and Mozambique.

The robust quality assurance and control systems employed at project and management level have contributed to delivery of sound project deliverables.

The inclusion of an inception phase prior to project implementation was, as it established a clear understanding and implementation of project rules, reporting formats, and implementation arrangements.

Despite Covid-19 pandemic, there were many advances in the implementation of the GEF BUPUSA project, for example the survey of the hydro climatological network and the launching of consultancy for procurement.

Interdisciplinary and Multisectoral Collaboration: The imperative of fostering collaboration among professionals from many disciplines, such as ecologists, economists, social scientists, and local stakeholders, is crucial to achieve comprehensive results. In the context of the project, which is transboundary and involves multiple levels of governance and many sectors in which a number of technical themes and areas are relevant – requires an integrated approach to address the challenges.

Holistic transboundary flood risk management requires a multisectoral, and multistakeholder engagement approach. Strengthening the capabilities of pertinent authorities, institutions, and communities in the domains of flood prediction, surveillance, and emergency management is necessary to lead to finding effective and sustainable solutions.

Partnerships with regional organisations, funders, and technical specialists is important in securing financial resources, advanced technology, and specialised knowledge for the enhancement of transboundary projects.

Policy and Management Relevance: It is important to ensure that the GEF BUPUSA project activities and deliverables are aligned with pertinent policies, regulations, and management objectives to effectively contribute to decision-making processes. The project's experience offers valuable insights into the appropriate approaches for regional initiatives of similar magnitude and intricacy. The GEF BUPUSA project serves as a notable example of a project that might potentially be reproduced in other Basins, thus, the importance of proficiently disseminating the outcomes and ramifications of the various assessments e.g., ecological diagnostic to policymakers, stakeholders, and the wider public cannot be underscored.

5.2 Conclusion

The conclusions drawn from the key pillars of project strategy, progress towards results, project implementation and adaptive management, and sustainability are summarised as follows.

5.2.1 Project Strategy

Table 5-1: Rating on Project Strategy (one overall rating)

Rating	Description of Rating
Satisfactory	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.

The MTR results show that the project strategy is relevant to country priorities as anchored, and the objectives and outcomes are clearly aligned to the national priorities. The ownership and collaboration of the national authorities and the healthy partnerships with dedicated implementing, executing and other agencies (and ICPs) in the ongoing implementation is pertinent to appreciating the significant achievements made to date. P**roject strategy is overall satisfactory (S).**

5.2.2 Progress Towards Results

Table 5-2: Rating on Progress Towards Results (one overall rating)

Rating	Description of Rating
Satisfactory	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.

Whilst there were challenges and delays at the project onset, some related to COVID 19 as well as the significant gap between project approval and actual start of implementation, most of the activities of the project are on track and there is evidence that they will be completed within the remaining period of the Project. There are strong indications that the final outputs shall translate into meaningful outcomes and impact. **Project implementation is overall satisfactory (S).**

5.2.3 Project Implementation and Adaptive Management

Table 5-3: Ratings for Project Implementation and Adaptive Management (one overall rating)

Rating	Description of Rating
Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".

The management arrangements of the project are thus far effective. Effective partnerships with relevant stakeholders for the implementation of the project are in place with IUCN as implementing agency and GWPSA as executing partner. The implementing partners with PMU have demonstrated ability to adeptly and efficiently deal with various challenges associated with implementing regional projects. The ownership and collaboration of the national authorities and the healthy partnerships with dedicated implementing, executing and other agencies (and ICPs) in the ongoing implementation is pertinent to appreciating the significant achievements made to date. **Project implementation and adaptive management is overall highly satisfactory (HS).**

5.2.4 Sustainability

Table 5-4: Ratings for Sustainability (one overall rating)

Ratings for Sustainability	Description
Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future.

The implementing team has shown diligence in implementing the project activities. Furthermore, the MTR did not identify major political, social, or environmental risks nor identified legal frameworks, processes, or governance structures that may affect the sustenance of project benefits or outcomes. However, the climate change risks and financial

resources to implement the SAP may pose some risks. Whilst the MTR can rate the potential for sustainability at mid-term review as satisfactory, some risks abating measures need to be considered. **Sustainability is overall 'likely' (L).**

In conclusion, tackling the challenges of Buzi, Pungwe and Save rivers requires developing a common vision and cooperation at multiple governance levels. Zimbabwe and Mozambique have advanced in this regard in their bilateral negotiations, establishing the tri-basin commission and programme development with the implementing, executing and other significant partners. Given the challenges and development priorities in the three basins, however, much remains to be done to materialise such a vision, which needs years of dedicated effort and resources at multiple levels to respond adequately. Significant and impactful work has been undertaken through previous projects and this GEF-BUPUSA initiative, which has built upon passed efforts. It is essential to continue building resilient institutions and communities, raising regional awareness, and advancing on sustainable basin management at local to (tri-) basin levels - to reduce vulnerability as well as ensure present and future water and livelihood security.

5.3 Recommendations

5.3.1 Further elaboration of actions per Component

The various components of the Project were effectively re-aligned and re-arranged during the ProDoc development as an improvement to the of actions outlined in the PIF. It will, however, add value and ensure effectiveness and efficacy of the project outputs if further elaboration is effected. Examples as to how this might be achieved per Component follow:

Component 1: Floods and Droughts Management in the Pungwe, Save and Buzi Basins Improved, and Related Risks Mitigated

While good progress has been made with the operationalisation of river gauging stations for the continuous measurement of water levels, it is important to note that these data are of limited use without accurate “rating curves” to provide the river flows (discharges) that correspond to these water levels. The project has acquired two ADCPs for the measurement of discharges and there is a need for training in the use of this equipment. BUPUSA could play a role in supporting or facilitating this. It is important that discharge measurements are made at all the stations over the full range of water levels until the ratings are established. Thereafter measurements should be made on a regular basis to check that there is no shift in the rating.

It is well understood that FFEWS cannot be made operational at the community level until all the upstream steps (modelling, model calibration and testing) are complete. This is because the issuance of flood alerts and projected areal extent of forecasted flood events is informed by the completed FFEWS at the detailed level. Nevertheless, it is recommended that as much progress as possible be made at the level of the target hotspots and that the beneficiary communities are capacitated as far as possible in anticipation of the detailed modelling being complete. This should speed up implementation once all the upstream work has been completed.

Component 2: Conserving and restoring ecosystems for sustainable livelihoods

Ecosystem assessment can consider Ecological Infrastructure more comprehensively rather than just the water aspects. Furthermore, there is need to address E-flows capacity and unpack what aspects of E-flows capacity is required for different responsibilities and how this may differ from specific expert assignments on determining E-flows. Stakeholders indicated a need to develop e-flows capacity – what exactly is needed and for whom?

The WaterNet E-flows material and approach used in the BRIDGE project might be updated and combined where possible with the recent GEF BUPUSA Pungwe E-flows findings and approaches. An attempt should be made to assess what capacity was developed during BRIDGE and where that capacity is today. Efforts should be made to build on past experiences and results.

Component 3: Integrated Basin Planning for The Pungwe - Buzi – Save River Basins

Climate Change Scenarios and downscaling: The GEF-BUPUSA project is premised on an appreciation of the impacts and risks of climate change – to project results, and more widely in the socio-economic development and ecological balance of the basin. It is likely that the region will face more frequent and more extreme drought events, hotter conditions, and floods in the future. The project has been designed to reduce vulnerability and build climate resilience among communities on the ground as well as mandated institutions at local to basin levels. This emphasis needs to be maintained and mainstreamed in future project studies and assessments - in particular for the NAPs and SAP for the basins. All studies and assessments conducted during the project need to duly base their analyses on different, up-to-date climate change scenarios. This is specifically important for studies relating to hydrological modelling, E-flows, and Transboundary Diagnostic Analysis (TDA) with its related SAP. The Climate Change thematic report was developed for the TDA, however, the results were not downscaled to sub-basin or province/district level. The thematic report was, however, based on the latest projections. The draft TDA was not available to the MTR consulting team during the MTR.

TDA to NAPs and SAP: Embedding developing resource mobilizing strategies in the current project implementation and even leverage resources for the implementation of the SAP and NAPs will go a long way towards closing gaps in project implementation and ensuring continuity, which otherwise risks huge momentum loss.

Component 4: Project Management

Teamwork – technical support: Consider the creation of teamwork for different thematics, for example for hydrological modelling, e-flows, and Transboundary Diagnostic Analysis (TDA). This strategy will streamline the review of documents in the project allowing rapid feedback and follow up of the studies undertaken in this project. Technical Working Groups have already been considered for further attention to thematic areas but member states are yet to provide the names of the appointed individuals. The establishment of these Technical

Working Groups might further consider any additional and necessary themes (following this MTR). The PMU and PSC need to ensure these become functional soonest.

Financial: On financial matters, more dedicated effort is needed to try and help countries quantify their co-financing contributions. The tracking form should have adequate figures and breakdowns not lump sums, it would help with learning for improved performance if variances between budget and expenditure was explained in financial reporting.

Risks: Results-based management good practice requires that risks to the project be clearly identified and mitigated through adapted and agreed management responses. Although mentioned in the ProDoc and the risk register that was developed, a more in-depth and regular analysis of the risks to the project (political, economic, social, environmental), as well as possible and actual mitigation measures should be thoroughly documented, monitored, and reported on regularly.

5.3.2 Overall Recommendations – Cross-Cutting Across Components

Broadening Stakeholder Engagement - Private Sector

There is much diversity in the stakeholders engaged in GEF BUPUSA at different levels from local to global. The private sector, however, appears to be less engaged. There is an opportunity to consider water stewardship and corporate engagement more and infuse these approaches in the project and as partners to BUPUSACOM moving forward. It is recommended that the PMU engages the corporates - beyond Corporate Social Responsibility programmes (CSR). Corporates should be encouraged to address their Environment, Social and corporate Governance (ESG) ambitions (international pressure and benefits) through investing in the environment/ecological infrastructure and their dependent communities – 'beyond the fence'. Enlighten corporates about the water risks in their business operations and their environmental footprints and convince them to invest, for example in the water source areas of the Eastern Highlands. It will be key to highlight why the basins are relevant to their businesses.

As a start, the private sector stakeholders who are engaged in the Save and Runde catchments and ARAs might be worth engaging in these topics. Engaging the private sector in this way involves them in more sustainable practices to the benefit of ecosystems, people and economies. It also will encourage investment and consideration of sustainable financing of ecological infrastructure. It may be worthwhile to dedicate some effort and resources into making a business case for private sector to invest in transboundary waters and systems.

Consider value chains and invest in building relationships at transboundary level with BUPUSACOM and the interim secretariat – with a few corporates.

Gender Transformation

It was noted in the MTR report that the project is yet to provide evidence of transformation "tangible benefits" for poor men, women, the youth, and people with disability. To achieve this, the project management unit and executing agency need to align several fundamental components including leadership; technical capacity (across all levels); effective community engagement that is responsive to gender equality and social inclusion; fostering grassroot level ownership; facilitating opportunities for marginalised groups such as women, youth, and people with disability to develop skills, knowledge, and confidence; GESI responsive communication and awareness; GESI responsive data collection and monitoring of outcomes, as well as accountability and reporting.

Enhance Knowledge Management and Learning

The project should consider knowledge management (KM) in its broader sense as in the KM cycle – of knowledge generation, organizing and re-packaging knowledge into various Knowledge Products (KPs) for different users and how this might be coupled with capacity development. Where relevant and necessary - the different technical reports should be transformed into different Knowledge Products that can be used by key stakeholders and institutions. How is the knowledge going to be taken up, institutionalised, and used to assist in capacity development and improved practices - ensuring that the benefits of using that knowledge may be realized?

SADC Secretariat, the RSAP Linkages and Regional Experience Sharing

Whilst SADC is an automatic regional stakeholder in TWM and for RBOs, perhaps the regional priority context could be more emphasized in the GEF project. RSAP V for example refers to water sources and ecological infrastructure. The GEF projects, with their keen attention to the environment and ecosystems, are an opportunity to implement such priority topics in the RSAP.

Whilst several GEF supported projects have been or are being implemented through the RBOs, SADC Secretariat – as a regional coordinating structure, should facilitate the sharing of the rich knowledge and learning emanating from the many GEF projects (OKACOM, ORASECOM, CUVECOM, LIMCOM AND BUPUSACOM). These rich experiences and knowledge need to be harnessed, packaged, and disseminated among RBOs. There are more

opportunities for shared learning based on outputs, outcomes, and upscaling across region for emerging RBOs. The TDA/SAP processes/ offer valuable learning on incorporation of ecosystems more for example. How might GEF TWM SADC RBO experiences inform guidelines and procedures and maybe even updating policies and the thinking around infrastructure ensuring that both built and ecological infrastructure and local community livelihoods should be invested in – promoting their inter-dependence. This approach and referring to Nature Based Solutions may positively influence ICP support.

Identify Strategies to Address Shortfall of Time for Project Delivery

To compensate for the delays occurred at project start, and then because of COVID19 pandemic, the current pace of delivery is set to complete project activities as per the project completion date. This timing seems very tight and specific strategies should be identified to ensure the project delivers on time, engaging with national and local stakeholders a well-defined project exit strategy, and ensuring sustainability of project results.

Recommendation on Co-Finance

The project is tracking and reporting well on co-financing where they obtain signed letters from the various co-financiers. A key observation is that whilst the letters are a basis for evidence towards co-financing, it is recommended that all co-finance partners provide additional evidence that can be useful at both terminal evaluation and project closure audit without necessarily consulting the co-financiers. Such evidence can include the number of staff contributing to in-kind and their hours or days worked on the project, as well as the monetary value of the same.

ANNEXURE 1: PERSONS INTERVIEWED

The interviews for the evaluation of GEF BUPUSA Project was taken on the field work using the semi-structured interviews. The stakeholders engaged demonstrated collaboration in the evaluation of the GEF BUPUSA Project. List of stakeholders interviewed is listed below.

Table 0-1: Stakeholders Consulted for the GEF BUPUSA MTR

No.	Stakeholders	Name
Interviewed Stakeholders in Mozambique		
1.	Regional Administration of Waters of the South, Public Institute (ARA-Sul, IP): – General Director of ARA Sul, IP. Director of Save Watershed Management Division (DGBS)	General Director
2.	Pungue Watershed Management Division (DGBP) - Director	Mr. A Melembe
3.	Buzi Watershed Management Division (DGBB) – Director	Mr. S Mamela
4.	National institute for disaster risk management and reduction (INGD), Manica delegation - HOD	Mr. V Gonga
5.	National institute for disaster risk management and reduction (INGD), Sofala delegation - HOD	Ms. A Paula
6.	Provincial Directorate of Public Works, Housing and Water Resources – Technician	Mr. M Fobras
7.	Ministry of Land and Environment – Provincial Directorate of Environment, Sofala - HOD	Mrs. Ndananga
8.	Stakeholder Representative of Pungwe Basin: Mafambisse Sugarcane Company and catchment councils;	Mr. C Moyo
Interviewed Stakeholders in Zimbabwe		
9.	Director of Water Development's office	Mr Mawere Ms Mawokomatanda

10.	ZINWA Regional Director	Mr Mapanzure
11.	ZINWA Catchment Manager Save	Ms Muyambo Mr Masimba
12.	ZINWA Data Manager	Mr Vhiriri Mr Tashaya
13.	ZINWA Catchment Manager Runde	Mr Tsvuura, Mr Machaka
14.	Environmental Management Agency	Mr Mudyiwa
PMU, IUCN, GWPSA Other Regional Stakeholders		
15.	Regional Coordinator-PMU	Mr E Madamombe
16.	Technical advisor of GEF BUPUSA project	Mr. Alvaro Malanço
17.	IWRM Advisor - PMU	Mr A Misi
18.	Former PSC member Zimbabwe/ SADC-GMI	Mr G Mundondwa
19.	SADC Water Division	Dr D Mndzebele
20.	WaterNet	Prof J M Kileshye-Onema, Prof K. Kujinga
21.	TDA Consultant	Mr. Daniel Malzbender
22.	PMU – Regional Coordinator	Mr E Madamombe
23.	GWPSA BUPUSA Project Manager, Project Officer, Communications	Dr. L Katiyo Dr. P Sithole Ms L Ngorima
24.	IUCN Regional Manager & project assistant	Mr. D T Saruchera Ms. C Zuma
25.	GWPSA	Mr. ATakawira Ms. F Phakamea
26.	IUCN	Mr. DT Saruchera

ANNEXURE 2: EVALUATION MATRIX

Evaluation criteria and questions	Indicators	Sources	Methodology
1.0 Project Strategy: To what extent is the project strategy relevant to country priorities, country ownership, and the best route towards expected results?			
1.1 Project design			
1.1.1 To what extent is the problem addressed by the project relevant to its context and to the assumptions identified?	• Relevance of the problem in the project sites: coherence with the human development needs of the target provinces and the intended beneficiaries • Level of alignment between the key assumptions formulated in the ProDoc and the situation in the project sites.	• Project document • Progress reports • Project implementation review reports • Interview transcripts (interviews with Implementing Agency, Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
1.1.2 How effective is the selected strategy in achieving the expected results?	• Degree of appropriateness of the selected implementation methods to the development context	• Project document • Progress reports	• Document review • Interviews

	• Level of coherence between outcomes, outputs and activities • Evidence that planning documents use lessons learned/recommendations from previous projects as input to the planning/strategy process.	• Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	
1.1.3 To what extent does the project respond to national priorities and context?	• Level of alignment of project outcomes and outputs with national priorities (a) at the beginning of the project; (b) in the mid-term • Contribution of the project to the implementation of national policies.	• Project document • Progress reports • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
1.1.4 To what extent does the project contribute to GEF and BUPUSA priorities?	• Level of alignment of project outcomes and outputs with national priorities (a) at the beginning of the project; (b) in the mid-term • Contribution of the project to the implementation of national policies.	• Project document • Progress reports • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in	• Document review • Interviews

		the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	
1.1.5 Have the perspectives of all stakeholders been taken into account during project design	• Number and type of stakeholders consulted during project design • Evidence that the concerns expressed are used to adjust the project strategy.	• Project document • Progress reports • Minutes of Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
1.1.6 To what extent were gender issues taken into account during project design?	• Number and types of activities undertaken during project design to assess gender and women's equality needs for the project • Evidence of incorporation of these needs into the project document • Existence of a gender analysis and gender action plan.	• Project document • Progress reports • Minutes of Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of	• Document review • Interviews

		provinces, municipalities and communities in selected pilot sites).	
1.2 Logical framework / Results framework			
1.2.1 To what extent are the project outcomes and objectives clear, practical and feasible? Are the objectives and timelines realistic?	• Consistency between project objective, outcomes, outputs and activities • Feasibility of the objectives, outcomes and outputs within the project's budget and timeframe.	• Project document • Progress reports • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
1.2.2 How effective are the indicators, baselines and objectives of the logical framework in measuring the project's effects?	• Quality of the results framework in the project document • Use of SMART sets of indicators, baselines, targets and means of verification • Use of gender-disaggregated indicators and targets • Evidence of project impacts on development or the • environment that are not measured by current indicators.	• Project document • Progress reports • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
2.0 Progress Towards Results: To what extent have the expected outcomes and objectives of the project been achieved thus far? (Effectiveness)			

2.1.1 To what extent have the project's planned outputs, outcomes and objectives been achieved so far? To what extent is the project expected to meet its targets by its closing date?	• Extent to which the objectives, outcomes and outputs indicated in the results framework have been achieved. • Expectation to meet the project's targets by its closure date • Progress between the most recent GEF monitoring tool and its baseline version • Existence of unplanned activities and outcomes and their impact.	• Project document • Progress reports • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
2.1.2 What are the main obstacles to be addressed and the main opportunities to be seized based?	• Nature and extent of factors that are hindering progress towards the objectives and expected results. • Nature and extent of opportunities generated by the most significant achievements to date.	• Project document • Progress reports • Interview transcripts (interviews with PMU staff).	• Document review • Interviews
3.0 Project Implementation and Adaptive Management: Has the project been implemented efficiently, cost- effectively, and been able to adapt to any changing conditions thus far? To what extent are project-level monitoring and evaluation systems, reporting, and project communications supporting the project's implementation?			
3.1 Financing and co-financing			

3.1.1 Are there any discrepancies between planned and actual expenditures? Why?	• Level of discrepancy between planned and executed budget (total, by year and component).	• Project document • Financial reports • Budget execution analysis reports and adjustments made by project team • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
3.1.2 To what extent is the project mobilising the planned co-financing?	• Amount of resources that the project has leveraged since inception (and source(s)) • Level of discrepancy between co-financing planned and leveraged • Degree of integration of externally funded components into the overall project strategy/design.	• Project document • Financial reports • Budget execution analysis reports and adjustments made by project team • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
3.1.3 Does the project have adequate financial controls to make informed management decisions on budget and cash flow?	• Availability, timeliness and quality of financial reports • Availability of audits.	• Project document • Progress reports • Financial reports • Audit reports • Budget execution analysis reports and adjustments made by the project team • Cost benefit estimates of the project or similar projects	• Document review • Interviews

		• Interview transcripts (interviews with Executing Agency, PMU staff).	
3.1.4 To what extent are results achieved in a cost-effective manner?	• Level of management costs and discrepancy with planned costs • Costs related to the results achieved compared to the costs of similar projects.	• Project document • Financial reports • Budget execution analysis reports and adjustments made by the project team • Cost-benefit estimates of the project or similar projects • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
3.2 Institutional arrangements			
3.2.1 How effective are the institutional arrangements?	• Evidence of clear roles and responsibilities • Evidence of timely and transparent decision making • Level of responsiveness of the project team and respective implementing agencies to changing project needs.	• Project document • Minutes of Consultative workshops or meetings • Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of	• Document review • Interviews

		provinces, municipalities and communities in selected pilot sites).	
3.2.2 What is the quality of project implementation by the implementing agency and the implementing partner?	• Quality of the implementing agency's supervision and support • Quality of implementation by the implementing entity.	• Project document • Minutes of Consultative workshops or meetings • Project implementation review reports • Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
3.3 Work planning			
3.3.1 Have there been delays in implementation? If yes, why?	• Difference between actual and planned timetable for project implementation • Number of activities scheduled/completed according to the Annual Operational Plans (AOP) • Cause and total delays	• Project document • Minutes of Consultative workshops or meetings • Project implementation review reports • Project Steering Committee meetings	• Document review • Interviews

		• Interview transcripts (interviews with Executing Agency, PMU staff)	
3.3.2 Have work planning processes been results-based? Has the logical framework been used during implementation as a management and monitoring tool?	• Extent to which the results framework has been used as a management tool?	• Project document • Minutes of Consultative workshops or meetings • Project implementation review reports • Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
3.4 Project level Monitoring and Evaluation (M&E) System			
3.4.1 Is the M&E system operational and effective?	• Robustness of the M&E system (roles and responsibilities, work plan) • Funding of the M&E system • Relevance and quality of monitoring and progress reporting • Alignment with national systems and UNDP/GEF reporting requirements.	• Project document • Minutes of Consultative workshops or meetings • Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
3.5 Stakeholder involvement			

3.5.1 To what extent have effective partnership arrangements for implementation been established with relevant stakeholders at sub-national level?	• Number and types of partnerships established between the project and local bodies/organisations • Extent and quality of interaction/exchange between project implementers and local partners	• Project document • Stakeholder Engagement Plan • Minutes of Consultative workshops or meetings • Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
3.5.2 To what extent is the project country-driven?	• Appreciation of national stakeholders regarding the appropriateness of project design and implementation to national realities and existing capacities • Number, type and quality of mechanisms in place to promote stakeholder participation at each stage of project design, implementation and monitoring	• Project document • Stakeholder Engagement Plan • Minutes of Consultative workshops or meetings • Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of	• Document review • Interviews

		provinces, municipalities and communities in selected pilot sites).	
3.5.3 To what extent are women and girls involved?	• Proportion of implementing partners and participants in workshops, training courses or knowledge sharing who are women during implementation • Evidence of barriers to women's and girls' participation and degree of effort to address barriers • Likelihood of the project having the same level of positive and/or negative effects on women and men, girls and boys • Evidence of activities that mainstream gender in planning or activities as a result of the project.	• Project document • Gender Action Plan • Minutes of Consultative workshops or meetings • Project Steering Committee meetings • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
3.6 Social and environmental safeguards			
3.6.1 To what extent are the risks identified in the most recent SESP valid for the project?	• Quality of risk analysis in the project document / Completeness of risk identification during project planning and design	• Project document • Project implementation review reports • SESP • Steering Committee meeting minutes	• Document review • Interviews

	• Extent to which the planning documents foresaw or reflected the risks already faced by the project during implementation • Quality of existing information systems to identify and analyse new risks • Quality of risk mitigation strategies developed and followed.	• Interview transcripts (interviews with Executing Agency, PMU staff).	
3.6.2 How effective and efficient is the implementation of the project's social and environmental management plan?	• Examples of changes in project strategy/approach as a direct result of recommendations made in PIRs and/or NSC meetings to adapt to a new context • Proportion of adaptive management processes documented and shared with partners - Proportion of adaptive	• Project document • Project implementation review reports • SESP • Steering Committee meeting minutes • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
3.7 Adaptive management (information)			

3.7.1. Adaptive management (changes in project design and project outputs during project implementation)	• Examples of changes in project strategy/approach as a direct result of recommendations made in project implementation review reports and/or steering committee meetings to adapt to a new context • Proportion of adaptive management processes documented and shared with partners - Proportion of adaptive management processes documented and shared with partners.	• Project document • Project implementation review reports • SESP • Steering Committee meeting minutes • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
3.8. Communication, sensitization and adaptive management			
3.8.1 How effective are communications in ensuring stakeholder awareness of the project?	• Existence of an internal communication plan, communication protocols and feedback mechanisms • Perceived level of stakeholder awareness of project results and activities / Project visibility	• Project document • Communication documents • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews

3.8.2 Are there effective external communication mechanisms?	• Number and type of external communication mechanisms or activities in place. • Stakeholders' perceptions of the usefulness of the communication activities.	• Project document • Communication documents • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
3.8.3 Has knowledge management been effective?	• Existence of a knowledge management strategy. • Scope and relevance of activities included in the plan. • Number and type of activities and products developed. • Impacts of activities and products developed.	• Project document • Communication documents • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
4. Sustainability: To what extent are there financial, institutional, socio-economic and/or environmental risks to sustaining project results in the long term?			

4.1. Are the risks identified in the project document the most important and are they still up to date?	• Existence and type of frameworks, policies, governance structures and processes that may jeopardise project benefits? • Type of frameworks, policies, governance structures and processes currently missing to ensure sustainability of project benefits.	• Project document • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
4.2 Do the legal, policy and regulatory framework, governance structures and processes pose risks that may jeopardise the maintenance of project benefits?	• Existence and type of political and social conditions that may affect the sustainability of the direct results. • Existence of mechanisms for documenting and sharing lessons learned (including know-how). • Existence of actors that can promote the sustainability of project outcomes.	• Project document • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews
4.3 Are there political or social risks that could jeopardise the sustainability of project results?	• Type and cost of activities that would require continued financial support after the end of the project in order to sustain results. • Existence of sources of funding for these activities.	• Project document • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in	• Document review • Interviews

		the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	
4.4 What is the likelihood that financial and economic resources will not be available after GEF support ends?	• Existence and intensity of environmental conditions affecting the sustainability of the project results.	• Project document • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff).	• Document review • Interviews
4.5 Are there environmental risks that could jeopardise the maintenance of project results?	• Existence and intensity of environmental conditions affecting the sustainability of the project results.	• Project document • Project implementation review reports • Interview transcripts (interviews with Executing Agency, PMU staff, member states, partners & consultants, catchment managers in the BUPUSA, representatives of provinces, municipalities and communities in selected pilot sites).	• Document review • Interviews

ANNEXURE 3: LIST OF DOCUMENTS REVIEWED

- 20210903 Budgets and Workplan BUPUSA
- Agreement between the Republic of Zimbabwe and the Republic of Mozambique on Co-operation on the Development, Management and Sustainable Utilization of the Water Resources of the Save Watercourse
- Agreement between the Republic of Zimbabwe and the Republic of Mozambique on Co-operation on the Development, Management and Sustainable Utilization of the Water Resources of the Buzi Watercourse
- Agreement between the Republic of Zimbabwe and the Republic of Mozambique on Co-operation on the Development, Management and Sustainable Utilization of the Water Resources of the Pungwe Watercourse
- Agreement between the Republic of Zimbabwe and the Republic of Mozambique on The Establishment of the Buzi, Pungwe and Save Watercourse Commission (BUPUSA Commission)
- Agreement between the Republic of Zimbabwe and the Republic of Mozambique for the Hosting of the BUPUSA Commission Secretariat
- Agreement between the Republic of Zimbabwe and the Republic of Mozambique on The Establishment and Procedures of a Joint Water Commission concerning Water Resources of Common Interest
- An Assessment of Hydrometric Network and Recommendations for Upgrading in BUPUSA River Basin
- Annual GWPSA Technical Report Q1-Q4 2022
- BUPUSA GESI Action Plan (draft)
- BUPUSA GEF Project inception Meeting ppt

- BUPUSA GEF Project: Hydrogeological Assessment of the BUPUSA Basin – *Revised* ***Environmental flows report hydrogeology***

- BUPUSA Project Implementation Report (PIR) 01/07/2022– 30/06/2023

- Co-finance letter Mozambique

- D2 Updated Technical Hydrogeology Report: Hydrogeological Assessment of the basin

- Delineation and Preliminary status and trends interim report

- GEF BUPSA PSC TORS

- GEF BUPUSA Transboundary Diagnostic Analysis (TDA): Groundwater Summary Report

- GESI Assessment and Screening Tool for GEF BUPUSA Floods & Drought Pilot Projects

- Hydrology and River Hydraulics Report

- Institutional Capacity Assessment and Capacity Building Plan, Draft v1.0, 12 May 2023

- Minutes of the 1st BUPUSA PSC Meeting (30 July 2021)

- Minutes of the 2nd BUPUSA PSC Meeting (3 December 2021)

- Minutes of the 3rd BUPUSA PSC Meeting (13-14 July 2022)

- Minutes of the 4th BUPUSA PSC Meeting (15 December 2022)

- Minutes of the 5th Meeting (July 2023)

- Pungwe Integrated E-flows Assessment: Hydrodynamic Modelling of the Pungwe Estuary

- Pungwe Estuary Specialist Report

- Rules and Procedures between the Republic of Zimbabwe and the Republic of Mozambique on the Sharing of Data and Information Related to the Development and Management of the Buzi, Pungwe and Save Watercourses

- Socio-Economic Report: Services for an Integrated E-flows Assessment to facilitate the development and agreement of “objective flows” at key sites in the Pungwe Basin

- Water Quality and Transboundary Diagnostics Analysis of the Buzi, Pungwe and Save river basins: Draft Report

ANNEXURE 4: RATINGS FOR PROGRESS TOWARDS RESULTS

Table 0-1: Ratings for Progress Towards Results (one rating for each outcome and for the objective)

Rating	Description of Rating
Highly Satisfactory	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
Satisfactory	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
Moderately Satisfactory	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
Moderately Unsatisfactory	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
Unsatisfactory	The objective/outcome is expected not to achieve most of its end-of-project targets.
Highly Unsatisfactory	The objective/outcome has failed to achieve its midterm targets and is not expected to achieve any of its end-of-project targets.

COMPONENT 1: MANAGEMENT OF FLOODS AND DROUGHTS IN THE PUNGWE, SAVE AND BUZI BASINS IS IMPROVED, AND RELATED RISKS MITIGATED					
Outcomes	**Midterm Target**	**End of project Target**		**Result to Date (from project start)**	**MTR Rating**
Improved water resources monitoring, warning, and information systems in support of flood risk management - Number of administrations with **real-time capacity of monitoring floods & droughts.**	3	6		8	**Progress towards this outcome is considered Highly Satisfactory (HS)**
Improved water resources monitoring, warning, and information systems in support of flood risk management - Percentage of riverine communities in flood-risk areas covered by **Early-Warning Systems involving both communities and administrations** -	45%	90%		10%	**Progress towards this outcome is considered Moderately Satisfactory (MS)**

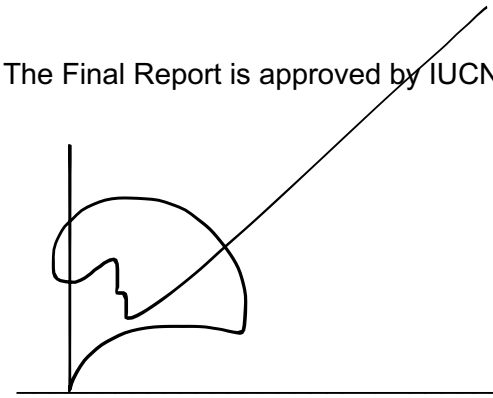
Improved National and Transboundary Capacity for Integrated Management of Floods and Droughts - Number of **transboundary meetings held by the riparian institutions on flood and droughts management.**	3	6		4	**Progress towards this outcome is considered Moderately Satisfactory (MS)**
COMPONENT 2: CONSERVING AND RESTORING ECOSYSTEMS FOR SUSTAINABLE LIVELIHOODS					
Improved Water Ecosystems of the Pungwe, Save and Buzi Basins for Sustainable Functions and Services to People and Nature.	2	4		4	**Progress towards this outcome is considered Highly Satisfactory (HS)**
COMPONENT 3: INTEGRATED BASIN PLANNING FOR THE PUNGWE - BUZI – SAVE RIVER BASINS					
Zimbabwe and Mozambique JWC Agree on Updated Shared Water Resources Strategy and Programme for Joint Ecosystem Based Management of Pungwe- Buzi-Save River Basins.	1	3		4	**Progress towards this outcome is considered Satisfactory (S)**
COMPONENT 4: PROJECT MANAGEMENT					
Project is Effectively and Efficiently Managed.	1	1		PMU is fully constituted and functional	**Progress towards this outcome is considered Highly Satisfactory (HS)**

6 FINAL REPORT APPROVAL

This Final Report presents the Consultants' key findings and recommendations.

The general terms and conditions of the signed agreement will fully apply to the project contract, and all the specific project specifications as indicated in this report will form the specific conditions of this agreement.

The Final Report is approved by IUCN and signed as per delegated authority.



Debasmita Boral Rolland
Regional Portfolio Manager
Eastern and Southern Africa Regional Office
International Union for the Conservation of Nature

11 June 2024

DATE