

JOINT SONGWE RIVER BASIN COMMISSION



**Provision of Consultancy Services for Transboundary Diagnostic Analysis and
Strategic Action Planning (TSA/SAP) SRBC/SRBDP/2020/2021/C04**

Strategic Action Planning (SAP) Final Report



Prepared by:
BACAS-Sokoine University of Agriculture (SUA)

JANUARY, 2024

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Strategic Action Planning (SAP)

Final Report

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PREFACE

This Strategic Action Plan (SAP) for the Songwe River Basin (SRB) represents a significant milestone, emerging from a detailed and comprehensive Transboundary Diagnostic Analyses (TDAs) conducted in the Basin from 2022 to 2023. The TDAs delved into seven thematic areas: Ecosystem Services and Biodiversity, Water Resources Analyses, Land Management, Degradation and Erosion, Climatic Variations and Changes, Socio-Economic Analyses, Governance, and Stakeholder Analyses. The thematic areas were critically examined to identify key transboundary challenges and their root causes, aligning with the Vision and Strategy of the Basin and the partner countries at large.

The SAP is crafted to guide stakeholders in Malawi and Tanzania, enabling them to systematically evaluate and prioritize the crucial transboundary issues identified in the TDAs. The SAP outlines targeted interventions, establishes clear goals and objectives, and proposes strategic actions and approaches for sustainable management of shared water and water related resources.

The focus has been on forging a broad consensus around realistic and achievable strategies for the SRB, taking into consideration short-term, medium-term, and long-term objectives. The aim is to develop robust mechanisms to oversee the implementation process, ensuring the attainment of the goals and objectives set forth in the SAP.

The SAP report draws from the results generated through collaborative and participatory processes – hence relevant locally, nationally and in the context of bilateral cooperation of the two countries. The joint SAP as a politically negotiated document is intended to guide the bilateral cooperation of the two riparian countries in the sustainable management of the shared water resources for attaining sustainable and inclusive socio-economic development.

This process has been meticulously overseen by the Songwe River Basin Commission (SONGWECOM), involving several interactive discussions, feedback sessions, and revisions of prior drafts with stakeholders. The coordination of this effort has been diligently managed by the Desk Officers in each country, under the auspices of Joint Steering Committee (JSC).

The Consultant (BACAS-SUA) through the implementing team of experts is honoured to have contributed to this significant project and to have facilitated stakeholder engagement across the two countries and at a regional level. The involvement in defining the various elements of the SAP has been both a privilege and a responsibility. Indeed, the SAP will play a crucial role in shaping a sustainable and prosperous future for the Songwe River Basin, benefiting both the current and future generations through the responsible stewardship of its vast resources.

ACKNOWLEDGEMENTS

The development of the Strategic Action Plan (SAP) for the Songwe River Basin (SRB) represents a significant collaborative effort involving diverse stakeholders from Malawi and Tanzania. The SAP aims to address critical transboundary issues and strategize actions for managing water and related resources –setting pathways toward sustainable and inclusive socio-economic development. The SAP process has been enriched by contributions from local community members, general public, civil society organizations, technocrats and planners at district and national levels. Their collective insights and expertise have been instrumental in ensuring the SAP's relevance and effectiveness.

The Consultant (BACAS-SUA) through its team of implementing experts, we extend our heartfelt gratitude to all those who have contributed to this endeavour. The invaluable input from local communities has provided a grounded perspective, essential for the plan's practical application. The district experts' specialized knowledge has been crucial in addressing specific regional challenges within the Basin. National experts and officers have provided broader oversight and expertise, ensuring the plan's alignment with larger developmental goals.

Special acknowledgment is due to the National Intersectoral Committee and the Joint Steering Committee for their rigorous review and feedbacks, which have greatly enhanced the SAP's quality. The meticulous scrutiny and guidance provided by these committees have ensured that the plan is both comprehensive and actionable. Additionally, the financial support from the African Development Bank has been vital, enabling a thorough and inclusive approach to the SAP's development.

In conclusion, the Joint Songwe River Basin Commission (SONGWECOM) team deserve commendation for their unwavering commitment and leadership throughout this process. Their coordination and support have been fundamental in bringing together the diverse contributions into a cohesive and strategic plan. This SAP stands as a collaborative achievement, reflecting a shared vision and commitment to the sustainable future of the Songwe River Basin.

EXECUTIVE SUMMARY

Background information

The Songwe River Basin (SRB) is part of the larger Zambezi River Basin, shared by Tanzania and Malawi. Environmental degradation, driven by factors such as population growth, unsustainable farming, deforestation, and land degradation, poses threats to life, infrastructure, and political stability. To address these issues, the Joint Songwe River Basin Commission (SONGWECOM) was established through a Convention ratified in 2017. The Strategic Action Plan (SAP) within the SONGWECOM aims to achieve sustainable and inclusive socio-economic development through transboundary cooperation and integrated natural resource management. This SAP report, informed by a Transboundary Diagnostic Analysis (TDA), outlines evidence-based, multi-stakeholder, and politically negotiated targets and actions. the Songwe River Basin (SRB), encompassing its geography, climate, hydrology, population, and livelihoods. SRB covers an area of 4,243 km² in southwest Tanzania and northern Malawi, the basin spans multiple districts, with Chitipa and Ileje being the largest contributors. The Songwe River occasionally alters its course and contributes to sovereignty disputes and affects around 15,000 hectares of land and over 50,000 people through flash floods.

The Approach and Methodology

The TDA-SAP process for SRB adheres to the GEF-IW TDA/SAP framework. The TDA-SAP process involved an inception phase, comprehensive stakeholder engagement, and theme based TDA and SAP stages. The SAP, serving as a strategic policy document, follows two main steps: strategic thinking and strategic planning. The former involves defining a vision, setting goals, brainstorming solutions, and identifying options, while the latter includes national consultations, setting strategies, action planning, drafting the SAP, and aligning it for implementation. The defined vision is articulated as “an achieved state of sustainable and inclusive socio-economic development through the sustainable utilization and management of shared natural resources in the basin”. This vision is derived through combination of inputs from the TDA, high-level consultations, SRB Vision 2050, and the development goals of the SRBDP. The envisioned timeline for this vision is set for the year 2030, aligning with the endline for the delivery of the Sustainable Development Goals (SDGs). These strategic thoughts feed into the subsequent planning phase, where national consultations and strategies for implementation were developed, culminating in the drafting of this SAP. The main goals identified through the collaborative and participatory TDA process include addressing critical transboundary problems in the shared basin. These problems, outlined in the TDA, encompass ecosystem degradation and biodiversity loss, water resources degradation, land degradation and erosion, climate change, a range of socio-economic issues (poverty, poor education, youth bulge, inadequate infrastructure, and unsustainable energy), inadequate governance, and limited advancement of enablers of sustainable socio-economic development (including gender mainstreaming, research and development, and information and communication technology).

Strategic Pathways

Strategic roadmap for sustainable socio-economic development in the Songwe River Basin by the year 2030, aligns with the Shared Vision 2050. The strategy encompasses key

components, including ecosystem and biodiversity restoration, integrated water resource management, sustainable land practices, climate change adaptation, poverty reduction, education enhancement, rural infrastructure development, clean energy adoption, youth engagement, and robust natural resource governance. The strategy underscores specific objectives and sub-objectives within each component, along with an overview of relevant development policies in Malawi and Tanzania. These policies provide crucial support for achieving the outlined goals. The primary goal is to facilitate comprehensive and sustainable development in the Songwe River Basin, addressing environmental and socio-economic challenges through collaborative and multidimensional (multi-faceted, integrated, and holistic) approaches that factor in the shifting regional landscape.

The SAP Delivery Philosophy and Implementation arrangements

The implementation of the SAP will be guided by and adhered to the principles of joint Commission derived from the Convention ratified by the two riparian partners. Such principles include: 1) Cooperation on the basis of sovereignty, equality and territorial integrity; 2) Sustainable development and equitable and reasonable utilization of the common water resources; 3) Precaution and prevention of harm; and 4) Equitable and reasonable. Emphasis is made that the SAP's implementation aligns with a bilateral Convention and involve various stakeholders according to their roles and interests. The SAP builds upon the SRBDP Shared Vision 2050 and ensures strategic alignment between the two initiatives. The implementation framework is structured around three permanent organs: the Council of Ministers, the Joint Steering Committee, and the Secretariat. The Council, consisting of delegates from each Party, holds decision-making authority and plays a crucial role in overseeing the Commission and endorsing the SAP. The Joint Steering Committee is responsible for implementing Council decisions and ensuring harmonization of policies, while the Secretariat (Project Management Unit) provides technical support and operates under the Committee's supervision. The SAP also highlights active stakeholder engagement, including local, subnational, national, regional, and international entities, to facilitate effective implementation. Emphasis is done that the importance of aligning the strategy with organizational structures, support systems, resources, and incentives to achieve its goals effectively.

The SAP envisions delivery of its Vision 2035 by achieving a set of strategic Goals. This is a 10-year timescale which is conventionally ideal for medium-term strategic action planning. The presiding assumption is that the Commission will be able to have mobilized required investments resources (~USD 1.4 billion) towards end of 2024. In this regard, effective implementation of the SAP is expected to start by early 2025. The SAP's Vision 2035 updates the Shared Vision 2050 with emerging realities influenced by climate change, geopolitics, demographics, and other global trends. These includes sustained ecosystems, increased production, improved living conditions, manageable population, and improved governance. The strategic pathways toward this vision comprise ecosystem restoration, water resource management, sustainable land management, climate change action, poverty reduction, education, skills development, infrastructure improvement, youth empowerment, and clean energy transition by 2035. The SAP's Vision 2025 aims for inclusive and resilient socio-economic development by that year, aligning with global efforts and United Nations' Sustainable Development Goals (SDGs).

Strategic Actions toward realization of the SAP Vision 2035

The strategic actions of the SAP cascade from a set of Goals and strategic objectives that address broader transboundary issues that were generated and contextualized in the TDA. Thus, the Goals set out action pathways toward an intended realization of the Vision. The SAP's Goals include:

Goal 1	Enhancing ecosystem and biodiversity restoration and management
Goal 2	Strengthening Integrated Water Resources Management
Goal 3	Enhancing Sustainable Land Management
Goal 4	Enhancing Climate Change Adaptation and Mitigation
Goal 5	Poverty reduction through Development of Key Growth and Service Sectors
Goal 5.1	Sustainable and Inclusive Development of Agriculture for Poverty Reduction
Goal 5.2	Sustainable and Inclusive Development of Fisheries for Poverty Reduction
Goal 5.3	Sustainable and Inclusive Development of Forestry for Poverty Reduction
Goal 5.4	Improving Education and Skills for Sustainable Development
Goal 5.5	Improving Rural Road Transportation System for Sustainable Development
Goal 5.6	Transitioning to Sustainable and Clean Energy for All
Goal 6	Harnessing Youth Bulge as Demographic Dividend
Goal 7	Strengthening National and Bilateral Governance of Transboundary Natural Resources
Goal 8	Promoting Sustainable Development Enablers (ICT, R&D and Gender)

The strategic actions are summarized into the results' matrices with action narrations, indicators, anticipated year of implementation since joint approval of the SAP, priority level, budget estimates and potential stakeholders. The SAP Action Matrices (SAM) provide for a programmatic results-based M&E framework during the actual implementation stage of the SAP through programmes and specific projects. The actual results-based M&E would require an intensive work of establishing baselines, targets, milestones and key assumptions.

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ACRONYMS AND ABBREVIATIONS

4Rs	Recycle, Reuse, Reduce and Remanufacture
ACF	Agriculture Credit Facility
AfCFTA	Africa Continental Free Trade Area
AFOLU	Agriculture, Forestry and Other Land Use
AI	Artificial Insemination
AMCOS	Agricultural Marketing Cooperative Society
AR	Afforestation and Reforestation
AR-CDM	Afforestation/Reforestation-CDM
ASF	African Swine Fever
ASWAp	Agricultural Sector-Wide Approach
AU	African Union
BBT-YIA	Building Better Tomorrow – Youth Initiative for Agribusiness
BMU	Beach Management Unit
BoT	Bank of Tanzania
BVC	Beach Management Committee
CAADP	Comprehensive Africa Agriculture Development Programme
CAG	Chief Auditor General
CBFM	Community Based Forest Management
CBO	Community Based Organization
CCAP	Church of Central Africa Presbyterian
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CMT	Council Management Team
CoMs	Council of Ministers
CSO	Civil Society Organization
DC	District Council
EAF	Ecosystem Approach to Fisheries
EBA	Ecosystem Based Approach
ECD	Early Childhood Development
EEF	Economic Empowerment Fund
ESCOM	Electricity Supply Corporation of Malawi
ESD	Education for Sustainable Development
ESIA	Environmental and Social Impact Assessment
FDI	Foreign Direct Investment
FGD	Focus Group Discussion
FLEGT	SADC's Forest Law Enforcement, Governance and Trade
FMD	Foot and Mouth Disease

FMNR	Farmer Managed Natural Regeneration
FTA	Free Trade Area
GAPs	Good Agronomic Practices
GDP	Gross Domestic Product
GEF-IW	Global Environmental Facility – International Waters
GNI	Gross National Income
GoM	Government of Malawi
GoT	Government of Tanzania
GVA	Gross Value Added
H&S	Hides and Skins
Ha	Hectare
ICS	Improved Cooking Stoves
ICT	Information and Communication Technology
ILUP	Integrated Land Use Plan
INRM	Integrated Natural Resources Management
IPM	Integrated Pest Management
IPP	Independent Power Producer
IWRM	Integrated Water Resource Management
JFM	Joint Forest Management
JPCC	Joint Permanent Commission on Cooperation
JSC	Joint Steering Committee
JIC	Joint Intersectoral Committee
kg	Kilogram
kWh	kilowatts hour
LENRC	Local Environment and Natural Resources Committee
LGA	Local Government Authority
LPD	Local Public Dialogue
LPG	Liquified Petroleum Gas
LULC	Land Use Land Cover
MCS	Monitoring, Control and Surveillance
MDAs	Ministries, Departments and Agencies
M&E	Monitoring and Evaluation
NERA	Malawi Energy Regulatory Authority
MK	Malawian Kwacha
MW	Megawatt
MNQF	National Qualifications Framework
MW2063	Malawi Vision 2063
NACTE	National Council for Technical Education
NAP	National Action Plan

NBSAP	National Biodiversity Strategy and Action Plan
NCCP	National Climate Change Policy
NCCRS	National Climate Change Response Strategy
NDCs	Nationally Determined Contributions
NEEF	National Economic Empowerment Fund
NEMC	National Environmental Management Council
NEPAD	New Partnerships for Africa's Development
OECD/DAC	Organisation for Economic Co-operation and Development's Development Assistance Committee
NICTBB	National ICT Broadband Backbone
NLUPCA	National Land Use Planning Commission Act
O&M	Operating and Maintenance
PES	Payment for Ecosystem Services
PMU	Project Management Unit
PPCP	Public Private Community Partnership
PPP	Public Private Partnership
PRA	Participatory Rural Appraisal
PwD	People with Disability
R&D	Research and Development
REDD+	Reducing Emissions from Deforestation and forest Degradation in developing countries
RS	Regional Secretariat
RVC	Riverine Village Committee
SADC	Southern Africa Development Community
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SAP	Strategic Action Planning
SBA	Strength Based Approach
SE4ALL	Sustainable Energy for All
SEA	Socio-Economic Analysis
SLM	Sustainable Land Management
SMEs	Small and Medium Enterprises
SONGWECOM	Joint Songwe River Basin Commission
SRB	Songwe River Basin
SRBDP	Songwe River Basin Development Programme
SREP	Scaling Up Renewable Energy Program
SRH	Sexual and Reproductive Health
SRI	System of Rice Intensification
SSA	Sub-Saharan Africa
STCIRNM-SRB	Strengthening Transboundary Cooperation and Integrated Natural

	Resources Management in the Songwe River Basin Project
STI	Science, Technology and Innovation
SUA	Sokoine University of Agriculture
SUNO	Southern University of New Orleans
SVTP	Shire Valley Transformation Programme
SWC	Soil Water Conservation
TADB	Tanzania Agriculture Development Bank
TAFSIP	Tanzania Agriculture and Food Security Investment Plan
TANAPA	Tanzania National Parks
TANESCO	Tanzania Electric Supply Company Limited
TANROADS	Tanzania Roads Agency
TARURA	Tanzania Rural and Urban Roads Authority
TBD	to be determined
TC	Town Council
TDA	Transboundary Diagnostic Analysis
TDV2025	Tanzania Development Vision 2025
TFS	Tanzania Forest Services Agency
ToC	Theory of Change
TPR	Teacher Pupil Ratio
TRANSIP	Transport Sector Investment Project
TSR	Teacher Student Ratio
TSSP	Transport Sector Support Program
TVET	Technical Vocational Education Training
TZS	Tanzanian Shilling
UIFYDP	Universal Initiative for Youth Development Programme
UN SDGs	United Nations Sustainable Development Goals
UNCCD	United Nations Convention to Combat Desertification
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
URT	United Republic of Tanzania
US\$	United States Dollar
VEC	Village Environmental Committee
VET	Vocational Education Centre
VMS	Vehicle Monitoring System
WUA	Water User Associations
WRUA	Water Resources Users Associations
WSDP	Water Sector Development Programme
YDF	Youth Development Fund
YEE	Youth Economic Empowerment

YEO	Youth Empowerment Organization
YES	Youth Empowerment and Skills
YIA	Youth in Agriculture
ZRB	Zambezi River Basin

CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND

1.1 Songwe River Basin in Perspective

The Songwe River Basin (SRB) is part of the wider Zambezi River Basin with estimated area of 4,243 km² drained by the Songwe River shared and marking a formal border between Tanzania and Malawi (55% and 45% respectively). Due to degradation of the riverbanks and the riparian catchments, the river changes its course occasionally in cases of flash floods shifting the formal border of the two countries. Studies have shown the major drivers of environmental degradation are growing population (25% in the past decade to current total of around 425,504¹ people of which 62% are in Tanzania), unsustainable farming practices, deforestation, and land degradation. The degradations are posing danger to life, properties and infrastructure including human and ecosystem health, food and energy security, threatening political and social stability.

Due to a myriad of transboundary ecological and socio-economic problems in the SRB, the Joint Songwe River Basin Commission in May 2017. The Strategic Action Plan (SAP) within the Songwe River Basin Commission is designed to deliver a Shared Vision 2050 and aims to achieve sustainable and inclusive socio-economic development through transboundary cooperation and integrated natural resource management. This is achieved through utilizing the basin's natural resources for sustainable and inclusive socio-economic development, and reducing the adverse impacts associated with floods in the lower basin".

Amongst the SRBDP projects, is the implementation of "Strengthening Transboundary Cooperation and Integrated Natural Resource Management in the Songwe River Basin (STCINRM-SRB) project". The STCINRM-SRB aims at enhancing bilateral cooperation for sustainable management of transboundary natural resources and strengthening institutional capacity. Such initiative necessitated undertaking Transboundary Diagnostic Analysis (TDA) and Strategic Action Planning (SAP) process. The TDA-SAP is an interlinked two-stage process. The empirical, multi-stakeholder and locally relevant evidences generated in the TDA phase were the basis of the SAP process that advanced political roundtables and negotiations. The SAP process culminated into a SAP document that was endorsed by the Council of Ministers (CoMs) as the supreme governance body of the Joint Commission.

1.2 Development Objective and Rationale of the SAP

The aim of the Strategic Action Plan for the joint Songwe River Basin is to contribute to the sustainable and inclusive socio-economic development through strategic cooperation in integrated management of transboundary natural resources between the United Republic of Tanzania and Republic of Malawi. The SAP process draws on evidences from science and multi-stakeholders' views from the TDA. The TDA covered key thematic areas addressing critical transboundary ecological, social and economic problems, their impacts, underlying drivers and potential solutions. The SAP underpins transboundary problems-based, locally-relevant, multistakeholder-pondered and politically-negotiated targets and priority actions for joint management of the shared natural resources in the SRB for achieving sustainable and inclusive socio-economic development. Imperatively, the

¹ SONGWECOM TDA 2023 estimates

SAP informs an updated design and resources mobilization for implementation of strategic projects under the Songwe River Basin Development Programme (SRBDP) towards a shared Vision 2050 for attaining sustainable and inclusive socio-economic development.

1.3 Organization of the Report

This report is structured into seven distinct sections, each serving a specific purpose.

Introduction and Assignment Overview (Part One): This section presents an introductory perspective of the Songwe River Basin assignment, highlighting its significance within the broader context. Additionally, it outlines the key development objectives.

Basin Description (Part Two): This segment offers a comprehensive overview of the Songwe River Basin. It delves into the geographical features, climate, hydrology, population statistics, and the impact of these factors on livelihoods within the region.

Methodology and Approaches (Part Three): Part Three describes the methodologies and approaches employed in the analysis. This section begins with an explanation of the GEF-IW for TDA/SAP framework and then provides a detailed account of the Strategic Action Planning (SAP) approach. It covers the strategic thinking process, the definition and drafting of the vision statement, and the various steps taken towards the implementation of the SAP.

Strategic Action Planning Overview (Part Four): This part of the report provides a detailed breakdown of the Strategic Action Planning process. It commences with an overview of the entire process, discusses the shared vision, and elucidates the strategic pathways. It also outlines the strategic goals that lead towards the realization of the shared vision.

SAP Implementation Arrangements (Part Five): This section describes the arrangements and structures put in place for the implementation of the Strategic Action Plan within the Songwe River Basin.

Monitoring and Evaluation of SAP Implementation (Part Six): Part Six discusses the methodologies and systems used to monitor and evaluate the progress of the SAP implementation, ensuring that objectives are met and adjustments can be made as needed.

SAP Action Matrices (Part Seven): The final part of this report provides the detailed action matrices, which serve as a comprehensive guide for executing the various components of the Strategic Action Plan within the Songwe River Basin.

CHAPTER TWO

BASIN OVERVIEW AND DESCRIPTION

2.0 An Overview

Chapter Two covers the perspective of the SRB including the geography, climate and hydrology, population and livelihoods. The aim is to provide a comprehensive overview of the basin's location, climate patterns, hydrological characteristics, and the communities it supports for a better understanding.

2.1 Geography, Climate and Hydrology

The SRB spans an area of 4,243 km² covering part of Southwest Tanzania and Northern Malawi. The basin area covers five (5) districts of Tanzania and two (2) districts of Malawi (Figure 2.1). Chitipa and Ileje cover the largest part of the basin, at 38% and 35% respectively. The average annual rainfall ranges from 800 mm on the lower Songwe to about 1,000 in the mountainous areas of the basin. The basin experiences temperature ranging between 16.3°C and 32.2°C.

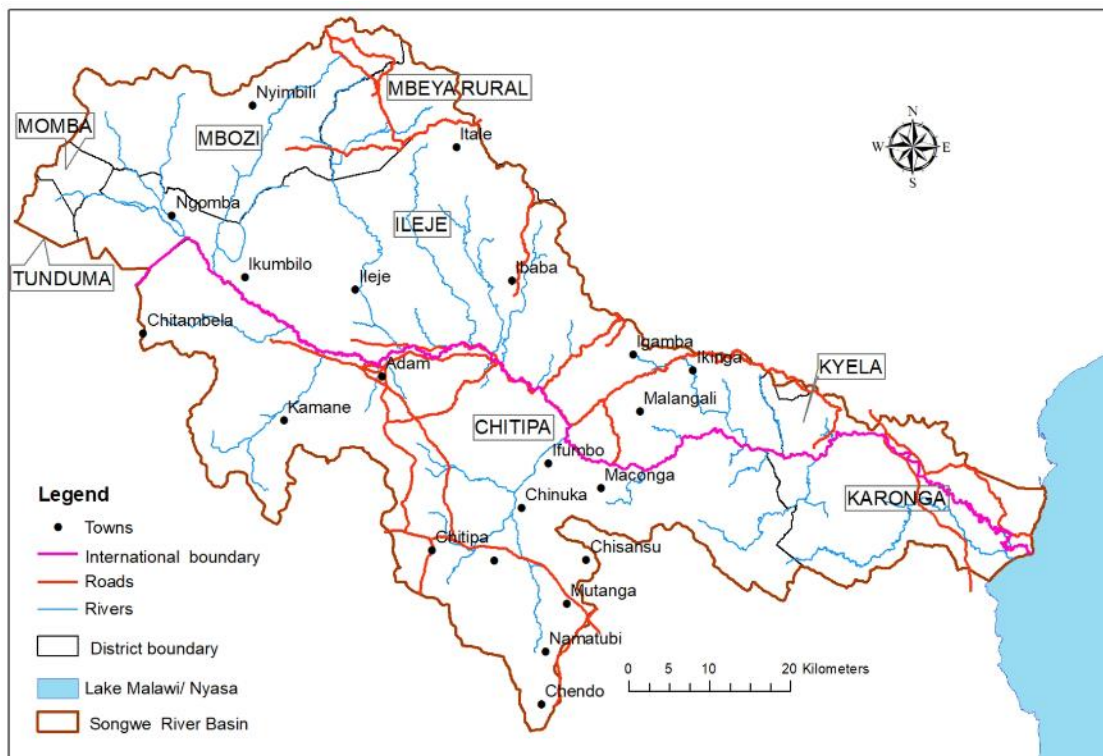


Figure 2.1: Location of the Songwe River Basin (SRB)

Source: SONGWECOM TDA 2023

The Songwe river changes its course from time to time prompting sovereignty disagreements. It is estimated that about 15,000 hectares of land and more than 50,000 people in the lower part of the basin are affected by flash floods. The Songwe river drains its water into Lake Nyasa/Malawi. Further downstream, its waters flow into Shire and Zambezi rivers. Kosamu *et al.* (2022)² reported that during drought period Lake

SONGWECOM TDA 2023 estimates

Nyasa/Malawi waters becomes too low to fill the Shire River. The Shire River hosts an important Hydropower potential for Malawi generating about 398.2 MW out of 565.5 MW electricity (70.4%) needed in 2023. The current flagship development programme – the Shire River Transformation Programme in Malawi – depends on the integrity of the ecosystem of the Shire valley including the riparian Songwe River basin sub-catchment.

2.1.1 Population

Based on the methodology applied in the Socio-Economic Assessment (SEA), the population in the basin as projected for 2022 is estimated at 425,504 people. Presumably, the basin's population documented by the SONGWECOM since 2013 was computed from the districts' populations from 2008 census projected into 2012 for Malawi (GoM 2008³) and 2012 census for Tanzania. Assuming that the settlement pattern has not changed significantly since 2013, the proportions of the districts' populations living in the basin as of 2022 is approximately the same. Such proportions were applied to the 2021 projections for Malawi (GoM 2022⁴) and 2022 census for Tanzania to estimate the basin's populations by 2022 (Table 2.1).

Thus, since 2013, nearly a decade, the basin's population has increased by 25% - equivalent to an addition of 84,400 people. The highest percentage increase of 125% is noted in Tunduma TC due to higher rate of urbanization. The basin's population density has increased from 80 to 100 people per km² between 2013 and 2022. Ileje and Mbozi districts located in the upper-basin seem to have registered relatively smaller population growth rates.

² Kaonga, C.C.; Mengistou, S.; Kaunda, E.; Alamirew, T.; Njaya, F. Application of DPSIR and Tobit Models in Assessing Freshwater Ecosystems: The Case of Lake Malombe, Malawi. *Water* 2022, 14,619. <https://doi.org/10.3390/w14040619>.

³ GoM 2008. Population Projections in Malawi. http://www.nsomalawi.mw/images/stories/data_on_line/demography/census_2008/Main%20Report/ThematicReports/Population%20Projections%20Malawi.pdf

⁴ GoM 2022. Statistical Year Book 2022. National Statistical Office. Lilongwe.

Table 2.1: Districts, population and areas in river basin

Country/District	Area and %		Basin's Population (2013) [†]		District Population (2012)	District Population (2021/2022)	Basin's Proportions of Districts Populations	Estimated Basin's Population (2022) [*]		
	km ²	%	Total	People/km ²				Total	People/km ²	% increase
Malawi					<i>Projected 2012</i>	<i>Projected 2021</i>				
Chitipa	1,590	38	99,698	63	200,061	247,514	0.50	123,346	78	24
Karonga	335	7.8	31,401	94	307,216	388,780	0.10	39,738	119	27
Sub-total	1,925	46	131,099	68.1	507,277	636,294	0.26	163,084	84.7	24
Tanzania					<i>2012 Census</i>	<i>2022 Census</i>				
Kyela	118	2.9	32,993	280	221,490	266,426	0.15	39,687	339	20
Mbozi	484	11	46,156	95	446,339	510,599	0.10	52,801	109	14
Tunduma TC	80	1.9	12,405	155	97,562	219,309	0.13	27,885	349	125
Mbeya Rural	136	3.2	15,852	116	305,319	371,259	0.05	19,276	142	22
Ileje	1,500	35	102,599	68	124,451	125,869	0.82	103,768	69	1.1
Sub-total	2,318	54	210,005	90.6	1,195,161	1,493,462	0.18	262,420	113	25
Basin	4,243		341,104	80.4				425,504	100.3	25

[†]**Source:** Final Project Report SRBDP (2015); ^{*} Authors' computation

2.1.2 Livelihoods

Over three quarters (80%) of the population in the SRB consists of the rural income poor. Agriculture in downstream areas is threatened by flooding which destroy harvests and livelihoods. Flood events have been observed in multiple parts of the Lower Songwe basin. As a consequence of the increasing pressure on the environment, degradation of agricultural areas, forests and natural areas (e.g., watercourses and wetlands) is observed.

The basin plays an essential role in supporting the livelihoods for the majority of the rural poor that depend on the ecosystem-based productive and extractive livelihood activities. The basin consists of diverse and richer ecosystem and biodiversity habitats including forests, arable land, waters, swamps, and grasslands that support a diversity of terrestrial and aquatic flora and fauna. This makes the basin the hotspot for ecosystem and biodiversity conservation to ensure continued flows of ecosystem services. The basin's ecosystem supports the local population engaged in various growth livelihood sectors including agriculture, livestock, forestry, beekeeping and fishery.

However, the current livelihood activities are pursued unsustainably leading to degradation of the vital ecosystems and biodiversity. Such environmental degradation apart from threatening the ecosystem health, it undermines socio-economic development in basin. Thus, it is pertinent to reposition the local livelihoods on sustainable socio-economic development path. The transboundary nature of the shared water and related resources in the basin calls for jointly coordinated efforts between the two riparian countries.

CHAPTER THREE

APPROACHES AND METHODOLOGY

3.0 An Overview

3.1 The GEF-IW TDA/SAP Framework

The TDA-SAP process adopted the comprehensive approach outlined in the GEF-IW TDA/SAP framework (GEF 2020)⁵, as illustrated in Figure 3.1. This process commenced with an inception phase involving the SRB secretariat, members of the Joint Steering Committee (JSC), primarily comprising key Ministries, Departments, and Agencies (MDAs) from both countries, along with a select group of stakeholders. During this inception phase, various environmental, social, and economic transboundary issues were identified, analysed, and prioritized by these stakeholders. The outcomes of this inception phase served as the initial list of transboundary problems, which were subsequently refined and expanded upon through extensive stakeholder consultations conducted throughout the theme-based TDA and eventual SAP stages. These consultations involved multi-level engagement with various stakeholders.

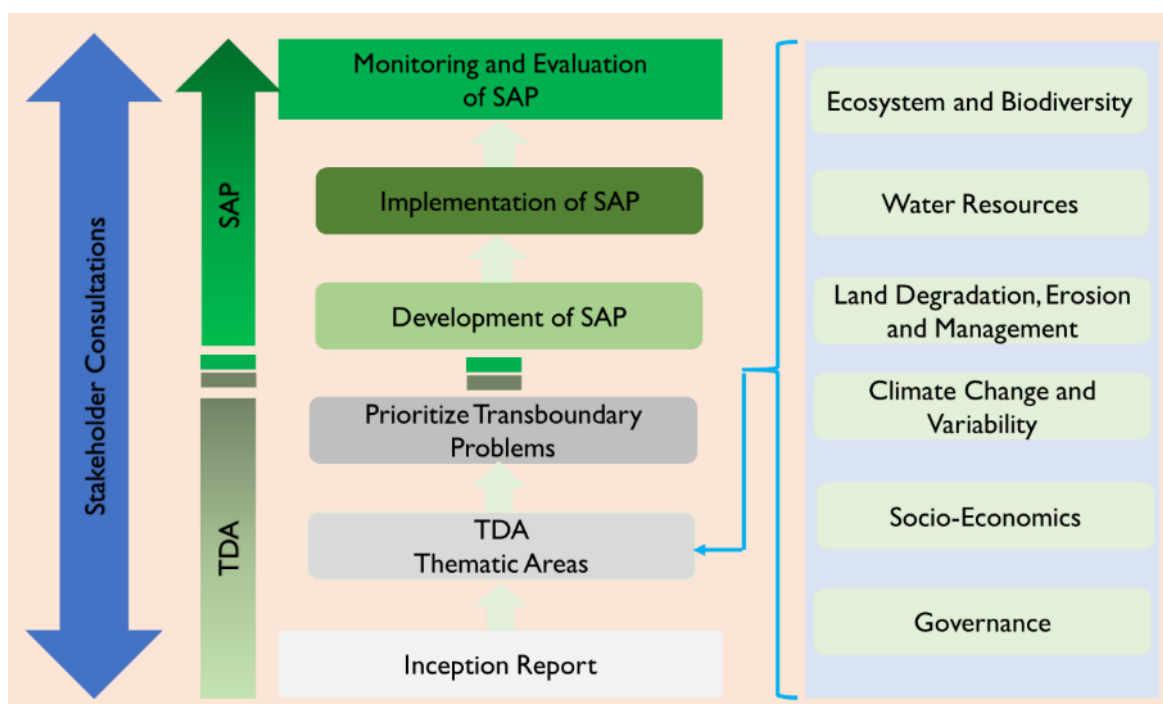


Figure 3.1: TDA/SAP Process Framework

3.2 Strategic Action Planning (SAP) Approach

The SAP sets out a road map for achieving the desired development futures through strategic actions addressing critical problems. The SAP establishes clear priorities for action (for example, policy, legal, institutional reforms, or investments) to resolve the priority problems identified in the TDA. It is a strategic policy document developed through collaborative stakeholder processes and ultimately negotiated politically by the

⁵ GEF-IW TDA/SAP Methodology, 2020

partner countries. Based on the TDA/SAP manual developed by GEF IW: LEARN (2020⁶), the SAP process entails two broad steps: 1) Strategic thinking, and 2) Strategic planning.

3.2.1 Strategic Thinking

The strategic thinking is deemed to unravel ideas and options or opportunities for addressing critical transboundary problems. The collaborative and participatory TDA process involved consultations with key stakeholders across planning and action domains at local, subnational and national levels in both Malawi and Tanzania.

The stakeholders' consultations expounded transboundary problems that were locally-identified that were also contextualized in the national planning and bilateral cooperation. Such processes provided a richer information base sufficing strategic thinking. Through expert deductions from the TDA and stakeholders' consultations, four steps were accomplished (Figure 3.2). The steps are further discussed under the following sub-sections (3.2.1.1 – 3.2.1.4).



Figure 3.2: Strategic Thinking

Source: Adapted GEF IW: LEARN (2020)

3.2.1.1 Defining the vision and drafting the Vision Statement

As part of strategic visioning, views and insights of higher-level stakeholders were consolidated into the Vision Statement. The envisioned future entailed achieved state of sustainable and inclusive socio-economic development through sustainable utilization and management of shared natural resources in the basin. The Vision statement was deduced from the TDA, high-level consultations, SRB Vision 2050 and the development goals of the SRBDP. The SRB Vision 2050⁷ defined in the SRBP – aimed to support economic

⁶ GEF IW: LEARN (2020). GEF Transboundary Diagnostic Analysis/ Strategic Action Programme Manual. <https://iwlearn.net/resolveuid/76f4cf9a-196a-47d0-a139-d1eed4ec0133>

⁷ "A Songwe River Basin that continuously experiences improved quality of life among the local communities through sustainable use of basin resources while ensuring that economic growth rate is above population growth rate"

growth and poverty alleviation. The future timeline of the Vision is 2035 matching a 10-year period (effectively from 2025) which is conventionally ideal for medium-term strategic action planning. Five years towards its end, the SAP will have contributed significantly in the SDGs including sustainable and inclusive food systems by 2030. The final SAP Vision is shaped from the review process of the SAP document by the Joint Intersectoral Committee (JIC) and key stakeholders.

3.2.1.2 Setting goals to achieve the Vision by addressing the transboundary problems

Drawing from the TDA and multi-stakeholder consultations including public dialogues, a set of goals hovered around critical transboundary problems was identified and vested in the SAP draft as a provisional blueprint. The goals were further discussed and revised through a series of reviews by the JIC and other key stakeholders. The goals earmarked long-term pathways toward achieving the Vision by reducing the impacts of each transboundary problem.

3.2.1.3 Brainstorming innovative ideas, opportunities and solutions to meet the goals

During stakeholders' consultations, roundtables and public dialogues, a range of innovative ideas, opportunities and solutions for addressing critical transboundary problems were brainstormed. The critical transboundary problems forming the cruxes of the action pathways were expounded in the TDA – 1) Ecosystem degradation and biodiversity loss, 2) Water resources degradation, 3) Land degradation and erosion, 4) Climate change, 5) A myriad of socio-economic problems (incl. poverty, poor education, unharnessed youth bulge, poor rural roads infrastructure, 6) unsustainable energy), 7) Inadequate governance, and 8) Limited advancement of enablers of sustainable and inclusive socio-economic development in the basin (incl. gender mainstreaming, R&D and ICT). For addressing critical transboundary problems of the way of realizing intended goals, a range of action pathways were consolidated into the SAP blueprint that will be ultimately endorsed by the Council of Ministers (CoMs) through a political process..

3.2.1.4 Identifying options and alternatives– game-changing actions

This step builds on the preceding one. It is critical to consider alternative actions along each of the pathways towards intended change. In formulating the SAP, all choices of courses of actions available to politicians must be documented. The bottom-up iterative TDA-SAP process adopted enabled underpinning the pressing ecological and socio-economic problems, and potential opportunities and options for addressing them. The stakeholders including the local communities proposed alternative actions for addressing the problems and preconditions in the local, national and regional context. The mixes of alternative actions were iteratively discussed during stakeholders' consultations at different levels.

3.2.2 Strategic Planning

The strategic planning phase of the SAP development process involves transitioning of visions and ideas into strategic actions towards realization of desired development futures. An array of alternative ideas and solutions suggested during the strategic thinking process are merely not decisions – but rather proposals for further discussion in the strategic planning phase. The five steps followed in strategic planning are presented in Figure 3.3 and concisely discussed in the proceeding sections (3.2.2.1 – 3.2.2.5).

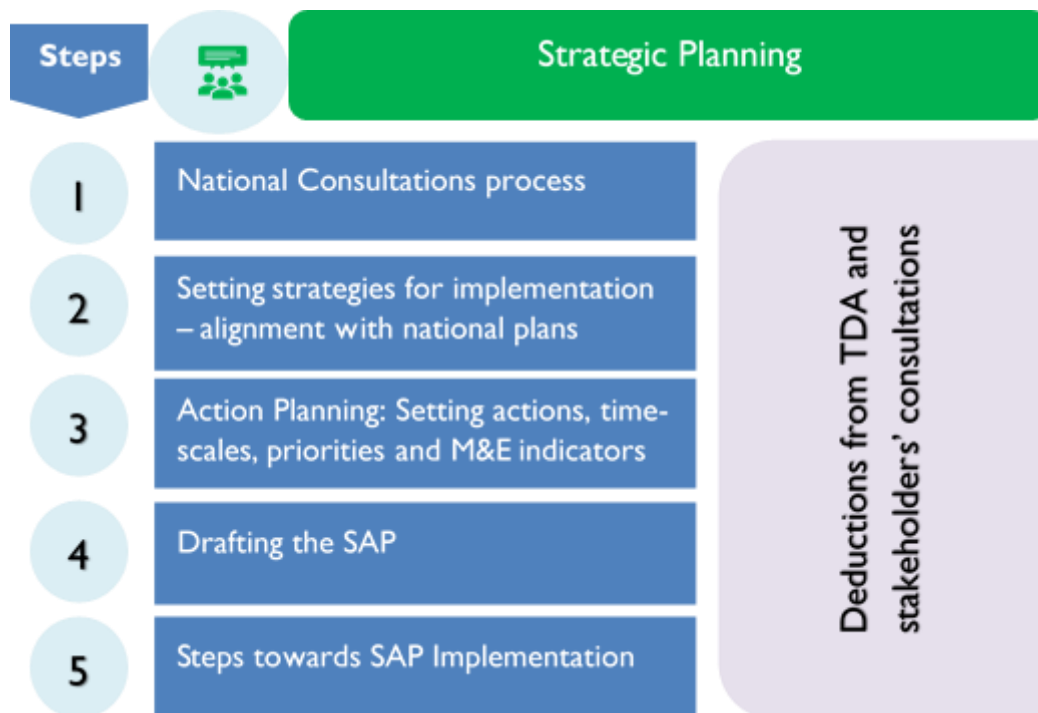


Figure 3.3: Strategic Planning

Source: Adapted GEF IW: LEARN (2020)

3.2.2.1 National consultations process

The higher-level consultations were conducted in the two countries – involving relevant state and non-state actors. The results from such consultations including specific discussions of critical issues of transboundary concerns and strategic actions of addressing them. The outcomes of such consultations that are stocked in the TDA reports, form the basis of strategies aligned to national development plans and priorities addressed in the second step of the SAP planning phase.

3.2.2.2 Setting strategies for implementation

The strategies for addressing critical transboundary problems proposed across the departments of two partner states and non-state stakeholders were harmonized into coherent strategies for the shared basin. The harmonized strategies were aligned and integrated with the individual country's development plans and priorities, and the Joint Convention during consultation processes. Strategic joint governance issues that need to be addressed were highlighted for further discussion in the political process for SAP integration. Key high-level SAP integration roundtable meetings were done with key ministries, departments, agencies and stakeholders. In development planning, an integrated natural resource management and environmental issues are envisaged in the realm of sustainable development and green growth. Among others, the SAP integration roundtables focused on:

- **Exploration of integration and implementation spaces:** This aims at ironing out how and what windows of opportunity exist for leveraging the key strategies into the national and bilateral development plans and priorities. This can be achieved through a number of ways such as embedding into relevant National Action Plans (NAPs), strategic partnerships with other bilateral initiatives, bilateral agreements, and regional coordination networks;

- **Policy, legal and institutional frameworks:** What are available governance opportunities to be exploited and existing institutional limitations to be overcome for effective integration of the strategies for both country specific and joint development plans and priorities.
- **Investment priorities and opportunities:** – SAP strategies need to be part of the priority strategic investment portfolios of the partner states and bilateral cooperation. This also include the interests of donor and financiers to support specific strategies.

3.2.2.3 Action planning – defining objectives, setting actions, timescales, priorities and M&E indicators

An action plan is a framework underpinning how actions are set to deliver the objectives that are further delivered to achieve strategic goals and ultimately realize the long-term Vision (Figure 3.4).

Systematically, SAP needs to be developed in a manner in which it can easily translate into actions leading to intended outcomes and impacts. The goals envisaged in the SAP must be articulated in strategic objectives and short-term strategic actions as underlying milestones toward the long-term Vision. The strategic objectives envisage outcomes of addressed transboundary problems. Unlike goals, objectives are specific, measurable, and have defined delivery timescales (SMART).

Strategic action planning also sets out the performance monitoring and evaluation, and learning that involve defining timelines, priorities and indicators (SMART) for different priority actions. Furthermore, action planning also includes specifying responsibilities, timelines and priorities with each objective and action, or who needs to do what and by when.



Figure 3.4: Schematic linkage of Vision, Goal, Objectives and Actions

Based on the TDA, stakeholders' consultations and roundtables, up to this stage sufficient information needed for drafting the SAP blueprint are available. The SAP drafting activity to produce the blueprint was done as the next sub-section indicates.

3.2.2.4 Drafting the SAP

The product of this step was the SAP blueprint that was tabled for a round of reviews by the JIC before discussed at higher-level discussions by bureaucrats and politicians. Basically, drafting the SAP involves the following activities for action planning:

- **Defining SMART strategic objectives:** This involves developing strategic objectives needed to attain the identified goal.
- **Defining strategic actions:** This addresses a set of overarching questions – What are the actions, activities or tasks that must be carried out to deliver each of the objectives and ultimately attain the goal?
- **Time required for implementation of actions:** How long will each Goal, Objective and Action take to complete? According to the GEF-IW: LEARN, implementation timeframes are usually defined as short-term (1 to 3 years), medium term (3 to 5 years) and long term (5 years +). In the context of this SAP, a 10-year time period is considered.
- **Financing requirement for actions:** How much will it cost to complete the action? For this SAP, activity-derived cost estimates were established for each action based on existing budgeting frameworks for the Commission and LGAs.
- **Prioritization of actions:** This involving ranking the actions in terms of their priority? For example, High, Medium, Low.
- **Identifying key stakeholders to be involved and their roles:** Which stakeholder will be responsible for carrying out the task? These include also local communities and community-based organizations. Information garnered during stakeholder analysis and mapping will be useful at this stage.
- **Defining indicators of success:** This involves setting indicators to monitor and evaluate results-based performance. The indicators at objective/outcome level are and more relevant in the context of SAP. Results are changes – ranging from outputs to impacts – expected following implementation of the actions.
- **Specifying risks, uncertainties and assumptions:** These are critical as successful implementation of actions are not in full control of implementing entities – the SONGWECOM in this regard. Risks and uncertainties are anticipated odds that would undermine delivery of results. Assumptions are the necessary and positive conditions that allow delivery of results. The risks and assumptions were presented at the Goal level.
- **Monitoring and Evaluation:** Results-based M&E is a management tool used to inform decision-making, ensure accountability, monitor and measure results of strategic interventions. The M&E indicators are used to benchmark achievement of intended results from SAP implementation.

3.2.2.5 Steps Towards SAP Implementation

Implementation entails the concrete measures needed to make the strategic intent translate in actions that produce intended results. Key steps towards SAP implementation include: 1) Alignment of SAP for implementation; 2) SAP review process; and 3) Endorsement. However, while the latter two steps are stipulated in the GEF manual (GEF-IW: LEARN (2020)), the former is envisioned from the strategic planning literature. Although preceding steps have ensured integration of the SAP strategies into national planning, it is imperative to reflect again whether the fully developed SAP is properly aligned with key systems, processes, human skillsets, and incentive structures.

3.2.3 Alignment of SAP for implementation

The alignment concept envisages orienting the strategy around a coherent and reinforcing set of supporting practices and structures. As shown in Figure 3.5, alignment is a situation in which strategic goals are supported by organizational structures, support systems, processes, human skills, resources, and incentives (SUNO 2010⁸).

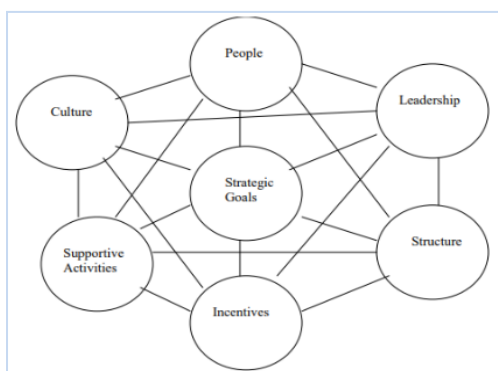


Figure 3.5: SAP alignment ecosystem

Source: SUNO (2010)

The alignment process is accomplished through reflections on the TDA, consultations and roundtables, and finally completed by working collaboratively with the JIC and the joint Secretariat to complete alignment checklist (Table 3.1).

Table 3.1: SAP alignment checklist

Potential SAP alignment criteria		Yes	No	Remarks
People	The staff at the SONGWECOM have necessary skillsets to deliver the SAP			
	Does the SONGWECOM have resources (human, financial, materials/assets etc) needed to deliver the SAP			
	Are key stakeholders supportive (incl. farmers, fisherfolks) and have positive attitude aligned with the SAP strategy			
Incentives	Are there incentive structures for successful delivery of the strategy that are also realized by the staff at SONGWECOM?			
	Are there incentive structures for different stakeholders to support successful delivery of the strategy in the SRB?			
Structures	Do organizational and governance structures and systems enable successful delivery of the SAP?			
Supportive activities	Are other planned and on-going activities supportive?			
	Are the local resources use and management systems supportive for sustainable natural resource management?			
Culture	Is the organizational and political culture (at SONGWECOM and key MDAs) in both countries supportive?			
	Are the community culture, norms and values supportive?			

Source: Adapted from SUNO (2010).

⁸ Southern University at New Orleans-SUNO (2010). Strategic planning handbook and managers implementation tools.
https://www.suno.edu/assets/suno/PDFs/Administration/Strategic_Planning_Handbook_12-2-10.pdf

SAP Review Process

The drafted SAP blueprint went through rounds of reviews by the JIC and key stakeholders to ensure as proposed in the GEF SAP development framework, that it is:

- Fit-for-purpose;
- At a stage to be adopted by the Joint Steering Committee; and
- Likely to be endorsed by the partner countries.

The review comments were addressed into the draft SAP blueprint to produce the final document that was tabled for endorsement.

SAP Endorsement Process

The final SAP document was presented and shared with earmarked stakeholders at various level including:

- The Joint Intersectoral committee
- The Joint Steering Committee;
- The Council of Ministers; and
- The Donor Conferences.

CHAPTER FOUR

PROGRAMME DESCRIPTION

4.0 Overview of the transboundary issues

The most important Key Transboundary Issues in the Songwe River Basin system were identified, described and prioritized in the TDA. They were further elaborated, synthesized and harmonized during SAP process. The TDA used the Causal Chain Analysis approach to determine immediate, intermediate and root causes. Specifically, the intermediate and root causes feed into the identification of strategies and interventions. The identified strategies and interventions are the key mechanisms to solve problems related to the agreed Key Transboundary Issues.

4.1 Thematic areas

The SAP identified six thematic areas for intervention on specific critical issues. During the Inception Workshop and consultation workshops, the stakeholders agreed that the SAP builds on Thematic Areas in the SRB developed through a consultative process. The thematic reports are:

- a) Ecosystem services and biodiversity
- b) Water resources analyses
- c) Land degradation and erosion
- d) Climate Change and variations
- e) Governance, and
- f) Socio-economic analyses

4.1.1 Linkages Among TDA Thematic Areas

The six thematic areas are interlinked. The productivity of land including soil health contribute to socio-economic development outcomes through production of food, fibre and feed (Figure 4.1). The socio-economic status such as income and knowledge would determine the kind of management practices that land users will apply on the land resource. Poor farmers cannot afford fertilizers and costly land management technologies such as bench terraces, hence determining state of the land resource. Water resource provides soil water for crop production and watering of animals contributing to socio-economic status in terms food security and income generation. A number of socio-economic sectors such as domestic, industrial and water and sanitation require water. In return, the socio-economic status will determine the state of water resource through alternative management. The society benefits socio-economically from a range of ecosystem services – regulating, supporting, provisioning and cultural.

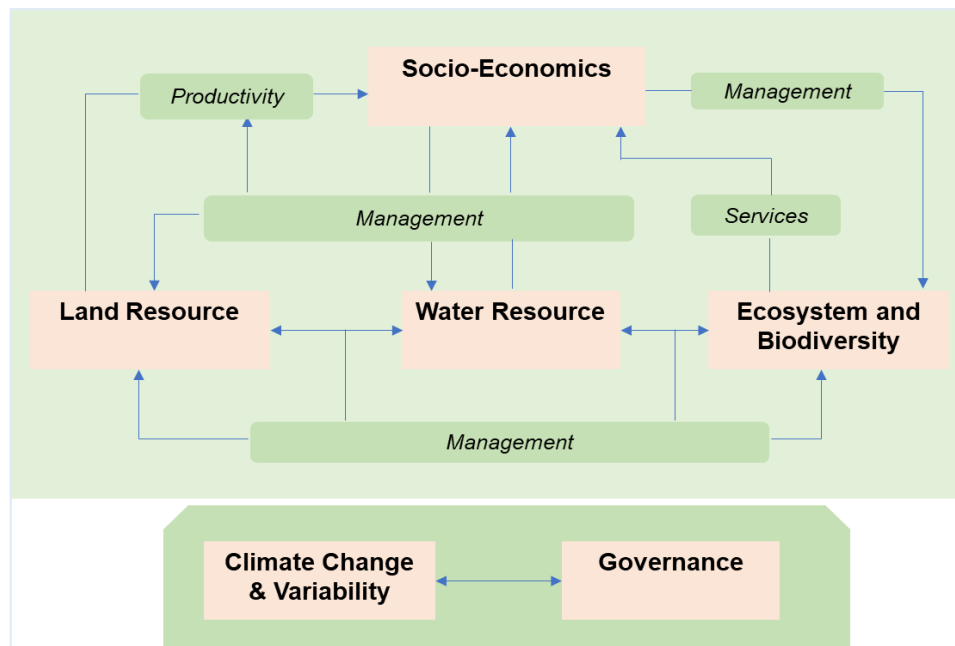


Figure 4.1: Linkages Among Thematic Areas

Furthermore, the socio-economic status will determine how people will manage the ecosystem and biodiversity. For example, extreme poverty tends to be associated with unsustainable extraction leading to ecosystem degradation and biodiversity loss. The management of land, water, and ecosystem and biodiversity are complexly related. Land degradation in the riparian watersheds will increase river siltation and sediments in the downstream waters. For example, eutrophication of Lake Malawi/Nyasa which affect the aquatic ecosystem and biodiversity is attributed to intensive use of fertilizers for land management in the riparian agro-landscapes including the SRB. Management of watersheds and river systems including environmental flows will determine the health of the ecosystem and biodiversity. Climate change impacts through raising temperature, droughts and floods will affect the natural resources and socio-economic sectors. Extreme climatic events affect the aquatic ecosystem that support fish including breeding habitats. Floods and droughts are also leading to devastating socio-economic loss and damage. Rising water temperature will affect the biodiversity through altered biological and physiological processes of flora and fauna. Moreover, governance entailing policies, institutions and regulations shapes how the natural resources and the socio-economic development are managed in the context of political ecology. Summary of identified problems are shown in Table 4.1.

Table 4.1: Overview of Key Transboundary Issues with its Thematic Area

Thematic Area	Key Transboundary Issue
Ecosystem services and biodiversity	1. Decrease of habitats and their values 2. Endangerment and extinction of species 3. Loss of aquatic and terrestrial biodiversity 4. Ecosystem degradation and biodiversity loss
Water Resources Analyses	5. Flooding 6. Water pollution and reduced water quality including sedimentation/siltation 7. Watershed and water resources degradation 8. Reduced environmental flow 9. Increased water demand with decreasing water availability 10. Insufficient engagement of stakeholders in the management of water resources 11. Untapped hydropower potential
Land degradation and soil erosion	12. Erosion and soil losses 13. Ecosystems and landscape degradation 14. Declining water quality 15. Deforestation and wetland/floodplain degradation
Climate Change Analyses	16. Scarcity, variability and poor quality of water 17. Vulnerability of agriculture and livelihoods
Socio-Economic Analyses	18. Unsustainable land uses and management 19. Unsustainable extraction of resources (forestry, fisheries etc.) 20. Deforestation 21. Loss of habitats for beekeeping 22. Overharvesting of some tree species for good charcoal
Governance	23. Environmental degradation

4.2 Pathways to the SAP: Key Nine Results Areas

The thematic TDA can be reduced into five broad sustainable development results areas that can be realized through strategic game-changing actions and engaging with key stakeholders. These areas forging pathways and game-changing actions into the SAP process include: 1) Integrated Ecosystem and Biodiversity Restoration and Management, 2) Water Resource Management, 3) Sustainable Land Management, 4) Poverty Reduction, 5) Education and Skills Development, 6) Improved Roads Infrastructure, 7) Harnessing Youth Bulge as a Demographic Dividend, 8) Transitioning to Sustainable and Clean Energy for All, and 9) Promoting Sustainable Socio-Economic Development Enablers (Gender Mainstreaming, R&D and ICT).

CHAPTER FIVE

STRATEGIC ACTION PLANNING

5.0 An Overview

Chapter five underscores the strategic pathways toward the Shared Vision, goals and strategic objectives. By effectively addressing the strategic objectives through actions the goals are achieved leading to realization of the Vision. Notably, the developed SAP is preceded with the basin's Shared Vision 2050 and the SRBDP with the first 10-year phase running from 2015 to 2025. In this respect, it is strategically imperative to align the SAP Vision and goals to such preceding initiative. Over the past decade since the SRBDP was developed, the development priorities and conditions in the basin have dynamically changed. The currently developed SAP captures emerging realities, and current and envisioned sustainable development vision and priorities. Thus, part five highlights the alignments of the key action areas in the SAP and SRBDP.

5.1 The Shared Visions and Strategic Pathways for the SAP

5.1.1 Alignment of SAP and Shared Vision 2050

A vision is the desired long-term future state, which is shared by the two countries for sustainable development of the transboundary SRB. Arguably, the SAP's strategic Vision must align with the Shared Vision 2050 embraced by the partner riparian countries a decade ago – from 2015. The SAP's Vision is not meant to replace the previous Shared Vision 2050, but rather to update it with emerging realities and new visionary developments shaped by local, national, regional and global development dynamics –and mega-trends such as climate change, geopolitics, demographics, urbanization and income growth.

Therefore, the development of the SAP's Vision 2035 reflected the Shared Vision 2050 (DDIP – SRBDP, 2015⁹) with Vision and Mission Statements narrated as follows:

Vision Statement

“A Songwe River Basin that continuously experiences improved quality of life among the local communities through sustainable use of basin resources while ensuring that economic growth rate is above population growth rate.”

Mission Statement

“To be the leader in facilitating, protecting and enhancing socio-economic development of the Songwe River Basin using an integrated water resources management approach for the benefit of the Basin's present and future generations”.

The Goals paving a path to realization of the Shared Vision 2050 implied in the SRBDP (DDIP – SRBDP, 2015) and their alignment with SAP's Goals are presented as follows:

Goal I: Sustained Ecosystems, Natural Resources and Environment

“Basin's societies have a broad and sustained diversity of natural resources (soils, vegetation, water, wildlife, etc.) constituting the basin's natural capital assets that are properly harnessed to enhance social, human and financial capital to alleviate poverty”.

⁹ DDIP-SRBDP 2015. Final Project Report. SONGWECOM.

Goal 1 of the Shared Vision 2050 aligns with the elements in the SAP's Goals 1, 2, 3 and 5 (see Figure 5.1). Goal 5 of the SAP addresses ecological sustainability elements in the key growth sectors and energy.

Goal 2: Increased Production and income Generation

“Resources sustainably and equitably utilized for increased income and poverty reduction among all the communities residing in the Songwe River Basin”.

Goal 2 of the Shared Vision 2050 aligns with the elements in the SAP's Goals 5 and 6 (see Figure 5.1).

Goal 3: Improved Living Conditions and Quality of Life

“A healthy, adequately educated society enjoying high quality life and with full and equitable access to appropriate health, education and social infrastructure”.

The SAP's Goals 5.4, 5.5, 5.6, 6 and 8 align with the third Goal of the Shared Vision 2050. As the critical problems (issues) expressed by the stakeholders were the basis of forged goals to address them, though still important, the health sector did feature explicitly to be facing stringent problems as compared to other sectors. This means, the two countries have made a commendable progress in delivering the health services.

Goal 4: Manageable Population and Demography

“A manageable, healthy, competent and productive population living in harmony and with a positive mind set to achieve equitable economic growth and development”.

Despite that the TDA estimated the population in the basin to have increased by 25% over the past decade (i.e. ~84,400 people), the critical concern of the local communities and other stakeholders was on quality of the population particularly the demographic bulge of youths. The concerns on youths, among others, included limited education, technical and soft skillsets, lack of right mindsets and unemployment. This resulted into setting up Goal 6 in the SAP aimed at harnessing the youth bulge as a demographic dividend by addressing the underlying concerns. Goal 6 of the SAP aligns with Goal 4 of the Shared Vision 2050 – but with a focus on addressing challenges associated with the youth bulge.

Goal 5: Improved Governance, institutions and Policies

“An empowered and gender sensitive community that observes the rule of law and human rights, well integrated institutional framework enabled by a policy environment that facilitates the community involvement in the management of resources”.

Governance was among the critical concerns realized through the TDA. Governance problems crisscrossed almost every sphere of institutional failures in addressing environmental degradation, eradicating abject poverty and upgrading quality of life and health of the environment in the basin. Goal 7 and an array of elements across other Goals of the SAP aligns with Goal 5 of the Shared Vision 2050.

5.1.2 The SAP's Vision 2035

Drawing from an extensive stakeholders' consultations and the previous Vision and Mission Statements, the currently developed SAP develops its Vision 2035 stated as follows:



By 2035, without leaving anyone and no place behind in the basin, all residents will have realized decent, inclusive and resilient socio-economic development free from all facets of poverty and destitution through sustainable utilization of shared water and related resources under the auspices of an integrated ecosystem-based management approach.

5.1.3 Strategic Pathways towards the SAP's Vision 2035

Strategic pathways for addressing the critical transboundary issues towards envisioned futures by 2035 under the developed SAP include:

1. Integrated Ecosystem and Biodiversity Restoration and Management
2. Integrated Water Resource Management
3. Sustainable Land Management
4. Addressing climate change through both adaptation and mitigation
5. Poverty Reduction through Sustainable Development of Key Growth and Service Sectors
6. Education and Skills Development
7. Improved Roads Infrastructure
8. Harnessing Youth Bulge as a Demographic Dividend
9. Transitioning to Sustainable and Clean Energy for All
10. Strengthened Governance at all levels and Cooperation
11. Promoting Sustainable Socio-Economic Development Enablers (Gender Mainstreaming, R&D and ICT).

5.2 Strategic Goals and Objectives

The solutions to address the critical transboundary problems (or issues) defined pathways that formed the basis of developed strategic goals. As presented in Figure 5.1, the SAP's strategic goals include:

Goal 1	Enhancing ecosystem and biodiversity restoration and management
Goal 2	Strengthening Integrated Water Resources Management
Goal 3	Enhancing Sustainable Land Management
Goal 4	Enhancing Climate Change Adaptation and Mitigation
Goal 5	Poverty reduction through Development of Key Growth and Service Sectors
Goal 5.1	<i>Sustainable and Inclusive Development of Agriculture for Poverty Reduction</i>
Goal 5.2	<i>Sustainable and Inclusive Development of Fisheries for Poverty Reduction</i>
Goal 5.3	<i>Sustainable and Inclusive Development of Forestry for Poverty Reduction</i>
Goal 5.4	<i>Improving Education and Skills for Sustainable Development</i>
Goal 5.5	<i>Improving Rural Road Transportation System for Sustainable Development</i>
Goal 5.6	<i>Transitioning to Sustainable and Clean Energy for All</i>
Goal 6	Harnessing Youth Bulge as Demographic Dividend
Goal 7	Strengthening National and Bilateral Governance of Transboundary Natural Resources
Goal 8	Promoting Sustainable Development Enablers

Figure 5.1: SAP's Strategic Goals

5.2.1 Enhancing ecosystem and biodiversity restoration and management

5.2.1.1 The Strategic Objectives and Implementation Budget

Goal of the SAP entails achieving enhanced restoration and management of the ecosystem and biodiversity. The strategic objectives and sub-objectives that need to be addressed in order to achieve the goal are as presented in Table 5.1. The delivery of the objectives intended to contributing towards delivery of the Goal will cost around USD 219,733.33. Details of the sub-objectives and actions are summarized in the annexed SAP matrices.

Table 5.1: Strategic Objectives for Ecosystem and Biodiversity Management

Strategic Objectives		Budget (USD)
1.1	Integrated Ecosystem-Based Approach (EBA) in natural resources and biodiversity management Promoted by 2026	
1.1.1	Enhanced capacity and understanding of NR officers and extensionists of the EBA by 2025	12,815.69
1.1.2	Ecosystem Based Approach (EBA) Scaled-up into existing environmental management and extension guidelines, and by-laws by 2025	20,156.86
1.2.3	Increased awareness and sensitization of the public and community on ecological civilization in the basin by 2026	13,835.29
1.2	Community-based regeneration and restoration of severely degraded ecosystems Promoted by 2025	
1.2.1	Increased awareness and capacity of local communities on restoration and regeneration of degraded ecosystems by 2024	51,607.84
1.2.2	Incentive structures for the local communities to embark on restoration and regeneration of degraded ecosystem Co-developed by 2025	26,690.20
1.2.3	Robust M&E system with local communities to track results from conservation initiatives Co-developed by 2024	16,274.51
1.3	Key stakeholders Engaged in the planning, implementation, and M&E of environmental management actions by 2025	
1.3.1	Updated stakeholders' inventory/database to ensure no key stakeholder is left behind by 2024	34,549.02
1.4	Strengthened coordinated joint planning, implementation, M&E of interventions in the management of transboundary natural resources by 2026	
1.4.1	Enhanced use of existing planning spaces for bilateral coordination of management of ecosystem and biodiversity resources by 2025	28,666.67
1.4.2	Increased joint investments in the management of shared ecosystem and biodiversity resources by 2026	15,137.25
Total Budget		219,733.33

5.2.1.2 Ecosystem and biodiversity: the policy state and practice

Enhancing ecosystem and biodiversity restoration and management in the SRB is rooted in the urgent need to address environmental degradation, loss of biodiversity, and the challenges posed by a growing population. While both Tanzania and Malawi have national strategies and policies in place to address these issues, there is a need for customized actions and strong political will to effectively implement these measures and improve the livelihoods of those affecting the basin's ecosystem. It aligns with national policies (and corresponding laws and regulations), international commitments as discussed here, and the goal of achieving both environmental sustainability and improved livelihoods for the region's inhabitants.

Tanzania's National Biodiversity Strategy and Action Plan (NBSAP) from 2001 and Malawi's NBSAP (2015-2025) outline strategic plans for biodiversity conservation and sustainable use. Malawi's Forestry Act (1997) and Tanzania's National Forest Policy (1998) and Forest Act (2002) govern forest management, including efforts to combat deforestation and promote reforestation. While Malawi lacks a specific policy on wetlands, Tanzania's National Wetland Policy (2015) provides strategies for conserving these critical ecosystems. Both countries are signatories to international agreements like the Convention on Biological Diversity (CBD) and CITES, which guide global biodiversity conservation efforts.

The management of land use and mitigation of land degradation are also addressed by policy instruments like Tanzania's National Land Use Planning Commission Act (NLUPCA) and Malawi's Physical Planning Act (2016) and other related policies. Both countries have REDD+ strategies aimed at reducing carbon emissions from deforestation and promoting sustainable forest management, which have implications for biodiversity conservation. Additionally, both nations have committed to environmental conservation through policies like Malawi's National Environmental Policy (2004) and Environment Management Act (2017) and Tanzania's National Environmental Policy (2021) and National Environment Management Act (2004). These policies and international agreements provide a framework for biodiversity conservation and ecosystem management.

5.2.2 Strengthening Integrated Water Resources Management

5.2.2.1 The Strategic Objectives and Implementation Budget

The SAP's Goal on integrated water resources management would be attained through a number of objectives (Table 5.2). The objectives are further broken into specific sub-objectives under which specific actions are developed (Annex 1). This goal entails achieving enhanced restoration and management of the ecosystem and biodiversity. The strategic objectives and sub-objectives that need to be addressed in order to achieve the goal are as presented in Table 5.2. Implementation of the strategic objectives is estimated to cost USD 885,563,396.12.

Table 5.2. Strategic Objectives for Water Resources Management

Strategic Objectives		Budget (USD)
2.1	Integrated management of watersheds Promoted by 2027	
2.1.1	Scaled-up tree planting for conservation of watersheds by 2024	434,039.22
2.1.2	Regulations and by-laws for rivers and water sources protection Enforced by 2027	156,274.51
2.2.3	Strengthened water resource governance institutions by 2026	109,803.92
2.2	Multipurpose water infrastructure, water use efficiency, productivity and quality Developed and Promoted by 2035	
2.2.1	Increased investment in water infrastructure, efficient irrigation and drainage infrastructure by 2034	882,131,105.92
2.2.2	Water-smart technologies and practices across the key water demand sectors Promoted by 2035	15,035.29
2.3	Climate change related impacts on water resources including environmental flows Addressed by 2025	
2.3.1	Climate-smart water technologies and practices Promoted by 2025	426,078.43

Strategic Objectives		Budget (USD)
2.3.2	<i>Environmental flows monitoring and safeguard systems Enforced by 2025</i>	417,176.47
2.4	Strategies for sustainable management of groundwater and wetlands in the Songwe River Basin (SRB) Developed and Implemented by 2027	
2.4.1	<i>Strategies for sustainable management of groundwater in Developed and Implemented 2026</i>	1,234,941.18
2.4.2	<i>Strategies for sustainable management of wetlands and floodplains Developed and Implemented by 2027</i>	638,941.18
Total Budget		885,563,396.12

5.2.2.2 Water resources management: the state of policy and practice

During the TDA mission in SRB which is shared by Malawi and Tanzania, it was noted that due to rapid population growth and adverse effects of climate change there is unsustainable and inequitable access and management of water resources. Water resource management in both countries is underpinned by an extensive array of policies, legislative acts, and strategies aimed at achieving sustainable development, equitable resource utilization, and fostering community participation. Challenge remains in customization and downscaling these efforts to basin level through cooperative transboundary framework that fosters collaboration, facilitates information sharing, and harmonizes these efforts. Notably, the National Water Policy (Malawi, 2023; Tanzania, 2002) which provides the strategic direction for water resource development, with a strong emphasis on Integrated Water Resources Management (IWRM) and sustainability. Additionally, key documents like the National Water Sector Development Strategy (2006), the National Water Resources Act (Malawi, 2013), and the Water Resources Management Strategy (Tanzania, 2010) set specific goals and objectives for sustainable water use. Efforts to enhance access to water supply and sanitation services are seen in Tanzania through the Tanzania Water Sector Development Programme (WSDP 2006–2025), while in Malawi, similar endeavours are managed under the Water Act (2018), the Malawi Water Resources Investment Strategy (2013), Water Quality Regulations, and the Sanitation and Hygiene Promotion Strategy (2017).

Furthermore, the critical component of irrigation management is governed by the National Irrigation Policy (Malawi, 2016; Tanzania, 2010) and the National Irrigation Act (Tanzania, 2013), establishing a legal framework for irrigation regulation and environmental considerations. Both countries also address climate change's impact on water resources with dedicated strategies i.e. Water Resources Management Strategic Interventions and Action Plan for Climate Change Adaptation (2013) in Malawi and the National Climate Change Response Strategy (2021–2026) in Tanzania. Moreover, the Water Resources Management Act (Malawi, 2013; Tanzania, 2022) establishes the legal foundation for water resource management, water allocation, permitting, and the promotion of IWRM principles. Regulations for Water Resources Users Associations (WRUAs) derived from these acts guide community participation through entities like the National Water Resources Authority (Malawi) and Basin Water Boards (Tanzania), vital for basin-level water resource management. Both countries are also signatories to regional and international water-related agreements, including the SADC Water Protocol and the United Nations Sustainable Development Goals (UN SDGs), further solidifying their commitment to sustainable water management practices.

5.2.3 Enhancing Sustainable Land Management

5.2.3.1 The Strategic Objectives and Implementation Budget

Achieving sustainable land management is among the goals envisioned to achieve the joint vision of sustainable socio-economic development in the basin. The key objectives and sub-objectives that should be addressed to attain the respective goal are presented in Table 5.3. The budget to implement the strategic objectives is estimated at USD 575,529.41.

Table 5.3. Strategic Objectives for Sustainable Land Management

Strategic Objectives		Budget (USD)
3.1	Sustainable land use and management planning in the basin Implemented by 2027	
3.1.1	Sustainable land management plan and guidelines for undertaking land use and management by 2027	57,490.20
3.1.2	Formalization of customary land tenure systems Promoted by 2026	7,921.57
3.2	Enhanced sustainable land management in the riparian agro-landscape by 2025	
3.2.1	Sustainable land management guidelines Developed and Promoted by 2024	76,980.39
3.2.2	Guidelines for sustainable sand mining Developed and Promoted by 2025	24,980.39
3.3	Increased public investment in land conservation structures at degradation hotspots in the catchment by 2028	
3.3.1	Cost estimates of land conservation structures at degradation hotspots Established by 2027	74,117.65
3.3.2	Land conservation civil structures in degraded hotspots Constructed by 2028	334,039.22
Total Budget		575,529.41

5.2.3.2 Sustainable land management: the state of policy and practice

The Songwe River basin's transboundary nature underscores the need for Tanzania and Malawi to collaborate on sustainable land management (SLM) to address unsustainable land use practices. Such practices, occurring on one side of the border, lead to direct consequences, notably affecting water availability, quality, soil fertility, and erosion. Indirect effects impact ecosystem health, flood and drought occurrences, compounding challenges on both sides of the border. Competing land uses and resource demands in the basin can provoke conflicts in local communities, potentially escalating to national disputes due to the basin's transboundary character. The environmental and socio-economic impacts stemming from land use issues necessitate cooperative efforts in tailoring national policies and laws to local realities, allowing them to guide and regulate land use and conservation practices in the basin. During the Transboundary Diagnostic Analysis (TDA), it became evident that both Malawi and Tanzania have a range of policies, strategies, laws, and regulations aimed at preventing land degradation, conserving biodiversity, ensuring food security, and increasing agricultural yields. All measures read very well but are yet to be harmonized and localized.

The measures include the National Land Policy (Tanzania, 1995; Malawi, 2002) that serves as an overarching framework for land tenure, land use planning, and management, as well as the Land Act (Tanzania, 1999; Malawi, 2016), which provides the legal foundation for

land tenure and use. Governance of land tenure and use in rural areas is governed by specific acts, such as the Village Land Act (1999) in Tanzania and the Customary Land Act (2016) and the Land Tenure Policy (2016) in Malawi. These countries prioritize land and soil conservation as integral components of environmental sustainability, as reflected in the National Environmental Policy (Tanzania, 2021; Malawi, 1996), with Malawi additionally addressing soil erosion through its Soil and Water Conservation Policy and Strategy (2000). Furthermore, the Environmental Management Act (Tanzania, 2004) covers broader environmental concerns, including land use planning, with legislation in Tanzania provided for by the Land Use Planning Act (2007) and in Malawi by the National Physical Planning Act (2016). Both countries also support agricultural land sustainability through Tanzania's Agricultural Sector Development Programme (ASDP), the *Kilimo Kwanza* (Agriculture First) Resolve, and Malawi's Agricultural Sector-Wide Approach (ASWAp). Furthermore, both countries are signatories to the United Nations Convention to Combat Desertification (UNCCD) and have endorsed the National Action Plan to Combat Desertification (NAP), emphasizing the importance of sustainable land management practices. Additionally, regional and local governments have enacted their own regulations and by-laws that complement national legal frameworks.

5.2.4 Enhancing Climate Change Adaptation and Mitigation

5.2.4.1 The Strategic Objectives and Implementation Budget

Addressing climate change through both adaptation and mitigation actions is among the key strategic goals of the SAP for achieving sustainable socio-economic development in the basin. Table 5.4 presents an array of strategic objectives and related specific sub-objectives through which climate change will be addressed. The budget of implementing the objectives is estimated at USD 706,054.90.

Table 5.4. Strategic Objectives for Climate Change Adaptation and Mitigation

Strategic Objectives		Budget (USD)
4.1	Agro-landscape greening through community-based agro-forestry Promoted by 2035	
4.1.1	Scaled-up agro-forestry for greening of the agro-landscape by 2030	33,168.63
4.1.2	Participatory M&E framework for agro-forestry based agro-landscape greening	53,050.98
4.1.3	Value chains and marketing systems of tree crops Improved by 2035	142,054.90
4.2	Increased investment in integrated flood control infrastructure and mitigation systems by 2030	
4.2.1	Appropriate flood control, mitigation and early warning system Designed by 2028	426,941.18
4.2.2	Capacity of the communities to effectively use developed flood control, mitigation and early warning system Improved by 2030	4,470.59
4.3	Climate finance from domestic, bilateral and multilateral sources for investment in adaptation and resilience projects Accessed by 2025	
4.3.1	Fundable adaptation programmes and projects Developed by 2024	19,254.90
4.3.2	Resources mobilization for sustainable funding of adaptation, disaster risk reduction and social protection Developed by 2025	27,113.73
Total Budget		706,054.90

5.2.4.2 Climate change adaptation and mitigation: the state of policy and practice

The TDA mission revealed an existence of comprehensive framework of national policies and legal instruments applicable to address climate change impacts in both Tanzania and Malawi, these frameworks are supposedly in place to support climate change adaptation and mitigation initiatives across various sectors. However, operationalization of these frameworks in the SRB is limited with isolated sector actions spreading thin already insufficient resources. Below are some of enacted strategic policies to address climate change impacts, increase resilience, adaptation, and mitigation between the two countries.

Malawi's National Climate Change Policy (NCCP, 2016) and Tanzania's National Climate Change Response Strategy (NCCRS, 2021-26) align with other sector policies on climate change. The National Water Policy (Malawi, 2023; Tanzania, 2002) ensures a reliable supply of quality water and promotes conservation with climate change adaptation elements. The National Agriculture Policy (Malawi, 2016; Tanzania, 2013) enhances productivity and food security through sustainable land management to counter climate change. While Tanzania promotes sustainable human settlements in the face of changing climate through its Human Settlements Development Policy (2000), Malawi lacks a clear framework. The National Livestock Policy (Malawi, 2021-26; Tanzania, 2006) enhances livestock subsector resilience and adaptation to climate change. Both the Tanzania Fisheries Policy (2015) and the Malawi National Aquaculture Policy (2nd Ed, 2016) develop competitive, climate-resilient fisheries. The Irrigation Policy (Malawi, 2016; Tanzania, 2010) focuses on eco-friendly irrigation for climate change adaptation. The National Forest Policy (Malawi, 2017; Tanzania, 1998) emphasizes sustainable forest management, vital for carbon sequestration. The National Energy Policy (Malawi, 2003; Tanzania, 2015) promotes renewable energy and efficiency for climate adaptation and mitigation. The Tanzania National Health Policy (2007) addresses climate-sensitive diseases, integrating climate change concerns. Finally, the Tanzania National Disaster Management Policy (2004) and Malawi National Disaster Risk Management Policy (2015) strengthen disaster risk management with early warnings for climate change adaptation.

The legal framework comprises the Environmental Management Act (Malawi, 1996; Tanzania, 2004), addressing pollution control, environmental impact assessments, and waste management, crucial for climate change. The Plant Health Act (Malawi, 2018; Tanzania, 2020) safeguards plants from diseases and pests amid changing climates. Tanzania's Urban Planning Act (2007) focuses on climate-resilient technologies and urban ecological protection. The Mining Act (Tanzania, 2010) and Mines and Minerals Act (Malawi, 2018) regulate mining and environmental assessments. The Forest Act (Malawi, 1997; Tanzania, 2002) supports forest and community management. Water Resources Management Act (Malawi, 2013; Tanzania, 2009) covers water, pollution, and stakeholder involvement. Tanzania manages overgrazing with the Grazing Land and Animal Feed Resources Act (2010). Fisheries are addressed by the Malawi Fisheries Conservation and Management Act (1997) and the Tanzania Fisheries Act (2003), crucial for combating climate change impacts. The Tanzania Meteorological Authority Act (2019) governs meteorological services. Disaster management is coordinated by the Disaster Management Act (Malawi, 2019; Tanzania, 2015), given increased extreme weather events. The Public Health Act (Tanzania, 2009) and Malawi's CAP 34:01 focus on public

health, including climate-related disease prevention. Additionally, the Malawi Energy Regulation Act (2004) promotes renewable energy and efficiency, aligning with climate change mitigation.

5.2.5 Poverty reduction through Development of Key Growth and Service Sectors

The key growth sectors for poverty reduction and improved wellbeing of the rural poor are crop and livestock production, fisheries and forestry extraction and production. The same growth sectors faced unsustainable extraction and production practices mainly by resource poor hence threatening sustainable flow of agro-ecosystem services – hence perpetuating poverty and environmental degradation.

The key service sectors that were characterized with critical development challenges hence contributing to low quality of life and living standards, and leading to accelerated environmental degradation included – education, rural roads and energy. In this regard, the poverty reduction goal was split into six sub-goals addressing ecological, social and economic challenges in the key growth and service sectors.

5.2.5.1 Sustainable and Inclusive Development of Agriculture for Poverty Reduction

The Strategic Objectives and Implementation Budget

Ending poverty is central in attaining the shared vision towards sustainable and inclusive socio-economic development through key growth sectors. Crop and livestock production are the key agricultural growth sectors in the basin that employ and sustain livelihoods of the majority of the rural poor. Given the poverty-environmental degradation nexus, achieving sustainable and inclusive agricultural development not only that will address poverty but will inextricably abate pressure on the environment. Strategic objectives and underlying sub-objectives through which sustainable and inclusive agricultural development would be achieved are presented in Table 5.5. It is estimated that the implementation of the actions aimed sustainable agriculture for poverty reduction will cost USD 491,676,811.76.

Table 5.5. Strategic Objectives for Agriculture Development

Strategic Objectives		Budget (USD)
5.1.1	Sustainable agricultural intensification Promoted by 2029	
5.1.1.1	Scaled-up conservation agriculture technologies and practices by 2027	51,392.16
5.1.1.2	Enhanced integration of crop and livestock enterprises by 2029	13,890.20
5.1.2	Strategic agricultural value chains with higher environmental, economic and social returns on investment by Developed 2026	
5.1.2.1	Strategic agricultural value chains sustainably and inclusively Upgraded by 2025	187,647.06
5.1.2.2	Inclusive circular economy in agricultural value chains Enhanced by 2026	170,627.45
5.1.3	Strengthened formalized cross-border agricultural trade by 2035	
5.1.3.1	Appropriate mechanisms to facilitate cross-border agricultural trade Developed by 2028	56,431.37
5.1.3.2	Joint modern agricultural markets and agro-industry park for exports Developed by 2035	491,196,823.53

Total Budget	491,676,811.76
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Agriculture development: the state of policy and development

Several key policy and programme initiatives in Malawi and Tanzania are pivotal in shaping the agricultural landscape and addressing poverty. Various national development plans, such as the Tanzania Development Vision, Five-Year Development Plans, and the Malawi Vision 2063 (MW 2063) and Implementation Plan (2021-2030), incorporate dedicated sections focusing on agriculture and its role in poverty reduction. These plans contribute to the broader vision of agricultural growth and inclusive development in both nations. The National Agriculture Policy in Malawi (2016) and Tanzania (2013) outlines comprehensive strategies to enhance agricultural productivity, encourage sustainable practices, and ensure inclusivity and social equity within the sector. The National Irrigation Policy (Malawi, 2016; Tanzania, 2010) underscores the significance of expanding irrigation infrastructure to augment agricultural productivity and alleviate poverty. National Land Policy (Malawi, 2002; Tanzania, 1995) offers crucial guidance on land tenure, use, and access, vital for inclusive agricultural development. Addressing Tanzania's livestock development and poverty reduction, the Livestock Policy (2006) and the Livestock Master Plan (2017) hold essential roles in the agricultural landscape. Hence, the rationale for localizing the national-level strategies and initiatives in the Songwe River Basin is to tailor these comprehensive plans to the specific needs, challenges, and opportunities of the local agricultural context, thus maximizing their effectiveness in promoting inclusive agriculture and poverty alleviation in the region.

Other efforts are Agricultural expansion and poverty eradication initiatives, including SAGCOT (Tanzania), the National Export Strategy, Green Belt Initiative, and the National Food and Nutrition Policy (Malawi), which share the overarching goal of boosting agricultural productivity, improving food security and nutrition, reducing poverty, and ensuring environmental sustainability by commercializing smallholder agriculture. The Agriculture Sector Development Programme (ASDP) Phase II, spanning from 2017/18 to 2027/28, focuses on uplifting smallholder productivity, bolstering value chains, and reducing poverty as part of the Tanzania government's broader agricultural development strategy. Tanzania's Agricultural Sector Development Strategy - II (ASDS – II 2015/2016 to 2024/2025) aims to contribute to national economic growth and poverty reduction by promoting sustainable agricultural growth, enhancing food and nutrition security, and reducing rural poverty. It aligns with the Comprehensive Africa Agriculture Development Programme (CAADP) objectives and the Tanzania Agriculture and Food Security Investment Plan (TAFSIP). Furthermore, Subsidy Programmes (National Fertilizer Programme in both countries, and National Seed Policy in Malawi) have played a pivotal role in the countries' agricultural development strategies, focusing on improving smallholder farmers' access to essential inputs.

5.2.5.2 Sustainable and Inclusive Development of Fisheries for Poverty Reduction

The Strategic Objectives and Implementation Budget

The basin is endowed with a wealth of shared fisheries resources that are economically underutilized and extracted unsustainably. Thus, achieving the goal of sustainable and inclusive development of the fisheries sector is critical for poverty reduction and

sustainable development at large. Table 5.6 presents a set of strategic objectives and sub-objectives that need to be addressed for achieving the goal. Interventions in sustainable fisheries development for poverty reduction are estimated to cost USD 420,933.33.

Table 5.6. Strategic Objectives for Fisheries Development

Strategic Objectives		Budget (USD)
5.2.1	Ecosystem-based fisheries management Promoted by 2030	
5.2.1.1	<i>Sub-Objective 5.2.1.1-Fisheries stocking, restoration and management technologies and practices Promoted by 2027</i>	49,694.12
5.2.1.2	<i>Sub-Objective 5.2.1.2-Effective mechanisms of managing hazardous wastes in the riparian watersheds to curb water pollution Developed by 2030</i>	85,411.76
5.2.2	Developed fish value chains in capture fisheries and aquaculture by 2032	
5.2.2.1	<i>Sub-Objective 5.2.2.1-Increased access to quality fingerlings and fish feed by smallholder fish farmers by 2028</i>	142,196.08
5.2.2.2	<i>Sub-Objective 5.2.2.2-Transboundary trade of fisheries inputs and products Promoted by 2032</i>	41,200.00
5.2.3	Enhanced the contribution of fisheries sector to improved community nutrition by 2030	
5.2.3.1	<i>Sub-Objective 5.2.3.1-Fish-based food products by women and youth entrepreneurs Developed and Produced by 2030</i>	102,431.37
Total Budget		420,933.33

Sustainable fisheries development: the state of policy and practice

The efforts aimed at promoting sustainable fisheries and aquaculture practices, improving resource management, and reducing poverty to enhance the livelihoods of fishing communities in Malawi and Tanzania are more or less the same in the Songwe River Basin where major water bodies such as lake Malawi/Nyasa is shared by both countries. Harmonizing fishing regulations between Malawi and Tanzania in the SRB remains an important aspect to fast-track contribution of fishing sector to poverty alleviation among fishing communities in SRB. The TDA mission in SRB found that upon collaborative agreements and establishment of a joint management frameworks to ensure consistency in rules, including standardized net sizes and fishing methods, will ultimately facilitate sustainable cross-border fisheries management.

Some of important frameworks existing in Malawi and Tanzania are the Tanzania National Fisheries Policy (2015) and the Malawi National Fisheries and Aquaculture Policy (2017) which both express the governments' dedication to fostering sustainable fisheries and aquaculture practices. These policies aim to ensure fair distribution of benefits from fisheries, encourage responsible fishing techniques, and alleviate poverty in fishing communities. Supported by the Fisheries Act (Malawi, 1997; Tanzania, 2003), which establishes the legal framework for regulating and managing fisheries, they emphasize resource conservation and sustainable management as vital for poverty reduction in the fisheries sector. Furthermore, the Tanzania's Fisheries Sector Master Plan (2021/22–2036/37) provides a strategic roadmap for economic growth, food security, and poverty reduction within the fisheries and aquaculture sector. Malawi's National Aquaculture Policy and Strategy (2008) primarily targets aquaculture development as a means to

alleviate poverty and enhance food security. These efforts are in alignment with the broader Growth and Development Strategies, encompassed in Tanzania's Development Vision 2025 and Malawi's Vision 2063 and the Implementation Plan 2021-2030, which prioritize poverty reduction through the fisheries sector among others. Additionally, the inclusion of the Fisheries and Aquaculture Component in the Malawi National Export Strategy (2009) underscores the role of fisheries and aquaculture in bolstering economic growth and reducing poverty by increasing the income of those engaged in the fishing industry.

5.2.5.3 Sustainable and Inclusive Development of Forestry for Poverty Reduction

The Strategic Objectives and Implementation Budget

In addition to being under unprecedented degradation, the forestry sector has not leveraged its economic potential as expected to poverty reduction and sustainable development. Therefore, sustainable and inclusive development of the forestry sector is one of the pertinent goals to be achieving in the development quest of ending poverty in the basin. The objectives and sub-objectives under which specific actions are articulated for achieving the respective goal are presented in Table 5.7. The costs of respective actions are estimated at USD 291,607.84.

Table 5.7. Strategic Objectives for Forestry Development

Strategic Objectives		Budget (USD)
5.3.1	Developed sustainable and inclusive forestry commodity and service value chains by 2031	
5.3.1.1	Upgraded forestry commodity and service value chains by 2029	186,588.24
5.3.1.2	Developed inclusive verified carbon trade and PES schemes by 2031	105,019.61
Total Budget		291,607.84

Sustainable forestry development: the state of policy and practice

It has been noted that, despite having nearly identical policy and legal frameworks for the inclusive development of forestry in both Malawi and Tanzania, disparities in institutional capacity, regulatory infrastructure, and governance mechanisms can influence the effectiveness of implementing and overseeing forestry-related guidelines in the Songwe River Basin. Coordinated efforts to implement the guidelines derived from existing policy and legal frameworks are essential for achieving consistency in the anticipated benefits of sound forestry practices across the border and for minimizing leakages. Important initiatives in having forestry as an inclusive development and poverty alleviation includes National Forest Policies of Malawi (1996) and Tanzania (1998) which underscore the commitment of these governments to sustainably manage and conserve forest resources, with a strong focus on reducing poverty through community involvement in forest management. Both countries have Forest Acts, dating back to Malawi in 1997 and Tanzania in 2002, which establish the legal framework for the management, conservation, and utilization of forest resources, incorporating provisions for community-based forest management and participatory decision-making. They aim to ensure that local communities play an active role in forest governance.

Moreover, the National Forestry Programme of Malawi (2008) and Tanzania (2006) prioritize sustainable forest management and the promotion of community-based forest

management as key strategies for poverty reduction and livelihood improvement. Both countries have also embraced the REDD+ strategy to combat deforestation and forest degradation while promoting sustainable forest management, further contributing to poverty reduction efforts. In addition to these overarching policies and strategies, various guidelines, such as the Participatory Forest Management (PFM) Guidelines in Tanzania (2009) and the National Forest Programme Implementation Guidelines (2008), provide a structured framework for engaging local communities in forest management, which is crucial for implementing key poverty-reduction strategies like the Malawi National Forest Landscape Restoration Strategy (2017). Community-Based Forest Management (CBFM) Initiatives in Tanzania empower local communities to actively participate in forest resource management, ultimately benefiting from these resources and helping to alleviate poverty.

5.2.5.4 Improving Education and Skills for Sustainable Development

The Strategic Objectives and Implementation Budget

Developed human capital in terms of acquired education and skills can be both a driver and an outcome of socio-economic development. Poor education and skills particularly among the youths were one of the critical problems identified by stakeholders in the basin. As a result, a strategic goal is set for improving education and skills (both technical and soft) targeting out-of-school children of schooling age and youths. The strategic objectives and specific sub-objectives are presented in Table 5.8. The budget of USD 841,584.31 is estimated for implementation of the activities needed to deliver the strategic objectives.

Table 5.8. Strategic Objectives for Education Development

Strategic Objectives		Budget (USD)
5.4.1	Advocated for integration of ecological sustainability in the education system and eco-civilization among the local communities by 2035	
5.4.1.1	National education advocacy stakeholders and government institutions for integration of ecological sustainability in the education system Engaged by 2030	418,274.51
5.4.1.2	Increased awareness of the public and local communities on the emerging issue of eco-civilization by 2035	423,309.80
Total Budget		841,584.31

Education development: the state of policy and practice

Malawi and Tanzania have implemented significant education and skills policies and strategies to enhance their respective education sectors. Malawi's Education Sector Policy and Investment Plan (ESPIP) for 2019-2023 underscores its commitment to addressing the challenges within the education sector, emphasizing inclusive, equitable, and quality education and promoting lifelong learning opportunities. Tanzania's 2014 Education and Training Policy reflects the government's dedication to improving education and training quality across all levels, focusing on expanding access, refining curricular relevance, and elevating teaching and learning quality. Despite the policies and initiatives in place as observed during higher level consultations TDA activity it was contrasted with complaints of poor access to skills and education in the Songwe River Basin gathered during villages and district level consultations. The experts resolved that the challenges are related to

infrastructure, resource allocation, and the need for continued efforts to reach marginalized and remote communities.

Similarly, both countries recognize the importance of aligning with international initiatives such as the UNESCO Global Action Programme on Education for Sustainable Development (ESD) and Sustainable Development Goal 4 (SDG 4) for quality education. Tanzania's Five-Year Development Plan (2021/2022-2025/2026) and Malawi's Vision 2063 operationalized through its Implementation Plan (2021-2030) place a strong emphasis on education, with the former seeking to expand educational access and address infrastructure challenges and the latter highlighting education as a central pillar for sustainable economic growth. Higher education is a priority in Tanzania, with the 2019 Higher Education Policy aiming to produce graduates with skills aligned with the country's development needs.

Both countries have introduced frameworks and regulatory bodies to enhance education quality and relevance, such as Malawi's National Qualifications Framework (MNQF) and Tanzania's National Council for Technical Education (NACTE). Moreover, Malawi and Tanzania recognize the significance of technical and vocational education, each having its respective policy emphasizing the importance of equipping individuals with relevant skills. Skills development initiatives are also common in both nations (such as Girls' Education Strategy, Early Childhood Development (ECD) Programme/Policy) reflecting their commitment to bridging the skills gap and enhancing employability. These policies and strategies underscore the importance of education and skills development in achieving sustainable development in Malawi and Tanzania.

5.2.5.5 Improving Rural Road Transportation System for Sustainable Development

The Strategic Objectives and Implementation Budget

Rural roads network being the centerpiece of rural transportation system is the lifeline of socio-economic development. The rural road transportation system facilitates efficient mobility of people and goods and services in the basin. During the TDA consultations, the stakeholders reported poor rural roads including feeder roads as one of the priority transboundary problems in the basin – hence leading to setting a strategic goal and objectives to address the challenge (Table 5.9). The delivery of strategic objectives through specific actions is estimated to cost USD 2,317,862.75.

Table 5.9. Strategic Objectives for Rural Roads Development

Strategic Objectives		Budget (USD)
5.5.1	Enhanced rural road transportation efficiency by 2030	
5.5.1.1	<i>Challenges facing rural road transportation system in the basin Established by 2028</i>	<i>2,052,784.31</i>
5.5.1.2	<i>Increased financing and community involvement in regular maintenance of rural roads by 2030</i>	<i>265,078.43</i>
Total Budget		2,317,862.75

Rural roads development: the state of policy and practice

During the TDA mission rural roads challenges in the Songwe River basin, were reported at all levels of consultations. Participants described the problem stemming from a combination of factors, including inadequate funding for rural road infrastructure maintenance, topographical difficulties, and climate-related issues. These obstacles collectively hinder the year-round

accessibility of rural roads and impede timely and equitable delivery of inclusive development. Several key policies, initiatives, and institutions play vital roles in the development of rural road transportation systems in Malawi and Tanzania. The National Transport Policy, established in Malawi in 2015 and Tanzania in 2003, underscore the government's commitment to creating an efficient and well-maintained transport infrastructure network, with a particular focus on rural roads. This emphasis on rural road development is seen as a means to foster economic growth and alleviate poverty.

In both countries, the Malawi Roads Authority (RA) since 2006 and the Tanzania Rural and Urban Roads Agency (TARURA) since 2017 oversee the development and maintenance of rural and urban road networks. Their pivotal role involves implementing initiatives aimed at enhancing rural road transportation. Furthermore, legal frameworks, such as the Malawi Public Roads Act of 1962 and the Tanzania Road Act of 2007, provide the necessary legal framework underpinning for road management, encompassing rural roads, while the Malawi Transport Master Plan of 2015 lays out comprehensive strategies for road infrastructure development and transportation policies critical to the improvement of rural roads. Additionally, initiatives in Tanzania like the Transport Sector Investment Project (TRANSIP) and the Transport Sector Support Program (TSSP) contribute to the enhancement of national and international trunk roads, efficient cross-border transport, and broader access to schools, health facilities, and markets, further supporting inclusive growth in rural areas directly and indirectly.

5.2.5.6 Transitioning to Sustainable and Clean Energy for All

The Strategic Objectives and Implementation Budget

Deforestation and forest degradation are mainly driven by unsustainable extraction firewood and charcoal as major sources of cooking energy in both rural and urban areas within and beyond the basin. Therefore, transitioning to sustainable and clean cooking energies is an urgent goal needed to curb deforestation and enhanced ecological health of the watersheds and biodiversity in the basin. The objectives and underlying sub-objectives to address the respective goal are presented in Table 5.10. The implementation of activities and other input needed to deliver the strategic objectives is estimated to cost USD 815,192.16.

Table 5.10. Strategic Objectives for Development of Sustainable Cooking Energy

Strategic Objectives		Budget (USD)
5.6.1	Sustainably increased access to clean, affordable and reliable alternative cooking energies by 2035	
5.6.1.1	Sub-Objective 5.6.1.1-Increased public and private investments in sustainable and clean cooking energies by 2035	123,662.75
5.6.2	Effective and equitable sustainable energy transitions in the basin Developed by 2029	
5.6.2.1	Sub-Objective 5.6.2.1-Developed transitional pathways to sustainable cooking energies in rural and urban areas by 2028	494,470.59
5.6.2.2	Sub-Objective 5.6.2.2-Exploited carbon trade and PES opportunities in the energy sector by 2029	197,058.82
Total Budget		815,192.16

Sustainable energy: the state of policy and practice

In terms of energy policy, both Malawi and Tanzania have taken significant steps towards ensuring the provision of modern, affordable, and sustainable energy services for their populations. The National Energy Policy in Malawi, introduced in 2018, and a similar policy in Tanzania from 2015, underscore the commitment of their respective

governments to this mission. Central to these policies is a strong emphasis on the development of renewable energy sources and the implementation of energy efficiency measures. Despite these efforts, the population in the Songwe River Basin, shared by both Malawi and Tanzania, still lacks inclusive access to clean energy due to challenges related to infrastructure development, financing, and geographical remoteness, which hinder the effective implementation of these policies and initiatives, especially in rural and underserved areas. Additionally, the demand for clean energy solutions often outstrips the available resources and investments, leading to gaps in access.

However, the legal framework in both countries supports these goals. The Electricity Acts in Malawi (2004) and Tanzania (2008) play a crucial role in regulating various aspects of the electricity sector, such as generation, transmission, distribution, and safety standards. Meanwhile, both countries have established rural energy programs, with Tanzania establishing the Rural Energy Board and Rural Energy Fund (REF) under the Tanzania Rural Energy Act (2005), and Malawi setting up the Rural Electrification Fund and the Energy Regulatory Authority (MERA) under the Energy Electrification Act of 2004. These initiatives are instrumental in promoting access to modern energy services in rural areas, particularly through renewable energy solutions. Tanzania has embraced the Feed-in Tariffs Policy, encouraging private investment in renewable energy projects. Malawi also has policy and regulatory provisions for private independent power producers feeding the national grid. Thus, as demonstrated in the policy landscapes, both countries have made commendable strides towards Sustainable Energy for All (SE4All) as they broaden their energy mix and scale-up wider access to energy through electrification projects.

5.2.6 Harnessing Youth Bulge as Demographic Dividend

5.2.6.1 The Strategic Objectives and Implementation Budget

Youth bulge is a demographic phenomenon when at least 20% of a country's adult population is aged 15-24 years. In the African context, which is also the youngest continent in the world, youth bulge arises mainly due to high fertility and improving health conditions that reduce death rates. Across the basin's districts, the populations aged 15-24 years are in the range of 30 – 40% of the districts' adult populations. If strategically, harnessed mainly through human capital development, the youthful workforce can be a demographic dividend. And if not, the same youthful population is rather a ticking bomb that can explode to cause environmental, social and economic havocs. The majority of youths experience limited human capital, unemployment and inequitable access to economic opportunities. In this regard, the goal is set to harness the youth bulge through a set of strategic objectives (Table 5.11) that will be addressed through specific actions (see Annex 1). Implementation of actions under all goals will be gender and youth centric. However, the specific strategic objective of imparting right mindsets and ecological civilization is estimated to cost USD 115,764.71.

Table 5.11. Strategic Objective for Harnessing Youth Bulge

Strategic Objective		Budget (USD)
6.1	Enhanced human capital of youths with right mindsets and ecologically responsible by 2035	
6.1.1	Improved life-skills education among youths towards self-identification, vision setting and rational decision-making by 2035	115,764.71

Total Budget	115,764.71
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5.2.6.2 Harnessing youth bulge: the state of policy and practice

In the area of youth empowerment and harnessing the demographic dividend, several key policies and initiatives have been put in place in Malawi and Tanzania. The National Youth Policy (NYP) of Malawi, established in 2013 and MW 2063 emphasize the government's commitment to addressing youth-related issues, with a focus on youth development, education, employment, and their participation in decision-making processes. In a similar vein, Tanzania's NYP, dating back to 2007, underscores the government's dedication to the well-being of the youth population, concentrating on aspects such as education, employment, health, and their involvement in decision-making. These policies collectively aim to harness the demographic dividend by providing a comprehensive framework for youth development and engagement. However, benefits of these initiatives in harnessing the youth bulge as a demographic dividend have been limited in the Songwe River Basin due to inadequate implementation capacity hampering the effective execution of these programmes and projects.

Financial support for young entrepreneurs plays a crucial role in this endeavor. Both Malawi and Tanzania allocate financial resources through mechanisms like the Youth Development Fund (YDF) and Tanzania Economic Empowerment Fund (EEF), facilitating grants and loans for young individuals to initiate new ventures or expand existing businesses. Additionally, youth participation in agriculture is being promoted, with programmes such as Tanzania's Building A Better Tomorrow Youth and Women Initiative for Agribusiness (BBT-YIA) and the Malawi Youth in Agriculture (YIA) project, which addresses key challenges including access to land, technology, finance, and markets. Furthermore, strategies like the Tanzania Inclusive National Entrepreneurship Strategy (2017) and Malawi's National Youth Empowerment Strategy (2014) are actively addressing youth unemployment by fostering entrepreneurship and skills development. Donor-funded initiatives, like Tanzania's Advancing Youth (AY), Youth Empowerment and Skills (YES), and Youth Economic Empowerment (YEE), as well as Malawi's Universal Initiative for Youth Development Programme (UIFYDP) and Youth Empowerment Organization (YEO), are instrumental in providing support through skills training, access to finance, and entrepreneurship training. Lastly, both Tanzania's Youth Vision 2025 and the National Development Plans from both nations envision the youth as pivotal drivers of economic and social development, with periodic releases of development plans that incorporate provisions for youth empowerment and employment

5.2.7 Strengthening National and Bilateral Governance of Transboundary Natural Resources

5.2.7.1 The Strategic Objectives and Implementation Budget

Effectively coordinated governance of natural resources across the local, national and bilateral planning levels is indispensable. The governance analysis under the TDA underpinned an array of governance gaps that need to be addressed – and a strategic goal and underlying objectives were set in this regard (Table 5.12). It will cost about USD 128,628 to improve the natural resource governance through targeted actions.

Table 5.12. Strategic Objectives for Governance of Shared Resources

Strategic Objectives		Budget (USD)
7.1	Enhanced human capital of youths with right mindsets and ecologically responsible by 2035	

Strategic Objectives		Budget (USD)
7.1.1	Enhanced knowledge and capacity of stakeholders on INRM by 2025	44,470.59
7.1.2	Enhanced public awareness and knowledge on policy, legal and institutional frameworks related with INRM by 2026	44,666.67
7.2	Harmonized policy, legal and institutional frameworks related with INRM by 2026	
7.2.1	Effective implementation of policies and enforcement of regulations related with INRM by 2026	39,490.20
Total Budget		128,627.45

5.2.7.2 Natural resource governance: the state of policy and practice

In the governance of the natural resources in Songwe River Basin, several critical mechanisms and collaborative approaches are at play. The Songwe River Basin Development Programme under SONGWECOM, a joint effort between Malawi and Tanzania is a cornerstone. It's aimed at fostering sustainable development and cooperative management of the basin's natural resources through a variety of projects and activities.

Moreover, bilateral agreements offer a structured framework for both nations to coordinate resource management. These agreements may cover diverse aspects, outlining the specifics of cooperation in resource utilization. Furthermore, water and forest resources management policies, environmental regulations, transboundary cooperation frameworks, and national development plans provide additional layers of governance. These instruments will guide water allocation, conservation efforts, quality management, and resource usage strategies. In this multifaceted governance structure, community engagement and participation, coupled with mutually agreed across-the-border verifiable Environmental Impact Assessments (EIAs) mechanism, underscore the importance of local involvement and responsible development, ensuring that shared resources in the Songwe River Basin benefit both Malawi and Tanzania while safeguarding the environment.

5.2.8 Promoting Sustainable Development Enablers

5.2.8.1 The Strategic Objectives and Implementation Budget

The pathways to sustainable and inclusive socio-economic development would be enabled by critical cross-cutting issues –hitherto termed as ‘enablers’. These include gender mainstreaming, Research and Development (R&D) and Information and Communication Technology (ICT). The strategic goal and underlying objectives were crafted around the key enablers as presented in Table 5.13. Implementation of the specific strategic actions is estimated to cost USD 242,588.24.

Table 5.13. Strategic Objectives for Sustainable Socio-Economic Development Enablers

Strategic Objectives		Budget (USD)
8.1	Reduced gender inequality and empower women and girls to access productive resources and decision-making by 2030	
8.1.1	Improved gender awareness at the community level and enhanced participation of women and girls in economic activities by 2030	54,901.96
8.2	Enhanced inclusive digitalization in sustainable management of natural resources by 2030	

Strategic Objectives		Budget (USD)
8.2.1	<i>Integrated ICT in the utilization, planning, implementation and monitoring of sustainable management of natural resources by 2030</i>	88,000.00
8.3	Mobilized STI generated through R&D to inform sustainable management of natural resources in the basin by 2032	
8.3.1	<i>Enhanced joint sectoral R&D alliances to continually generate science informing sustainable management of shared natural resources in the basin by 2032</i>	99,686.27
Total Budget		242,588.24

5.2.8.2 Socio-economic development enablers: the state of policy and practice

In Malawi and Tanzania, a series of policies and strategies have been implemented to promote sustainable socio-economic development with a focus on gender mainstreaming, Research and Development (R&D), and Information and Communication Technology (ICT) as key enablers. The National Gender Policies in both countries, such as Malawi's National Gender Policy (2015) and Tanzania's National Policy on Gender and Development (2000), prioritize gender integration and women's empowerment across sectors, promoting their involvement in decision-making processes. The Songwe River Basin, shared between Malawi and Tanzania, requires these initiatives for inclusive socio-economic development to address shared challenges and unlock the full potential of the basin. By focusing on gender mainstreaming, R&D, and ICT development, these initiatives aim to promote equitable growth, improve living standards, and enhance access to resources and opportunities for all communities in the basin, fostering sustainable development across borders.

In addition, medium-term development plans, like Malawi's Vision and Implementation Plan (2021-2030) and Tanzania's Five-Year Development Plans (FYP), emphasize R&D and ICT development. For instance, the Malawi 2063 First 10-Year Implementation Plan (MIP-I) (2021-2030) places a strong emphasis on expanding ICT infrastructure and investing in R&D to foster innovation and economic growth. Both nations have established policies to promote R&D, technology transfer, and innovation, contributing to inclusive growth, as well as initiatives like the Malawi Innovation Challenge Fund, which supports R&D and innovative solutions. Moreover, digital policies, such as Malawi's Digital Broadcast Policy and Tanzania's National ICT Broadband Backbone (NICTBB), facilitate information dissemination, education, and government service access. The National ICT Policies in both countries aim to enhance ICT access, stimulate the digital economy, and bridge the digital divide. Furthermore, the Malawi Education Sector Strategic Plan (ESSP) integrates ICT as an enabler for improved education and skill development, while Tanzania's National Research and Development Policy (2010) aims to boost research contributions in socio-economic disciplines and ICT for national development. These policies and strategies collectively serve as a roadmap for fostering inclusive and sustainable socio-economic development while addressing critical cross-cutting issues.

5.3 SAP Action Matrices

This SAP action matrices (Annex I) extend the sub-objectives hierarchically linked to strategic objectives and goals further down into specific actions. The presented SAP action matrices are the results framework that can be used as an M&E tool for the implementation of actions. The different components of the matrices are hereunder explained.

5.3.1 Components of the SAP's Action Matrices

Specific Actions: It is the second column after the serial numbering. The component addresses the actions proposed to address the root causes of transboundary ecological and socio-economic problems established from the TDA and stakeholder consultations. The specific actions were mainly developed from the solutions proposed by stakeholders during the consultations and from rounds of reviews of provisional SAP blueprint. The implementation of actions should be within the timescale specified for delivery of related objective and sub-objective.

Indicators: The component presents performance indicators against actions mainly 'process indicators' for benchmarking progress and changes brought about towards addressing the objectives for intended outcomes.

Timescale: The timescale component represents proximate periods of time of accomplishment of specific actions from the approval and signing of the SAP.

Priority: Prioritization is central in any strategic action planning as urgency and resource constraint define what to address first and what next. Thus, the priority is subjectively identified at high, medium or low levels. Notably, low priority does not mean that a particular action is unimportant, but rather that there are other actions that should come upfront.

Planning scale: This component of the SAP action matrix refers to both location and level of planning at which an action should be taken. Some actions such as those involved reforming policies, regulations and guidelines would be done nationally; some through joint agreements; and some at sub-basin or specific locales within the basin. The nitty-gritty of the elements of the planning scale will be further determined precisely during actual implementation of specific actions.

Potential sources of funds: This component outlines the potential funding sources. Such potential sources include public budget of partner riparian countries, development partners, NGOs, concessional development banks, and multilateral funding opportunities such as those within the UNFCCC for climate actions.

Budget: Plausible budgeting in strategic planning for future actions is time-consuming and trickier process. The costing process involves development of specific activities and inputs whose costs were estimated based on the existing budget frameworks from SONGWECOM and the LGAs. The costed budget lines from these frameworks were used to establish estimates of the costs of activities of the proposed actions. Thus, the budget column is presented in two forms – the qualitative form (Low/Medium/High) and the absolute figures. The qualitative presentation of the budget is subjectively considered: 1) Low (L) if it is in the range of <100,000 USD; 2) Moderate (M) if it ranges between USD 100,000–500,000; and 3) High (H) if it is >500,000 USD.

Responsible stakeholders: This column identifies the organizations responsible and that need to be engaged at different levels for successful implementation of the actions. Such organizations are comprehensively covered in the stakeholder analysis thematic report (SONGWECOM 2023g).

CHAPTER SIX

THE IMPLEMENTATION FRAMEWORK AND ARRANGEMENTS

6.0 An Overview

This part underpins the guiding principles, framework and implementation arrangements of the SAP for realizing intended outcomes toward a shared Vision. In the first place, the *modus operandi* framing the overall implementation of the SAP is guided by the bilateral Convention. The implementation of SAP will inevitably require key stakeholders that will be engaged in accordance with their interests, roles and leveraging resources for implementation of different actions. As the SAP has been preceded by the SRBDP designed to achieve the Shared Vision 2050, it is operationally imperative to underpin nexus alignments of strategic actions between the two.

6.1 Guiding Implementation Principles

The implementation of the SAP will be guided by and adhered to the principles of joint Commission derived from the Convention ratified by the two riparian partners. Such principles include:

- Cooperation on the basis of sovereignty, equality and territorial integrity;
- Sustainable development and equitable and reasonable utilization of the common water resources;
- Precaution and prevention of harm; and
- Equitable and reasonable.

6.2 Implementation Framework

The SAP will be implemented within the organs, management and governance structures of the joint Commission of the SRB as established by the Convention. As presented in Figure 6.1, the structure of the Commission consists of three permanent organs namely, the 1) Council of Ministers or Council, 2) Joint Steering Committee or Committee; and 3) Secretariat.

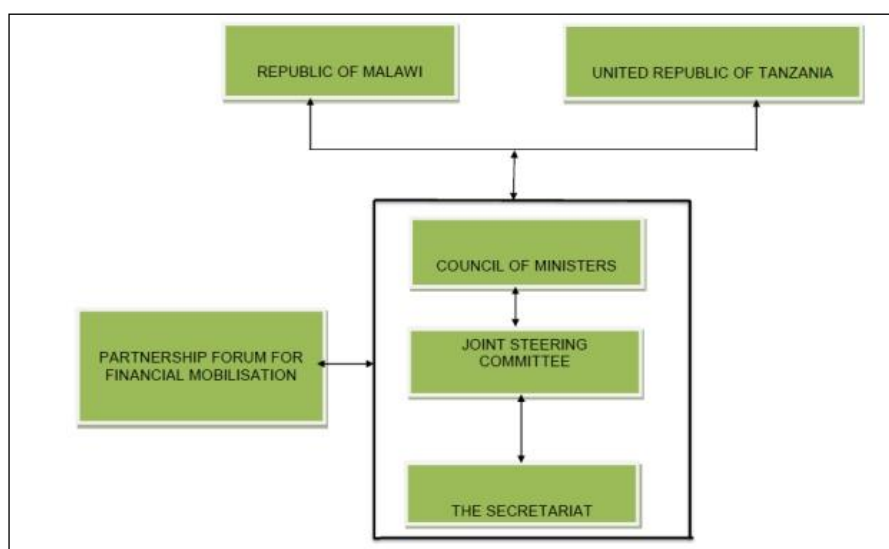


Figure 6.1: Organizational Structure of SONGWECOM

(Source: SRBDP Final Project Report- DDIP 2013-2018)

The composition and roles or functions of each organ are briefly discussed below:

6.2.1 The Council of Ministers or Council

The Council consists of a delegation of each Party consisting of not more than six (6) permanent members and such other advisers as each Party may determine, provided that a delegation may be accompanied by not more than six advisers at any meeting of the Council unless otherwise determined by the Council at that particular meeting. The Council delegation is comprised of the Minister or a Deputy Minister from the Ministries responsible for i) Water, ii) Lands, iii) Energy, iv) Irrigated Agriculture; and v) Local Government. The Council delegation is empowered to make policy decisions on behalf of their governments.

Among its key functions, the Council provides an overall oversight for the Commission. The Council make policies, ratify agreements and endorses plans, including the SAP itself. Furthermore, the Council provide other necessary guidance concerning the promotion, support, cooperation and coordination of joint activities and projects in a constructive and mutually beneficial manner for the sustainable development, utilization, conservation and management of shared waters and related resources, and protection of the environment and aquatic conditions. Therefore, the Council will endorse the SAP, hence the highest-level overseer of the SAP implementation for achieving intended sustainable socio-economic development.

6.2.2 The Joint Steering Committee

The Joint Steering Committee (or just the 'Committee') is composed of six (6) members from each Party, out of which one member should come from districts' (Local Government) authorities within the Basin. The Committee members are at Head of Department (HoD) level from the Ministries that constitute the Council delegation unless otherwise agreed upon by the Parties.

While other functions of the Committee can be found in the signed Convention, some of its key functions are to:

- Implement the policies and decisions of the Council and such other tasks as may be assigned by the Council, and where appropriate assist the Partner States in harmonizing the policies, strategies legislation, institutional frameworks and plans for effective management and development of the basin in order to achieve the set goals;
- Formulate a SRBDP for approval by the Council, which would be periodically reviewed and revised as necessary; and
- Provide oversight over the construction, operation and maintenance of the SRB projects under the SRBDP including actions under the SAP.

6.2.3 The Secretariat

The Secretariat which is also referred to as the Project Management Unit (PMU) has the role of rendering technical, administrative and management services to the Council and the Committee, and it works under the supervision of the Committee. The Secretariat shall be headed by the Executive Secretary appointed from the nationality of the Parties by the Committee and approved by the Council on a rotating basis. The Secretariat is based at the Headquarters of the Commission in Kyela, Tanzania. Each country has a focal point officer who plays an essential role in carrying out the mission of the

SONGWECOM at the national level. The structure of the Secretariat is as indicated in Figure 6.2. The Secretariat will be the main implementing agency of the SAP.

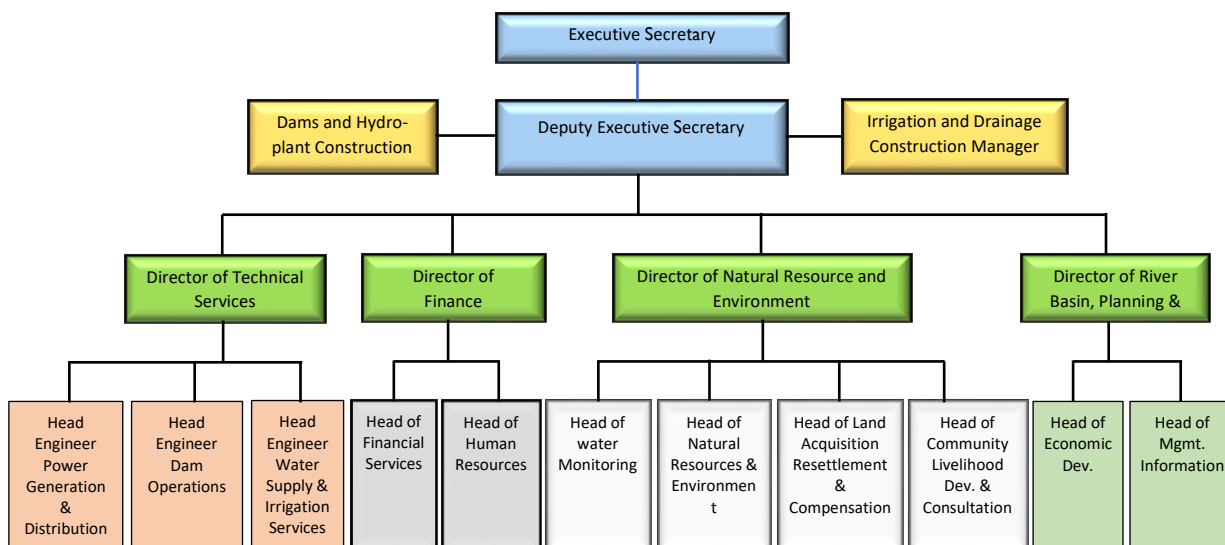


Figure 6.2: The SONGWECOM Secretariat Institutional Set-up
(Source: SRBDP Final Project Report- DDIP 2013-2018)

6.3 Stakeholders' Engagement

As shown the annexed action matrices, different stakeholders will be involved in the implementation of the SAP. In the delivery of SAP, the Secretariat shall actively engage with key stakeholders at local, subnational, national, regional and international levels. The key local stakeholders the Secretariat engage with more often in implementing actions on the ground include the Lake Nyasa Basin Water Board, Northern Region Water Board in Malawi, District Councils, private sector, civil society and communities.

6.4 Alignments for SAP implementation

The alignment for effective implementation concept envisages orienting the strategy around a coherent and reinforcing set of supporting practices and structures. According to Southern University of New Orleans (SUNO) (2010¹⁰) alignment is a situation in which strategic goals, of the developed SAP in this juncture, are supported by organizational structures, support systems, processes, human skills, resources, and incentives.

The alignment process was accomplished through reflections on the TDA, consultations and roundtables, and finally completed by working collaboratively with the JIC and the joint Secretariat to complete alignment checklist which indicate the state affairs across the criteria and remarks on the contexts (Table 6.1).

¹⁰ Southern University at New Orleans-SUNO (2010). Strategic planning handbook and managers implementation tools.
https://www.suno.edu/assets/suno/PDFs/Administration/Strategic_Planning_Handbook_12-2-10.pdf

Table 6.1: SAP alignments with existing structures and practices

Potential SAP alignment criteria		Yes	No	Remarks
People	The staff at the SONGWECOM have necessary skillsets to deliver the SAP	√		The Commission with three organs – Council, Committee and the Secretariat (PMU) provides a wealth of human resources in the MDAs to draw from. Provisions of working with external consultants allows the Commission to mobilize needed human capacities.
	Does the SONGWECOM have resources needed to deliver the SAP		√	Given public budgetary constraints, financing of the SAP will require mobilization of additional finances to effectively undertake proposed actions.
	Are key stakeholders supportive (incl. farmers, livestock keepers and fisherfolks) and have positive attitude aligned with the SAP strategy	√		The stakeholder consultations were the basis of the developed SAP which ensure ownership and likeliness of supporting its implementation.
Incentives	Are there incentive structures for successful delivery of the strategy that are also realized by the staff at SONGWECOM' Secretariat?		√	As most of the staff particularly the technocrats are assigned from the key public MDAs with the government salary scales that may be low to incentivize them.
	Are there incentive structures for different stakeholders to support successful delivery of the strategy in the SRB?		√	Bundling of actions with co-designed incentives such as tailored credit schemes, granted start-packs, and insurance can be effective.
Structures	Do the organizational and governance structures and systems enable successful delivery of the SAP?	√		There is need for addressing identified governance gaps.
Supportive activities	Are other planned and on-going activities supportive?	√		The SAP goals and actions overlap with goals and actions under the SRBDP and are within the development visions and contexts of individual partner countries.
	Are the local resources use and management systems supportive for sustainable natural resource management?		√	The current use and management of natural resources are overly inadequately sustainable and efficient.
Culture	Is the organizational and political culture (at SONGWECOM and key MDAs) in both countries supportive?	√		Mode needs to be done to inculcate ecological sustainability, enhance political ecology culture and understanding of key principles such as IWRM, EBA, green growth, nature-based solutions, and circular economy.
	Are the community culture including traditions (customs, beliefs and rituals); norms and values supportive?	√		Promoting environmentally friendly livelihoods, enhancing awareness on the long-term externalities of environmental degradation and inculcating ecological civilization culture are critical.

Source: Adapted from SUNO (2010).

CHAPTER SEVEN

MONITORING AND EVALUATION

7.0 An Overview

A robust results-based Monitoring and Evaluation (M&E) system is required to ensure progress towards target results are tracked and performance are evaluated. M&E is the management and learning tool, tracking progress and achieved results, and drawing lessons on how intended results were or were not achieved and why. Therefore, M&E system is a critical component of the SAP implementation for informing decision-making and ensuring accountability. M&E is also associated with a reporting system. Beforehand, it is also imperative to explain the indicator systems under the SAP' M&E system.

7.1 SAP's M&E Indicator Systems

The M&E system for the developed SAP considers the GEF's M&E indicator system for international waters projects (Duda 2002¹¹). The three categories of indicators under the GEF M&E System include: 1) Process indicators, 2) Stress reduction indicators, and 3) Environmental status indicators. While typical environmental concerns were core in the TDA/SAP process, the analytical and stakeholder consultations covered socio-economic transboundary problems that were driven by root causes that were ecological and/or socio-economic in nature. Additionally, the adapted scope of GEF M&E indicator system covers socio-economic indicators.

7.1.1 Process Indicators

This category of indicators focuses on the outputs resulting from activities/actions toward intended ecological and socio-economic outcomes. Practically, the process indicators underscore the completion of processes and activities/actions such as review of policies, regulations, by-laws and capacity building that lead to immediate outputs. The process indicators underpin the outputs resulting from investing (inputs including finance, expertise and time) into the activities. In the context of the developed SAP, these include processes undertaken bilaterally or unilaterally for the shared course of bringing intended change in the shared basin. All specific actions linked hierarchically to sub-objectives, objectives and goals (Annex I) are benchmarked in terms of process indicators.

7.1.2 Stress Reduction Indicators

This category of indicators relates to the strategic objectives or outcomes related with the project intervention or action. Although stress reduction has a connotation of 'abated ecological stress' but it can as well imply 'abated socio-economic stress' leading to improved socio-economic situation. Examples of attained outcomes that can be benchmarked against stress reduction indicators include enforced by-laws restricting cultivation with 60-m buffer of the river, regulation prohibiting the use of large-sized fishing net being enforced and profitable market linkages through which farmers sell their produce being facilitated. This category of indicators covers the objectives and underlying sub-objectives of Annex I of the SAP's action matrices.

¹¹ <https://iwlearn.net/resolveuid/83389ba3b53e59dca81cec304b849ae6>

7.1.3 Environmental Status Indicators

The indicators in this category benchmark achievements of the long-term goals for an improved quality of the ecosystem and socio-economic conditions. For the conservation and sustainable management of the ecosystem, or addressing poverty and food insecurity, a considerable timeframe of implementing stress reduction measures would lapse for desired changes to be detected at the transboundary scale. Where some actions are done unilaterally but for the same transboundary goal, the partner riparian countries must harmonize the methodologies and tools used to track and measure progress towards the common goal.

7.2 SAP's M&E System

Conventionally, the M&E system entails two components of monitoring and evaluation. Reporting system is an integral part of any M&E system. Arguably, an M&E system is of limited value unless it has clear reporting mechanisms integrated in it. The M&E reporting system will benefit the SONGWECOM's reporting system.

Monitoring involves routine activities of collecting and analyzing data to document input, activities and immediate changes (both intended and unintended) realized as a result of the interventions. Monitoring enables the management to take informed corrective measures in the course of implementation of actions. Effective monitoring requires establishment of baseline data, targets and performance indicators. For the developed SAP, the baselines have not been ascertained due to the intensity of work required to establish empirically evidenced baselines. However, given an extensive coverage of actions, related indicators, timescale, and level of priority (Annex I), it will be conveniently easier for the Secretariat to establish the baselines and set specific targets for specific interventions.

Evaluation is the systematic and objective assessment measuring achievement of results (intended or unintended) while the intervention is ongoing or completed. Evaluation uses certain criteria such as those proposed by the OECD/DAC¹² – Relevance, Coherence, Effectiveness, Efficiency, Impact, and Sustainability. The Secretariat as the leading SAP implementing agency will decide on time periods to undertake evaluations during implementation – both interims and terminal evaluations.

¹² OECD/DAC 2019. Better evaluation, Revised evaluation criteria, Definitions and principles for use. <https://www.oecd.org/dac/evaluation/revised-evaluation-criteria-dec-2019.pdf>

ANNEXES

Annex I: SAP Action Matrices

GOAL I

Enhancing ecosystem and biodiversity restoration and management in the basin

Objective 1.1

Integrated Ecosystem-Based Approach (EBA) in natural resources and biodiversity management Promoted by 2026

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 1.1.1-Integrated Ecosystem-Based Approach (EBA) in natural resources and biodiversity management Promoted by 2026									
1	Training of NR officers and extensionists in agriculture, fisheries and forestry on EBA	Trained officers and extensionists	1-2	H	Basin	Public budgets, Donors/Development Partners	L	6,674.51	SONGWECOM
2	Produce simplified Knowledge Sharing Products (KSPs) on EBA for community outreach	KSPs produced and disseminated	1-2	M-H	Basin	Public budget, Donors	L	6,141.18	SONGWECOM; MDAs responsible for environment, agriculture, fisheries and forestry, LGAs, CSOs
Sub-Objective 1.1.2-Ecosystem Based Approach (EBA) Scaled-up into existing environmental management and extension guidelines, and by-laws by 2025									
1	Review existing guidelines and by-laws to identify EBA related gaps	Reviewed guidelines and by-laws with identified gaps	1	M-H	Basin	Public budget, Donors	L	10,745.10	SONGWECOM; MDAs responsible for environment, agriculture, fisheries and forestry, LGAs
2	Mainstream EBA principles into the guidelines and by-laws	Mainstreamed EBA principles into guidelines and by-laws	1	M-H	Basin	Public budget, Donors	L	9,411.76	SONGWECOM; MDAs responsible for environment, agriculture, fisheries and forestry, LGAs
Sub-Objective 1.1.3-Increased awareness and sensitization of the public and community on ecological civilization in the basin by 2026									
1	Undertake community-focused awareness campaigns to awaken the basin's citizens especially the youth on the rationale of ecological sustainability and civilization	Community-focused awareness campaigns undertaken	1-2	L-M	Basin	Public budget, Donors	L	13,835.29	SONGWECOM, MDAs responsible for environment, LGAs

Objective 1.2
Community-based regeneration and restoration of severely degraded ecosystems Promoted by 2025

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 1.2.1-Increased awareness and capacity of local communities on restoration and regeneration of degraded ecosystems by 2024									
1	Rising awareness of local communities on the trend, state and future threat to ecosystems and biodiversity and through powerful participatory tools such as resource and species mapping, and scenario planning	Increased awareness on the extent of threat and the need to act urgently now	I	H	Basin	Public budget, Donors	L	36,250.98	SONGWECOM
2	Develop community tailored training manual/guidelines on farmer-based restoration and natural regeneration of degraded ecosystems	Manuals/Guidelines developed	I	H	NA	Public budget, Donors	L	8,352.94	SONGWECOM
3	Conduct community trainings on farmer-based ecosystem restoration and natural regeneration	Conducted community trainings	I	H	Basin	Public budget, Donors	L	7,003.92	SONGWECOM; MDAs responsible for environment, agriculture, fisheries and forestry, LGAs
Sub-Objective 1.2.2-Incentive structures for the local communities to embark on restoration and regeneration of degraded ecosystem Co-developed by 2025									
1	Review of existing best practices of co-develop incentive structures for community conservation that have worked in similar context (preferably in the riparian countries, region or rural Africa)	Lessons learnt from best practices	I	M	NA	Public budget, Donors	L	26,690.20	SONGWECOM
Sub-Objective 1.2.3-Robust M&E system with local communities to track results from conservation initiatives Co-developed by 2024									
1	Work with communities to develop conservation targets, performance indicators and establish collaborative M&E system	Conservation targets and indicators co-developed, Stakeholder alliance created and functional, M&E system co-developed and operational	I	H	Basin	Public budget, Donors	L	16,274.51	SONGWECOM

Objective 1.3**Key stakeholders Engaged in the planning, implementation, and M&E of environmental management actions by 2025**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 1.3.1-Updated stakeholders' inventory/database to ensure no key stakeholder is left behind by 2024									
I	Update the list of key stakeholders prepared from the TDA and develop a stakeholders' engagement plan	Updated list of stakeholders and Stakeholders engagement plan	I	M	Basin	Public budget, Donors, stakeholders	L	34,549.02	SONGWECOM, collaborating stakeholders

Objective 1.4**Strengthened coordinated joint planning, implementation, M&E of interventions in the management of transboundary natural resources by 2026**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 1.4.1-Enhanced use of existing planning spaces for bilateral coordination of management of ecosystem and biodiversity resources by 2025									
I	Review existing bilateral cooperation platforms to identify spaces for tabling ecosystem and biodiversity issues	Identified spaces for tabling the issues	I	H	NA	Public budgets, Donors	L	28,666.67	SONGWECOM
Sub-Objective 1.4.2-Increased joint investments in the management of shared ecosystem and biodiversity resources by 2026									
I	Explore areas were bilaterally coordinated conservation actions and investments have the greatest payoffs to both countries	Conservation areas with greatest payoffs	I-2	M	NA	Public budgets, Donors	L	15,137.25	SONGWECOM

GOAL 2**Strengthening Integrated Water Resources Management****Objective 2.1****Integrated management of watersheds Promoted by 2027**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 2.1.1-Scaled-up tree planting for conservation of watersheds by 2024									
1	Identify locally suited trees preferred by local communities	Locally suited and preferred tree species identified	1	H	Basin	Public budgets, Donor, CSR	L	20,823.53	SONGWECOM, LGAs
2	Promote community tree nurseries of preferred trees	Community nurseries established	1	H	Basin	Public budgets, Donor, CSR	M	66,117.65	SONGWECOM, LGAs
3	Promote tree planting	Planted trees	1	H	Basin	Public budgets, Donor, CSR, NGOs	M	316,549.02	SONGWECOM, LGAs, NGOs
4	Develop participatory tree planting M&E system	Participatory M&E	1	H	Basin	Public budgets, Donor, CSR	L	30,549.02	SONGWECOM, LGAs
Sub-Objective 2.1.2-Regulations and by-laws for rivers and water sources protection Enforced by 2027									
1	Review existing regulations and by-laws, and discuss with communities about associated challenges for advocacy of needed reforms	Local challenges associated with conservation regulations and by-laws	2	H	Basin	Public budgets, Donor	L	24,784.31	SONGWECOM, MDAs responsible for water, LGAs, WUAs
2	Demonstrate benefits associated with conservations	Demonstrated benefits associated with conservations	2	M	Basin	Public budgets, Donor	M	82,470.59	SONGWECOM, MDAs responsible for water, LGAs, WUAs
3	Enhance local enforcement of the water resource conservation regulations and by-laws	Rate of compliance in the communities	2	L	Basin	Public budgets, Donor	L	49,019.61	SONGWECOM, MDAs responsible for water, LGAs, WUAs
Sub-Objective 2.1.3-Strengthened water resource governance institutions by 2026									
1	Undertake capacity needs	Local governance	1-2	H	Basin	Public budgets,	M	54,901.96	SONGWECOM, MDAs responsible for water,

	assessments of local institutions overseeing governance of water resources	capacity gaps				Donor			LGAs, WUAs
2	Undertake capacity-enhancement trainings by addressing local governance capacity gaps identified	Positive changes on trained leaders in terms of KAP	I-2	H	Basin	Public budgets, Donor	M	54,901.96	SONGWECOM, MDAs responsible for water, LGAs, WUAs

Objective 2.2
Multipurpose water infrastructure, water use efficiency, productivity and quality Developed and Promoted by 2035

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 2.2.1-Increased investment in water infrastructure, efficient irrigation and drainage infrastructure by 2034									
1	Invest and develop multipurpose water infrastructure to regulate flow and ensure energy and water security	Regulated flows, energy supplied and water security	3-5	H	Basin	Public budgets, Donors, Concessional loans	H	882,045,733.37	SONGWECOM, MDAs responsible for water and agriculture, LGAs, local communities
2	Promote efficient irrigation water management technologies and practices in the irrigation schemes including drainage and return flows	Efficient water management technologies adopted	3-5	H	Basin	Public budgets, Donors, Concessional loans	M	79,215.69	SONGWECOM, MDAs responsible for water and agriculture, LGAs, local communities
4	Build the capacity of smallholder irrigators and WUAs on efficient irrigation water management	Irrigators and WUAs capacitated	3-5	H	Basin	Public budgets, Donors	L	6,156.86	SONGWECOM, MDAs responsible for water and agriculture, LGAs, local communities, WUAs
Sub-Objective 2.2.2-Water-smart technologies and practices across the key water demand sectors Promoted by 2035									
1	Introduce water-efficient technologies in crop, livestock and aquaculture production	Water-efficient technologies adopted in crop, livestock and aquaculture production	4-6	H	Basin	Public budgets, Donors	L	8,290.20	SONGWECOM
2	Establish linkages between water users and suppliers of water-efficient and quality management technologies such as drip systems, solar pumps, filters, water supply and treatment	Linkages established	4-6	L-M	Basin	Public budgets, Donors	L	6,745.10	SONGWECOM, urban and rural water supply authorities NGOs, private sector

Objective 2.3
Climate change related impacts on water resources including environmental flows Addressed by 2025

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Sources of funds	Budget		Responsible/Stakeholders
							Level	USD '000	
Sub-Objective 2.3.1-Climate-smart water technologies and practices Promoted by 2025									
1	Scale-up the Systems of Rice Intensification (SRI) in the irrigation scheme	Cultivated area under the SRI technology	I	H	Basin	Public budgets, Donors, Concessional loans	L	23,019.61	SONGWECOM, MDAs responsible for water and agriculture, LGAs, Local Communities, WUAs
2	Introduce water-saving and re-use technologies in the demand sectors to address water shortage and supply uncertainty in the face of climate change	Water-saving and re-use technologies adopted	I	H	Basin	Public budgets, Donors	H	138,431.37	SONGWECOM, MDAs responsible for water and agriculture, LGAs, Local Communities
3	Introduce Rainwater Harvesting (RWH) and Soil and Water Conservation (SWC) technologies to increase availability of soil moisture for plant growth	RWH and SWC technologies adopted	I	M	Basin	Public budgets, Donors	H	163,294.12	SONGWECOM, MDAs responsible for land, agriculture, LGAs, Local Communities
4	Promote crops thriving with less water where rainfall is increasingly becoming less and unpredictable with climate change	Rate of adoption of crops thriving with less water	I	M	Basin	Public budgets, Donors	H	101,333.33	SONGWECOM, MDAs responsible for agriculture, agricultural R&D, LGAs, Local Communities
Sub-Objective 2.3.2-Environmental flows monitoring and safeguard systems Enforced by 2025									
1	Invest in extensive gauging installations in river systems in the basin to monitor flows	Gauging installations	I-2	H	Basin	Public budgets, Donors	H	279,529.41	SONGWECOM
2	Build the capacity of water engineers and hydrologists in the districts and at SONGWECOM on cutting edge integrated water and hydrological modelling	Water engineers and hydrologists trained/retooled	I-2	L-M	Basin	Public budgets, Donors	L	41,019.61	SONGWECOM, MDAs responsible for water, LGAs
3	Introduce guidelines, mechanisms	Guidelines and	I-2	M	Basin	Public	M	96,627.45	SONGWECOM, MDAs

	and by-laws to enforce environmental flows safeguards	by-laws to enforce environmental flows safeguards				budgets, Donors			responsible for water, LGAs
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Objective 2.4
Strategies for sustainable management of groundwater and wetlands in the basin Developed and Implemented by 2027

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 2.4.1-Strategies for sustainable management of groundwater in Developed and Implemented 2026									
1	Conduct comprehensive assessments of groundwater resources, including quantity, quality, recharge rates, and aquifer characteristics and interaction with Lake Nyasa	Completion of groundwater assessment report. Data on aquifer properties and Water level	1-2	H	Basin	Public budgets, DPs	H	313,058.82	SONGWECOM, MDAs responsible for water, LGAs
2	Develop and implement policies and regulations for sustainable groundwater extraction and use	Number of established regulatory frameworks	1-2	M	Basin	Public budgets, DPs	M	94,666.67	Government water departments, policy makers, legal experts
3	Establish a network for continuous monitoring of groundwater levels and quality.	Number of operational monitoring stations, frequency and consistency of data collection	2	H	Basin	Public budgets, DPs	H	603,921.57	SONGWECOM, MDAs responsible for water, Basin Water Authorities, Environmental Agencies
4	Implement measures to prevent groundwater contamination and remediate existing polluted sites	Percentage reduction in pollution incidents, successful remediation of identified sites	2	H	Basin	Public budgets, DPs	M	80,941.18	SONGWECOM, MDAs responsible for water, Basin Water Authorities, EMAs, Industrial regulators
5	Educate and engage communities in sustainable groundwater use and conservation practices including Climate Change Resilience	Level of community awareness and metrics	2	M	Basin, local	Public budgets, DPs	H	142,352.94	SONGWECOM, CBOs, NGOs, LGAs
Sub-Objective 2.4.2-Strategies for sustainable management of wetlands and floodplains Developed and Implemented by 2027									
1	Conduct detailed mapping and ecological assessments of wetlands and floodplains to understand their current state,	Percentage and area of wetlands mapped, assessed, and under active management; data	2-3	H	Basin	Public budgets, Donors	H	261,568.63	SONGWECOM, MDAs responsible for water, LGAs, Universities, NGOs, NEMAs

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
	ecological value, and threats	on ecological health and biodiversity.							
2	Implement projects to restore and conserve wetlands and floodplains, including reforestation, invasive species control, and habitat enhancement.	Number of hectares restored, improvement in ecological indicators (e.g., species diversity, water quality)	2-3	H	Basin	Public budgets, DPs	M	93,529.41	SONGWECOM, MDAs responsible for water, Basin Water Authorities, EMAs, Industrial regulators
3	Develop and enforce management plans for sustainable use of wetland and floodplain resources, ensuring their long-term health and productivity	Implementation and compliance rate of management plans, sustainable practices adoption rates	2-3	M	Basin	Public budgets, DPs	M	64,235.29	SONGWECOM, MDAs responsible for water, LGAs, Universities, NGOs, NEMAs
4	Engage local communities in conservation efforts, and develop and implement strategies to enhance the resilience of wetlands and floodplains to climate change	Community participation rate; number of community led-initiatives; awareness and education metrics; adoption of sustainable practices; resilience strategy implementation	2-3	M	Local	Public budgets, DPs	M	149,803.92	SONGWECOM, LGAs, schools, CBOs, climate research institutions
5	Establish and strengthen, Legal Frameworks and Policies for Wetland and Floodplain Management	Legal framework development and enactment; Degree of policy enforcement and compliance rates; Effectiveness of regulations in improving wetland and floodplain management	1-2	H	National, Basin	Public budgets, DPs	M	69,803.92	SONGWECOM, LGAs, NGOs, Government and legal policy framework for policy development

GOAL 3**Enhancing sustainable land management in the basin****Objective 3.1****Sustainable land use and management planning in the basin Implemented by 2027**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 3.1.1-Mobilize resources for undertaking land use and management planning at a basin scale by 2027									
1	Develop land use and management plans to guide the implementation of sustainable land management	Land use management plans used to guide implementation of sustainable land management	2-3	M	Basin	Public budgets, Donor	L	29,921.57	SONGWECOM, MDAs responsible for land, LGAs
2	Develop a robust M&E system for sustainable integrated land management plan	Robust M&E system developed	2-3	H	Basin	Public budgets, Donor	H	27,568.63	SONGWECOM
Sub-Objective 3.1.2-Formalization of customary land tenure systems Promoted by 2026									
1	Sensitize and facilitate local landholders to acquire customary certificates	Members of the community sensitized to seek customary land and they obtain land certificates	1-2	L-M	Basin	Public budgets, Donor	L	7,921.57	SONGWECOM, MDAs responsible for land, LGAs

Objective 3.2**Enhanced sustainable land management in the riparian agro-landscape by 2025**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 3.2.1-Sustainable land management guidelines Developed and Promoted by 2024									
I	Conduct a comprehensive characterization of land types and potential management practices to inform the development of hands-on guidelines, facilitating informed choices for sustainable land management	Land typology and Hands-on guidelines for sustainable land management developed	I	H	Basin	Public budgets, Donor	M	76,980.39	SONGWECOM, Ministry responsible for land, land commission (TZA), LGAs
Sub-Objective 3.2.3-Guidelines for sustainable sand mining Developed and Promoted by 2025									
I	Conduct a comprehensive assessment and develop guidelines by inventorying sand mines and extraction systems, and evaluating environmental risks associated with river sand mining.	Georeferenced inventory of sand mines developed, environmental risks associated with various extraction methods established, and river sand mining guidelines enforced.	I-2	H	Basin	Public budgets, Donor	L	24,980.39	SONGWECOM, MDAs responsible for land, LGAs

Objective 3.3**Increased public investment in land conservation structures at degradation hotspots in the catchment by 2028**

SN	Specific Actions	Indicators	Timescale (Years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 3.3.1-Develop cost estimates of land conservation structures at degradation hotspots by 2025									
I	Conduct integrated assessment to map degradation hotspots, quantify environmental and economic costs, and identify optimal land conservation structures and associated expenses beyond the capacity of local communities.	Mapped degradation hotspots, Environmental and economic costs associated with degradation hotspots quantified	I-2	H	Basin	Public budgets, Donor	M	74,117.65	SONGWECOM, MDAs responsible for land, LGAs
Sub-Objective 3.3.2-Mobilize resources for investment in structural land conservation by 2026									
I	Resources mobilized and investments in the civil conservation structures	Resource mobilized and civil land conservation structures constructed	I-2	H	Basin	Public budgets, Donor	H	334,039.22	SONGWECOM, MDAs responsible for land, LGAs

GOAL 4**Enhancing climate change adaptation, mitigation and resilience in the basin****Objective 4.1****Agro-landscape greening through community-based agro-forestry Promoted by 2035**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 4.1.1-Scaled-up agro-forestry for greening of the agro-landscape by 2030									
1	Co-identify and prioritize tree species ideal for greening the landscape with adaptation and/or mitigation co-benefits (e.g., high-value tree crops and fodder trees with environmental co-benefits such as N-fixing agroforestry and carbon capturing etc.)	Ideal tree species co-identified and prioritized with communities	4-5	M	Basin	Public budgets, Donor	L	14,470.59	SONGWECOM, MDA responsible for land, climate LGAs, NGOs, Local communities
2	Facilitate establishment of specialized agro-forestry nurseries of high-value crops with environmental co-benefits	Agro-forestry nurseries	4-5	M	Basin	Public budgets, Donor, CSR	L	18,698.04	SONGWECOM, MDA responsible for forestry, climate, LGAs, NGOs including faith-based organizations, local communities
Sub-Objective 4.1.2-Participatory M&E framework for agro-forestry based agro-landscape greening Developed by 2029									
1	Develop and implement tree planting M&E system to ensure higher survival rates	Tree planting M&E developed and implemented	4-5	H	Basin	Public budgets, Donor	L	19,882.35	SONGWECOM LGAs, local communities
Sub-Objective 4.1.3-Value chains and marketing systems of tree crops Improved by 2035									
1	Improve collective value addition and linkages to profitable markets of commodities from promoted tree crops	Value added products and collective market linkages established	4-5	M	Basin	Public budgets, Donor	H	142,054.90	SONGWECOM, LGAs

Objective 4.2**Increased investment in integrated flood control infrastructure and mitigation systems by 2030**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 4.2.1-Appropriate flood control, mitigation and early warning system Designed by 2028									
1	Undertake technical analysis of floods risks and impacts in terms of loss and damage	Analysis of flood risks and impacts in terms of loss and damage	3-4	H	Basin	Public budgets, Donors, Concessional loans	H	256,000.00	SONGWECOM, LGAs, Communities, MDAs responsible for environment, climate sensitive growth and service sectors such as water and agriculture, fisheries, health, transport etc.
2	Develop integrated flood control, early warning and response systems	Integrated food control and early warning systems	3-4	H	Basin	Public budgets, Donors	H	170,941.18	SONGWECOM, LGAs, Communities, MDAs responsible for environment, climate sensitive growth and service sectors such as water and agriculture, fisheries, health, transport etc.
Sub-Objective 4.2.2-Capacity of the communities to effectively use developed flood control, mitigation and early warning system Improved by 2030									
1	Build the capacity of vulnerable communities on developed flood control, early warning and response systems	Communities capacitated on developed systems	3-4	H	Basin	Public budgets, Donors, Concessional loans	L	4,470.59	SONGWECOM, LGAs, Communities, MDAs responsible for environment, climate sensitive growth and service sectors such as water and agriculture, fisheries, health, transport etc.

Objective 4.3

Climate finance from domestic, bilateral and multilateral sources for investment in adaptation and resilience projects Accessed by 2025

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 4.3.1-Fundable adaptation programmes and projects Developed by 2024									
1	Identify adaptation priorities for enhanced resilience in the basin preferably within the framework of Nationally Determined Contributions (NDCs)	Priority adaptations preferably those with mitigation co-benefits and aligned with NDCs	I	H	Basin	Public budgets, Donors, Concessional loans	L	8,117.65	SONGWECOM, LGAs, Communities, MDAs responsible for climate sensitive growth and service sectors, and NGOs involved in climate action
2	Evaluate potential domestic, bilateral and multilateral adaptation financing options	Potential domestic, bilateral and multilateral adaptation financiers	I	H	Basin	Public budgets, Donors, Concessional loans	L	4,000.00	SONGWECOM
3	Develop and submit joint fundable adaptation project concepts and proposals	Joint fundable adaptation proposals funded	I	H	Basin	Public budgets, Donors, Concessional loans	L	7,137.25	SONGWECOM
Sub-Objective 4.3.2-Resources mobilization for sustainable funding of adaptation, disaster risk reduction and social protection Developed by 2025									
1	Identify strategic intervention areas for long-term climate change adaptation, disaster risk reduction and social protection	Strategic intervention areas for integrated long-term adaptation, disaster risk reduction and social protection	I-2	M	Basin	Public budgets, Donors, Concessional loans	L	7,333.33	SONGWECOM, LGAs, MDAs and stakeholders responsible for climate sensitive growth and service sectors, adaptation, disaster risk reduction and social protection
	Estimate the portfolio of financial resources, capacities and systems needed for a joint integrated climate change adaptation, disaster risk reduction and social protection programme	Financial resources, capacities and systems needed for integrated CCA, DRR and SP	I-2	M	Basin	Public budgets, Donors, Concessional loans	L	6,470.59	SONGWECOM, LGAs, MDAs and stakeholders responsible for climate sensitive growth and service sectors, adaptation, disaster risk reduction and social protection
	Mobilize resources undertaking for integrated	Mobilized resources undertaking	I-2	M	Basin	Public budgets, Donors,	L	13,309.80	SONGWECOM, LGAs, MDAs and stakeholders responsible for

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
	climate change adaptation, disaster risk reduction and social protection	integrated CCA, DRR and SP projects				Concessional loans			climate sensitive growth and service sectors, adaptation, disaster risk reduction and social protection

GOAL 5.1**Sustainable and inclusive development of agriculture for poverty reduction in the basin****Objective 5.1.1****Sustainable agricultural intensification Promoted by 2029**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.1.1.1-Scaled-up conservation agriculture technologies and practices by 2027									
1	Train farmers on Conservation Agriculture (CA) practices that suits local conditions	Farmers trained on CA	1-2	M	Basin	Public budgets, Donors	L	24,352.94	SONGWECOM, LGAs, NGOs, local communities, MDAs responsible for agriculture, environment
2	Establish Farmers Field Schools (FFS) on CA	FFS on CA established and used as practical learning centres for farmers	1-2	M	Basin	Public budgets, Donors	L	8,882.35	SONGWECOM, LGAs, NGOs, local communities, MDAs responsible for agriculture, environment
3	Facilitate local availability of CA tools (e.g., hand rippers, chisels, jab-planters, ox-driven rippers) through linkages with suppliers and capacitating local artisans	CA tools easily available to farmers	2-3	M	Basin	Public budgets, Donor	L	18,156.86	SONGWECOM
Sub-Objective 5.1.1.2-Enhanced integration of crop and livestock enterprises by 2029									
1	Promote integration of crop and livestock systems (e.g., use of manure on crop fields and feeding crop residues to livestock, using fodder grasses and trees to stabilize conservation structures etc.)	Crop-Livestock integration systems promoted	4-5	H	Basin	Public budgets, Donors	L	13,890.20	SONGWECOM, MDAs responsible for agriculture, land, LGAs, local communities

Objective 5.1.2**Strategic agricultural value chains with higher environmental, economic and social returns on investment by Developed 2026**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.1.2.1-Strategic agricultural value chains sustainably and inclusively Upgraded by 2025									
1	Identify and prioritize crop and livestock value chains with higher environmental, social and economic benefits	High-return crop and livestock value chains identified	1-2	M	Basin	Public budgets, Donors	M	132,117.65	SONGWECOM, MDAs agriculture, markets and trade, LGAs, Local communities
2	Identify, test and up-scale upgrading strategies to address the constraints and weak links	Implemented agricultural value chains upgrading strategies	1-2	H	Basin	Public budgets, Donors	M	55,529.41	SONGWECOM, MDAs agriculture, markets and trade, LGAs, Local communities
Sub-Objective 5.1.2.2-Inclusive circular economy in agricultural value chains Enhanced by 2026									
1	Identify inclusive circular economy opportunities in the crop and livestock value chains	Identified inclusive circular economy opportunities (incl. recycling, re-use etc.)	2-3	M	Basin	Public budgets, Donors	M	170,627.45	SONGWECOM, MDAs agriculture, markets, trade, agro-processing, LGAs, Local communities

Objective 5.1.3 Strengthened formalized cross-border agricultural trade by 2035

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.1.3.1-Appropriate mechanisms to facilitate cross-border agricultural trade Developed by 2028									
1	Evaluate the potential of cross-border agricultural trade and underlying constraints	Economic potential and constraints facing of cross-border agricultural trade	2-3	H	Basin	Public budgets, Donors	M	50,431.37	SONGWECOM, MDAs responsible for crop and livestock development, LGAs, NGOs, Local communities
2	Promote mechanisms to facilitate cross-border agricultural trade	Mechanisms to facilitate cross-border agricultural trade promoted	2-3	H	Basin	Public budgets, Donor	L	6,000.00	SONGWECOM, MDAs responsible for crop and livestock markets development, LGAs, NGOs, Local communities
Sub-Objective 5.1.3.2-Joint modern agricultural markets and agro-industry park for exports Developed by 2035									
1	Evaluate options for joint agro-industrial processing park	Joint agro-industrial processing park	4-5	H	Basin	Public budgets, Donors, Debt investment financing	H	491,196,823.53	SONGWECOM, MDAs responsive for agriculture, industry, trade, Banks

GOAL 5.2**Sustainable and inclusive development of fisheries for poverty reduction in the basin****Objective 5.2.1****Ecosystem-based fisheries management Promoted by 2030**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.2.1.1-Fisheries stocking, restoration and management technologies and practices Promoted by 2027									
1	Train fisheries officers, extensionists and fishers on EBA as it applies on sustainable fisheries	Trained fisheries officers, extensionists and fishers	1-2	M	Basin	Public budgets, Donors	L	15,654.90	SONGWECOM, MDAs responsible for fisheries, LGAs, NGOs, local communities
2	Fisheries restoration, stocking and fishing technologies in the context of EBA	Ecosystem-based technologies and practices promoted	2-3	M-H	Basin	Public budgets, Donors	L	34,039.22	SONGWECOM, MDAs responsible for fisheries, LGAs, NGOs, local communities
Sub-Objective 5.2.1.2-Effective mechanisms of managing hazardous wastes in the riparian watersheds to curb water pollution Developed by 2030									
1	Assess the risks associated with hazardous wastes and pollutants management in the riparian watersheds on fisheries and aquatic biodiversity	Extent of risks associated with hazardous wastes understood	3-4	M-H	Basin	Public budgets, Donors	M	64,627.45	SONGWECOM, MDAs responsible fisheries, LGAs, local communities
2	Promote proper measures for managing hazardous wastes and pollutants	Proper measures for managing hazardous wastes used in the watersheds	3-4	M	Basin	Public budgets, Donors	M	20,784.31	SONGWECOM, MDAs responsible fisheries, LGAs, Local communities

Objective 5.2.2 Developed fish value chains in capture fisheries and aquaculture by 2032

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.2.2.1-Increased access to quality fingerlings and fish feed by smallholder fish farmers by 2028									
1	Conduct needs and demand analysis of fingerlings and fish feeds	Needs and demand requirements	2-3	M	Basin	Public budgets, Donors	L	20,274.51	SONGWECOM, MDAs responsible for fisheries, LGAs, NGOs, local communities
2	Facilitate establishment of local fingerlings hatchery businesses by women and youth groups	Established hatchery businesses through start-ups	2-3	M-H	Basin	Public budgets, Donors, Banks	M	101,333.33	SONGWECOM, MDAs responsible for fisheries, LGAs, women and youth groups
3	Train farmers on how to manufacture quality fish feeds using locally available raw material	Fish farmers trained on fish feed formulations producing fish feeds	2-3	M-H	Basin	Public budgets, Donors	L	20,588.24	SONGWECOM, MDAs responsible for fisheries, LGAs, NGOs, local communities
Sub-Objective 5.2.2.2-Transboundary trade of fisheries inputs and products Promoted by 2032									
1	Evaluate the potential of cross-border fisheries trade and underlying constraints	Economic potential and constraints facing of fisheries cross-border trade	3-4	M-H	Basin	Public budgets, Donors	L	35,372.55	SONGWECOM, MDAs responsible fisheries, LGAs, local communities
2	Promote mechanisms to facilitate cross-border fisheries trade	Mechanisms to facilitate cross-border fisheries trade	3-4	M	Basin	Public budgets, Donors	L	5,827.45	SONGWECOM, MDAs responsible fisheries, LGAs, Local communities

Objective 5.2.3**Enhanced the contribution of fisheries sector to improved community nutrition by 2030**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.2.3.1-Fish-based food products by women and youth entrepreneurs Developed and Produced by 2030									
1	Undertake community nutrition survey to understand the state of nutrition, drivers and local solutions	Community nutrition state, drivers and local solutions	1-2	H	Basin	Public budgets, Donors	L	44,117.65	SONGWECOM, MDAs responsible for fisheries, nutrition, trade, LGAs, women and youth groups, local communities
2	Establish and/or orient existing women and youth groups to venture as social entrepreneurs in nutritious food-based products	Women and youth groups interested to venture of manufacturing nutritious value-added fish-based products	2-3	H	Basin	Public budgets, Donors	L	35,058.82	SONGWECOM, MDAs responsible for fisheries, nutrition, trade, LGAs, women and youth groups, local communities
3	Train the women and youth groups on manufacturing of a variety of nutritious value-added and shelf-stable fish-based recipes	Women and youth groups trained on manufacturing of a variety of value-added shelf-stable fish-based recipes	2-3	H	Basin	Public budgets, Donors	L	31,058.82	SONGWECOM, MDAs responsible for fisheries, nutrition, trade, LGAs, women and youth groups, local communities
4	Undertake community nutrition sensory tests, preference, acceptability and willingness to pay for the developed fish-based products	Community sensory tests, preferences, acceptability and willingness to pay ascertained	2-3	H	Basin	Public budgets, Donors	L	23,254.90	SONGWECOM, MDAs responsible for fisheries, nutrition, trade, LGAs, women and youth groups, local communities

GOAL 5.3

Sustainable and inclusive development of the forestry sector for contribution to poverty reduction in the basin

Objective 5.3.1

Developed sustainable and inclusive forestry commodity and service value chains by 2031

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.3.2.1-Upgraded forestry commodity and service value chains by 2029									
1	Undertake in-depth analyses forestry commodity and service value chains to underpin binding constraints and weak links	Identified binding constraints and weak links in the forestry commodity and service value chains	3-4	H	Basin	Public budgets, Donors	M	131,058.82	SONGWECOM, MDAs responsible forestry, agriculture, livestock, environment, LGAs, local communities
2	Identify, test and prioritize sustainable and inclusive upgrading strategies for addressing the binding constraints and weak links in the forestry value chains	Identified, tested and prioritized sustainable and inclusive upgrading strategies	3-4	H	Basin	Public budgets, Donors	M	55,529.41	SONGWECOM, MDAs responsible forestry, agriculture, livestock, environment, LGAs, local communities
Sub-Objective 5.3.2.2-Developed inclusive verified carbon trade and PES schemes by 2031									
1	Assess existing opportunities for pro-poor verified carbon trade and/or PES schemes	Pro-poor poor opportunities for verified carbon trade and/PES schemes	3-4	H	Basin	Public budgets, Donors	M	51,960.78	SONGWECOM, MDAs responsible forestry, agriculture, livestock, environment, LGAs, local communities
2	Design and implement pro-poor verified carbon trade and/or PES Scheme	Pro-poor VCT trade and/or PES scheme	2-3	H	Basin	Public budgets, Donors	M-H	53,058.82	SONGWECOM, MDAs responsible forestry, agriculture, livestock, environment, LGAs, local communities

GOAL 5.4**Improving education and skills for sustainable development in the basin****Objective 5.4.1**

Advocated for integration of ecological sustainability in the education system and eco-civilization among the local communities by 2035

SN	Specific Actions	Indicators	Timescale	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.4.1.1-National education advocacy stakeholders and government institutions for integration of ecological sustainability in the education system Engaged by 2030									
1	Review education curricula and extra-curricular programs at primary and secondary education to assess the coverage of environmental/ecological sustainability knowledge	Extent of coverage of ecological sustainability in education curricula and extra-curricular programs in schools	4-5	H	Basin	Public budgets, Donors	L	49,333.33	SONGWECOM, MDAs responsible education and vocational training; NGOs, LGAs, local communities
2	Engage with the governments and education stakeholders to promote the integration of ecological sustainability in the education and/or extra-curricular programs	Integration of ecological sustainability in education and/or extra-curricular programs	4-5	H	Basin	Public budgets, Donors	M	274,901.96	SONGWECOM, MDAs responsible education and vocational training; NGOs, LGAs, local communities
3	Establish environmental or eco-clubs involving pupils and students in selected primary and secondary schools within the basin	Established eco-clubs at selected schools	4-5	H	Basin	Public budgets, Donors	M	94,039.22	SONGWECOM, MDAs responsible education and vocational training; NGOs, LGAs, local communities
Sub-Objective 5.4.1.2-Increased awareness of the public and local communities on the emerging issue of eco-civilization by 2035									
1	Undertake public and community-level assessments of the current eco-civilization awareness, Knowledge, Attitudes and Practices (KAP) in the basin	Level of public and community-level awareness, and KAP of eco-civilization	4-5	M	Basin	Public budgets, Donors, Private sector	M	143,450.98	SONGWECOM, MDAs responsible education and vocational training; NGOs, LGAs, local communities
2	Select pilot public and local communities to participate in the behavioural change program towards ecological civilization	Selected pilot public and local communities to participation in the behavioural change program	4-5	M	Basin	Public budgets, Donors, Private sector	M	67,058.82	SONGWECOM, MDAs responsible education and vocational training; NGOs, LGAs, local communities

SN	Specific Actions	Indicators	Timescale	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
3	Design and undertake a community-based behavioural social change program (with an M&E system) towards ecological civilization	Community-based behavioural social change program (with M&E) undertaken	4-5	M-H	Basin	Public budgets, Donors, Private sector	M	212,800.00	SONGWECOM, MDAs responsible education and vocational training; LGAs, local communities, Private sector

GOAL 5.5**Improved road transportation system in the basin****Objective 5.5.1****Enhanced rural road transportation efficiency by 2030**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Plannin g scale	Potential sources of funds	Budget		Responsible/Stakehold ers
							Level	USD	
Sub-Objective 5.5.1.1-Challenges facing rural road transportation system in the basin Established by 2028									
1	Identify priority rural roads for sustainable and inclusive socio-economic development	Identified priority rural roads including feeder roads	4-5	H	Basin	Public budgets, Donors	M	200,549.02	SONGWECOM, MDAs responsible for rural roads, transportation, LGAs, local communities
2	Develop strategies to address critical challenges associated with road transportation system	Strategies to address critical challenges facing rural road transportation	4-5	H	Basin	Public budgets, Donors	H	1,852,235.29	SONGWECOM, MDAs responsible for rural roads, transportation, LGAs, local communities
Sub-Objective 5.5.1.2-Increased financing and community involvement in regular maintenance of rural roads by 2030									
1	Mobilize resources for regular maintenance of rural roads including feeder roads	Mobilized resources for maintenance of priority rural roads	4-5	H	Basin	Public budgets, Donors	M	209,960.78	SONGWECOM, MDAs responsible for rural roads, transportation, LGAs, local communities
2	Increase involvement of local in road construction, maintenance and protection of rural roads	Harnessed avenues in rural roads policies to enable involvement of local communities	4-5	H	Basin	Public budgets, Donors, Concessional loans	M	55,117.65	SONGWECOM, MDAs responsible for rural roads, transportation, LGAs, local communities, Financiers

GOAL 5.6**Transitioning to sustainable and clean cooking energy for all****Objective 5.6.1****Sustainably increased access to clean, affordable and reliable alternative cooking energies by 2035**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.6.1.1-Increased public and private investments in sustainable and clean cooking energies by 2035									
1	Review existing energy policy and regulatory framework to underpin any limitations for private investment in sustainable and clean cooking energies including rural electrification	Identified limitations in policy and regulatory frameworks for private investments in sustainable and clean energies	4-5	H	Basin	Public budgets, Donors	L	18,941.18	SONGWECOM, MDAs responsible energy, LGAs, local communities, Private sector
2	Advocate for policy and regulatory reforms to support private investment in sustainable and clean cooking energies including rural electrification	Policy and regulatory reforms advocated for sustainable and clean energies including rural electrification	4-5	H	Basin	Public budgets, Donors	M	104,721.57	SONGWECOM, MDAs responsible energy, LGAs, local communities, Private sector

Objective 5.6.2**Effective and equitable sustainable energy transitions in the basin Developed by 2029**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 5.6.2.1-Developed transitional pathways to sustainable cooking energies in rural and urban areas by 2028									
1	Undertake integrated cooking energy survey to underpin the basin's existing cooking energy mix, associated environmental footprints, current and future demand, and potential transitional pathways to sustainable and clean cooking energy	Appropriate transitional pathways to sustainable and clean cooking energy cooking energies	3-4	H	Basin	Public budgets, Donors, Private sector	M	243,333.33	SONGWECOM, MDAs responsible energy, LGAs, local communities, Private sector
2	Testing and scale-up appropriate pathways for cooking energy transitions to sustainable and clean energies with local communities	Piloted pathways for cooking energy transitions	3-4	H	Basin	Public budgets, Donors, Private sector	M	251,137.25	SONGWECOM, MDAs responsible energy, LGAs, local communities, Private sector
Sub-Objective 5.6.2.2-Exploited carbon trade and PES opportunities in the energy sector by 2029									
1	Draw lessons from past and existing VCT and PES schemes in the energy sector	Drawn lessons from existing VCT and PES schemes in the energy sector	3-4	H	National	Public budgets, Donors, Private sector	L	25,803.92	SONGWECOM, MDAs responsible energy, LGAs, local communities, Private sector
2	Develop and implement VCT and PES schemes in the energy sector with an M&E system	VCT and PES schemes developed and implement with an M&E system	3-4	H	Basin	Public budgets, Donors, Private sector	M	171,254.90	SONGWECOM, MDAs responsible energy, LGAs, local communities, Private sector

GOAL 6**Harnessing youth bulge as a demographic dividend in the basin****Objective 6.1****Enhanced human capital of youths with right mindsets and ecologically responsible by 2035**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD '000	
Sub-Objective 6.1.1-Improved life-skills education among youths towards self-identification, vision setting and rational decision-making by 2035									
1	Participatory Youth empowerment through life skills education	Youth empowered through life skills education	4-5	H	Basin	Public budgets, Donors, NGOs	M	88,196.08	SONGWECOM, MDAs responsible education, youth development, LGAs, local communities, faith-based organizations, NGOs
2	Develop a robust M&E system for tracking and improving youth programs	Robust M&E system developed	4-5	H	Basin	Public budgets, Donors, NGOs	L	27,568.63	SONGWECOM, MDAs responsible education, youth development, LGAs, local communities, faith-based organizations, NGOs

GOAL 7**Strengthening national and bilateral governance of shared natural resources in the basin****Objective 7.1****Increased community engagement and public awareness on INRM by 2026**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 7.1.1-Enhanced knowledge and capacity of stakeholders on INRM by 2025									
I	Conduct an integrated action plan focused on strengthening community engagement on integrated NRM	1. Identified stakeholders' training needs, 2. ToT programme undertaken, 3. Number of key Local communities and other stakeholders trained and capable of training target beneficiaries, 4. Local political and traditional leaders aware and knowledgeable about INRM	I-2	H	Basin	Public budgets, Donors	L	44,470.59	SONGWECOM, MDAs responsible agriculture, livestock, fisheries, forestry, land, water, environment; LGAs, local communities
Sub-Objective 7.1.2-Enhanced public awareness and knowledge on policy, legal and institutional frameworks related with INRM by 2026									
I	Conduct a comprehensive assessment of public awareness and knowledge on policy frameworks, identify perceptions and gaps in existing legal and institutional frameworks governing Integrated Natural Resources Management (INRM), and advocate for proposed reforms	1. Degree or level of public awareness and knowledge on INRM, 2. Perceptions, gaps and proposed reforms in INRM policy, legal and institutional frameworks, 3. Reforms in policy, legal and institutional frameworks advocated and lobbied for into the policy processes	I-2	H	Basin	Public budgets, Donors	M	44,666.67	SONGWECOM, MDAs responsible agriculture, livestock, fisheries, forestry, land, water, environment; LGAs, local communities

Objective 7.2**Harmonized policy, legal and institutional frameworks related with INRM by 2026**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 7.2.2-Effectived implementation of policies and enforcement of regulations related with INRM by 2026									
I	Establishment of joint monitoring and enforcement structure/mechanism	Existence and functionality of a joint monitoring and enforcement committee/body with common tools	2-3	H	National, Bilateral	Public budgets, Donors	L	39,490.20	SONGWECOM, MDAs responsible agriculture, livestock, fisheries, forestry, land, water, environment; LGAs, local communities

GOAL 8	Promoting sustainable socio-economic development enablers (Gender, R&D and ICT)
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Objective 8.1	Reduced gender inequality and empower women and girls to access productive resources and decision-making by 2030
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SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 8.1.1-Improved gender awareness at the community level and enhanced participation of women and girls in economic activities by 2030									
I	Raise community awareness on gender equity and empowerment	Community awareness on gender equity and women empowered	I-2	H	Basin	Public budgets, Donors	M	54,901.96	SONGWECOM, MDAs responsible forestry, agriculture, livestock, environment, LGAs, local communities

Objective 8.2**Enhanced inclusive digitalization in sustainable management of natural resources by 2030**

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 8.2.1-Integrated ICT in the utilization, planning, implementation and monitoring of sustainable management of natural resources by 2030									
I	Establish the extent and opportunities for integrating ICT in utilization, planning, implementation and monitoring/surveillance of natural resources	Extent and opportunities of integrating ICT in planning, implementation and monitoring/surveillance of natural resources	2-3	H	Basin	Public budgets, Donors	M	88,000.00	SONGWECOM, MDAs responsible forestry, agriculture, livestock, environment, LGAs, local communities

Objective 8.3

Mobilized STI generated through R&D to inform sustainable management of natural resources in the basin by 2032

SN	Specific Actions	Indicators	Timescale (years)	Priority	Planning scale	Potential sources of funds	Budget		Responsible/Stakeholders
							Level	USD	
Sub-Objective 8.3.2-Enhanced joint sectoral R&D alliances to continually generate science informing sustainable management of shared natural resources in the basin by 2032									
I	Identify spaces in the current governance platforms for leveraging R&D backed STI into INRM	Governance spaces for leveraging STI into INRM	4-5	H	National	Public budgets, Donors, International R&D institutions	M	99,686.27	SONGWECOM, MDAs responsible forestry, agriculture, livestock, environment, R&D, STI; LGAs, local communities

Annex 2: Consulted Higher-Level Stakeholders in Malawi

Sn.	Date	Name of Stakeholder	Organization	Position	Address/E-mail/Phone
1.	26/04/2023	Priscilia Mkangawire	MERA	EA	0999 923189
2.	26/04/2023	Chimwemwe S. Ndhlovu	CADECOM	ND	0999 303710
3.	26/04/2023	Dr. Julius Churu	DAHLD	Director	0991 277492
4.	26/04/2023	Innocent Nkangala	DAHLD	Deputy Director	0999 202887
5.	26/04/2023	Gift H. Kamwamba	DAHLD	Planning Officer	gkamwamba2010@yahoo.co.uk
6.	26/04/2023	Gertrude Kambagwa	DLRC	PLRCO	gkambagwa@gmail.com
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8.	26/04/2023	Julius Ng'oma	CISONECC	Coordinator	julius@cisoneccmw.org
9.	27/04/2023	Francis Chilimampungu	Forestry	Deputy Director	fchilima@gmail.com
10.	27/04/2023	Teddie Kawo	Energy	Deputy Director	teddiekawo@yahoo.com
11.	27/04/2023	Stella F. Gama	Forestry	Director of Forest	fumesonstella@gmail.com
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19.	28/04/2023	Davison Khumbayiwa	Dept. of Fisheries	Principal Fisheries Officer	khumbanyiwadavis@gmail.com
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27.	02/05/2023	Rev. Isayah V. Mhome		Deputy General	isayahmhome@yahoo.com
28.	02/05/2023	Francis N.C. Gondwe	MERA	Electricity Analyst	fgondwe@mera.mw
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32.	03/05/2023	Lameck Kayira	SOLDEV	Province Manager	Lameck.kayira@synadev.org
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SN	Name	Institution	Email
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Annex 3: Consulted Higher-Level Stakeholders in Tanzania

Sn.	NAME OF STAKEHOLDER	SEX	ORGANIZATION	TEL. PHONE	INTERESTS/ACTIONS IN BASIN	E-mail
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3.	Zainab Mmary	F	Tanzania Gender Network Partnership	0767911021	Gender	zainab.mmary@tgnp.or.tz

Sn.	Date	Name of Stakeholder	Organization	Position	Address/E-mail/Phone
1.	16/05/2023	Zainabu Shabani Bungwa	TFS-HQ	Ag. MFR	0714 522939
2.	16/05/2023	Juma Ramadhan Mwangi	TFS-HQ	PCO	0787 889977
3.	16/05/2023	John Rutagwaba	TFS-HQ	PCO	0752 904308
4.	16/05/2023	Kassim Ally	TFS-HQ	PCO	0786 22582

Sn.	Date	Name of Stakeholder	Organization	Position	Address/E-mail/Phone
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