



# MINISTRY OF NATURAL RESOURCES AND TOURISM

## INTEGRATED MANAGEMENT PLAN FOR THE KILOMBERO VALLEY RAMSAR SITE

Foundation Report

September 2018



# INTEGRATED MANAGEMENT PLAN FOR THE KILOMBERO VALLEY RAMSAR SITE

## FOUNDATION DOCUMENT

**September 2018**

The preparation of the Integrated Management Plan for the Kilombero Valley Ramsar Site and associated assessments, consultations, capacity building and other ancillary actions were supported by the Belgian Aid and the European Union, through the Kilombero and Lower Rufiji Ecosystem Management project.





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### **Authors of the Foundation Report**

Giuseppe Daconto, Ian Games, Kahana Lukumbuzya, Frits Raijmakers.

### **MNRT Team**

Pelage F. Kauzeni, National Project Coordinator (Tanzania Wildlife Management Authority)  
Aloyce Mpinge, GIS Specialist (Tanzania Wildlife Management Authority)

### **District Coordinators**

Julius Masangula (Kilombero), Olokule Mungaya (Ulanga)

### **ENABEL Technical Team**

Giuseppe Daconto, James Nshare, Anicet Sambala, Azaria Kalimba, Chloé Salmon.

### **Team of AMBERO gmbh – IMP components and preparatory assessments**

Ian Games, Felister Mombo, Rob Cunliffe, Beatus Temu, Qambemeda Masala Nyanghura, Thomas Armbruster, Kahana Lukumbuzya, Frits Raijmakers, Edward Kohi, Cosmas Mligo, Hamza Kija, Jeppe Kolding, Collins Mwange Mwangu, Javier Muro, Rugemeleza Nshala, Robin Nielsen, Sanyuni Mariki.

### **IMP Task Force**

Nancy Amon (Ifakara Township), Akwinatha Ngonyani (Kilombero District), Syabumi Mwaipopo ( Kilombero District), Gastor Columan ( Malinyi District), Stephen Zayumba (Malinyi District), Joseph Chuwa (Regional Administrative Secretariat, Morogoro), John Rutagambwa (Rubada), Sebastian Kulinga. (Rufiji Basin Organization), Sadiki Lotha Laiser (TAWA), Yusuph Namkeleja (TAWA), Elisante Ako (TAWA), Horuma Vallency ( Ulanga District), Martha Ngalowera (VPO).

### **Seconded staff for assessments**

Mdendemi Rehema (PORALG), Yusuf Mustapha (PORALG).

### **KILORWEMP Project**

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## FOREWORD



*Maj. Gen. Gaudence Milanzi*  
*Permanent Secretary*  
**MINISTRY OF NATURAL RESOURCES  
AND TOURISM**

The Kilombero Valley Ramsar Site is a landscape attracting the highest attention within the Government of Tanzania and among a large number of national and international stakeholders. It is home to hundreds of thousands of people, who use natural resources for their livelihood. Its fish catches reach far away well beyond the boundary of the valley. Companies and many small farmers and entrepreneurs base their activities on its resources, whether for farming, raising livestock, harvesting trees, and so on.

The Valley is also a key component of the Kilombero river catchment, which generates over 60% of the water of the Rufiji basin, the most important river basin of the country. The judicious management of these water resources and the catchment responsible for their generation is essential for the development of the nation.

Wildlife used to be the focus of conservation effort because the valley was exceptionally endowed with game. Wildlife has now almost disappeared as a consequence of human-induced change. Nevertheless, the residual wildlife areas

and the most vulnerable habitats of this ecosystem need to be preserved and sometimes rehabilitated.

The Ministry of Natural Resources and Tourism (MNRT), through the Tanzania Wildlife Management Authority and the Tanzania Forest Service, is managing critical lands across the valley and the upper catchment. The Ministry remains committed, on behalf of Tanzania, to further protect this landscape which was designated 17 years ago as a wetland of international importance under the Ramsar Convention.

Present and future conservation efforts need to transcend sectorial agendas and reconcile many different interests, often in conflict with one another. This is a long journey, which has already started. There have been several initiatives, including studies, the preparation of development and sector plans, and moreover the gradual strengthening of the resources and capacities of the institutions responsible for the management of the landscape.

The preparation of the Integrated Management Plan for the Kilombero Valley

Ramsar Site is an important milestone. It provides a framework within which priorities and actions for sustainable wetland management at landscape level can be identified, discussed, agreed, adapted, pursued and monitored. It focusses on establishing a process of harmonization among sectors and levels of government. It also focusses on sustainable land management and the conservation of vulnerable sites.

This IMP has been prepared through the Kilombero and Lower Rufiji Ecosystem Management project (KILORWEMP). MNRT, which has led the execution of the project in collaboration with the Belgian Development Agency, is grateful for the support received from the funding agencies, the Belgian Government and the European Union. We also thank the collaboration of many stakeholders and institutions across the Valley and the nation, who were involved in extensive consultations, discussions, field assessments and pilot actions.

As a result of this work, we have a framework for action: this agenda does not belong just to MNRT, it rather needs to be owned by many other parties, including local government, other line Ministries and a multitude of local stakeholders. The preparatory work has laid the foundation for this ownership. We also have a much-improved knowledge base to make decisions. And we have strengthened the management of several areas within the landscape, some of which through devolution via community-based natural resource management.

The road ahead is demanding. Tanzania is developing rapidly. Unavoidably this generates conflicts and growing demands over our resource base. We think that this Plan provides a sense of direction and a menu of critical priorities to be pursued. It is upon this Ministry, the government at large and the Tanzanian society to pursue decisions and actions which fulfill our development expectations and use wisely our exceptional natural resources.



*Maj. Gen. Gaudence Milanzi*

**Permanent Secretary**

**MINISTRY OF NATURAL RESOURCES AND TOURISM**

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## OUTLINE OF THE DOCUMENT

This document presents the foundation and overall framework of the Integrated Management Plan of the Kilombero Valley Ramsar Site (IMP). This document is complemented by a set of technical appendices. The main document is composed of four sections.



### Section (1) - Context

- summarises the key feature of the wetland sites, its economic context and the drivers affecting the complex set of services and functions that the wetland ecosystem provides.



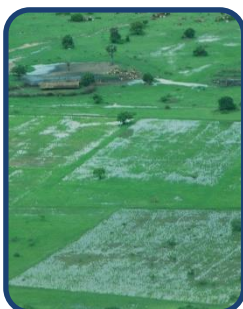
### Section (2) - Approach

- Presents the rationale for the preparation and development of the IMP (**Foundation phase or Phase-1I**) . It recaps the key methodological references and guidelines which have inspired its design. It describes the design process. It provides references to the realities of physical and intersectoral planning in this landscape.



### Section (3) - The IMP and its phases

- Presents a phased approach to IMP implementation. It proposes an **overall goal and preliminary objectives for ecosystem management**. Beyond the **present phase (Foundation)** a second phase - **the essential IMP** - will establish a long term inter sectorial coordination mechanism: it includes a Coordination Action Plan. A third, **extended IMP phase** requires external financing. This document presents the key building blocks of the extended phase, which are meant to complement other critical sectorial plans in water resources, agriculture, land administration, energy and infrastructure.



### Section (4) - Scenarios

- Presents plausible scenarios of implementation of this phased approach. it highlights the risks of continuing with a business as usual attitude. It underscores important although partial institutional outcomes which may be achieved by establishing phase II. It places the more ambitious phase III in the context of the policy drivers which are going to shape efforts to manage KQRS in the future and which the IMP execution mechanism needs to face.





## Contents

FOREWORD .....	5
OUTLINE OF THE DOCUMENT .....	7
ACRONYMS .....	11
STRUCTURE OF THE IMP .....	12
1 CONTEXT .....	13
1.1 THE KILOMBERO VALLEY RAMSAR SITE.....	13
1.2 ECONOMIC CONTEXT .....	15
1.3 WETLAND ECOSYSTEM FUNCTIONS AND SERVICES .....	19
1.3.1 <i>Ecosystem Services</i> .....	19
1.3.2 <i>Drivers of Change</i> .....	20
1.3.3 <i>Strategic Issues</i> .....	20
2 APPROACH TO INTEGRATED SITE MANAGEMENT .....	22
2.1 IMP FOUNDATION PROCESS.....	22
2.2 IMP CONCEPTUALIZATION AND APPROACH.....	24
2.2.1 <i>Ecosystem approach (Convention on Biological Diversity – Malawi principles)</i> .....	24
2.2.2 <i>Wise use of wetlands (Ramsar Convention)</i> .....	25
2.2.3 <i>Adaptive landscape management</i> .....	25
2.3 IMP PHASES .....	27
2.4 PHASE-I (FOUNDATION). .....	28
2.5 LIMITATIONS OF THE IMP FOUNDATION PROCESS.....	29
2.6 INTER-SECTORIAL PLANNING CONSIDERATIONS .....	30
2.7 PHYSICAL PLANNING .....	36
2.7.1 <i>Planning scales</i> .....	36
2.7.2 <i>Spatial data sources and ongoing planning processes</i> .....	36
2.7.3 <i>Zoning</i> .....	39
3 THE INTEGRATED MANAGEMENT PLAN .....	43
3.1 GOAL AND OBJECTIVES .....	43
3.1.1 <i>Towards a vision for the wise use of the Kilombero Valley</i> .....	43
3.2 PRELIMINARY ECOSYSTEM MANAGEMENT GOALS .....	45
3.3 PHASE-II: THE ESSENTIAL IMP .....	46
3.3.1 <i>Summary</i> .....	46
3.3.2 <i>Institutional mechanism</i> .....	46
3.3.3 <i>Action Plan</i> .....	48
3.3.4 <i>Funding</i> .....	51
3.3.5 <i>Detailed justification for proposed fiscal measures</i> . .....	53
3.4 PHASE III: THE "EXTENDED" IMP.....	57
3.4.1 <i>Summary description</i> .....	57
3.4.2 <i>Institutional mechanism</i> .....	57
3.4.3 <i>Indicative Action Plan for phase III</i> . .....	59
3.4.4 <i>Funding</i> .....	61
4 IMPLEMENTATION OUTCOMES .....	62
4.1.1 <i>Business as usual scenario</i> .....	63
4.1.2 <i>Scenario – essential IMP</i> .....	64
4.1.3 <i>Scenario - extended IMP</i> .....	66

## List of Annexes

ANNEX-1. REVIEW OF RAM ACTION PLAN .....	70
ANNEX-2. INDICATIVE COSTING OF IMP PHASE-III .....	77
ANNEX-3. ADDITIONAL BACKGROUND DOCUMENTS .....	78
ANNEX-4. NOTES AND REFERENCES .....	79

## List of Tables

TABLE 1. PRINCIPLES FOR A LANDSCAPE APPROACH TO PLANNING .....	26
TABLE 2. IMP PHASES.....	27
TABLE 3. PRIORITIES FOR LANDSCAPE-LEVEL INTER-SECTOR COORDINATION. ....	31
TABLE 4. PLANNING SCALES. ....	36
TABLE 5. MAIN DATA CONTRIBUTORS FOR KILOMBERO SPATIAL PLANNING. ....	37
TABLE 6. LIMITATIONS RELATED TO LAND DATA QUALITY AND SPATIAL PLANNING PROCESSES .....	38
TABLE 7. PRELIMINARY ZONATION FOR THE KILOMBERO BASIN.....	42
TABLE 8. ESSENTIAL IMP ACTIONS.....	46
TABLE 9. THE KVRS COMMITTEE .....	47
TABLE 10. SUMMARY OF PROPOSED FISCAL MEASURES. ....	51
TABLE 11. INDICATIVE PHASE II OPERATIONAL COSTING PLAN.....	52
TABLE 12. FISCAL MEASURE # 1 – IGT RE-ALLOCATION (IN TSH) .....	53
TABLE 13. FISCAL MEASURE # 2 – OSR RE-ALLOCATION (%) .....	54
TABLE 14. FISCAL MEASURE # 2 – OSR RE-ALLOCATION (IN TSH) .....	55
TABLE 15. EXTENDED IMP CONCEPT. ....	57
TABLE 16. KVRS AUTHORITY: ADVANTAGES AND DISADVANTAGES. ....	58
TABLE 17. SCENARIOS OF WETLAND MANAGEMENT OUTCOMES. ....	62
TABLE 18. POLITICAL AND POLICY DRIVERS AFFECTING IMP IN THE MEDIUM TO LONG-TERM. ....	68
TABLE 19. SUMMARY REVIEW OF RAM ACTIONS. ....	76

## List of Figures

FIGURE 1. THE SITE WITHIN THE RUFJI BASIN. ....	13
FIGURE 2. ECONOMIC SECTORS OF INTEREST FOR THE IMP.....	15
FIGURE 3. VERTICAL INTEGRATION OF PLANNING LEVELS. ....	30
FIGURE 4. PROTECTED AREAS IN THE KILOMBERO CATCHMENT.....	41
FIGURE 5. EXISTING LAND "ZONING" FOR KILOMBERO BASIN. ....	41
FIGURE 6. PRIORITY CONSERVATION ELEMENTS WITHIN THE KVRS LANDSCAPE.....	50
FIGURE 7. DEMOGRAPHIC PROJECTION BASED ON 2012 CENSUS DATA.....	63

## ACRONYMS

ASDP	Agricultural Sector Development Program	NGO	Non Governmental Organisation
AWF	African Wildlife Foundation	NP	National Park
BDS	Business Development Services	NRM	Natural Resource Management
BMU	Beach Management Unit	NTFP	Non Timber Forestry Product
BRN	Big Results Now	NWMS	National Wetlands Management Strategy
BTC	Belgian Development Agency	NWWG	National Wetlands Working Group
CBFM	Community Based Forest Management	PFM	Participatory Forest Management
CBNRM	Community Based Natural Resource Management	PLUM	Participatory Land Use Management
CBOs	Community Based Organizations	PO-RALG	President Office Office Regional Administration and Local Government
CEPA	Communication, Education and Public Awareness	PPP	Private Public Partnership
CGMET	Community Based Monitoring and Evaluation Tool	PS	Permanent Secretary
CMT	Council Management Team	PTT	Project Technical Team
CSO	Civil Society Organisation	RAS	Regional Administrative Secretary
CWMAC	Community Wildlife Management Areas Consortium	RBO	River Basin Office
DANIDA	Danish International Development Agency	RDC	Rufiji District Council
DED	District Executive Director	REDD	Reducing Emissions from Deforestation and forest Degradation
DeNRM	Decentralized Natural Resources Management	RNRO	Regional Natural Resources Officer
DFO	District Forest Officer	RUBADA	Rufiji Basin Development Authority
DFT	District Facilitation Team	SAGCOT	Southern Agricultural Growth Corridor of Tanzania
DGO	District Game Officer	SGR	Selous Game Reserve
DHRO	District Human Resources Officer	SRESA	Strategic Regional Environmental Assessment
DNRO	District Natural Resource Officer	STEP	Southern Tanzania Elephant Program
EU	European Union	SWMP	Sustainable Wetlands Management Project
FBD	Forestry and Beekeeping Division	TANAPA	Tanzania National Parks
FMP	Forest Management Plan	TANESCO	Tanzania Electric Supply Company
FR	Forest Reserves	TAWA	Tanzania Wildlife Management Authority
GIS	Geographic information system	TFF	Technical and Financial File
GoT	The Government of Tanzania	TFS	Tanzanian Forest Service Agency
GR	Game Reserve	TRA	Tanzania Revenue Authority
IMP	Integrated Management Plan	UDC	Ulanga District Council
JFM	Joint Forest Management	UNP	Udzungwa National Park
JLPC	Joint Local Partnership Committee	URT	United Republic of Tanzania
KDC	Kilombero District Council	USAID	United State Agency for International Development
KGCA	Kilombero GCA	VEO	Village Executive Officer
KVRS	Kilombero Valley Ramsar Site	VFR	Village forest reserve
KVTC	Kilombero Valley Teak Company	VLUP	Village Land Use Plan
LTSP	Land Tenure Support Programme	VNRC	Village Natural Resources Committee
LUP	Land Use Plan / Land Use Planning	VPO	Vice President's Office
MLF	Ministry of Livestock and Fisheries	VPO-DE	Vice President's Office - Department of the Environment
MLHHS	Ministry of Lands, Housing and Human Settlements Development	WD	Wildlife Division
MNRT	Ministry of Natural Resources and Tourism	WDC	Ward Development Committee
MOW	Ministry of Water	WMAs	Wildlife Management Areas
NEMC	National Environment Management Council	WUA	Water Users Association

## STRUCTURE OF THE IMP

The Integrated Management Plan for the Kilombero Valley Ramsar Site is a framework for coordination of actions to conserve and promote the wise use of the wetland landscape.

The IMP is composed of an overall coordination framework and of several specific Component Plans. Some of these Component Plans have been appraised as part of the IMP Foundation phase: these appraisals generated specific reports listed below.

Additional Component Plans are identified further below in this document and are being pursued by other actors: the set of documents produced as part of the IMP Foundation do not include specific documents for those components. However, the proposed design recommends pursuing a coordinated approach engaging those actions through the overall IMP framework.

Document	Scope and purpose
<b>Main Report</b>	
<b>Foundation Document (this volume)</b>	It summarises the rationale, goals and proposed mechanism for the IMP. It presents the summary Action Plan comprising several components.
<b>Appendices: Components' Reports</b>	
<b>I. Ngapemba Conservation Area</b>	Appraisal of conservation rationale and options for the Ngapemba section of the KQRS. Preliminary Conservation Site Action Plan.
<b>II. Site Management Plan for the conservation of Puku</b>	Appraisal of the status of the antelope <i>Kobus Vardonii</i> (puku) in Kilombero Valley; proposed Conservation Plan within the landscape.
<b>III. Ruipa-East Wildlife Corridor Plan</b>	Appraisal of conservation rationale and options for the conservation and rehabilitation of wildlife connectivity between the core valley area and Selous Game Reserve I the central section of the KQRS.
<b>IV. Priority Investment Plan for the Livestock Sector</b>	Appraisal of requirements and opportunities to support the gradual transformation of the livestock sector within the landscape. Priority Investment Plan.
<b>V. Vulnerable Wetlands Appraisal</b>	Appraisal of the status and conservation options of 2 wetland sites at the edge of the valley floor.
<b>Appendices: IMP Foundation Feasibility Appraisals</b>	
<b>VI. Strategic Wetland Review</b>	A summary review of wetland ecosystem status and drivers of change.
<b>VII. Institutional Option Study</b>	Appraisal of options for the establishment of landscape-scale inter-sector coordination within the relevant frameworks of Tanzania.
<b>VIII. Financial Sustainability Appraisal Study</b>	Appraisal of fiscal sustainability of devolution of wetland's natural resource management and fiscal requirements for the establishment and sustainability of landscape-level coordination.
<b>IX. Report on IMP Foundation Consultative events</b>	Record and recommendations from stakeholder workshops organized during the IMP Foundation process at district, landscape, regional and national levels.



# 1 CONTEXT

## 1.1 The Kilombero Valley Ramsar Site

The Kilombero Valley is a complex wetland landscape: it is a floodplain about 220km long and up to 70km wide, sandwiched between the Udzungwa scarp and the Mahenge hills. It is a flat basin lying at about 270 meters of elevation. Multiple tributaries converge into the valley forming the Kilombero river: some flow over a relatively short distance from the eastern slope of the escarpment or from the Mahenge hills, others flow from the Mbeya and Iringa watersheds farther afield to the south. The river's hydrological cycle shows a marked flooding pulse. During the rainy season water runoff from the steep tributaries reaches rapidly the valley floor and transforms it into a large swamp; the water level rises up to 4.5 m at Ifakara.

**Figure 1. The KVRS site within the Rufiji Basin.**



Over the last 20 years, the environment and society in the valley have radically changed (the general environmental and development features of the site are summarised in Appendix-VI). The rich and fertile valley floor has long been the focus of dreams of grandiose irrigation schemes (dating from the early part of the last century). The TAZARA railway built in the 1970s, the resettlement schemes

associated with it, the Ujamaa plan and government-sponsored agriculture projects opened up the territory and laid the first magnets of attraction. The early developments and settlements affected mostly the belt along the railway line

The wider valley managed to stay relatively environmentally intact until recently and, in the 1990s, the valley was still a known wildlife area with a small human population. The human population has doubled since 2000 and is expected to reach 1.2 million in 20 years, due to both natural growth and immigration. Improved infrastructure, land clearing for farming and grazing, a scatter of small and large irrigation and agricultural projects have changed the valley irrevocably.

The attractiveness of the valley for farming and grazing combines with more complex push factors which often play out at a much larger scale (catchment and national). As a consequence of this complex interplay, the valley has lost extensive natural habitat, the agrarian economy has boomed, wildlife populations once very abundant have been restricted to small pockets of land, human settlements have expanded and scattered across the whole landscape. There are large scale corporate investments (in forestry, rice and sugar farming). Two upstream tributaries have been dammed for power generation. More recently, the government awarded a concession for gas exploration within the valley's core.

Public management and administration have struggled to keep pace with the social and environmental change. Over the decades, a couple of hundred villages have been established and there are continuous subdivisions ongoing. Local authorities have grown in number (they have recently doubled from two to three District Councils and one Town Council).

Central Government has maintained nominal authority on the core area and large tracts of land over the watersheds. However, this social and economic growth has been mostly unregulated. Land conflicts abound and the local political arena is a complex turf where access to land is often a major issue.

The valley used to be centrally managed for wildlife (tourism hunting) purposes only, since the establishment of the Kilombero Game Controlled Area in the 1950s. More recently a few attempts have tried to establish a more rational management system for the landscape. These were in response to an evolution of the legal framework for wildlife conservation and the growing perception of negative environmental change. Occasionally, these perceptions have given rise to spikes of enforcement action, such as the 2012 Operation Save Kilombero. Sustaining administrative actions over time and addressing the complexities of the site have been much more difficult.

The designation of the Valley in 2001 as a wetland site of international importance under the Ramsar Convention was a key milestone to recognize nationally and internationally the fundamental value of this landscape. The existing legal framework for wetland management is rooted in classical protected area concepts. Wetland management falls operationally under the MNRT which makes them the current driver of wetland conservation processes. The Vice President Office is the policy level body responsible for wetland management; however, it does not manage sites. MNRT’s key conservation focus is presently the consolidation of the Kilombero Game Controlled Area boundary: this process was triggered by the reform of the wildlife legislation in 2009<sup>1</sup> and has been ongoing since then.

A few other environmental assessment and planning processes have involved the Valley. A first attempt at establishing a wetland management framework was completed in 2009 by MNRT with support from the Belgian Aid but was not carried forward. In 2013 the Government with support from the World Bank carried out a Strategic Regional Environmental and Social Assessment<sup>2</sup> and prepared an Environmental and Social Management Framework<sup>3</sup>; these were meant to guide the execution of agriculture development plans and investments under the Southern Agriculture Growth Corridor of Tanzania (SAGCOT). The Valley had been identified as a priority cluster for SAGCOT; however, this plan was later changed and SAGCOT is pursuing other clusters.

Meanwhile, the Ministry of Water Resources prepared the Rufiji Basin Integrated Water Resources Management Plan<sup>4</sup>, which awaits implementation. With support from USAID, a detailed feasibility study for four large-scale irrigation schemes was completed in 2017; and



Aerial view, core area.

an Environmental Flow Assessment for the Kilombero basin was completed in 2018<sup>5,6</sup>.

Academic researchers and development agencies have investigated the valley for decades. The first comprehensive profiles were prepared in the 1960s<sup>7</sup>. Numerous large and small research projects have been carried out since by local and international institutions. More recently the Glob-E project supported by the German Ministry of Environment<sup>8</sup>, the SWOS project supported by the European Union<sup>9</sup> and the KILORWEMP project supported by the Belgian aid and European Union have contributed an updated analysis of key landscape features.

As a consequence of these efforts, there is now a better understanding of wetland environmental services - flows, changes, and their root causes. However, the technical knowledge has not yet informed a sufficiently coherent and shared vision among the stakeholders across the landscape. Local conservation debates are often overridden by conflicting land use positions, the uncertainty of land tenure, weak governance and accountability. There is a lack of an effective institutional capacity to reconcile different interests and to sustain the intensive, long-term and deep administrative process required to harmonize multiple sectoral agendas. As a consequence, single-issue perspectives often prevail, generate short-term actions and at times unduly polarise local conflicts (e.g. pastoralists versus farmers) at the risk of losing sight of a larger and more realistic picture.

The context is not going to change over-night. Along with better knowledge, more structured institutional actions are emerging very gradually. The country’s institutional capacity to undertake and enforce complex spatial plans at the landscape scale, and across sectors, is very modest and needs a long-term development perspective. The Plan proposed herewith has explicitly avoided a “best in practice” or blueprint approach which has scant chances of success. It rather wants to provide a pathway to establish a coordination framework and to evolve a long-term institutional mechanism for collaboration across sectors. The commitment of resources to this process by GoT will be an early indicator of initial progress.

## 1.2 Economic Context

The management of the Ramsar Site has direct and indirect relevance for multiple economic sectors. This section summarizes the economic ramifications of wetland management in Kilombero Valley. A more detailed review is included in the Strategic Review paper (Appendix-VI).

**Figure 2. Economic sectors of interest for the IMP.**





**Land.** The land sector needs to deal with growing multi-sectoral land uses (farmland expansion, energy, mining, conservation and rapid growth of human settlements and infrastructure). Implementation of the existing land administration framework across the country is very limited due to capacity bottlenecks. Fertile alluvial plains such as the Kilombero floodplain are hotspots of land pressure and conflicts. The presence of a large conservation area across the valley floor has been a source of major conflicts since the new Wildlife Act restricted grazing and farming use within Game Controlled Areas. GoT has prioritized Kilombero valley for land regularization. MLHSD launched a new project on Land Tenure Regularization (LTSP) in January 2016. Village Land Use Plans remain the key statutory tools for land use planning in Tanzania. However, their quality is often weak and the enforcement is limited, especially in areas with high land pressure such as KVRS. VLUPs prepared in isolation from one another, are also ill-suited to rationalize land use across a landscape. The interministerial collaboration established between MNRT and MHLSSD in the valley has yielded so far limited results due to coordination weakness and remains an area requiring sustained efforts.



**Agriculture (Farming).** The average annual growth rate for the agriculture sector in Tanzania during the period 2006–2014 was 3.9%, lagging far behind services and industry. However, agriculture contributes towards 23% of Tanzania’s GDP, employing 70% of the nation’s labor force and accounting for 30% of exports and 65% of inputs to the industrial sector. The sector remains mired in low productivity. Land availability is a contested domain: assessments are caught between optimistic projections and indicators of land scarcity. Kilombero Valley’s natural habitats (miombo woodlands and grassland) were extensively converted to farms since the late 1990s and exponentially in the last 20 years. In the early 2010s, the flagship Southern Agriculture Growth Corridor of Tanzania (SAGCOT) identified Kilombero Valley as its top cluster for agriculture investments in the country. This drove the preparation of the mentioned WB supported environmental framework and also feasibility studies for large-scale irrigation schemes. Their study outcomes restricted feasible investments from the initially expected 40,000 ha to few thousands of hectares. Soil suitability, land availability, environmental concerns and institutional capacity bottlenecks for large-scale agriculture investments have led the momentum to ebb and the Kilombero Valley is no longer a priority cluster for SAGCOT. Meanwhile, GoT is launching phase II of the Agriculture Sector Development Programme in 2018. The KGCA consolidation and the KVRS IMP have profound implications for the rice farming subsector.



**Energy.** Tanzania’s demand for energy is growing by 10 % every year reflecting the country’s high economic growth. Yet electricity access reaches on 30% of the population and 11% of the rural population. Growth in energy generation is seen by GoT as crucial to supporting industrialization and mining. The area is directly affected by hydropower generation plans: these include two schemes (one under extension) already operating in the Rufiji basin upstream of Kilombero Valley; and moreover, the development of the Stiegler’s Gorge 2GW dam. The latter project represents a top infrastructure priority for GoT currently. All GoT services including MNRT are sharply focused on this project as of late 2017. Additional hydropower projects are in pipeline for the upstream Kilombero basin<sup>10</sup>. In addition, GoT granted a gas exploration license to a private company in the center of the KVRS<sup>11</sup>.

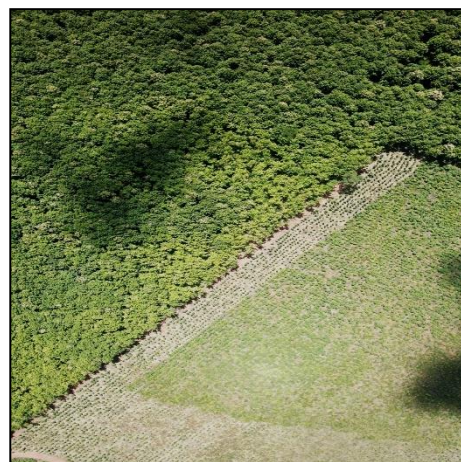


**Fisheries.** Artisanal capture fisheries are a minor sector in official statistics. This is due more to the informality of the sector than its real economic and social significance<sup>12</sup>. The total direct sale value of fisheries in Kilombero Valley exceeds 25 million USD per year<sup>13</sup>. This long-established sector supports a very extensive trading network that sustains food security and supplies proteins to a large population. This sector also plays an economic role of social security as it attracts large numbers of economically marginal people also from distant regions. Fishery’s productivity depends on maintaining the river’s natural hydrological cycle and the seasonal flood, more than any direct management measure.



The establishment of a management framework through Beach Management Units is at pilot level and marred by high transaction costs and top-down standards. The KGCA re-establishment may have important implications for over 15,000 fisherfolks plus the wider value chain, depending on the management regime to be established.

**Forestry.** The landscape’s forest resources have been significantly degraded especially in the western sector. Important forest areas remain in the Ulanga Districts and moreover cover the water towers of the Kilombero catchment. Some of these areas have a conservation status. But large areas are in village land: here, if forests do not prove rapidly their economic rationale, their future is doomed. Several Village Forest Reserves have been established. KILORWEMP has pioneered the preparation of sustainable harvesting plans and associated capacities. A Private-Public Partnership Scheme has also been appraised in collaboration with Kilombero Valley Teak Company through the KILORWEMP project. Timber demand is not a problem. Wood product demand<sup>14</sup> is expected to grow strongly, more than doubling in round wood equivalent between 2013 and 2035,





driven primarily by the construction sector and paper consumption. When compared to the demand forecast, there remains a supply deficit in the market, which is projected to increase significantly between 2025 and 2035. The supply is mainly from plantations and the growth of the small and medium sector. Timber sourcing from natural forests and especially CBFM is relatively marginal. However, market demand supports their business case and will increasingly do so. The sector needs to be nurtured to safeguards the catchment.

**Livestock.** The livestock sector is large and culturally important. It contributes only 7.4% to Tanzania’s GDP and grows at 2.6% reflecting increases in livestock numbers, rather than productivity gains<sup>15</sup>. A subsector assessment estimates a total annual direct sale value of the sector in Kilombero Valley at around 25 million USD<sup>16</sup>. Country-wide it has proven difficult to transform this sector through modernization and intensification strategies. Pastoralist practices pursue other economic goals than increased productivity and market supply. Traditionally, livestock grazing is seen as the main driver of protected area degradation and remains the focus of conservation agencies’ attention. Most pastoralists, especially in the project’s area, are mixed agro-pastoralists: livestock rearing represents a factor of a more complex traditional pattern of land access and agriculture establishment and growth. The IMP Foundation Plan includes an appraisal of investments to support the modernization and transformation of the sector within the landscape<sup>17</sup>.



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**Hunting.** Kilombero Valley was a prime area for hunting until the mid-2000s. The hunting industry in Tanzania has been on a rapidly accelerating decline, under the weight of ever decreasing wildlife populations, international sanctions on the trophy trade and negative public opinion. Hunting represents the main revenue source for the conservation of GRs and GCAs, as well as WMAs and open areas. WMAs are meant to enable hunting on village land, however, their performance is hindered by high transaction costs. In 2014 MNRT suspended local hunting (as opposed to safari hunting) due to concerns over the sustainability and transparency of its operations supervised by LGAs.



This impacted directly one of the devolved wetland land use models (WMAs), as local hunting can be an important early win in encroached habitats. Concessionaries returned about half of the hunting blocks country-wide by mid-2018 and had abandoned the hunting blocks across the KGCA in the late 2000s, except a viable concession in the southern end of the valley (listed as a core component of the IMP). The re-establishment of the KGCA and the WMAs offer medium-term opportunities for the re-establishment of hunting in the landscape.

**Eco-tourism.** In 2016 tourism and travel generated<sup>18</sup> directly USD 2.1 billion in 2015, or 25% of foreign earnings, and constituted 4.7% of GDP. Its total contribution was estimated at 5.9 b USD or 13.3% of GDP. Since 2004 tourism has been growing at a rate of 10% per annum<sup>19</sup>. It directly employs 600,000 people and up to 2 million people indirectly. The sector will increasingly be the main economic underpinning of conservation, with lingering question-marks over areas with marginal suitability for it (many in the south). TANAPA, NCCA, and the private sectors are solid players mostly in the North. TAWA (which oversees 79% of the total size of protected areas) and the southern sector are the new players. Ecotourism is already the main source of revenues for those WMAs which have significant revenues. MNRT with support from WB launched in early 2018 a large-scale project (REGROW) to support the stabilization of conservation and the growth of the southern tourism circuit. The regional growth of this sector (lack of transport infrastructure is a major bottleneck) will favor the KILORWEMP’s target areas (WMAs, KGCA), which now are at the margin of the industry’s attention. An important exception is the thriving sport-fishing enterprise in the southern end of the KVRS.



## 1.3 Wetland ecosystem functions and services

### 1.3.1 Ecosystem Services

Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services, regulating services, cultural services, and supporting services. They are briefly summarised below (Millennium Ecosystem Assessment, 2005). By describing the benefits and services between the ecological system and the social system the relationship is highlighted.



### 1.3.2 Drivers of Change

A driver is any natural or human-induced factor that directly or indirectly causes a change in an ecosystem and its service capacity. A direct driver unequivocally influences ecosystem processes. An indirect driver operates more diffusely, by altering one or more direct drivers. Millennium Ecosystem Assessment categories of indirect drivers of change are demographic, economic, socio-political, scientific, technological, cultural and religious. Important direct drivers include changes in climate, plant nutrient use, land conversion, and diseases and invasive species. The key drivers of change in the Kilombero context are summarised below.

Key Drivers Of Change In The Kilombero Context			
Indirect Driver	Issue in Kilombero Context	Direct Drivers	Issue in Kilombero Context
Demographic	<ul style="list-style-type: none"> <li>Population growth</li> <li>Changing settlement patterns</li> </ul>	Climate changes	<ul style="list-style-type: none"> <li>Regional climate change</li> <li>Local climate change after land conversion</li> </ul>
Economic	<ul style="list-style-type: none"> <li>Upstream flow interference</li> <li>Gas exploration</li> <li>Irrigation projects</li> </ul>	Plant nutrient use	<ul style="list-style-type: none"> <li>Growth in chemical inputs to agriculture</li> </ul>
Socio-political	<ul style="list-style-type: none"> <li>Land tenure conflicts and uncertainty</li> <li>Inadequate land use planning</li> <li>Political conflicts</li> <li>National agricultural agendas</li> </ul>	Land conversion	<ul style="list-style-type: none"> <li>Deforestation on higher ground</li> <li>Conversion of indigenous woodland and grassland to plantation forestry</li> <li>Natural wetland conversion to rice (and other crops)</li> <li>Urbanisation</li> </ul>
Scientific and technological	<ul style="list-style-type: none"> <li>Mechanised land preparation</li> <li>Infrastructure development</li> <li>Improved yield technologies</li> </ul>	Diseases and invasive species	<ul style="list-style-type: none"> <li>Tsetse eradication</li> </ul>
Cultural and religious	<ul style="list-style-type: none"> <li>Shifting agricultural practices</li> </ul>		

### 1.3.3 Strategic Issues

Identification of strategic issues is an important first step for any planning and problem-solving exercise. Strategic issues can be external (those that are beyond control) and internal (those that may be possible to develop a course of action to control).

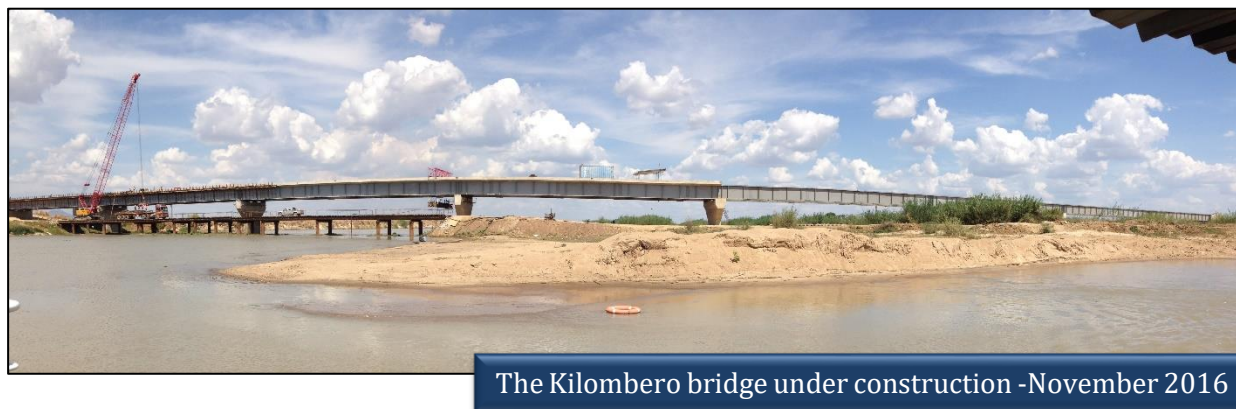
Strategic issues were identified after an understanding of the system through its description and an analysis of the drivers of change.

In summary, the strategic issues facing the Ramsar Site are:

- Rapid Human Population Growth
- Weak effectiveness of land administration and management
- Development Pressure



They are briefly outlined in the table below. Further details are found in the Wetland Landscape Issues document, which is an appendix to this document.



The Kilombero bridge under construction -November 2016

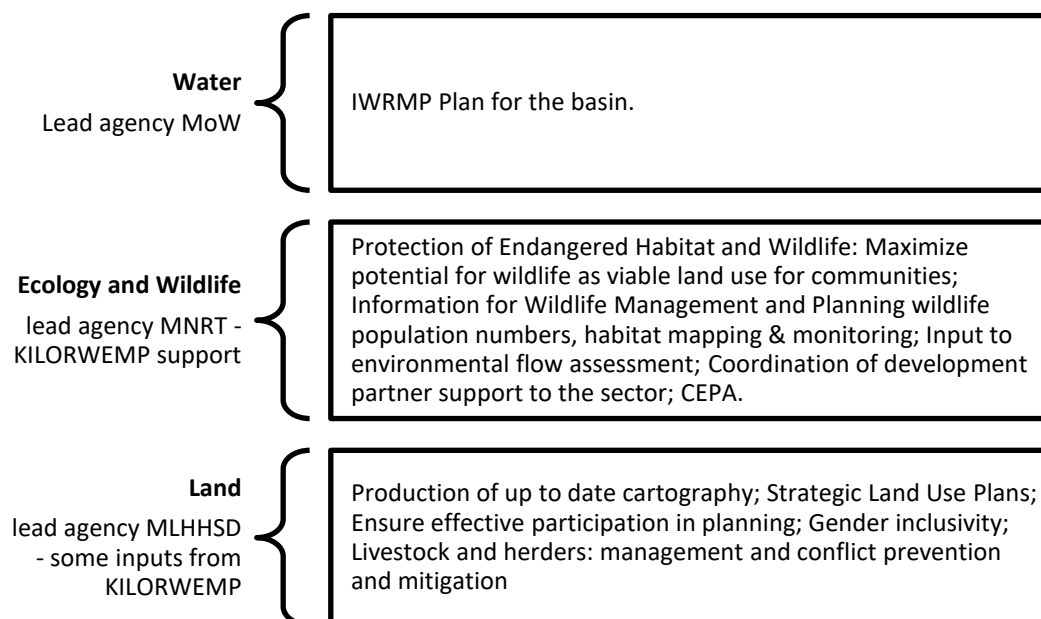
Strategic Issues Overview	
Rapid Human Population Growth	The population of the valley is increasing at sustained rate. Already around 600,000 people it is expected to double in the next 15 years. This will mean huge pressures on the available land and also on the existing protected areas.
Weak Responsibility for Land	<p>Responsibility for land management and usage in Tanzania is devolved through several players. On village land responsibilities are with central and local government authorities but also, importantly, at the village level. On reserved land responsibility lies with the appropriate authority.</p> <p>Planning and management of land within the catchment are perceived to be weak. Often, at the village level, the by-laws are not enforced. Protected areas have boundary issues and in the case of the Kilombero GCA, the paradigm for management has changed and is a work in progress.</p>
Development Pressure	<p>Development is progressing throughout the Kilombero valley and the catchment. Improvement of infrastructure, development of agriculture and projects that improve the quality of life for Tanzanians are a priority for Government and they will be pursued. They include, amongst others</p> <ul style="list-style-type: none"> <li>• Agricultural schemes</li> <li>• Hydropower development</li> <li>• Infrastructure improvement</li> <li>• Mining and oil and gas extraction</li> </ul> <p>Management of these development schemes is through the relevant line ministries. Local government authorities will facilitate their establishment for the same reasons that the central government will initiate them.</p> <p>Environmental assessments are a method of assessing and mitigating these developments but the quality of many EIAs and the enforcement of the provisions contained within them is thought to be weak.</p>

## 2 APPROACH TO INTEGRATED SITE MANAGEMENT

### 2.1 IMP Foundation process

The preparation of the IMP was based on inputs and processes delivered by the KILORWEMP project and complemented by other initiatives, including:

1. The Strategic Regional Environmental and Social Assessment for the SAGCOT initiative prepared by GoT and the World bank in 2013. The SRESA<sup>20</sup> focused on Kilombero Valley as priority cluster for SAGCOT. It recommended a three-pronged sector coordination effort, under the overall coordination role of the Prime Minister Office and SAGCOT Centre. The three legs were:



2. A set of appraisal studies specifically designed to lay the IMP Foundation: a strategic wetland review study; an appraisal of institutional options for landscape management within the framework of Tanzania; and a fiscal sustainability study for wetland management measures.
3. A Ramsar Advisory Mission carried out in 2016<sup>21</sup>. This produced a review of the conservation status of the site and a set of recommendations to guide the medium to the long-term development of wetland management measures. The RAM recommended that an overarching KVRS management plan should (a) include an enforceable zoning plan; (b) Be based on an understanding of environmental flows and services; (c) Include measures to remove threats to them; (d) Enable the establishment of a local management authority/institution responsible for KVRS management; (e) Be able to support cross-sector coordination and basin-wide integration. The IMP Task-Force reviewed the recommendations and prioritized them based on their feasibility<sup>22</sup>.
4. A set of landscape diagnostics prepared by the KILORWEMP project during 2016-2017. These captured the status of land use and cover; fisheries and the livestock sectors. Additional site assessments were prepared during 2018 to improve the understanding of management options for the Ngapemba area, the Ruipa-east corridor, the puku population across the landscape and the Kibasira and Chita wetlands. The project further prepared a preliminary appraisal of investment options to support the transformation of the livestock sector. (Reports are appended to this document).



5. A set of appraisals prepared by the KILORWEMP project to inform the consolidation of the Kilombero Game Controlled Area: this protected area is expected to be re-established to protect under state management the core valley zone. The project delivered an analysis of consolidation options; a reconnaissance study of land use; and two studies on land tenure. MNRT is currently pursuing the consolidation and re-establishment of the protected area through a village level boundary negotiation process started in early 2017.
6. The experience and outcomes of the establishment of CBNRM units across the landscape: KILORWEMP promoted the establishment of one Wildlife Management Area, 4 forest reserves and 4 beach management units across the landscape. These are pilot sites to test the approach of natural resource management by devolution. This approach was the cornerstone of wetland management promoted by an earlier national project for Sustainable Wetland Management under MNRT<sup>23</sup>.
7. The outputs of the research projects SWOS and Globe. These produced analyses of land use and cover (jointly with KILORWEMP) as well as hydrology and farming systems.
8. The outcome of the Environmental Flow Assessment Study for the Kilombero catchment prepared by the USAID/IRRIP project. The project also produced detailed feasibility studies for irrigation in the valley.
9. The Integrated Water Resources Management Plan for the Rufiji Basin. This was finalized in 2016 and awaits formal endorsement by GoT. The implementation of the IWRMP will proceed very gradually and will rely on the development of institutional capacities.
10. A set of conservation initiatives pioneered by NGOs in the landscape: in particular the joint IUCN/AWF project SUSTAIN is attempting to re-establish wildlife connectivity and development sub-catchment management capacity along the Ruipa and Mngeta rivers. The NGO STEP has prepared a feasibility study for the re-establishment of wildlife connectivity at the Magombera corridor. The IMP proposes to consider these initiatives as important components of the overall wetland landscape management.
11. The collaboration between the Ministry of Natural Resources and Tourism (MNRT) and the Ministry of Land Housing and Human Settlements Development (MLHHSD) in land use conflict resolution and land use planning across the Valley. The two Ministries developed an Inter-Ministerial Coordination Agreement in 2016 to harmonize the respective interventions in the landscape (KGCA consolidation and IMP preparation for MNRT; the Land Tenure Regularisation Project for MLHHSD). The experience of this coordination showed the challenges of inter-sector harmonization.
12. A series of consultative events organized by the KILORWEMP project during the IMP Foundation process. These involved seven stakeholder workshops at district, regional and national levels. The events reviewed the concepts, appraisals, and proposals for the IMP. The stakeholder events were also complemented by meetings of an IMP Inter-Agency Task Force chaired by TAWA and VPO.



Aerial view of the core valley area

## 2.2 IMP conceptualization and approach.

There is no legal framework in Tanzania directly applicable to the Kilombero Valley Ramsar Site which requires an IMP. This, therefore, needs to find anchors in the existing legal provisions and experiences. A first IMP scoping report (AMBERO, 2017) identified processes and models introduced outside Tanzania.

The elaboration of the concept availed of further appraisals through a study on institutional options based on the Tanzanian framework and a study about fiscal sustainability. The KILORWEMP's Joint Local Partnership Committee (chaired by the Permanent Secretary of MNRT and composed of representatives from TAWA, VPO, MLHSD, local authorities, regional Administration Secretariat) reviewed the elaboration of the concept at a few milestones.

The process took into consideration the available experiences of landscape management in Tanzania, the requirements (resources, capacities, time frame, and legal framework) of local actors and the KVRS context. The proposed concept deliberately avoids a blueprint approach to landscape management: Tanzania lacks a specific legal framework for wetland or landscape environmental management; it is only starting to develop the complex administrative capacity required to deliver inter-sectorial planning instruments. The proposed concept wants to minimize the risk of a crisis of expectations likely to arise if ambitious plans are pinned on widespread capacity bottlenecks. It rather proposes the Plan as a framework to identify, enable, sustain, track, adapt and evolve actions as an institutional development process for landscape management.

The concept reflects the principles of ecosystem management; is inspired by guidelines developed under the aegis of the Ramsar Convention, and reflects lessons learned from a growing body of evidence and inquiry in systems ecology.

### 2.2.1 Ecosystem approach (Convention on Biological Diversity – Malawi principles)

The Convention on Biological Diversity (CBD) has described its “ecosystem approach” as that Convention’s overarching approach for its implementation. CBD has described<sup>24</sup> the “ecosystem approach” as: “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. An ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of many ecosystems.” A plain language summary of the Malawi principles follows:

- ⇒ Management objectives are a matter of societal choice.
- ⇒ Management should be decentralized to the lowest appropriate level.
- ⇒ Ecosystem managers should consider the effects of their activities on adjacent and other ecosystems.
- ⇒ Understand the ecosystem in an economic context, considering mitigating market distortions, aligning incentives to promote sustainable use, and internalizing costs and benefits.
- ⇒ Conservation of ecosystem structure and functioning. Management within the limits to their functioning and at the appropriate scale of ecological processes.
- ⇒ Ecosystem processes have varying temporal scales and lag-effects: objectives for ecosystem management should be set for the long term.

- ⇒ Management must recognize that change is inevitable.
- ⇒ Seek the appropriate balance between conservation and use of biodiversity.
- ⇒ Consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
- ⇒ Involve all relevant sectors of society and scientific disciplines

## 2.2.2 Wise use of wetlands (Ramsar Convention)

The management of wetlands sites designated under the Ramsar Convention needs to ensure their wise use or maintain their **ecological character**. This is defined as the **combination of the ecosystem components, processes and benefits/services that characterize the wetland at a given point in time**<sup>25</sup>.

The Ramsar designation does not pre-determine the type of protection and sustainable management measures to be used. The Ramsar designation does not compel Tanzania, as a Contracting Party, to use a specific designation of a protected area within its own national system: Tanzania needs rather identify and adapt the options available within its legal and regulatory framework to pursue the principles and goals of the Convention.

Tanzania is also urged to adapt the management guidelines and approaches recommended by the Convention. These are pretty broad and flexible. Yet, they put forward clear principles. Two key sets of principles are highlighted here for the relevance to the case.

Ramsar site management needs to be integrative and landscape oriented<sup>26</sup>.

A zonation involving core, buffer and transition zones or similar is encouraged because wetland ecosystems typically present natural transitions and a range of human use. Management objectives for the core zone are designed primarily to maintain the ecological character of the wetland and should have adequate legal protection. Site-based management planning should be one element of a multi-scalar approach to wise use planning and management and should be linked with broad-scale landscape and ecosystem planning, including at the level of the river basin.

Local participation and involvement belong in the core Ramsar principles.

Within the Ramsar Convention, the centrality idea of local involvement in wetland management has steadily grown, from recognition of the interests; to the need to consult local people; to the need to actively involve local people in the decision-making and management processes along with other interest groups<sup>27</sup>.

Management Plans should consider the impact of human activities on the ecological character of the wetland, the economic and socio-economic values of the site (especially for local communities), and the cultural values associated with the site (Resolution VII.10)<sup>28</sup>.

Contracting Parties should provide for transparency in decision-making with respect to wetlands and their conservation and ensure that there is full sharing with the stakeholders of technical and other information related to the selection of Ramsar sites and management of all wetlands, with guarantees of their full participation in the process (Resolution VII.8.17.);

Management planning should enable agreements among resources users, managers and stakeholders because wetlands are dynamic ecosystems which are generally intensively utilized by the population<sup>29</sup>.

## 2.2.3 Adaptive landscape management

In areas such as the Kilombero Valley and catchment where agriculture, mining, and other productive land uses compete with environmental and biodiversity goals a landscape approach to plan for and manage land are recommended over the more common sectoral

approach. Landscape approaches generally mean a shift from conservation orientated perspectives towards an increasing integration with a sustainable human use.

In a landscape approach, there is no end-point for planning. Broad principles for landscape management have emerged in the international practice (see table below). These principles should not be seen as a set of boxes to be ticked in the search for an agreed spatial plan but rather as a set of complementary approaches to inspire the gradual evolution of site management. Landscapes are constantly changing under the influence of multiple drivers and experience shows that landscape "blueprints" rarely work. Stakeholders and institutions need to sustain a gradual process of institutional learning, capacity development, inclusion, and strategic steering based on a shared vision shaped by social values.

**Table 1. Principles for a Landscape Approach to Planning<sup>30</sup>**

Principle	Brief Description
Continual learning and adaptive management	Landscapes and their environments are continually changing. Therefore, planners and managers need to continually revise their perceptions and directions. A collaborative adaptive management approach is needed.
Common concern entry point.	Solutions to problems need to be built on shared negotiation processes based on trust. Trust emerges when objectives and values are shared. However, stakeholders have different values, beliefs, and objectives. Totally aligned objectives are unlikely, costly to establish, or devoid of immediate significance. Identifying immediate ways forward through addressing simpler short-term objectives can begin to build trust.
Multiple scales.	Change plays out at multiple scales in ecosystems and an awareness of these higher and lower level processes can improve local interventions, inform higher-level policy and governance, and help coordinate administrative entities
Multifunctionality	All the component parts of landscapes have multiple uses and purposes and these are viewed differently by stakeholders. The landscape approach acknowledges these differences and the fact that trade-offs need to be made.
Multiple stakeholders	Correctly identifying and engaging stakeholders is a key to a landscape approach. It needs to be recognized that stakeholders and their concerns can be expected to change. It is also recognized that comprehensive agreement between stakeholders can be elusive.
Negotiated and transparent change logic	Trust amongst stakeholders is imperative and this begins in transparency and sharing of information. Transparency is achieved through a mutually understood and negotiated process of change and is helped by good governance.
Clarification of rights and responsibilities.	Rules on resource access and land use shape social and conservation outcomes and need to be clear as a basis for good management. When conflict arises, there needs to be an accepted legitimate system for arbitration, justice, and reconciliation. Clarifying rights and responsibilities is now replacing the command-and-control approach. Facilitation and negotiation are emerging as the core business of resource management agencies
Participatory and user-friendly monitoring.	Many stakeholders are generating information and this information needs to be shared and integrated so that stakeholders can interpret activities, progress, and threats
Resilience	Resilience is how well a system responds after a major and unplanned change (usually detrimental and undesirable). Resilience may not be well understood The challenge in agricultural landscapes is often to bring about transformational change while maintaining the attributes of the landscape that provide resilience to undesirable changes

Principle	Brief Description
Strengthened stakeholder capacity	In order to participate effectively in the challenges facing complex landscapes, stakeholders need to be represented by competent groups and leaders. Increased capacity is a way to ensure that all voices are heard through a planning and management processes.

## 2.3 IMP phases

The development of the institutional capacities and measures required to ensure the wise use and rehabilitation of wetland functions in Kilombero Valley needs to be seen as a long-term undertaking without a fixed time limit. The IMP lays the foundation for a long-term process conceived in three indicative phases:

**Table 2. IMP Phases.**

Phase	Description
Phase I Foundation (present – KILORWEMP support)	<ul style="list-style-type: none"> <li>• Appraisal, conceptualization, and elaboration of an IMP framework through envisioning, technical appraisal and stakeholder consultations.</li> <li>• Identification of statutory and policy review requirements.</li> <li>• Preparation of the first suite of site and sector-specific measures for quick impact. Funding plan for phase II based on fiscal measures.</li> </ul>
<b>Phase II:</b> Development (3 years)	<ul style="list-style-type: none"> <li>• Broadening consultative processes for shared landscape envisioning</li> <li>• Formulation of physical planning instruments;</li> <li>• Review of lower level plans;</li> <li>• Development of institutional capacities in LGAs and other actors;</li> <li>• Development of performance monitoring system;</li> <li>• Fundraising for phase III through external financing.</li> </ul>
Phase III: Roll out (5 years):	<ul style="list-style-type: none"> <li>• Implementation of planning instruments;</li> <li>• Adaptation of lower level plans;</li> <li>• Continued institutional and technical capacity development;</li> <li>• Review and adaptation of IMP.</li> <li>• Capital investments in institutional capacities and ecosystem rehabilitation measures</li> </ul>



## 2.4 Phase-I (Foundation).

Phase 1 (the Foundation) was designed to lay the foundation for an institutional mechanism to enable: 1) Long-term, continuative coordination of stakeholders on wetland management issues and across keys sectors (land, local development, water resources, natural resource management, environmental protection). 2) Harmonization of the mosaic of key conservation areas and support to them: protected areas, CBNRM, connectivity, vulnerable sites. 3) Conflict resolution mechanism; 4) Revenue sourcing for follow-on actions.

This phase was structured into 3 main components each containing a number of work packages:

Component 1 - Institutional Development: A process of strategic planning, institutional development, and stakeholder engagement to generate the overarching architecture of landscape management.

- WP 1.1: IMP foundation
- WP 1.2: IMP financial sustainability analysis
- WP 1.3: public awareness of wetland values

Component 2 - Wetland landscape management and rehabilitation measures: Appraisal and design priority site or sector-specific measures for ecosystem management or rehabilitation.

- WP: 2.1: Coordination plan for the southern Ruipa wildlife corridor
- WP: 2.2: Kilombero Valley Puku Action Plan
- WP: 2.3: Livestock sector sustainability study
- WP: 2.4: Ngapemba "conservation area" planning

Component 3 - Baseline assessment and monitoring: Support for environmental baseline assessments which will generate evidence for further adaptation of the IMP process in later phases

- WP 3.1: Assessment of ecologically sensitive sites

The outcome of the technical appraisals and field consultations were presented to a series of stakeholder consultations.

- IMP Task Force meetings (12-13/12/2017 and 10/5/2018)
- Spatial Planning Workshop (11/5/2018)
- Malinyi District Consultative workshop (15/5/2018)
- Ulanga District Consultative workshop (17/5/2018)
- Kilombero District & ITC Consultative workshop (18/5/2018)
- Regional workshop, Morogoro, 21 May 2018
- Technical consultation, Kibaha, 25 May 2018
- Final national workshop: Dar es Salaam, 25 June 2018

The present document reflects the feedback received at these events.



## 2.5 Limitations of the IMP Foundation process

The following constraints were encountered during the Foundation phase. They are indicators of real-world landscape management challenges which need to be addressed through the proposed iterations of plan review and adaptation.

1. The IMP Foundation process was foreseen to last 18 months. However, its real execution was limited to seven months due to project implementation issues. A few foreseen components of the IMP Foundation process were scaled down or dropped: namely, the site-specific adaptation of collaborative fisheries management standards; and a more detailed assessment of wildlife connectivity areas.
2. The coordination with the process of land tenure regularization and land use planning promoted by MHLSSD produced limited outcomes with regard to reflecting environmental safeguards in village and district land use plans; and limited sharing of spatial data generated as a result of the land regularisation process. This has greatly constrained the level of detail in spatial planning achieved through the IMP Foundation and reflected in this document. This domain requires further coordination effort. The proposed spatial planning measures (below) identify priorities for this coordination.
3. The development of a vision for the landscape shared among stakeholders is still at the very early stage and needs to be the focus of any follow-on. There is a need for a vision building process capable to gradually address: (a) the mitigation of widespread land use conflicts driven by an anarchic expansion of farmland and the weakness of the land administration system; (b) the historical reliance on (mostly fortress-type) protected areas as key conservation strategy – complementary approaches such as landscape conservation are new and, like any innovation, may face resistance and require time for assimilation and adaptation to the local context; (c) complex tensions between a tendency of centralisation of decision making, decentralisation processes of uneven momentum, and a growing local politicisation of land access.
4. The IMP Foundation process coincided with the establishment by the Minister of Natural Resources and Tourism of an Advisory Committee for the management of the Kilombero Valley. This initiative reflected the growing political attention to the management of the Ramsar Site. It was also triggered by the flagship Government's project to develop a 2 GW hydropower scheme downstream from the KQRS at Stiegler's Gorge. The Committee worked in parallel to the IMP Foundation process, although analysis produced as part of the IMP Foundation was channeled to it by TAWA. The output of this Committee is not available at the time of finalization of this IMP design.

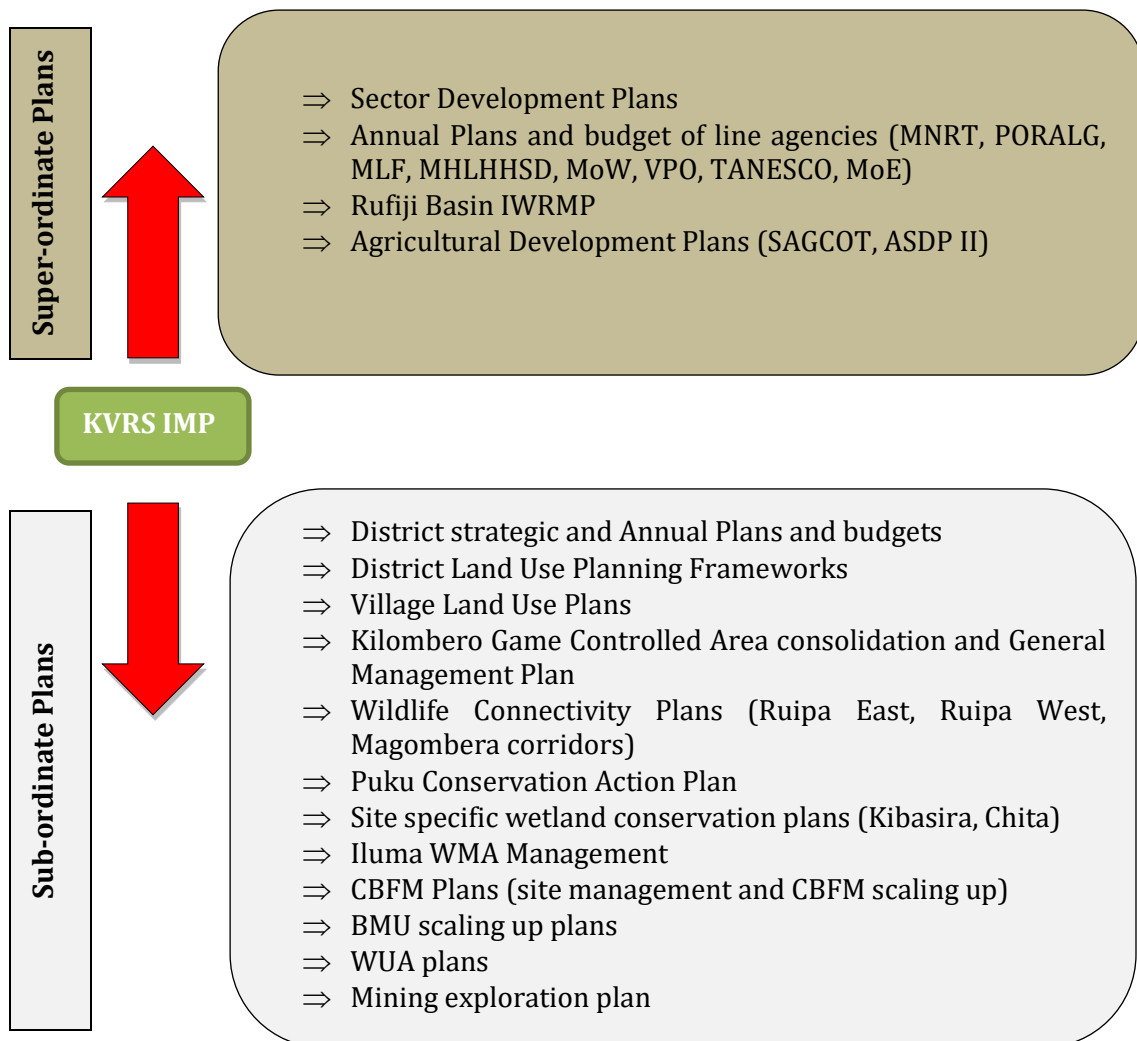


Kilombero consultative workshop, 21/5/2018

## 2.6 Inter-sectorial planning considerations

The IMP is not expected to replace any of the current planning that is carried out across the valley. It is expected to be a mechanism for ensuring that plans that are developed (from sectoral to village level) are coordinated. The IMP is a process to establish more effective connections than those existing at present between plans that affect large areas and those that are focussed in the valley (e.g. district, village, and development specific such as irrigation of mining).

**Figure 3. Vertical integration of planning levels.**



**Table 3. Priorities for landscape-level inter-sector coordination.**

Domains	Key actors	Present status of environmental management and cross-sector coordination at the landscape level	Strengthened coordination required
Overall development planning	MNRT VPO PORALG PMO LGAs RCC	<p>Inter-sector coordination mostly rests with 4 LGAs. With some mediations by the Regional government and GOT.</p> <p>Number and scope of sector interventions are rapidly growing, along with conflicts on land, natural resources, environmental services, and financial resources. Lack of an agreed vision and physical plan for the landscape.</p> <p>GoT conservation oriented interventions have a track record of crisis management, single focus and lack of continuity and evidence-based decisions.</p>	<ul style="list-style-type: none"> <li>Facilitate platforms for regular stakeholder dialogue and coordination across KVRS to strengthen harmonization, conflict mitigation and the promotion of a shared vision for the valley.</li> <li>Prepare regular assessments of wetland resources, ecological functions and economic values for decision making.</li> <li>Feed outputs of wetland ecological monitoring to sector development plans</li> <li>Advise sector development plans.</li> <li>Promote identification, assessment, and information sharing on investments for sustainable wetland management and restoration of habitats and ecological functions</li> <li>Identify priorities and mobilize resources to enable focused, long term capacity building of stakeholders and agencies involved in KVRS.</li> </ul>
Water sector	RWB Dept. Irrigation LGAs (irrigation, water resources) Projects	<p>IWRMP in the very early stage of implementation. Major capacity and resource bottleneck. Greater Ruaha catchment is now the priority for IWRMP implementation. The RWB Kilombero office is not well connected with LGA Irrigation offices. A Catchment Committee has been established for Kilombero, the nomination of the Chair is still outstanding. A WUA has been established for the Mngeta sub-catchment (AWF supported, MoU under development) and another one is in the pipeline for the Ruipa sub-catchment.</p>	<ul style="list-style-type: none"> <li>Track and support the implementation of water sector plans and in particular: (a) Implementation of IRWMP for the Rufiji Basin. (b) Implement and enforce precautionary reserves proposed by EFA.(c) Implementation of the Reserve Monitoring Program and Adaptive Management Plan. All these actions imply major institutional development and capacity building.</li> <li>The wetland site management (presently focussed almost exclusively on wildlife</li> </ul>

Domains	Key actors	Present status of environmental management and cross-sector coordination at the landscape level	Strengthened coordination required
		<p>EFA study for irrigation development completed. This concluded that<sup>31</sup> the Kilombero River mainstem and the tributaries assessed show largely unaltered flow regimes and ecological functioning, despite evidence of some water abstractions and flow regime modification, land use change, and other impacts in the catchment. However, the system is at real risk of decline in condition. Moreover, in several reaches, specific ecological or social components were moderately to largely modified; that is, below Class B (CDM Smith 2016a). Future protection levels – expressed as environmental management classes (EMC) – matched or, for the Kilombero mainstem and Udagaji River, were proposed as higher than present conditions. The implementation of the environmental flows in the case of the Kilombero is thus a matter of acting rapidly to protect, and where feasible, improve on present flow and ecological conditions</p>	<p>conservation and land issues) need to interface with the future gradual evolution of capacities in the water sector and should act as advocacy for the resourcing of those initiatives.</p>
<p>Infrastructure and energy</p>	<p>TANROADS TAZARA TANESCO  Min. Mining &amp; Energy SWALA LGAs REA</p>	<p>Planned hydropower development at Ruhuji River, Stiegler’s Gorge, Mnyera River, etc. Stiegler’s’ Gorge hydropower development being prioritized by GoT. Gas concession awarded in the core area.</p> <p>Central Government is making considerable investments in economic transport and electrification infrastructure in the Kilombero Valley. The Kilombero river bridge was recently completed and has already enhanced connectivity between the LGAs. Tanroads plans to extend the road network to trunk road standard (550 km) from Mikumi up to Malinyi, including Mahenge stretch and connection to Songea; ferry is foreseen in Malinyi; REA and Tanesco are extending electricity connections to rural villages and hamlets with a target of 90% connectivity in 5 years, including single phase (domestic) and 3-phase connections (industrial).</p> <p>Completion of the public infrastructure projects will change the landscape connectivity and reduce transport costs of the LGAs encompassing the Kilombero Valley. Effects are likely of a similar</p>	<ul style="list-style-type: none"> <li>• SEA of key infrastructure and hydropower development plans</li> <li>• Establish Zonal Plan under Phase III.</li> </ul>



Domains	Key actors	Present status of environmental management and cross-sector coordination at the landscape level	Strengthened coordination required
		<p>scale as at time of the construction of the TAZARA railway, which opened up the areas north of the valley. The project will increase economic opportunities for value addition and income generation in various sectors (agro-processing, livestock development) as well as tourism.</p> <p>EIA based assessment of single projects. Lack of master plan / SEA combining sector plans to address large-scale landscape changes enabled by infrastructure and energy developments.</p>	
<b>Agriculture</b>	<p>LGAs</p> <p>SAGCOT</p> <p>Large-scale investors</p> <p>Dept. Irrigation</p> <p>Agri SMEs and IOs</p>	<p>SAGOT SRESA and investment plans: limited implementation, become lower priorities. Likelihood of more controlled farming development compared to the anarchic expansion unclear.</p> <p>USAID feasibility study of 4 large-scale irrigation schemes completed. Unclear way ahead for schemes.</p> <p>Projects (KILORWEMP, AWF, Dutch NGO) fostering occasional dialogue between investors and other stakeholders.</p>	<ul style="list-style-type: none"> <li>• Support stakeholder dialogue about agriculture development plans and especially priorities to be selected for ASDP-II for the valley.</li> </ul>
<b>Wildlife, forests and wetland conservation</b>	<p>TANAPA</p> <p>TAWA</p> <p>TFS</p> <p>LGAs</p> <p>NGOs</p> <p>Academia</p> <p>Kilombero North Safari</p> <p>TAWA</p> <p>MoD/Chita</p>	<p>Landscape includes an extensive mosaic of areas protected by different central and local agencies. Several devolved areas have also been established under CBNRM. These areas are linked by a web of environmental flows and services.</p> <p>There is coordination of law enforcement actions SGR-KGCA (within TAWA)</p> <p>MNRT/TAWA promoting the foundation of KVRS IMP through KILORWEMP, including assessment of sites around the core area (Chita, Kibasira, Ngapemba).</p> <p>TAWA focused its main agenda on GCA as a protected area, according to own mandate.</p>	<ul style="list-style-type: none"> <li>• Facilitate dialogue among GoT institutions managing PAs in the landscape and associated actors (NGOs, academia).</li> <li>• Identify ecological monitoring and conservation priorities across the landscape.</li> <li>• Monitoring ecological status of corridors and swamps</li> <li>• Advise on VLUPs concerned.</li> <li>• Prepare site specific guidelines for habitat management</li> </ul>

Domains	Key actors	Present status of environmental management and cross-sector coordination at the landscape level	Strengthened coordination required
		<p>National Forest Reserves and Kilombero Nature Reserve managed by TFS.</p> <p>KVTC pursues teak outgrower scheme and has proposed revenue sharing scheme for own natural woodland.</p> <p>TFCG are supporting 8 villages in the Mngeta sub-catchment to develop village land use plans and community-based forest management. Riverbank management strategies are integrated into the village land use plans, working closely with the Water User Association for Mngeta. TFCG is also establishing a Payments for Water Ecosystem Services system involving the 8 villages in the Mngeta Valley and Kilombero Plantations Limited. TFCG are also providing support on climate-smart agriculture and micro-finance in the</p> <p>8 villages. In 2018/19, TFCG will also be working with the Tanzania Forest Services Agency to establish Joint Forest Management for Uzungwa Scarp Nature Forest Reserve. TFCG's work is financed by the IUCN-SUSTAIN project, and through the USAID WARIDI programme.</p> <p>No institutional home for landscape level conservation.</p> <p>Projects and NGO support to wildlife corridors.</p>	
CBNRM	<p>x4 LGAs</p> <p>Iluma WMA</p> <p>VNRCs</p> <p>BMUs</p>	<p>District Natural Resource Advisory Group combines UDC, KDC, and ITC: advises Iluma WMA, especially on land conflicts. Project funded and dependent. Does not have a mandate beyond WMAs (ex WCA2009).</p> <p>FBD monitors CBFM sites. Support reliant on donor funding. No District or catchment level forestry plan.</p>	<ul style="list-style-type: none"> <li>• Support monitoring of CBNRM effectiveness at the landscape scale and conflict resolution.</li> <li>• Leverage funding for CBNRM for CBOs and LGAs to CBNRM scaling up.</li> </ul>

Domains	Key actors	Present status of environmental management and cross-sector coordination at the landscape level	Strengthened coordination required
		Fisheries management supported by LGAs. Weak standards and effectiveness. Uncertain future relation with TAWA and access rights once KGCA will be re-established.	
Public awareness and information sharing on wetland conservation	Projects NGOs TAWA Media Academia	Local media outlets (radios) exist.  Limited, often project driven public awareness actions.  General public perception and technical knowledge of wetland environmental values and services limited at all levels.  Lack of centralized accessible repository of technical and research information.	<ul style="list-style-type: none"> <li>• Promote continuative relevant public awareness on wetland values</li> <li>• Establish and manage a repository of technical information on wetland site</li> <li>• Provide for regular stakeholder dialogue on wetland visions and status.</li> </ul>
Ecological monitoring	RWB Projects TAWIRI TANAPA TFCG UEMC Glob-E	No long-term continuative environmental monitoring beside RWB hydrological network and TAWIRI biannual wildlife census.  Recent landscape compilation promoted by TAWA via KILORWEMP.  A large body of project or academic-sponsored research.  Long-term ecological research in the Eastern Arc.	<ul style="list-style-type: none"> <li>• Enable regular monitoring of ecosystem values and services presently neglected (e.g., fisheries and aquatic resources, land cover, habitat status, etc.)</li> <li>• Prepare periodic wetland status reports.</li> <li>• Promote review of assessment priorities, data sharing, and knowledge management.</li> </ul>

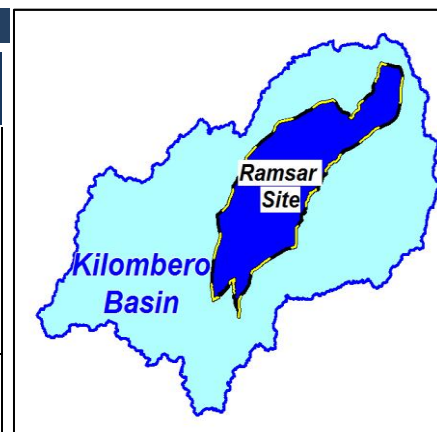
## 2.7 Physical planning

### 2.7.1 Planning scales

At its simplest level planning for the Ramsar Site is considered at two levels. The Ramsar Site itself and the wider Kilombero Basin. The relationship between these two is shown below.

**Table 4. Planning scales.**

Scale	Overview
Kilombero Basin	The Kilombero Basin is 40,320 km <sup>2</sup> and represents 22% of Tanzania’s largest drainage basin - the Rufiji. The Kilombero basin is characterized by an upland plateau, steep scarps and a large inland wetland system - the Kilombero Valley. High rainfall in the upland areas means that the basin contributes 60% of the flow to the Rufiji River.
Ramsar Site	The Ramsar Site is 7.900 km <sup>2</sup> and represents 20% of the Kilombero Basin. Declared a Ramsar Site in 2002, it is one of four sites in Tanzania. Although this IMP is focused on the Ramsar Site, its management cannot be considered in isolation from the Basin



### 2.7.2 Spatial data sources and ongoing planning processes

Any land use planning requires a spatial dataset to underpin it. A significant amount of work in this regard was undertaken by the KILORWEMP Project. A comprehensive GIS was compiled and this has been made available to the MNRT. The results of this work are seen in maps that are found in all project documents.

Planning is about visualization and understanding of spatial relationships between all components of a defined area. This includes natural ecosystems, human impacts, administration, development plans, and even political influences. Balancing of competing and sometimes contradictory uses of land and resources for stakeholders is at the core of spatial planning. Mapping of change, especially in a dynamic area such as the Kilombero Valley, is also a key part of spatial planning

Spatial planning in Tanzania takes places typically at village level and district levels. Village Land Use Plans (VLUPs) are prepared mostly by the Districts and have enforceable provisions. –District Land Use Planning Frameworks (DLUPFs) provide context and overall guidance to the preparation of VLUPs within a Districts. Sector plans that cover larger areas such as water and agriculture also have spatial implications.



In planning for the Kilombero Valley Ramsar Site, it is important to consider planning at a landscape level. The valley, the water which feeds the Ramsar site and the consequences of decisions taken need to be viewed at a landscape level. The ecosystem services that the wetland provides are all reliant on the catchment and the wider Kilombero Basin. It is not the Kilombero wetland that will provide the water for downstream developments such as Stiegler's Gorge. It is the catchment.

The foundation of spatial planning is a geographical information system (GIS). This needs to be as accurate as possible so that the outputs reflect the reality on the ground. In a large area such as the Kilombero Basin, data for the GIS comes from a variety of sources.

**Table 5. Main Data Contributors for Kilombero Spatial Planning.**

Data Source	Comments
Public Domain	<ul style="list-style-type: none"> <li>Usually internet based and numerous sources are available</li> <li>Data quality and accuracy can be a problem</li> </ul>
Government	<ul style="list-style-type: none"> <li>National Land Use Planning Commission</li> <li>Ministry of Lands, Housing, Human Settlements</li> <li>Ministry of Natural Resources and Tourism</li> <li>Tanzania Wildlife Research Institute</li> </ul>
NGOs	<ul style="list-style-type: none"> <li>NGOs are often a good source of data. However, their sources may not be known</li> </ul>
Custom	<ul style="list-style-type: none"> <li>Custom data generated through the project</li> <li>Includes image analysis</li> <li>Manipulation of existing data to create new, project relevant datasets</li> </ul>
Data Sources for Kilombero	
Category	Sources
Boundaries	<ul style="list-style-type: none"> <li>Village survey plans</li> <li>Village land use plans</li> <li>District land use planning framework</li> <li>Tanzania census dataset</li> <li>Internet-based sources</li> </ul>
Rivers	<ul style="list-style-type: none"> <li>Digitised from standard sheets and Google/Bing</li> <li>Africa wide computer-generated dataset from relief data</li> </ul>
Linear infrastructure	<ul style="list-style-type: none"> <li>Digitised from standard sheets and Google/Bing</li> <li>GIS tracks</li> </ul>
Landcover	<ul style="list-style-type: none"> <li>Africover</li> <li>Forestry</li> <li>Project generated data (Glob-E, SWOS, Internal)</li> </ul>

Data quality is vital for any GIS system. Even if the data quality is less than ideal, some information on what its problems are can go a long way toward deciding if it can be used



for the planning process. Data created by different sources with different techniques can have discrepancies in terms of resolution, orientation, and displacements. Data quality is a pillar in any GIS implementation and application as reliable data are indispensable allowing the user to obtain meaningful results

The quality of the data compiled for the Kilombero Basin GIS was variable. This was often related to scale as landscape-level data was usually coarser than that produced at village level (for example). As Tanzania does not have a central repository for GIS data which can also be responsible for quality there were also issues relating to corrupted and manipulated datasets. Data sharing is vital when compiling a landscape level GIS. Some of the data constraints for the Kilombero GIS are outlined in the table below.

**Table 6. Limitations related to land data quality and spatial planning processes**

Constraint	Comments
<b>Data Quality</b>	<ul style="list-style-type: none"> <li>• Land tenure (boundaries) and use data are notoriously problematic in Tanzania. Problems often arise from the poor survey, data capture and recording methods; inconsistency in dataset maintenance and distribution; repeated surveys and planning processes which duplicate datasets (especially VLUPs) and create uncertainty; the disparity of data sources especially project generated.</li> <li>• The Ministry of Lands’ Survey Department is meant to act as a central repository of land tenure data. The National Land Use Planning Commission collects and ensures the quality of land use planning data. A robust land data management system, in reality, is not yet available. Different institutions often work with different datasets and inconsistencies and uncertainty are very common and often a source of conflicts.</li> </ul>
<b>Inter-Agency coordination</b>	<ul style="list-style-type: none"> <li>• The preparation of the KVRS IMP took place along with a Land Tenure Regularisation Project delivered by MLHSSD across the valley. That initiative is responsible for preparing DLUPFs, resurveying village boundaries, preparing VLUPs, resolving land conflicts and establishing land data management systems.</li> <li>• The MNRT and MLHSSD formulated an Inter-Ministerial Coordination Framework in 2016 to strengthen the collaboration between wetland management measures pursued by MNRT and the land regularization programme.</li> <li>• The implementation of the collaborative agreement had modest success. MLHSSD and MNRT achieved a degree of role sharing with regard to the consolidation of the KGCA. Sharing of spatial data and coordination of land use assessment and planning at District and Village levels were mostly not effective. This was due to limited effectiveness in the coordination of processes, information flow and in reconciling different sector priorities.</li> <li>• The initial assessments on which the IMP was established (see the Land Diagnostic Study Report 2017) availed of a reasonable access to land tenure data. However, the subsequent IMP foundation process could not access land tenure data being updated and validated by MLHSSD at the same time, nor revised VLUPs produced by the NLUPC.</li> <li>• The DLUPFs produced in 2016 also proved very weak processes to adequately reflect environmental safeguards in spatial planning, although in principle they could be pillars of a landscape zoning system.</li> </ul>
<b>Overall implications</b>	<ul style="list-style-type: none"> <li>• The following landscape zoning provisions reflect the current landscape-level assessment of spatial priorities. The sub-plans (component plans) appended to the IMP needs to be validated on the basis of the updated land tenure data to be released by MLHSSD in due course. Likewise, the IMP sub-plans should be reviewed by MLHSSD and LGAs during the ongoing revision of VLUPs across the Valley.</li> </ul>

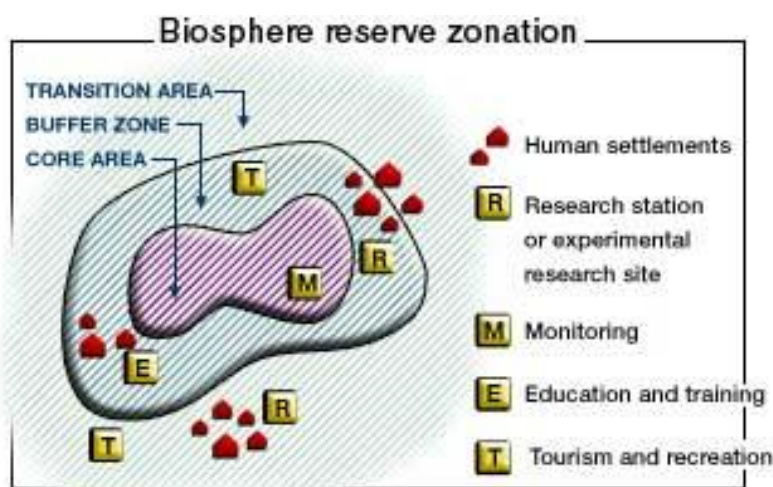
## 2.7.3 Zoning

### 2.7.3.1 Approach

Any conservation-related land use planning process zoning is an attempt to reconcile different forms of utilization and to balance conservation with development. Conservation zoning needs to consider land suitability, current usage, ecological context, and hydrological zones.

The new guidelines for management planning for Ramsar sites and other wetlands<sup>32</sup> recognize that large and complicated sites such as the Kilombero need to be zoned and that this zoning plan needs to be flexible and versatile. In addition, the guidelines recommend that buffer areas should be created where appropriate. Management of these buffer areas should be consistent with the goal of maintaining the ecological character of the core wetland itself.

Accepted practice for zoning can take several forms but a common procedure for multiple use areas is to define a core conservation area with restrictions on use surrounded by buffer and utilization areas with successively fewer restrictions. This principle is used by UNESCO to define Biosphere Reserves and is illustrated in the adjacent diagram.



Taking the above into account, and the principle of an ecosystem-based approach (outlined in previous sections), the KVRS cannot be considered in isolation from the wider Kilombero Basin. For this reason, a preliminary zoning framework is developed for the Kilombero drainage basin rather than just for the Ramsar Site. The proposed zoning has been developed taking into consideration the following:

- ❖ The pace of change in land use over the last 20 years has way outpaced the capacities of local institutions (central government agencies and local government) to manage and rationalize this change. The institutions are catching up amidst many capacity bottlenecks: we have briefly mentioned above those of the land administration and we review further below issues concerning broader inter-sector harmonization.
- ❖ A ready-made statutory framework for landscape zoning is not available in the Tanzanian system. The Land and Environmental Management legislation provide entry points for these (we review these in detail in Appendix VII). In particular, the Land Use Planning Act provides for areas to be declared as Zonal Planning Areas or Special Planning Areas; regulations are being developed and may be out this year. However, there is virtually no experience nor the capacity to pursue these most innovative measures.
- ❖ On the other hand, the zoning instruments which are available a notch below the landscape scale, i.e., the DLUPFs have recently been updated without an effective consideration to environmental safeguards, despite the opportunity and attempt to do so. Further, they remain of compilation value while real land use decisions are taken within VLUPs and the designation of reserved land (e.g., the KGCA) – and even there, major effectiveness problems remain, especially for VLUPs.

- ❖ Given these constraints, it is very unlikely that a grand design such as a detailed and prescriptive master plan for the landscape may be implemented in the near future, as much as it would be beneficial in the ideal world. A gradual approach, building on the reality on the ground and a selection of priorities for wetland zoning is more likely to succeed in the real world.
- ❖ Priorities for spatial planning have been identified and are being pursued: these comprise the consolidation of the Game Controlled Area (led by MNRT) and the overall land regularisation programme pursued by MLHSD and LGAs. This IMP Foundation presents below a framework to build on these priority actions. This framework wants to facilitate the emergence of a vision to link those initiatives and add further priority actions for spatial planning and wetland management.
- ❖ The KVRS includes non-wetland and converted wetland areas such as miombo woodlands and agricultural land. The development of agriculture within the Ramsar Site and the subsequent erosion of the core area have been the main driver of change in the landscape. This has implications for the preliminary zonation framework and for its terminology. The possibility of establishing a buffer zone around the core zone is already precluded. The framework proposes that a more suitable definition of land outside the core area, the agricultural zone, and the conservation of protected areas is a "conservation sensitive" zone. This proposed definition wants to build an understanding that measures for sustainable land use management and environmental safeguards need to be gradually brought into this zone of the landscape.

This proposed Zoning Framework is, therefore, an initial, Foundation stage towards the development of a zoning plan for the KVRS (in the form of a Zonal Plan or Special Area Plan). This Framework should be seen as a guiding framework and a work in progress: it will benefit from inputs from stakeholders, especially those responsible for district and village level planning, through the IMP processes proposed below.

### 2.7.3.2 Methodology

In order to construct this preliminary zone framework for the Kilombero Basin, the following steps were used to outline current land use within the basin. Protected areas, either state or at village levels have already defined a *de facto* zoning for the area, as have settled and farmed areas.

- Basin definition (Elevation model data)
- State protected areas (National Parks, Game Reserves, Nature Reserves, Forest Reserves). In addition, significant areas in the south of the basin are defined as hunting blocks by TAWA. Although without a protected area legal status they are (or have been) leased by TAWA to hunting companies, many of whom carry out their own conservation protection actions.
- Village protected areas (Village Forest Reserves, Wildlife Management Areas)
- Unsettled areas (Buffer Zones, Forest Areas)
- Important wetlands (Kibasira, Chita, Ngapemba)
- Existing framework plans (Ulanga, Malinyi, and Kilombero - Although these have come under criticism as being rushed and not therefore not fully informed they are the official planning framework for the area).

Figure 4. Protected areas in the Kilombero catchment.

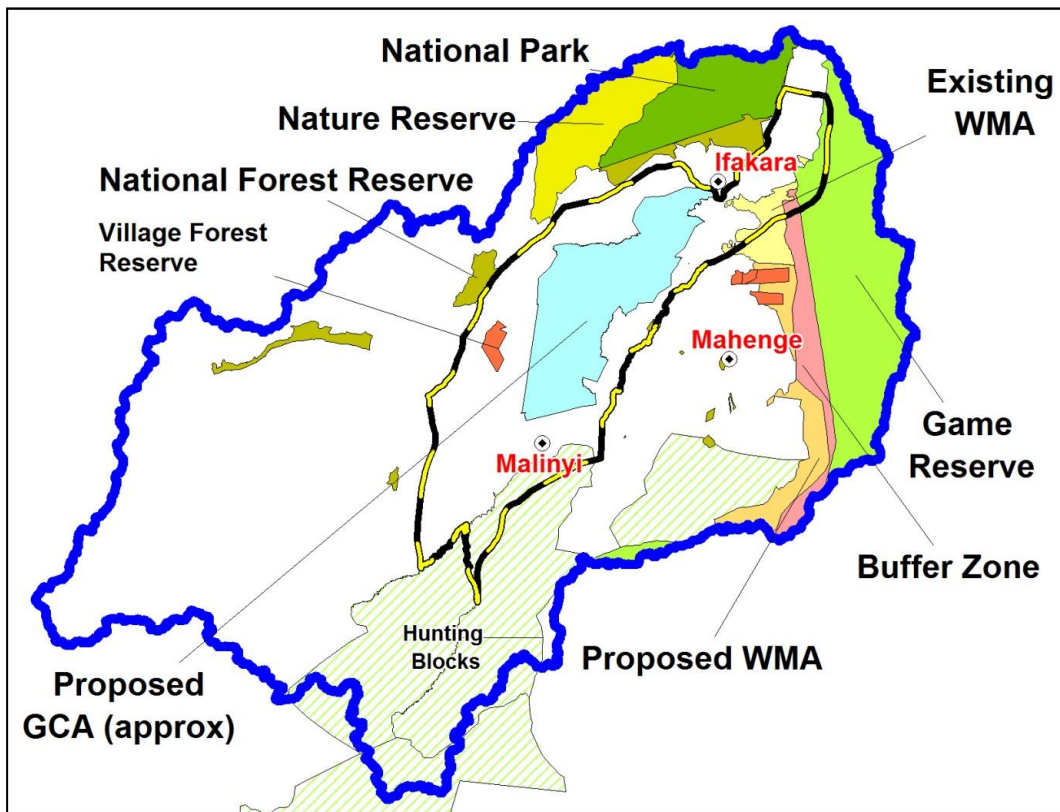
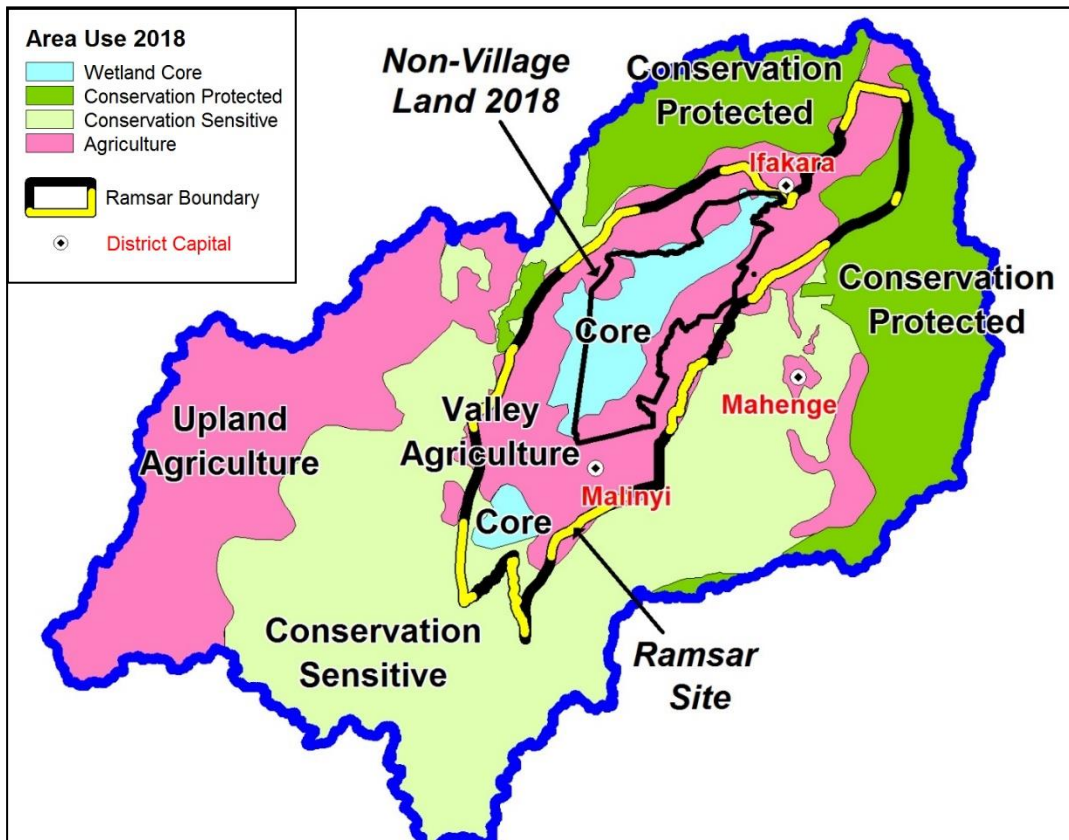


Figure 5. Existing Land "zoning" for Kilombero basin.





### 2.7.3.3 Proposed preliminary landscape zoning

The following "existing" zone types were delineated using available information

**Table 7. Preliminary Zonation for the Kilombero Basin.**

Zone	Comments	Priority actions for spatial management
<b>Wetland Core</b>	Definition of the "core area" remains problematic. The map below shows the remaining non-cultivated area as defined by SWOS (However, recent ground truthing indicates that the area may be reduced). This is overlain by the extent of non-village land (that area which, as of 2018, was land not covered by any approved village land use plan). In addition, the three important wetlands of Kibasira, Chita and Ngapemba need to be considered. The Kilombero GCA is currently being defined and the final is expected by the end of 2018. Once gazetted this will be the "official" core area that TAWA will protect.	<ul style="list-style-type: none"> <li>• Consolidation and management of the KGCA</li> <li>• Protection of Kibasira, Chita and Ngapemba wetlands.</li> <li>• Protection of the wider Ngapemba Area</li> </ul>
<b>Conservation Protected</b>	The zone includes all state (National Park, Game Reserve, Game Controlled Area, Forest Reserve, Nature Reserve) and village level (Village Forest Reserve, Wildlife Management Area) protected areas. Also, areas identified as a buffer area in the District Land Use Planning Frameworks were included.	<ul style="list-style-type: none"> <li>• Protection of the reserved areas</li> <li>• Protection and sustainable management of CBNRM areas</li> <li>• Clarification of tenure and use of buffer areas along SGR boundary</li> </ul>
<b>Conservation Sensitive</b>	Land currently reflecting a low intensity of use. Either because infrastructure and access are poor or the topography discourages settlement and farming. More of this land will be converted to settlement and agriculture as the population grows. A priority area for future conservation planning.	<ul style="list-style-type: none"> <li>• CBNRM scaling up</li> <li>• Support LGAs in the monitoring of VLUP implementation and review.</li> <li>• Support spatial data sharing and integration of LGA spatial planning with ecological monitoring.</li> <li>• Conduct regular land use and habitat change assessments.</li> <li>• Support stakeholder dialogue on spatial planning across LGAs, PA agencies and other stakeholders</li> </ul>
<b>Agriculture</b>	All currently settled and farmed areas in the basin (defined by satellite imagery; see Wetland Issues document - Appendix x)	<ul style="list-style-type: none"> <li>• Establishment of wildlife corridors</li> <li>• Preservation of residual habitat mosaic through VLUPs</li> </ul>



## 3 THE INTEGRATED MANAGEMENT PLAN

### 3.1 Goal and objectives

#### 3.1.1 Towards a vision for the wise use of the Kilombero Valley

The environmental management and stewardship of this wetland landscape is at an early stage and needs to establish itself amidst a far-reaching environmental change driven by overwhelming social drivers. The goals of wetland site management need to be defined by social values: there is a need for a shared vision of the preferred use (present and future) of the landscape, supported by reasonably coherent social values and conscious choices among inevitable trade-offs. These necessary ingredients are at best just emerging from decades of mostly unfettered land use change, within the Ramsar site and across the basin.

The consultations undertaken for the preparation of the IMP have pointed out that, despite the history of the site and prevailing land conflicts,

- ❖ there is a growing awareness of the environmental values and vulnerability of the landscape.
- ❖ this awareness is heightened by the observation of the negative consequences of unregulated catchment management within the same basin (Ruaha catchment) and by the need for the country to preserve its most important catchment for hydropower development.
- ❖ There is a reasonable level of consensus about the importance of preserving the last area of the floodplain containing important wildlife resources (Ngapemba area).



Aerial view of Kibasira wetland

- ❖ The goal of rehabilitating habitats for wildlife use, especially the traditional corridors, is often contested, due to land pressure for farming and grazing.

These initial achievements need to be nurtured and strengthened through continued dialogue among stakeholders. Many stakeholders, including sometime within key institutions, are not familiar with the principles of sustainable wetland management, and sometimes even with the important enabling provisions for environmental management included in the Tanzanian legislation (the implementation of the Environmental Management Act is still at its infancy 14 years later).

In practical terms, wildlife management and protected areas remain the entry points for wetland management. Preserving the capacity of the wetland to provide its multiple environmental services goes beyond ensuring its territorial integrity under a wildlife conservation perspective. The persistence of the key wetland functions is rather driven by land use and hydrological change across the entire catchment. However, wildlife conservation offers a historical and institutional foundation. Building on its goals and methods and moving towards an ecosystem-based approach to wetland management will take time. The quest for this evolution needs to be the real driver of future landscape management efforts. This quest needs to address multiple factors promoting or resisting this evolution:

- (1) Awareness: These efforts need to focus on increasing awareness of wetland values and approaches amongst all stakeholders, but specifically within government and management institutions.
- (2) Governance: They also need to deal with the institutional and power dynamics that are embedded in the existing vision for conservation and those resisting it. Wetland managers need to move from a traditional vision of a large protected area managed centrally, to that of a landscape made of a mosaic of different land units: some are managed by central government, others are managed by villages or association of villages.
- (3) Capacity. They also need to gradually come to grips with the complexities of inter-sector harmonization which is required by ecosystem management: e.g., working outside the landscape to preserve the water towers to ensure wetland functions within the landscape; allocating water resources across competing demands; increasing agriculture productivity to decrease land conversion pressure, etc.

Given the status, the IMP at this stage proposes a preliminary set of ecosystem management goals (table below). These goals frame a realistic and practical vision for the next stage of the IMP evolution process. They are meant to be further reviewed, validated, adapted and negotiated through continued stakeholder consultations.



Ngapemba hunting block



Deforestation in Utengule, next to the hunting block, September 2016

### 3.2 Preliminary ecosystem management goals.

The following overall goal and ecosystem management objectives are proposed for phase-II. The overall goal reflects the objectives and standards from the Ramsar convention<sup>33</sup>. The objectives capture the essential wetland values and functions as recognized by stakeholders and reflecting the priorities identified during IMP Foundation stage consultations. This set of objectives needs to be further reviewed and articulated along with the IMP implementation and development progress.

<b>Overall wetland management goal</b>	<b>Maintain and rehabilitate the ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development</b>
<b>Ecosystem Objectives</b>	<b>Priority strategies</b>
<b>(I) Maintain the water regime and hydrological characteristics of the wetland sites</b>	Protect the Kilombero River catchment and water towers.
	Ensure environmental flow.
	Protect core valley floor and tributaries unencumbered by obstacles to natural flow regime
<b>(II) Preserve and rehabilitate vulnerable wetland habitats</b>	Protect the core area / valley floor and wetlands at the edge of the valley floor / inlets (Chita, Kibasira, Ngapemba)
	Improved harmonization with land use planning on village land and promotion of environmental safeguards / protection of vulnerable habitats of village land
<b>(III) Protect and re-establish wildlife populations</b>	Protect the core valley floor and Ngapemba area.
	Protect and re-establish wildlife connectivity across the landscape.
<b>(IV) Maintain flow of multiple services for human use</b>	Sustainable fisheries management
	Sustainable rice farming with growing yields to offset land conversion pressure
	Sustainable livestock sector transformation and management
	Sustainable access to NTFPs

### 3.3 Phase-II: the essential IMP

#### 3.3.1 Summary

The next stage of integrated management planning of KVRS needs to rely on available fiscal resources as a core foundation. This “essential IMP phase” will focus on key components to strengthen the inter-sector harmonization, foster dialogue and pursue priority landscape management interventions.

**Table 8. Essential IMP Actions.**

Actions	Essential IMP Actions
Stakeholder dialogue and coordination	<ul style="list-style-type: none"> <li>• Convene stakeholder meetings across the valley to build gradually shared vision of the environment and foster inter-sector harmonization</li> </ul>
Fiscal funding coordination	<ul style="list-style-type: none"> <li>• Advise LGAs and GoT agencies on the allocation of resources to environmental actions (e.g., community-based natural resource projects, land use planning reviews, etc)</li> </ul>
Priority wetland conservation measures	<ul style="list-style-type: none"> <li>• Review and advise spatial plans across four Districts</li> <li>• Harmonization of plans for Kilombero Game Controlled Area, Ngapemba, wildlife corridors, community-based natural resource projects, wetlands</li> </ul>
Fund Raising for phase III	<ul style="list-style-type: none"> <li>• Mobilise external funding</li> </ul>

#### 3.3.2 Institutional mechanism

Technical appraisals and consultations during the IMP Foundation phase have identified several options for landscape-level conservation enabled by the Tanzanian legislation and experimented across the country<sup>34</sup>. These were presented to several stakeholders for a for review. The key points raised during the consultations were:

- ❖ any measure would require financial resources;
- ❖ the IMP requires a clear work plan and technical support;
- ❖ the mandate of any landscape-level setup needs to be clear.

Among the several options presented, stakeholders preferred either the establishment of a new Valley Authority or a Joint Council / District Committee. There was not much confidence that LGAs can allocate own resources to the IMP actions it and there was an acknowledgment that all GoT was focused on Stiegler’s Gorge hydropower scheme as the flagship project for the Rufiji Basin<sup>35</sup>.

In the near term for the next phase, it is unlikely that major reforms will be undertaken to enable ad-hoc solutions for KVRS (such as an Authority). There is rather an urgency to build on existing structures, capacities and experiences. As an initial measure, it is therefore proposed to establish a KVRS Committee involving the 4 LGAs, supported by Morogoro RAS, and the line agencies with a direct role on priority wetland management measures, namely MNRT (TAWA) VPO, MLHHS, and RBO.

This Committee can build on the experience of the Inter-District Natural Resources Advisory Board which has been in operation for the last 3 years and has advised wildlife



conservation initiatives and specifically Iluma WMA. This Committee’s membership can be expanded to involve the selected line agencies and can be chaired by the District Commissioners through a rotating mechanism.

The Committee should co-opt other relevant actors as observers, such as those NGOs which are currently pursuing relevant actions for the KQRS (AWF, TFCG, STEP).

The Committee would have the following key roles:

- (1) Meet quarterly to review progress on the KQRS IMP Phase II Action Plan (see below) with a focus on identified priority measures and harmonization with other key plans, such as the Rufiji basin IWRMP, progress on the EFA, and planning of ASDP-II.
- (2) Sustain stakeholder dialogue on vision and harmonization through own meetings and by convening an annual stakeholder workshop
- (3) Advise LGAs and MDAs on fiscal measures to sustain the IMP ahead of annual budget preparation
- (4) Steer preparation of external funding for IMP phase III.

The Committee should be served by a small Secretariat composed of the TAWA KQRS Project Manager and one senior NRM staff each from the for LGAs. This Secretariat (not a full-time mechanism) will:

- ❖ Prepare and update progress reports based on the IMP Action Plan and seeking inputs from concerned agencies
- ❖ Prepare and record the proceedings of the Committee
- ❖ Follow-on on actions identified in terms of information sharing and communications.

**Table 9. The KQRS Committee**

<b>Members</b>	<ul style="list-style-type: none"> <li>• Ifakara Town Council</li> <li>• Malinyi District Council</li> <li>• Kilombero District Council</li> <li>• Ulanga District Council</li> <li>• Rufiji Basin Office</li> <li>• Ministry of Natural Resources and Tourism – TAWA</li> <li>• Ministry of Land, Housing, Human Sett. Develop.</li> <li>• Morogoro Regional Secretariat</li> <li>• Vice President Office</li> </ul>
<b>Co-opted members</b>	<ul style="list-style-type: none"> <li>• African Wildlife Foundation</li> <li>• Tanzania Forest Conservation Group</li> <li>• Southern Tanzania Elephant Programme</li> </ul>
<b>Key actions</b>	<ul style="list-style-type: none"> <li>• Track progress on the KQRS IMP Phase II Action Plan</li> <li>• Convene annual stakeholder workshops</li> <li>• Advise LGAs and MDAs on annual budget plans to sustain IMP</li> <li>• Steer preparation of external funding for IMP phase III.</li> </ul>



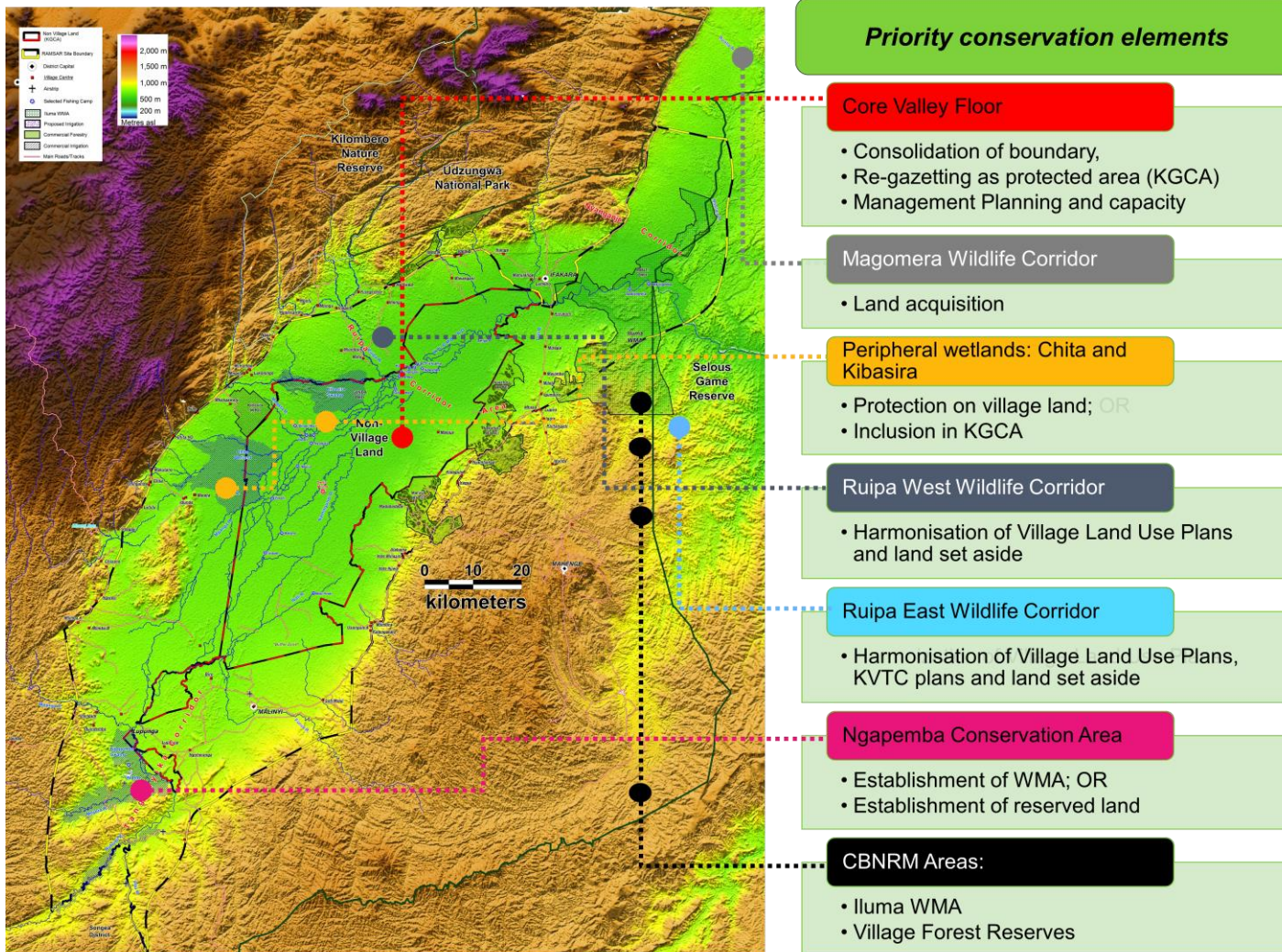
### 3.3.3 Action Plan

The proposed Action Plan for Phase-II will be driven by the KQRS Committee and deals with the most critical actions identified during the Foundation phase and which have met broad support from stakeholders. The following table presents the summary Action Plan. Each Action has a specific work plan. The column “Component Plan” refers to their specific workplans, some of which have been prepared during the IMP Foundation phase and are appended to this document. Areas mentioned under (3) are shown in the map over the page.

Action		Scope	Lead	Component Plan	Status
(1)	<b>Stakeholder dialogue and coordination</b>	Strengthen review of all priority actions; Sustain dialogue on a shared vision for the landscape. Coordination with Rufiji basin IWRMP implementation	Coordination Committee	Regular meetings to track progress against this Action Plan	Inter-District Advisory Committee provides the foundation
(2)	<b>Fiscal funding coordination</b>	Advise LGAs and GoT agencies on the allocation of resources to environmental actions (e.g., CBNRM, land use planning reviews, etc)	Coordination Committee	Annual budget plans of LGAs, MNRT, MHLSSD, VPO, MoW	Fiscal sustainability appraisal prepared.
<b>(3) Priority conservation measures</b>	<b>3a Consolidation of the Kilombero Game Controlled Area</b>	Boundary negotiation, re-establishment of the KGCA and enforcement of restrictions. Enabling of managed fisheries.	TAWA	KGCA Consolidation Plan	Ongoing
	<b>3b Protection of vulnerable wetlands</b>	Negotiations and protection of vulnerable wetlands: Chita and Kibasira via village bylaws and VLUP or inclusion within KGCA	TAWA Kilombero DC	IMP Appendix-V	Appraisal study. Land tenure regularisation and KGCA consolidation ongoing.
	<b>3c Protection of Ngapemba Area</b>	Consultations, negotiations, and establishment of either WMA or protected area	Kilombero DC	IMP Appendix-I	Appraisal study.

Action		Scope	Lead	Component Plan	Status
			MNRT		
3d	<b>Ruipa- East Wildlife Corridor</b>	Negotiations and review of VLUPs. Strengthening of Iluma WMA and VFRs of Kichangani and Idunda. Strengthened collaboration with KVTC. Launching of forestry PPP scheme with KVTC in Nakafulu block.	Ulanga DC, KVTC, TAWA, villages, Iluma WMA	IMP Appendix-III	Appraisal study. Land tenure regularisation ongoing. KVTC fundraising for PPP scheme.
3e	<b>Ruipa-West Wildlife Corridor</b>	Establishment of Water Users Associations and riverine habitat preservation	AWF		Ongoing.
3f	<b>Magombera wildlife corridor</b>	Land acquisition		STEP Feasibility study - 2018	Appraisal study. STEP fundraising for execution.
3g	<b>Support to CBNRM sites</b>	Monitoring, conflict resolution and institutional support to Village Forest Reserves and Iluma WMA	LGAs MNRT	VFR Forest Management Plans and Business Plans Iluma WMA Business Plan and Management Plan	Fiscal sustainability appraisal prepared. Ongoing.
<b>(4)</b>	<b>Fundraising for the follow-on phase</b>	Support to fundraising proposal preparation, consultations, and negotiations for external financing of phase III.	Coordination Committee	Option identified: Green Climate Fund via Ministry of Finance	Internal review with MNRT and VPO.

Figure 6. Priority conservation elements within the KQRS landscape.



### 3.3.4 Funding

Funding for the Essential-IMP stage needs to be sourced from existing local and national government budgets. Most priority actions identified are of coordination nature: sustaining a dialogue to strengthen a shared vision of the Kilombero Valley Ramsar Site; harmonize and review spatial plans; support priority site management measures; advise on resource allocation priorities supporting the IMP; prepare a fundable proposal for additional financing. The analysis (Appendix-VII) shows that this stage can be funded by GoT and LGAs with minor or modest budget re-allocations. It would have clear benefits with Government in the ‘driving seat’ in close collaboration with KVRS stakeholders in providing the foundation for sustaining the KVRS resource base.

Resources are required to fund the environmental management actions identified, as well as to beef up the dedicated staffing of agencies. This specifically concerns LGAs whose NRM units are understaffed to a larger extent than for other sectors.

CBNRM in the LGAs are yet to start performing as expected and adequate fiscal and human resources are needed at LGA level for guidance, supportive supervision and monitoring by LGAs to ensure the sustainable use of the devolved natural resources;

Besides additional funding through the proposed fiscal measures under phase-2, sharing of CBNRM revenue from FY 2018/19 onwards between the main institutions (village, LGA and sometimes MDA) will subsidize the proposed fiscal measures; revenue shares to be accrued to LGAs need to be earmarked and allocated by the LGAs to these core tasks.

Fiscal measures within the discretion and authority of the public institutions are proposed to give the required priority and budgetary support to phase-II of the IMP (as selected by stakeholders), in particular:

**Table 10. Summary of proposed fiscal measures.**

<p><b>Fiscal Measure # 1:</b></p> <ul style="list-style-type: none"> <li>•LGA: Allocation of additional Own Resources Revenues collected from Natural Resources to expenditure to support IMP, CBNRM and sustain revenue sources (budget-neutral change of 5.7% of total Own Resource revenues of all four LGAs combined)</li> </ul>
<p><b>Fiscal Measure # 2:</b></p> <ul style="list-style-type: none"> <li>•Intergovernmental transfers: Increasing allocation to personal emoluments of Natural Resources+Production sectors to strengthen staff establishment of the departments and units to support the IMP and sustain revenue sources: (budget-neutral change of 0.8% of total IGT of all four LGAs combined);</li> </ul>
<p><b>Fiscal Measure # 3:</b></p> <ul style="list-style-type: none"> <li>•Central Government to match the LGA re-allocation in OSR for IMP institutional coordination and management process (indicatively Tsh 250.0 million per year).</li> </ul>

Certain actions comprised in the phase II design are funded by other actors (NGOs AWF and STEP for two corridor initiatives; donor funding for land tenure regularisation under MLHSD). Proposal preparation for external financing of phase III can be subsidized by donor facilities for project preparation.



Table 11. Indicative phase II Operational Costing Plan

Action		Indicative Budget (M TzS)		Source	Costs to be covered
		Annual	3 years		
(1)	Stakeholder dialogue and coordination	100	300	MNRT /VPO budgets	Functioning of Coordination Committee – Quarterly meetings; Secretariat functions by LGA or GoT staff; annual stakeholder review workshop.
(2)	Fiscal funding coordination	10	30		Included in Action 1 – coordination and staff functioning
(3)	3a Consolidation of the Kilombero Game Controlled Area	30	90	TAWA/MLHSD	Current action funded by TAWA and MLHSD/LTSP - Follow-on activities including refurbishment of signs/beacons and boundary clearance
	3b Protection of vulnerable wetlands	30	90	TAWA/MLHSD	Comprised in 3a - Quarterly surveillance of wetlands by Game Warden, VGSs and Village Governments
	3c Protection of Ngapemba Area	100	300	MNRT	Based on WMA Scenario (see Appraisal Study)
	3d Ruipa- East Wildlife Corridor	40	90	TAWA	Monitoring and coordination support to ongoing MLHSD LTSP actions on VLUPs
	3e Ruipa-West Wildlife Corridor	n/a	n/a	AWF	Separate funding
	3f Magombera wildlife corridor	n/a	n/a	STEP	Separate funding
	3g Support to CBNRM sites and NRM functions.	700	2,100	LGAs PO RALG	Monitoring of and capacity building to CBNRM sites - subsidized from VFR revenue sharing (see below Fiscal measure #2) PPP scheme not included – separate funding stream. Increase NRM staffing levels not included here (see below fiscal measure #1)
(4)	Fundraising for the follow-on phase	10	30	VPO	Proposal preparation: consultancy inputs and reviews
	<b>TOTAL</b>	1020	2,060		Additional costs to ongoing GoT actions in KVRS
	<b>Of which LGAs</b>	700	2,100		
	<b>Of which GoT</b>	320	960		



### 3.3.5 Detailed justification for proposed fiscal measures.

The financial assessment (see IMP Appendix-VI) has demonstrated that the natural resources and production sectors have a (very) low priority and are under-funded in the current fiscal framework, in particular:

- 1) The staff positions filled in the natural resources sector and production sector as a percentage of the total LGA staff establishment is far below the average of the LGAs, respectively at 24.8% and 13.7% below the LGA average;
- 2) This is reflected in the budget percentage allocated and used in natural resources and production sectors for Personal Emoluments and Other Charges; and
- 3) Own source revenue of the natural resources sector is not re-invested in the sector and natural resources actually subsidize other sectors departments and units of the LGAs.

#### 3.3.5.1 Fiscal Measure # 1: Re-allocation of Inter-Governmental Transfers

- Central Government continues with its fiscal policy of 100% financing of Personal Emoluments in combination with current modest contributions to Other Charges;
- Central Government will bring the percentage of staff positions filled in natural resources and production sectors at the same level as the LGA as a whole;
- Central Government will make re-allocation in IGT for Personal Emoluments and Other Charges to finance the additional staff position filled in natural resources and production sectors;
- Re-allocation IGT allocation to natural resources and production for development with the same percentage as for PE and OC; and
- Total IGT budget of the LGAs will remain at the same level.

The proposed amount of IGT reallocation to support scenario # 2 will increase the budget of natural resources by Tsh 363.1 million and production by Tsh 554.0 million; and reduce IGT to the other sectors by Tsh 917.1 million, see table 11.2 below.

**Table 12. Fiscal Measure # 1 – IGT Re-Allocation (in Tsh)**

Simulation	IGT - Allocation (in '000,000 Tsh)				IGT - Change (in '000,000 Tsh)			
	PE	OC	DB	Total	PE	OC	DB	Total
<b>All LGAs: FY 2018/19</b>								
<b>Natural Resources</b>	1,098.0	197.7	529.0	1,824.8	218.5	39.3	105.3	363.1
<b>Natural Resources &amp; Lands</b>	56.4	52.7	25.7	134.9	0.0	0.0	0.0	0.0
<b>Forestry Management</b>	284.9	7.2	43.1	335.2	60.4	1.5	9.1	71.1
<b>Wildlife / Game</b>	235.7	13.5	19.1	268.4	14.2	0.8	1.2	16.2
<b>Fisheries</b>	98.8	10.6	63.5	172.9	13.9	1.5	8.9	24.3
<b>Beekeeping</b>	125.9	37.4	21.6	185.0	24.8	7.4	4.3	36.4
<b>Lands</b>	256.2	64.6	367.7	688.4	65.2	16.4	93.6	175.2
<b>Production</b>	3,057.5	193.6	1,665.3	4,916.4	344.5	21.8	187.7	554.0
<b>Livestock</b>	1,493.9	66.3	516.2	2,076.4	168.3	7.5	58.2	234.0
<b>Agriculture</b>	1,563.7	127.3	1,149.0	2,840.0	176.2	14.3	129.5	320.0
<b>Other Sectors</b>	64,398.2	9,941.3	35,378.6	109,718.2	-563.0	-61.2	-292.9	-917.1
<b>Total IGT</b>	68,553.7	10,332.6	37,573.0	116,459.3	0.0	0.0	0.0	0.0

Expected Outcome of fiscal measure # 1:

The re-allocation signifies a very minor re-allocation of 0.8% of the total IGT of all LGAs combined. However, experience shows that even minor re-allocations in IGT require advocacy, policy and technical support. The primary drivers for the re-allocation are the key KVRS stakeholders, in particular the four LGAs with strong support of RS/RAS Morogoro and collaboration with MNRT, VPO and PO-RALG as key agencies to influence Parliament (MPs) and the Ministry of Finance and Planning. The re-allocations will have a significant impact on the IMP process, in particular capacity and performance of the natural resources and production sectors. The IGT re-allocations in Personal Emoluments and Other Charges will enable:

- Production and natural resource sector departments to be staffed to adequate levels to fulfill their institutional role, functions, and tasks more effectively at all levels of the LGAs, in particular, technical support, monitoring, outreach and backstopping of CBNRM and other local communities, follow-up to agreed land-use plans and sustainable land-use, irrigation and farm practices; in the end this will sustain local revenue and the resource base.

The IGT re-allocation in Development will provide funds to:

- Support the Spatial Planning Coordination of the KVRS in its wider landscape in particular further development and refinement of participatory land-use planning including specific areas (wetlands for instance);
- Continued advice on resource allocation and setting of priorities supporting the IMP; and
- Selection and preparation of fundable proposals for additional financing from government and other local players.

### 3.3.5.2 Fiscal Measure # 2: Alignment of Own-Source Revenue to IMP objectives

- It is assumed that the OSR allocation guideline in Rural Councils will be set at 60% allocation to OC and 40% to Development; in Urban Councils, 40% is set to OC and 60% to Development;
- Currently, all LGAs combined allocate 46% of OSR to Other Charges and 54% to Development;
- LGAs increase the percentage allocation to natural resources for ‘other charges’ from the current 1.8% of OSR to 5% of OSR, which is more or less in line with the percentage of OSR collections from the sector; and
- LGAs increase the percentage allocation to natural resources for ‘development’ from the current 1.8% to 15% of OSR.

The proposed re-allocation of Own-Source Revenue will look as follows:

**Table 13. Fiscal Measure # 2 – OSR Re-Allocation (%)**

Simulation	Adjustment in percentage allocations OSR				Remarks
	Current		Simulation		
All LGAs: FY 2018/19	OC	DB	OC	DB	
% Natural Resources	1.8%	5.9%	5.0%	15.0%	
% Change			3.2%	9.1%	
New % Allocations			5.0%	15.0%	
% Recurrent in OSR	40.0%		60.0%		Rural Councils
% Development in OSR		60.0%		40.0%	Urban Councils

It is assumed that the revenue shared from VLFR will be earmarked for use in Ulunga DC to support PFM in other areas. OSR reallocation to support scenario # 2 will increase the

budget of natural resources for Other Charges by Tsh 276.2 million and for Development by Tsh 450.9 million while reducing allocations to other sectors by the same amount, see table below.

**Table 14. Fiscal Measure # 2 – OSR Re-Allocation (in Tsh)**

Simulation	OSR - Allocation (in '000 Tsh)			OSR - Change (in '000 Tsh)		
	OC	DB	Total	OC	DB	Total
<b>All LGAs: FY 2018/19</b>						
<b>Natural Resources</b>	382,198	856,647	1,238,845	276,146	450,875	727,021
<b>Other Sectors</b>	5,478,003	6,023,082	11,501,086	-276,146	-450,875	-727,021
<b>Total</b>	5,860,201	6,879,729	12,739,930	0	0	0

Expected Outcome of fiscal measure # 2:

The re-allocation signifies a modest re-allocation of 5.7% of the total OSR of all LGAs combined. This requires advocacy, policy and technical support. The primary drivers for the re-allocation process are the key KVRS stakeholders, in particular, Councillors, District Executive Directors and key Departments of the four LGAs (Council Management Team) with the strong support of RS/RAS Morogoro. There is also an interest of Central Government to support the measures as they will contribute to ensuring the sustainable land use and quality and quantity of water flows of the Kilombero Valley to the downstream Stigler Gorge Hydro Project. It would also reduce conflicts in the valley which reduces the political costs and related expenditure of managing conflicts.

The measure will have a significant impact on the IMP process at the discretion of the LGAs. The OSR re-allocations in Other Charges will enable:

- Natural resource sector departments and units to fulfill better their institutional role, functions, and tasks more effectively including eco-monitoring and support to CBNRMs depending on the unique situation in each of the LGAs.

The OSR re-allocation in Development will provide additional funding to:

- Support the Spatial Planning Coordination of the KVRS in LGAs and its wider landscape including additional investments in specific areas, organizational development, skills development, communication and education activities, etc; and
- Selection and preparation of fundable proposals for additional financing in each of the LGAs in collaboration with key actors and agencies.

### **3.3.5.3 Fiscal measure # 3: Alignment of Funding to IMP Institutional Driver**

The IMP is a shared responsibility of district, regional and national institutions. Fiscal measures # 1 and # 2 will increase fiscal resources and provide adequate funding at the district level to support IMP in scenario #2. It is proposed that Central Government will match the increased allocation by LGAs from own-source revenue to development by an equal amount to be allocated to the selected institutional driver(s) to support the core scenario.

- Fiscal Measure # 3: Central Government to match the LGA re-allocation in OSR to development to the budget of the selected key driver of the IMP institutional coordination and management process (see below); this implies additional funding by Treasury of Tsh 250 million per year.

Expected Outcome of fiscal measure # 3:

The allocation signifies a modest contribution to the MDA budget albeit with significant impact on the IMP process. It would demonstrate that GoT is willing and able to top-up local

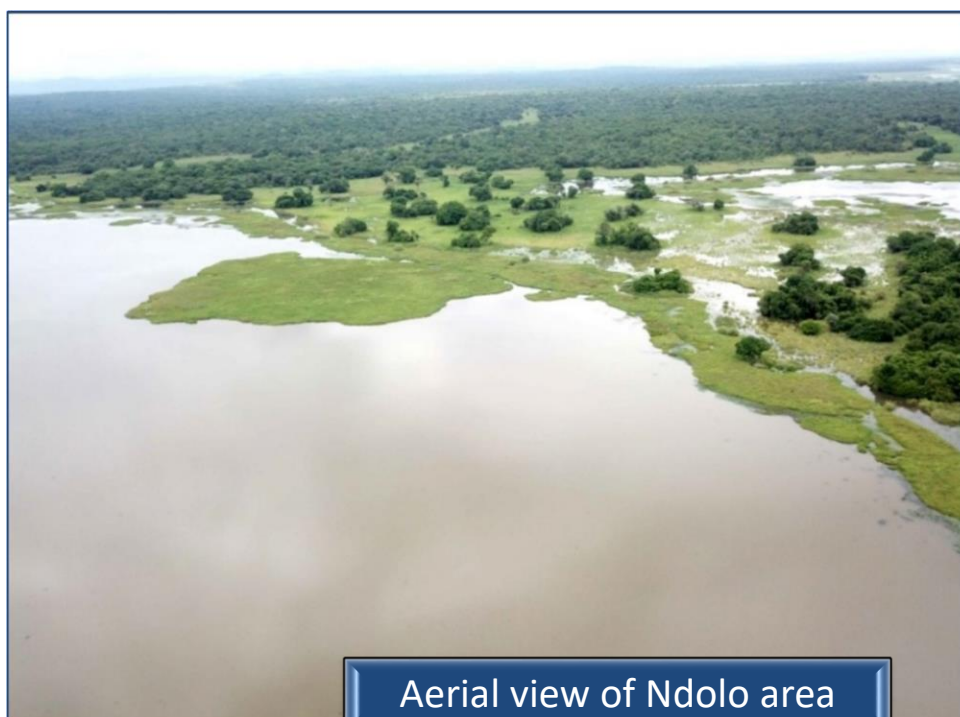
efforts to support the IMP by capacitating the national institutions involved in the IMP process, in particular, the key drivers and Morogoro Regional Secretariat to:

- Fulfill their institutional role, functions, and tasks in relation to the IMP;
- Prepare evidence-based proposals for resource allocations under the IMP;
- Support the Spatial Planning harmonization, coordination and monitoring of the KVRS at landscape level; and
- Preparation of fundable proposals for additional leverage financing of the IMP supporting the extended scenario.

The key driver responsible for the budget and IMP process at the national level is yet to be selected from one of the key agencies involved i.e. MNRT, VPO (Environment), PO-RALG (RAS Morogoro).

Accompanying Measures:

- The re-allocations of LGAs to be reflected in MTEF, and likely, approval of supplementary budgets for FY 2018/19 to reflect the proposed fiscal measures;
- The IGT revenue budget structure to be reviewed to incorporate natural resources as the main sector in the revenue budget with its own vote;
- The expenditure budget structure to be modified to reflect recurrent expenditure Personal Emolument of the natural resource departments and units;
- TAWA to fund the execution of the General Management Plan of the Kilombero GCA from internal resources;
- Local Government Authorities to review some OSR unit rates i.e. consider increasing the livestock market fees to Tsh 15,000 per head reflecting market value and environmental costs;
- LGAs to make proposals to access grants of the Tanzania Forest Fund;
- LGAs to make a proposal to access Strategic Projects grants targeting sustainable agriculture and livestock; and
- Grants of the ASDP II to support sustainable irrigation and farming practices, agro-processing, and value-addition.



Aerial view of Ndolo area

## 3.4 Phase III: the "Extended" IMP.

### 3.4.1 Summary description

At this stage, the design of Phase III is indicative and needs to be confirmed during the execution of phase II, taking into consideration progress and lessons emerging from:

- Future inter-agency and stakeholder dialogue on the vision for KVRS and inter-sector harmonization
- Progress achieved with the priority site management actions
- Dialogue with the target source of external financing and reflecting required appraisals
- Progress achieved with critical sectorial plans: Rufiji basin IWRMP, ADSP-II, Stiegler's Gorge Hydropower Development Plan, EFA follow-ons. In particular the present concept of phase III does not include actions concerning agriculture development, water resources management and catchment protection as these are assumed to be pursued under those sector plans. This assumption needs to be reviewed during phase II and the design adjusted based on the actual progress of those plans.
- Progress achieved on a broader set of tasks recommended by the Ramsar Advisory Mission of October 2016 (see annex-2), including reform of policies and regulations.

This phase-III will extend in time and scale the same components of the "Essential IMP" phase. External financing will also enable including capital investments and further landscape management components. These are identified below in a preliminary manner.

**Table 15. Extended IMP concept.**

Aspect	Extended IMP Actions
<b>Landscape coordination</b>	Strengthening of inter-sector coordination with the establishment of a permanent dedicated institutional mechanism able to manage external funding
<b>Wetland conservation measures</b>	A suite of site-specific interventions initiated during phase II and scaled up.
<b>Sector management measures</b>	Investments in capacities, systems, and infrastructure to improve the sustainability of fisheries and livestock sector, which are unlikely to receive sector budget allocations in an adequate manner.
<b>Public awareness and information sharing on wetland conservation</b>	Public information to foster consensus on wetland management strategy and mitigate conflicts
<b>Ecological monitoring</b>	Establish low-cost permanent programs to monitor environmental change

### 3.4.2 Institutional mechanism

During the Foundation Phase, stakeholder consultations have indicated a preference for the establishment of a dedicated Authority for KVRS. The same was recommended by the RAM 2016. The establishment of an authority is a complex process which will have to be shaped



by progress achieved during phase II with the proposed Coordination Committee. The establishment will require a detailed feasibility study and legislative reform. Our preliminary analysis (IMP-Appendix VII) points out the following benefits and risks for this option:

**Table 16. KVRS Authority: advantages and disadvantages.**

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> <li>• Focused on landscape</li> <li>• Exceed administrative boundaries, match ecological ones</li> <li>• Vertical coordination between central, regional and LGAs</li> <li>• Clear oversight, enforcement</li> <li>• Budget and HR autonomy</li> </ul>	<ul style="list-style-type: none"> <li>• Increased administrative costs</li> <li>• Risk duplication of functions</li> <li>• May need ad-hoc Act (lengthy)</li> <li>• Effectiveness on development processes may vary</li> <li>• Risk limited impact on LGA resource allocation</li> <li>• Limited discretion allocating own resources (e.g., transfer own resources to an LGA) unless a special fund is established</li> </ul>



### 3.4.3 Indicative Action Plan for phase III.

Action	Tasks	Scope
<b>1 Landscape coordination</b>		
1a	<b>Dedicated Secretariat / Management Unit (MU)</b>	<ul style="list-style-type: none"> <li>• Running costs</li> <li>• Inter-sector harmonization and monitoring</li> </ul>
1b	<b>Detailed feasibility and establishment of higher coordination institution (e.g., KVRS Authority)</b>	<ul style="list-style-type: none"> <li>• Feasibility, capitalization and running costs in the establishment phase</li> </ul>
1c	<b>Platforms for conflict mitigation and building of a shared vision</b>	<ul style="list-style-type: none"> <li>• Regular stakeholder dialogue events</li> </ul>
1d	<b>Continued advice on fiscal measures and inter-sector harmonization</b>	<ul style="list-style-type: none"> <li>• Tracking and review of sector plans</li> </ul>
1e	<b>Management of external financing</b>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>2 Wetland Conservation Actions</b>		
2a	<b>Management of the Kilombero Game Controlled Area</b>	<ul style="list-style-type: none"> <li>• Preparation of GMP</li> <li>• Strengthening of operational capacities (means and soft skills)</li> </ul>
2b	<b>Protection of vulnerable wetlands</b>	<ul style="list-style-type: none"> <li>• Monitoring and capacity building support</li> </ul>
2c	<b>Protection of Ngapemba Area</b>	<ul style="list-style-type: none"> <li>• Monitoring and capacity building support</li> </ul>
2d	<b>Ruipa- East Wildlife Corridor</b>	<ul style="list-style-type: none"> <li>• Establishment, management and land acquisition for habitat rehabilitation</li> </ul>
2e	<b>Ruipa-West Wildlife Corridor</b>	<ul style="list-style-type: none"> <li>• Establishment, management and land acquisition for habitat rehabilitation</li> </ul>
2f	<b>Magombera wildlife corridor</b>	<ul style="list-style-type: none"> <li>• Establishment, management and land acquisition for habitat rehabilitation</li> </ul>
2g	<b>Support to CBNRM sites and NRM functions.</b>	<ul style="list-style-type: none"> <li>• Scaling up of VFRs</li> <li>• Scaling up of Forestry PPP to consolidate catchment management and habitat connectivity</li> </ul>
2h	<b>Puku Action Plan</b>	<ul style="list-style-type: none"> <li>• Appraisal available (IMP Appendix-II)</li> <li>• Once KGCA established a reintroduction</li> </ul>

		<ul style="list-style-type: none"> <li>• Introduction to suitable areas in Selous GR</li> </ul>
<b>3</b>	<b>Sector management measures</b>	
3a	<b>Livestock transformation investment plan</b>	<ul style="list-style-type: none"> <li>• Capital investments and capacity development (pre-feasibility available, IMP Appendix-IV)</li> </ul>
3b	<b>Support for sustainable fisheries management</b>	<ul style="list-style-type: none"> <li>• Adaptation of technical standards for fisheries management to landscape conditions</li> <li>• Frame survey</li> </ul>
3c	<b>Landscape-scale protected area network</b>	<ul style="list-style-type: none"> <li>• Sustain dialogue and harmonization of spatial planning, law enforcement and conflict mitigation across all PAS in the landscape (including conservation areas on village land, such as WMAs and VFRs)</li> </ul>
<b>4</b>	<b>Education and public awareness</b>	
4a	<b>Public awareness</b>	<ul style="list-style-type: none"> <li>• Media production and diffusion on KVRS wetland values and services (radio, internet)</li> <li>• Educational materials for schools</li> </ul>
4b	<b>Information sharing on wetland conservation</b>	<ul style="list-style-type: none"> <li>• Wetland interpretation center</li> </ul>
<b>5</b>	<b>Ecological monitoring</b>	
5a	<b>Monitoring of wetland change</b>	<ul style="list-style-type: none"> <li>• Regular LULC based on satellite imagery classification and production of maps for dissemination</li> <li>• Low-cost fisheries health monitoring in system embedded in the local agency (e.g., TAFIRI)</li> <li>• In-stream wetland habitat quality monitoring</li> <li>• Biennial game census</li> <li>• Rapid assessment of vulnerable wetland habitats</li> <li>• Bird surveys</li> </ul>
5b	<b>Knowledge management</b>	<ul style="list-style-type: none"> <li>• Wetland knowledge management system</li> </ul>

### 3.4.4 Funding

The extended IMP phase needs external financing for operational costs, capital investments, and institutional capacity development. The phase III is not quantified, yet, as the quantification is deferred to phase II through a specific task of the Coordination Committee.

One of the expected outcomes of phase-2 will be sourcing of additional external funding to support the IMP in phase-3 by:

- Private sector agencies that depend on the sustainable use of the KVRS resource base for their operations, in particular, KTVC, KLV, and Illovo that have considerable knowledge and skills in IMP-relevant areas that can be employed in the valley, also as part of their corporate responsibility;
- Non-governmental organizations that support the integrated landscape management, conservation and governance agenda, likely in partnership with private sector and LGAs;
- Development partners that see an opportunity to buy into the Integrated Management Plan extended phase, and in particular to support capital-intensive activities; and
- Leverage financing through global funding opportunities related to achieving the Sustainable Development Goals including the Green Climate Fund, REDD+, etc.

Annex-2 includes an indicative costing base on the preliminary design produced during the Foundation Phase, for a total of ca. 18m Eur.



## 4 IMPLEMENTATION OUTCOMES

The three proposed phases build on each other in sequence. The actual future sequence of events may not follow strictly this blueprint. It is worthwhile exploring the possible outcomes of each phase as three indicative scenarios. With scenarios, we do not mean predictions but projections of plausible outcomes generated by three different stages or intensity of environmental management. This exercise wants to explore perspectives over the long-term evolution of institutional capacities and systems for KVRS management. Policy factors are going to shape the outcomes of this future evolution by framing and driving the context within which any environmental management decisions will be made and pursued.



**Table 17. Summary of scenarios of wetland management outcomes.**

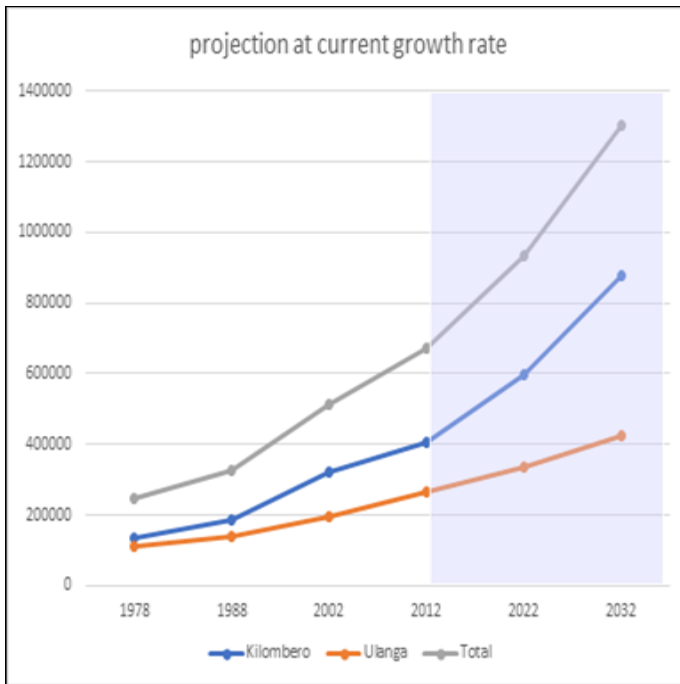
Now (Business as Usual)	Essential IMP (2-3 years)	Extended IMP (3-5 years)
<ul style="list-style-type: none"> <li>Agencies and stakeholders continue in their present functions and modalities of interaction. Wetland management is championed mostly as wildlife conservation and protected area management. Conflicts abound.</li> <li>Some sectorial activities are making progress, e.g., the KGCA consolidation; NGO conservation projects; the land tenure regularisation; pilot CBNRM operations.</li> <li>No shared vision for the landscape. Growing land conflicts. Loss of residual habitat. Missed opportunities in ecosystem conservation. Further landscape fragmentation and functional erosion.</li> </ul>	<ul style="list-style-type: none"> <li>Certain <b>coordination functions</b> are strengthened as compared to the present scenario, to pursue essential priorities of sustainable wetland landscape management. These include: (a) continuative stakeholder dialogue and conflict resolution; (b) essential consultative and NRM processes; (c) Fund raising for external financing.</li> <li>This scenario assumes limited or no extra funding support. <b>Core functions are sustained by GoT</b> (central, local) resources only through a simple mechanism of coordination.</li> <li>Priority sites and functions may slow pace of environmental change.</li> <li>A locally owned wetland management agenda takes roots.</li> </ul>	<ul style="list-style-type: none"> <li>External financing enables a more comprehensive suite of coordination, technical backup, stakeholder engagement, and monitoring functions.</li> <li>Significant external financing may further enable major capital investments, such as for habitat restoration, sustainable agriculture, and livestock development.</li> <li>In this phase, it may be appropriate to strengthen the institutional coordination mechanism (options identified in Appendix-VII)</li> </ul>



#### 4.1.1 Business as usual scenario.

At present, the management of the KVRS is fragmented and struggles to counter development pressure. There is an array of important actions, including the preparation of this IMP as a guiding framework. There isn't a sustained mechanism of stewardship and coordination. There is rather the need to overcome short-term coordination and enforcement measures and to replace them with a sustained vision for institutional development.

**Figure 7. Demographic projection based on 2012 census data.**



It is worthwhile exploring what is a plausible outcome of “business as usual”. This scenario is based on past cases in other landscapes, and specifically the Ruaha catchment. Major infrastructure development projects will materialize in the coming 3-5 years including the construction of trunk roads and rural electrification. This will enhance the connectivity of communities and LGAs encompassing the valley and increase business opportunities in all sectors (production, processing, value addition, tourism, etc). On the other hand, the annual population growth (1.2 million projected by 2030) will increase pressure on

the natural resource base through expansion of farm areas and human settlements (planned or not). Improved transport infrastructure will raise opportunities in tourism; economic growth will raise the tax base and local revenues. A few conservation actions may go ahead, such as those driven sectorially (e.g., re-establishment of the KGCA, the management of VFRs), however sectorial harmonization is limited or non-existent. Protected areas may survive isolated in an increasingly fragmented landscape, leading to:

- Further loss of wetland habitat and forests
- Further & irreversible degradation of wildlife connectivity
- Consolidation of settlements and human use in fragile environments
- Unsustainable, uncoordinated investments in agriculture (small irrigation schemes) driving further wetland losses and hydrological changes
- Continued conflicts between farming, conservation, and the livestock sector.
- Missed opportunities for the gradual transformation of the livestock sector and environmentally sensitive intensification of rice farming
- Missed opportunities: consolidation and expansion of CBNRM in village land
- Few conservation areas will survive in an increasingly fragmented landscape with diminished ecosystem services
- Lower resilience to climatic changes

#### 4.1.2 Scenario – essential IMP

This scenario foresees strengthening of landscape coordination and wetland management measures with fiscal measures only, complemented by limited actions by NGOs and the private sector. This scenario may not reverse large-scale environmental changes across the landscape. However, it would secure important near-term achievements:

- (1) Governance and political benefits: strengthening of local, autonomous capacity for coordination and adequate landscape and land-use planning reducing conflicts between primary stakeholders and land-use practices;
- (2) Maintaining a perspective not just on the conservation of specific areas, but on a sustained level of environmental services: conservation of important landscape areas i.e. water catchment, forest reserves, wetlands, etc. in relation to quality and quantity of land and water resources;
- (3) Enhanced protection and wildlife restoration: protection and use of the Game Controlled Area to ensure re-stocking, the viability of the KGCA, sharing of revenue with LGAs and villages and conservation fisheries
- (4) The gradual strengthening of land-use management: collaboration in livestock herd control, access to grazing and areas and control of the unregulated expansion of crop areas to reduce depletion of quality of soils, wetland/grasslands, and fishery grounds; and
- (5) Consolidation of devolution to communities: supervision, guidance, and monitoring of CBNRM to ensure sustainable management of VLFR and WMA and sharing of revenues between villages, LGAs and MDAs.

This phase should be seen as both unavoidable (for lack of external resources in the near term) and necessary: there is an urgent need to establish a minimum level of institutional ownership, vision and strategic steering capacity at inter-sectorial level (e.g., beyond the goals and priorities of each sectorial agency).

Progress in these domains is essential if common failures in the utilization of landscapes are to be mitigated and reverted in KQRS. The review of the Ruaha case study points lessons of institutional failure relevant to KQRS (Box-1), because a large number of interventions and externally financed plans have failed to achieve environmental goals.

**Box 1. Avoiding known failures in landscape management: the Ruaha experience.**

This case study reviewed by the IMP Foundation process presents important similarities and relevant lessons learned. Key components are presented below.

The Great Ruaha River Sub Basin 85.554 km<sup>2</sup> (47% entire Rufiji Basin); Usangu Catchment 21,500 km<sup>2</sup> (12% of Rufiji basin) involves Mbarali (54%), Mbeya (R), Chunya – Mbeya Region; Mufindi, Iringa - Iringa Region; Njombe, Makete – Njombe Region. Lead agencies were the Ministry of Water and Irrigation.

Management development was funded by several external initiatives: RBM/SIIP (World Bank, 1998 – 2003); 2. SMUWC (DFID, 1999 - 2002); 3. RIPARWIN (DFID & FAO, 2003 – 2005); 4. Ruaha River Water Program (WWF, 2003 – 2008); 5. SUALDWC: (VPO, 2006 – 2010); 6. WSDP: (Basket Funding Phase I: 2006 – 2015).

Key Stakeholders (GoT) included the Rufiji Basin Water Office (RBWO); Ruaha National Park; Mbarali District Council; TANESCO, (NSA): Kimani Catchment Water Committee; Mbuyuni, Uturo, and Isenyela Water User Associations; WWF Tanzania Country Programme Office.

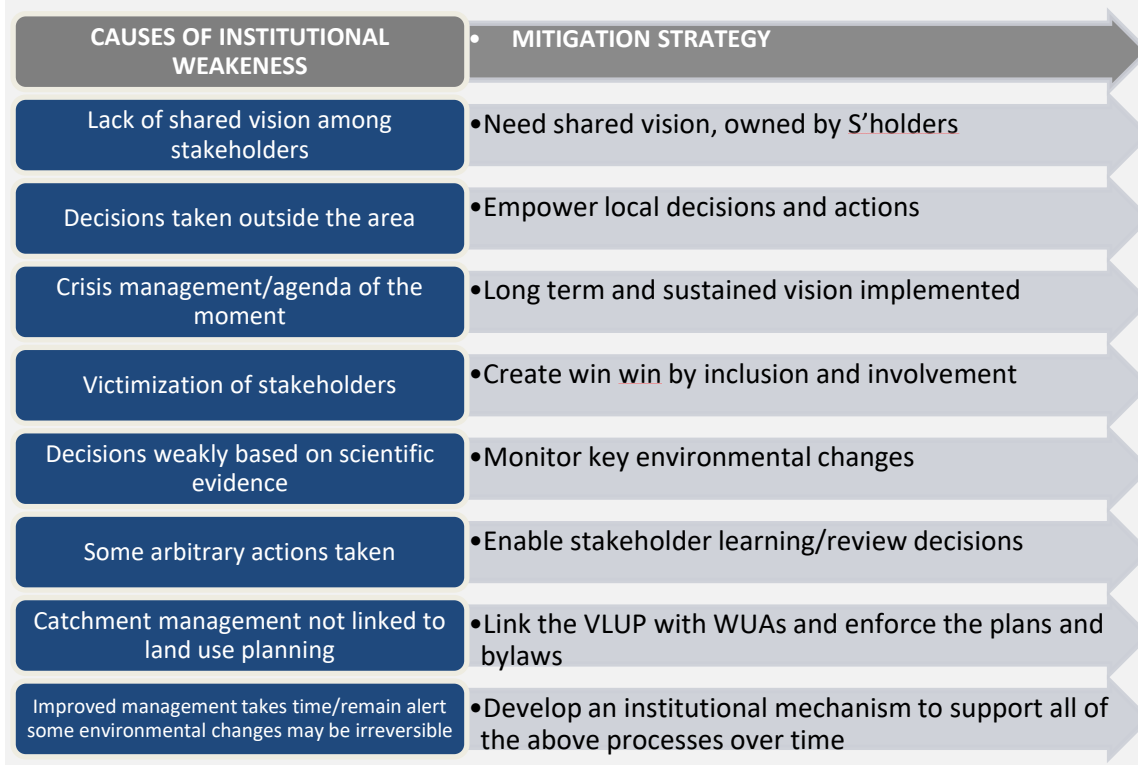
Actions included Strategy LUP Coordination: 2002 Usangu GR; 2007 Ruaha NP expanded; VLUP under SUALDWC; Livestock and fishers evicted; conflicts unresolved

Mechanism Inter-Sectoral Coordination included: CWC, WUAs and Apex body under SMUWC and WWF; Rufiji IWRMP 7 vol. (20 pg Mbarali Chapter); Fee payment respected; Monitoring Stns.

RBO under-resourced; decision making outside catchment; VEC and VLUP not linked;

Environmental outcome: Ruaha not flowing all year.

VPO - TF is reassessing the whole sector (propose Env. Protected Area and Catchment Authority under VPO)



### 4.1.3 Scenario - extended IMP

This medium-term scenario is triggered by significant external financing to fund a comprehensive plan of restoration of wetland functions, preservation of wetland values and institutional strengthening. Project financing experience in Tanzania and worldwide shows that this is unlikely to produce fundamental environmental change unless it is sustained by an adequate growth of institutional capacity. This refers particularly to the capacity to maintain a perspective on the complex flow of services from the landscape and to negotiate trade-offs, agreements and build a consensus on a vision for the allocation of land, water and other resources.

The medium-term outcome will be shaped by the capacity to steer and deliver agriculture investments and basin development plans<sup>36</sup>. The context has changed significantly over the last few years. When the IMP preparation process was conceived, there was a strong public drive towards large-scale agriculture investments. These were spearheaded by the GoT's Big Results Now (BRN) initiative and the Southern Agriculture Growth Corridor (SAGCOT). The initiatives sometimes overlapped. They both supported agriculture intensification and in particular large irrigation schemes. The fertile floodplain of Kilombero Valley was identified as the prime cluster of SAGCOT. GoT studied land availability for investments on a few occasions. USAID supported the feasibility study of 4 large irrigation schemes in the valley. EU (jointly with DFID and others) funded a SAGCOT support programme for rural electrification, road infrastructure and post-harvest facilities.

These measures were accompanied by environmental safeguards. WB prepared a SRESA in 2013 which cautioned the agriculture development plans in view of the environmental fragility and land conflicts. USAID undertook an Environmental Flow Assessment to accompany the irrigation feasibility studies. The EU supported KILORWEMP (as part of its SAGCOT support programme), to strengthen the management of the Ramsar Site.

The combined effects of environmental assessments and better information availability; widespread land conflicts and the unavailability of land for large schemes; the results of the irrigation feasibility studies (which pointed to low rates of return on investment and limited technical viability) led to large-scale agriculture development plans in the valley to ebb. SAGCOT has since prioritized other clusters across the corridor, away from the valley. Meanwhile, agriculture investments by a myriad local farmers and SMEs have continued unabated, accompanied by a sustained immigration flow. This has further consolidated a strong pattern of land conversion and settlement growth affecting the core valley area and the forests in the terraces.

The current and near future ecosystem management trend include:

1. There is improved information and awareness about the environmental values of the valley. There is more clarity on the environmental management priorities. This is the result of a set of assessments and associated consultations recapped above.
2. Along with a better information base, institutional foundations for environmental management are emerging:
  - 2.1. KILORWEMP has promoted the gradual establishment or consolidation of CBNRM models over village land, especially in forestry and wildlife management; it has identified the spatial priorities for wetland conservation and initiated a concept and consultations for inter-sector coordination at the landscape scale.
  - 2.2. MNRT has taken the lead in the consolidation of the core floodplain as a protected area under state authority (Kilombero Game Controlled Area).
  - 2.3. MLHSD has initiated a process of land tenure regularisation which is expected to lead to fewer conflicts and improved security of tenure.

- 2.4. The IWRM Plan for the Basin was completed in 2016. Implementation is at the infancy stage and constrained by resource availability and institutional capacity.
- 2.5. A Ministerial Advisory Committee has been established by the Minister of Natural Resources and Tourism. This concluded its review after the IMP foundation process was concluded. Its review has also included evidence generated from TAWA/ KILORWEMP, as well of other agencies with key decision-making responsibilities over the catchment (e.g., TANESCO, Ministry of Water Resources, etc.).

While this set of initiatives contains essential ingredients to pursue sustainability, the capacity to execute the complex processes and sustain them over time remains the major bottleneck. It is at present playing a catch-up game with the unrelenting land pressure. This will be further accelerated with the ongoing improvement of transport infrastructure and electrification.

Besides the need to manage agriculture, settlement and infrastructure development, new flagship initiatives with major environmental and economic implications have emerged:

- In 2017 GoT revived the Rufiji’s Hydropower project at Stiegler’s Gorge. This project has the potential of driving the development of the whole catchment. At the time of reporting, the status and design of this project are not known. It is, however, shaping the focus of attention of the whole public sector. It appears to drive the conservation of Kilombero Valley as a catchment protection measure. This is at best only partially relevant because the water tower is further upstream.
- MNRT consented in 2017 to gas exploration in the core floodplain within KQRS. This was again under review in early 2018.

There is a very tangible risk that the momentum towards ecosystem management, now weak and nascent at best, may wane and give way to the (continued) prevalence of sectorial interests (e.g., conserve reserved land, support agriculture growth, support hydropower generation, etc.) at the cost of further reduction of ecosystem services and resilience.

The test case for the establishment of sustainable wetland management in the Ramsar site will be represented by the degree to which some momentum may be established in cross-sector harmonization; and whether this process may be sustained over time, by a continuative leadership, monitoring and review of plans. This case needs to win over the default tendencies, typical of complex situations everywhere, of narrow visions, which use the policy priority of the moment to pursue unrealistic sectorial interests, and optimistic single-agenda top-down decision making. Countering this default tendency is not easy anywhere and requires building significant institutional capacities over a period of time.










Looking to the medium to long-term, two benchmarks stand out for this growth:

- ⇒ The extent of growth in efficiency and accountability of public service decision making and execution
- ⇒ The growth in capacity to sustain over time key decisions and inter-sector harmonization beyond extemporary, fleeting initiatives, especially with regard to: large infrastructure (energy) development; watershed conservation and environmental flows (Rufiji IWRMP); conservation of key wetland features including both the core valley area and other identified landscape sites; building gradually an inclusive vision for the landscape and the basin recognized by stakeholders.

The outcome of the IMP Implementation and its further development will have to navigate contrasting drivers and trends at policy level (Table-18). Their interplay and the institutional capacity to steer multiple actors with vision and coherence through them will shape the outcome.



**Table 18. Political and policy drivers affecting IMP in the medium to long-term.**

Current Trend	Policy implementation drivers	Potential effects on IMP
	Upward accountability of government services and centralization of fiscal revenues	<ul style="list-style-type: none"> <li>• Higher efficiency and effectiveness of GoT sector services/parastatals</li> <li>• Lower incentives towards devolution and inclusive landscape planning</li> <li>• More infrastructure and flagship economic development projects</li> <li>• Lower discretionary resources of LGAs</li> <li>• Lower capacity to support devolved NRM processes</li> </ul>
	Conservation agencies prioritize own effectiveness, law enforcement and fiscal sustainability.	<ul style="list-style-type: none"> <li>• Better managed government reserves and vulnerable areas within them</li> <li>• Growing tensions between PAs and villages</li> <li>• Higher probability of top-down decision making</li> </ul>
	Political diversity grows in local government <sup>37</sup>	<ul style="list-style-type: none"> <li>• Higher demands for inclusive regional planning</li> </ul>
	Land access issues dominate the political arena <sup>38</sup>	<ul style="list-style-type: none"> <li>• Continued pressure to exclude land from reserves and to extend farming</li> </ul>
	GoT strengthens regularisation of land tenure and mitigation of land conflicts on village land and around protected areas	<ul style="list-style-type: none"> <li>• Decreased land conflicts</li> <li>• Uncertain impact on landscape fragmentation (possible loss of habitat due to household titling; theoretically enabling land set aside via acquisition later; possible mitigation of immigration trends).</li> </ul>
	Large scale infrastructure projects (transport, energy) are political priorities.	<ul style="list-style-type: none"> <li>• More large-scale infrastructure development</li> <li>• Increased regional economic development</li> <li>• Increased environmental pressure and land use intensification</li> <li>• Increased tendency towards top-down decision making</li> <li>• Lower support to adaptive management and landscape-level decision making</li> </ul>
	General devolution and DeNRM sector reform	<ul style="list-style-type: none"> <li>• Earlier wetland framework ideas and pilot experiences evaporate and need a new foundation</li> </ul>
	Establishment of a wetland-specific NRM policy and regulatory framework	<ul style="list-style-type: none"> <li>• Wetland conservation agenda becomes absorbed in Protected Area conservation</li> <li>• Lack of wetland stewardship with the low profile of VPO on the ground and in intersectoral coordination</li> <li>• Loss of wetland habitats and ecosystem services</li> <li>• Ring-fencing of reserved land and lower momentum in reforms towards inclusive environmental management</li> </ul>
	Momentum towards large-scale agriculture investment schemes in Kilombero Valley <sup>39</sup>	<ul style="list-style-type: none"> <li>• Risk of continued anarchic agriculture development</li> <li>• Agriculture intensification progress depends on the effectiveness of agriculture sector plans in support to SMEs</li> </ul>

# ANNEXES

## ANNEX-1. REVIEW OF RAM ACTION PLAN

The Ramsar Advisory Mission 2016 recommended a set of actions to conserve and rehabilitate the ecological character of the KVRS. Some of the recommendations are site-specific; some others are of policy nature. The recommendations were a key reference in the preparation the IMP. They were reviewed by Inter-Agency Task Force<sup>40</sup>: this considered the level of feasibility and uncertainty surrounding each recommended action and identified immediate priorities.

RAM Recommendation	RATIONALE	UNCERTAIN ISSUES	POSSIBLE IMMEDIATE PRIORITIES
<p><b>Recommendation 1: Address cross-cutting issues</b></p> <p><b>Ensure that wetlands are considered appropriately within and across all major development and natural resource management related initiatives through the establishment of appropriate champions, stakeholders or representation and where necessary adopt a precautionary approach.</b></p>	<ul style="list-style-type: none"> <li>• lack of implementation of a planned integrated basin approach to the management of the river and wetlands</li> <li>• lack of coordination of SAGCOT plans, District plans, village land use plans, PA plans</li> <li>• linkages among different actors, sectors and policy drivers are weakly understood use precautionary principle in face of uncertainty</li> </ul>	<p>legal basis to enforce wetland conservation within existing legal framework (wetland policy and strategy not adopted; draft wetland regulation too narrow for this purpose).</p>	<p>1. IMP:</p> <ol style="list-style-type: none"> <li>1.1. Analysis of legal measures presently available to safeguard wetlands in sector interventions</li> <li>1.2. collection of information and appraisal of environmental impacts and measures of sector plans/initiatives</li> <li>1.3. establishment of stakeholder platform to provide wetlands sectorial coordination from the ministerial up to district levels.</li> <li>1.4. Promote advocacy and sensitization on wetlands conservation among the community and all stakeholders.</li> </ol>
<p><b>Recommendation 2: Update the RIS for the KVRS</b></p> <p><b>Describe fully the current ecological character of the site and re-examine the criteria for which the KVRS qualifies for inclusion on the list of wetlands of international importance.</b></p>	<ul style="list-style-type: none"> <li>• RIS not updated since 2001</li> <li>• Ngapemba area of high biodiversity value is partially within the Ramsar boundary but not within the GCA</li> </ul>	<p>Availability of information and analysis of ecological character</p> <p>Lack of land use plan</p>	<p>2. IMP:</p> <ol style="list-style-type: none"> <li>2.1. Collect ecological information and analysis and prepare RIS</li> <li>2.2. (Potentially) prepare submission to extend RS boundaries to include Ngapemba area –</li> <li>2.3. Prepare Land use plan of Utengule and Iduindembo</li> </ol>

RAM Recommendation	RATIONALE	UNCERTAIN ISSUES	POSSIBLE IMMEDIATE PRIORITIES
<p><b>Recommendation 3: Develop a management plan for the KQRS</b></p> <p>Use a participatory approach to develop a robust management plan for the Ramsar Site that provides the overarching framework for natural resource management within the Kilombero Valley.</p>	<ul style="list-style-type: none"> <li>• Lack of RS wide plan</li> <li>• Lack of zoning plan across landscape</li> <li>• Focus on KGCA consolidation of KILORWEMP not addressing priority needs</li> <li>• Discuss and support continued environmental services and recommend removal of obstructions to them</li> </ul>	<p>Legal basis for enforceable zoning across landscape</p> <p>Institutional capacities to prepare and enforce landscape zoning</p> <p>Legal basis and institutional home for landscape scale wetland management (beyond PA)</p> <p>Understanding of environmental services flows in KQRS</p> <p>Strategic decisions on KILORWEMP deliverables and priorities</p> <p>Resource requirements for a phased approach</p>	<p>villages for the purposes of conserving the Ngapemba.</p> <p>3. IMP</p> <p>3.1. Establish the institutional foundation for the formulation and implementation of the IMP</p> <p>3.2. Assessment of environmental services, threats and mitigation measures at landscape (RS) scale</p> <p>3.3. Institutional capacity and model appraisal</p>
<p><b>Recommendation 4: Create a 'Wetlands Division' in MNRT</b></p> <p>Create a new division within MNRT to take the lead responsibility for wetland conservation and wise-use in Tanzania</p>	<ul style="list-style-type: none"> <li>• Weak actions on Lake Natron</li> <li>• Overlapping jurisdictions</li> <li>• Lack of institutional leadership on wetlands: There is no legal institution mandated to manage and conserve wetlands areas.</li> </ul>	<p>Reasons behind inability to develop institutional framework (policy, strategy) with 10 years SWP project</p> <p>Current policy support for this concept during phase of merging of conservation agencies</p> <p>Alternative institutional options to foster wetland leadership</p> <p>Resource requirements</p>	<p>4. (Policy level)</p> <p>4.1. Share KQRS IMP appraisal and emerging lesson with policy level to inform decision on national level coordination.</p> <p>4.2. Apprise two options: Directorate under MNRT with a specific Policy, Act and regulation dealing with Ramsar sites and other wetlands; or within VPO, current focal point for the Ramsar Convention and overall coordinator of all environmental issues.</p>

RAM Recommendation	RATIONALE	UNCERTAIN ISSUES	POSSIBLE IMMEDIATE PRIORITIES
<p><b>Recommendation 5: Establish a management authority for KQRS</b></p> <p><b>Establish, constitute and enable the operation of a dedicated management authority or committee drawn from multiple sectors and stakeholders to facilitate the integrated management of the Ramsar Site.</b></p>	<ul style="list-style-type: none"> <li>• Lack of institutional home for the coordination of actions at landscape (RS) level</li> <li>• Lack of basin-wide coordination</li> <li>• Lack of cross-sectoral representation from the government (including across different ministries and from local to national levels) and from civil society</li> </ul>	<p>The range of models and lessons learned in Tanzania and beyond</p> <p>Legal and institutional framework for landscape management in Tanzania</p> <p>Strategic focus and plan</p> <p>Fiscal sustainability</p> <p>Role coordination of RS plan (IMP) with IWRM Plan</p> <p>Progress and plans for Rufiji Basin IWRM plan implementation</p> <p>Risk of duplication of efforts and resources to have KQRS as an individual authority</p>	<p>5. (IMP)</p> <p>5.1. Analysis of possible models for multisector coordination and lessons learned including Lutembe Bay Ramsar Site in Uganda; including the option of placing all Ramsar sites under one Authority /Administration at VPO</p> <p>5.2. Foundation of strategic vision and plan for RS through IMP process :</p> <p>5.3. IMP Fiscal sustainability appraisal: Confirm options for resourcing from Gvt and contribution from individual sectors eg TANAPA, TAWA.</p> <p>5.4. Appraisal of linkages with IWRM</p>
<p><b>Recommendation 6: Develop a hydrological model for the Kilombero sub-basin</b></p> <p><b>Develop a hydrological model, which goes beyond the current approaches applied in the IWRMD plan and the EFAs, that can fully simulate the eco-hydrological functioning of the KQRS and the wider Kilombero Valley so that genuinely informed decision-making can be undertaken with regards to water resource management and socio-economic development options.</b></p>	<ul style="list-style-type: none"> <li>• IWRMD plan and the EFA work do not provide sufficient detail to fully understand the eco-hydrological functioning of the KQRS</li> <li>• Preliminary assessment done under the IWRMD plan shows that water use under irrigation for 2015 and 2035 will cause depletion of dry season flows below Environmental Flow Requirements (EFRs) in the Kilombero River</li> </ul>	<p>EFA team and RWB feedback to RAM recommendations</p> <p>EFA follow-ons currently planned</p> <p>IWRMD implementation plan</p> <p>Uncertainty over present use of water resources.</p>	<p>6. (IMP):</p> <p>6.1. Coordination of information exchange and dialogue on wetland environmental services</p> <p>(IWRMP):</p> <p>6.2. Inventory of all water users</p> <p>6.3. Identifying advanced hydrological model and initiating hydrological modeling study for KQRS</p> <p>6.4. Initiating modelling software that will be used at sub basin level</p>



RAM Recommendation	RATIONALE	UNCERTAIN ISSUES	POSSIBLE IMMEDIATE PRIORITIES
<p><b>Recommendation 7: Ensure the sustainability of all irrigation schemes</b></p> <p>Ensure that all irrigation schemes are subject to appropriate environmental impact assessments, are modelled appropriately to understand the water resource management and environmental flow implications and are designed, constructed and operated in line with best environmental standards.</p>	<ul style="list-style-type: none"> <li>EIA is foreseen in law</li> <li>EFA for all major rivers in Kilombero sub-basin</li> <li>build capacity of the BWB staff to carry out EFA autonomously</li> <li>Water monitoring and loss prevention measures at schemes</li> </ul>	<p>Monitor compliance with environmental safeguards in irrigation plans</p> <p>Lessons learned on EFA capacities after several EFAs performed in Tanzania</p>	<p>7. IMP:</p> <p>7.1. Coordination of information exchange and dialogue on wetland environmental services and safeguards compliance</p> <p>(IWRMP):</p> <p>7.2. Improvement of water Abstraction infrastructure.</p> <p>7.3. Conduct environmental audit of existing schemes</p> <p>7.4. Strengthen relationship between up and down streams water users</p>
<p><b>Recommendation 8: Improve hydrological data resources</b></p> <p>Enhance and develop the existing hydrological monitoring network to ensure that robust and reliable data are available for decision-making.</p>	<ul style="list-style-type: none"> <li>further develop and refine the hydrological understanding</li> <li>Recommendations of EFA studies</li> <li></li> </ul>	<p>Same as R#6</p> <ul style="list-style-type: none"> <li>Establish, rehabilitation and deploy new technology for data collection.</li> </ul>	<p>8. (IWRMP) - Same as R#6</p> <p>8.1. To establish new hydrological and meteorological monitoring station</p> <p>8.2. Flow measurement (wet &amp; dry season)</p> <p>8.3. Rehabilitations of monitoring stations.</p>
<p><b>Recommendation 9: Adopt a sustainable approach to livestock management</b></p> <p>Develop and implement fully a robust, integrated and coherent national livestock plan and strategy which will deliver a long-term solution to livestock management not only within the KVRS but across Tanzania.</p>	<ul style="list-style-type: none"> <li>Need for RS livestock strategy nested within a national livestock master plan</li> <li>manage infrastructure and veterinary services in areas for cattle outside of the KVRS and where necessary evacuate the livestock from the site</li> <li>explore cattle devaluation strategy</li> </ul>	<p>Policy support for a national livestock master plan different from current one</p> <p>Lessons learned and actions from multiple livestock sector national studies and task forces</p> <p>Resources required</p>	<p>9. (IMP):</p> <p>9.1. Appraisal and formulation of KVRS livestock strategy</p> <p>(LGA sector pans):</p> <p>9.2. To develop livestock harvesting plan in villages which have set aside area for livestock keeping in their LUP</p> <p>9.3. To improve livestock infrastructures</p> <p>9.4. Development of rangeland management techniques</p>

RAM Recommendation	RATIONALE	UNCERTAIN ISSUES	POSSIBLE IMMEDIATE PRIORITIES
			9.5. Enforcement of livestock Act
<p><b>Recommendation 10: Raise awareness of the importance of wetlands</b></p> <p><b>Work with a range of stakeholders and through a variety of media to develop, implement and monitor a robust awareness raising programme that explains, describes and promotes the importance of wetlands for human wellbeing.</b></p>	<ul style="list-style-type: none"> <li>Increase involvement and understanding of stakeholders about wetland values</li> </ul>	<p>Confirm understanding of social target and appropriate media</p> <p>Extent of coverage by intended media</p> <p>Political interferences</p> <p>Gender dimension</p>	<p>10. (IMP):</p> <p>10.1.Support preparation of media and awareness plan, including use of local media eg radio ulanga, Pambazuko etc; Involvement in participatory monitoring in all wetlands activities; use of local and traditional ngomas, cinemas etc; gender responsive activities.</p>
<p><b>Recommendation 11: Build and strengthen capacity in key institutions and organizations</b></p> <p><b>Improve knowledge, understanding and resourcing within key organizations and institutions across the KQRS and the wider basin in order to facilitate improved water and natural resource management.</b></p>	<ul style="list-style-type: none"> <li>Very broad and multi sector capacity building needs</li> </ul>	<p>Existing sector development plans and capacity development measures already included</p> <p>Priority screening for targeted gap filling</p> <p>Availability of resources and appropriate technologies.</p>	<p>11. IMP:</p> <p>11.1.Compilation and information exchange</p> <p>11.2.Strategy development and monitoring</p> <p>11.3.Institutional capacity assessment, including assets.</p>
<p><b>Recommendation 12: Promote sustainable land management in the Kilombero River catchment</b></p> <p><b>Develop an integrated land management approach across the Kilombero River catchment which seeks to reduce downstream impacts on the ecological character of the KQRS</b></p>	<ul style="list-style-type: none"> <li>Support sustainable catchment land management</li> </ul>	<p>Existing sector development plans</p> <p>IWRMD implementation plan</p>	<p>12. (IMP):</p> <p>12.1.Awareness creation and information exchange</p> <p>12.2.Support appraisal of catchment protection measures</p> <p>12.3.Establishments of incentive mechanism to communities around the catchment area through PES</p>
<p><b>Recommendation 13: Develop a prioritised restoration plan for KQRS</b></p> <p><b>Develop a prioritised restoration and rehabilitation plan for the degraded</b></p>	<ul style="list-style-type: none"> <li>significant areas of the KQRS are degraded and require restoration and rehabilitation</li> </ul>	<p>Site identification and appraisal</p>	<p>13. (IMP):</p> <p>13.1.Appraisal of vulnerable swamps and site mgt plans</p> <p>13.2.Ngapemba conservation area</p>

RAM Recommendation	RATIONALE	UNCERTAIN ISSUES	POSSIBLE IMMEDIATE PRIORITIES
<p>areas of the KVRS in order to restore the ecological character of the site.</p>			<p>13.3. Information dissemination on land use changes  <b>13.4.</b> Support urgent protection in most degraded areas like Namwai forest in order to restore Ruipa corridor</p>
<p><b>Recommendation 14: Establish a RAM implementation action plan</b>                      Develop an implementation plan that will allow progress on the recommendations to be assessed and reported on through the triennial Ramsar National Reporting cycle.</p>	<ul style="list-style-type: none"> <li>• Ensure follow-up</li> </ul>	<p>Resource availability</p>	<p>14. (IMP):                      14.1. Hereby and through MP process and inputs identified.                      14.2. To conduct annual M&amp;E for progress of implementation of RAM recommendation</p>

**Table 19. Summary review of RAM actions.**

RAM R #	Lead	Other key actors	Funding requirements	Indicative timeframe (years)	Priority	Near-term feasibility	IMP phase
<b>R # 1: Address cross-cutting issues</b>	MNRT	VPO, LGAs, RAS, SAGCOT, MLHSD, M Water Resources, M Agriculture	H	5	H	M	II
<b>R # 2: Update the RIS for the KQRS</b>	MNRT	VPO	L	1	M	H	I
<b>R # 3: Develop a management plan for the KQRS</b>	MNRT	LGAs, VPO, PO RALG, MLHSSD	H	5 (phased)	H	M	I-III
<b>R # 4: Create a ‘Wetlands Division’ in MNRT</b>	MNRT	VPO, PO, PMO, M Finance	H	5	L	VL	N/A
<b>R # 5: Establish a management authority for KQRS</b>	RAS	LGAs, MNRT, PO RALG, VPO	M	3	H	L	II-III
<b>R # 6: Develop a hydrological model for the Kilombero sub-basin</b>	RBO	MNRT, MWR, USAID IRRIP	H	3	M	M	(IWRMP)
<b>R # 7: Ensure the sustainability of all irrigation schemes</b>	D Irr.	RWB, MNRT, MWR, USAID IRRIP	H	5	H	M	(IWRMP)
<b>R # 8: Improve hydrological data resources</b>	RBO	D Irr., MNRT, MWR, USAID IRRIP	H	3	H	M	(IWRMP)
<b>R # 9: Adopt a sustainable approach to livestock management (national plan)</b>	M Ag	MNRT, LGAs, PO RALG	H	5	M	VL	MLF
<b>R # 10: Raise awareness of the importance of wetlands</b>	MNRT	LGAs, CSOs	L	2	H	H	I-III
<b>R # 11: Build and strengthen capacity in key institutions and organizations</b>	All	MNRT, LGA, MWR, RWB, M Ag, etc	H	10	H	M	I-III
<b>R # 12: Promote sustainable land management in the Kilombero River catchment</b>	LGAs	RBO, M Agr	VH	10	H	M	I-III
<b>R # 13: Develop a prioritized restoration plan for KQRS</b>	MNRT	LGAs, VPO	M	5	M	M	I-III
<b>R # 14: Establish a RAM implem. action plan</b>	VPO	MNRT, LGAS	L	1	H	H	Hereby

## ANNEX-2. INDICATIVE COSTING OF IMP PHASE-III

(.000 Euros)

Action	Tasks	Potential scope	Y1	Y2	Y3	Y4	Y5	Total	
<b>1</b>	<b>Landscape coordination</b>		<b>670</b>	<b>550</b>	<b>800</b>	<b>600</b>	<b>550</b>	<b>3,170</b>	
	1a	Dedicated Secretariat / Management Unit	· Running costs	400	300	300	300	300	1,600
			· Inter-sector harmonization and monitoring	50	50	50	50	50	250
	1b	Detailed feasibility and establishment of higher coordination institution (e.g., KVRS Authority)	· Feasibility, capitalisation and running costs	70	50	300	100	50	570
	1c	Platforms for conflict mitigation and building of shared vision	· Regular stakeholder dialogue events	50	50	50	50	50	250
	1d	Continued advice on fiscal measures and inter-sector harmonization	· Tracking and review of sector plans	-	-	-	-	-	-
	1e	Management of external financing	·	100	100	100	100	100	500
<b>2</b>	<b>Wetland Conservation Actions</b>		<b>1,260</b>	<b>2,650</b>	<b>2,650</b>	<b>2,380</b>	<b>1,560</b>	<b>10,500</b>	
	2a	Management of the Kilombero Game Controlled Area	· Preparation of GMP	100	300	100			500
			· Strengthening of operational capacities	100	200	400	300	20	1,020
	2b	Protection of vulnerable wetlands	· Monitoring and capacity building support	50	50	50	20	20	190
	2c	Protection of Ngapemba Area	· Monitoring and capacity building support	200	400	400	400	200	1,600
	2d	Ruipa- East Wildlife Corridor	· Land acquisition for habitat rehabilitation	200	500	500	500	500	2,200
	2e	Ruipa-West Wildlife Corridor	· Land acquisition for habitat rehabilitation	100	300	400	500	200	1,500
	2f	Magombera wildlife corridor	· Land acquisition for habitat rehabilitation	200	500	500	500	500	2,200
	2g	Support to CBNRM sites and NRM functions.	· Scaling up of VFRs	50	100	100	50	30	330
			· Scaling up of Forestry PPP	200	200	100	50	50	600
	2h	Puku Action Plan	· Once KGCA established reintroduction	30	50	50	30	20	180
			· Introduction into suitable areas in Selous GR	30	50	50	30	20	180
<b>3</b>	<b>Sector management measures</b>		<b>260</b>	<b>990</b>	<b>750</b>	<b>710</b>	<b>690</b>	<b>3,400</b>	
	3a	Livestock transformation investment plan	· Capital investments and capacity development	50	700	600	600	600	2,550
	3b	Support to sustainable fisheries management	· Adaptation of technical standards	150	150	100	70	50	520
			· Frame survey	20	100	10			130
	3c	Landscape-scale protected area network	coordination	40	40	40	40	40	200
<b>4</b>	<b>Education and public awareness</b>		<b>180</b>	<b>250</b>	<b>100</b>	<b>85</b>	<b>65</b>	<b>680</b>	
	4a	Public awareness	· Media production (radio, internet)	10	20	20	10	10	70
			· Educational materials for schools	30	30	10	5	5	80
			· Biennial game census	50		50		50	150
			· Rapid assessment of vulnerable wetland habitats	50			50		100
			· Bird surveys	20			20		40
	4b	Information sharing on wetland conservation	· Wetland interpretation centre	20	200	20			240
<b>5</b>	<b>Ecological monitoring</b>		<b>170</b>	<b>70</b>	<b>10</b>	<b>90</b>	<b>10</b>	<b>350</b>	
		Monitoring of wetland change	· Regular LULC based on satellite imagery	50			50		100
			· Low cost fisheries health monitoring in system	50	40	10	10	10	120
			· In-stream wetland habitat quality monitoring	30			30		60
		Knowledge management	· Wetland knowledge management system	40	30				70
	<b>TOTAL</b>		<b>2,540</b>	<b>4,510</b>	<b>4,310</b>	<b>3,865</b>	<b>2,875</b>	<b>18,100</b>	



## ANNEX-3. ADDITIONAL BACKGROUND DOCUMENTS

The IMP Foundation stage was preceded by an assessment phase which produced the following additional documents and studies

#	AUTHORS	TITLE	DATE
		KVRS Environmental Profile	
1	AMBERO gmbh	KVRS Land Use Diagnostic Study (2 volumes)	2017
2	AMBERO gmbh	KVRS Fisheries Diagnostic Study	2017
3	AMBERO gmbh	KVRS Pastoralism Diagnostic Study	2017
4	AMBERO gmbh	Ngapemba Wetlands Reconnaissance Study	2017
		KGCA consolidation	
6	Games, I.	KGCA Buffer zone reconnaissance Study	2017
7	Daconto G. and Games I.	KGCA Consolidation Options Study	2017
8	Majamba et al.	KGCA Consolidation Legal Note	2017
9	Nielsen R. and Rugemeleza N.	KGCA Consolidation legal review study	2017
10	KILORWEMP PIU	Report of the TAWA workshop to review the KGCA consolidation options	2016
11	KILORWEMP PIU	Report of the Regional Stakeholders Workshop on The Consolidation of The Kilombero Game Controlled Area, Mikumi National Park, 20 October 2016	2016
12	KILORWEMP PIU	Report of the consultative workshop on the legal review study of the consolidation of the KGCA. September 2017	2017
		IMP/GMP Scoping	
13	Games I.	Scoping for Integrated Management Plan and General Management Plan	2017
		Land sector coordination	
14	KILORWEMP PIU	Review of DLUPFs submitted to MLHSD	2016
15	KILORWEMP PIU	Inter-Ministerial Coordination Framework MNRT-MHLSSD	2016
		Task Force meetings	
16	KILORWEMP PIU	Minutes of the Task Force meeting on strategic planning for the landscape component. Morogoro, 24-25 October 2013	
17	KILORWEMP PIU	Minutes of the 1st MNRT TF meeting. 2 October 2014	
18	KILORWEMP PIU	Minutes of 2 <sup>nd</sup> MNRT TF meeting. 25 January 2015	
19	KILORWEMP PIU	Minutes of 3 <sup>rd</sup> MNRT TF meeting. 23 May 2015	
20	KILORWEMP PIU	Minutes of 4 <sup>th</sup> MNRT TF meeting. 3 October 2016	
21	KILORWEMP PIU	Minutes of 5 <sup>th</sup> MNRT TF meeting. 4 February 2016	
22	KILORWEMP PIU	Minutes of 6 <sup>th</sup> MNRT TF meeting. 17 February 2016	
23	KILORWEMP PIU	Report of the 1 <sup>st</sup> meeting of the IMP Foundation Task Force. December 2017	
24	KILORWEMP PIU	Report of the 2nd meeting of the IMP Foundation Task Force. 10 May 2018	
		Stakeholder consultations	
25	KILORWEMP PIU	Report of the District Stakeholders' Workshops on The Kilombero Valley Ramsar Site: December 2016	
26	KILORWEMP PIU	Workshop on Biodiversity Conservation, use of Natural resources and Livelihood in Kilombero Valley Ramsar Site. Morogoro - 31 January 2017	
27	KILORWEMP PIU	Report of the final project workshop. 25 June 2018	

## ANNEX-4. NOTES AND REFERENCES

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- <sup>1</sup> Tanzania Wildlife Research Institute. The United Republic of Tanzania. Ministry of Natural Resources and Tourism. Evaluation Of Game Controlled Areas In Tanzania. Phase I: Loliondo And Kilombero. Version 1.1. December 2011.
- <sup>2</sup> The United Republic of Tanzania. Prime Minister’s Office. Southern Agricultural Growth Corridor of Tanzania (SAGCOT). Investment Project. Strategic Regional Environmental and Social Assessment (SRESA). December 2013.
- <sup>3</sup> Government of Tanzania. Southern Agricultural Growth Corridor of Tanzania (SAGCOT): Environmental and Social Management Framework (ESMF). July 2013
- <sup>4</sup> United Republic of Tanzania. Ministry of Water. Water Sector Development Program (WSDP). Rufiji Basin IWRMD Plan. 5 volumes. WREM International Inc. November 2015.
- <sup>5</sup> CDM Smith. Kilombero River Sub-Basin Simplified Water Allocation Mode. Summary Report. August 2018. USAID Tanzania.
- <sup>6</sup> CDM Smith. A River Classification System for The Rufiji River Basin and Other Major Basins of Tanzania. Technical Assistance to Support the Development of Irrigation and Rural Roads Infrastructure Project. (IRRIP2). August 2018. USAID Tanzania.
- <sup>7</sup> Jatzold, Ralph, and E. Baum. The Kilombero Valley (Tanzania): Characteristic Features of the Economic Geography of a Semi-humid East African Flood Plain and Its Margins. With a Review of Development Plans and Possibilities in the Kilombero Valley. C. Hurst, 1968.
- <sup>8</sup> Leemhuis, Constanze, Frank Thonfeld, Kristian Näschen, Stefanie Steinbach, Javier Muro, Adrian Strauch, Ander López, Giuseppe Daconto, Ian Games, and Bernd Diekkrüger. "Sustainability in the food-water-ecosystem nexus: the role of land use and land cover change for water resources and ecosystems in the Kilombero Wetland, Tanzania." *Sustainability* 9, no. 9 (2017): 1513.
- <sup>9</sup> Muro, J., Strauch, A., Heinemann, S., Steinbach, S., Thonfeld, F., Waske, B., & Diekkrüger, B. (2018). Land surface temperature trends as indicator of land use changes in wetlands. *International journal of applied earth observation and geoinformation*, 70, 62-71.
- <sup>10</sup> KVRS Integrated Management Plan. Strategic Issues Report, 2018.
- <sup>11</sup> Ibidem.
- <sup>12</sup> Béné, Christophe. "Small-scale fisheries: assessing their contribution to rural livelihoods in developing countries." (2006). FAO.
- <sup>13</sup> KILORWEMP. Fisheries Sector Diagnostic Study in Kilombero Valley Ramsar Site. 2017.
- <sup>14</sup> UNIQUE. Forestry and Land use Gmbh. Tanzanian Wood Product Market Study. Final report for the Forestry Development Trust. November 2017.
- <sup>15</sup> Michael S., Stapleton J., Shapiro B. Tanzania livestock master plan—key findings . October 2017. International Livestock Research Institute

- 
- 16 KQRS Pastoralism Sector Diagnostic Study. KILORWEMP. 2017.
- 17 KQRS Integrated Management Plan. Appraisal of livestock sector investments. KILORWEMP: 2018.
- 18 World Travel and Tourism Council. Tanzania Tourism Outlook 2017.
- 19 Tanzania Tourism Sector Report of 2015.
- 20 The United Republic of Tanzania. Prime Minister’s Office. Southern Agricultural Growth Corridor of Tanzania (SAGCOT). Investment Project. Strategic Regional Environmental and Social Assessment (SRESA). December 2013.
- 21 Ed Wilson, Robert McInnes, Damas Patrick Mbagi and Paul Ouedraogo. Kilombero Valley, United Republic of Tanzania. Ramsar Site No. 1173. Ramsar Advisory Mission Report. April 2017. Ramsar Secretariat.
- 22 Report of the 1st meeting of the IMP Foundation Task Force. December 2017. KILORWEMP.
- 23 URT (2012), National Sustainable Wetlands Management Guideline. Wildlife Division, Edited by Wetlands Unit, Published by: Ministry of Natural Resources and Tourism, Dar es Salaam, Tanzania.
- 24 Convention on Biological Diversity. Decision V/6; COP5, 2000).
- 25 Ramsar Convention Secretariat, 2010. Wise use of wetlands: Concepts and approaches for the wise use of wetlands. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 1. Ramsar Convention Secretariat, Gland, Switzerland
- 26 Ramsar Convention Secretariat, 2010. Managing wetlands: Frameworks for managing Wetlands of International Importance and other wetland sites. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 18. Ramsar Convention Secretariat, Gland, Switzerland.
- 27 De Sherninin A and Claridge G. Involving local communities and indigenous people in wetland management – a Resource Paper. In Ramsar Convention Secretariat, 2010. Participatory skills: Establishing and strengthening local communities’ and indigenous people’s participation in the management of wetlands. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 7. Ramsar Convention Secretariat, Gland, Switzerland.
- 28 Ramsar Convention Secretariat, 2010. Designating Ramsar Sites: Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance, Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 17. Ramsar Convention Secretariat, Gland, Switzerland.
- 29 Ramsar Convention Secretariat, 2010. Managing wetlands: Frameworks for managing Wetlands of International Importance and other wetland sites. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 18. Ramsar Convention Secretariat, Gland, Switzerland.
- 30 Based on Sayer, J., Sunderland, T., Ghazoul, J., Pfund, J. L., Sheil, D., Meijaard, E., ... & van Oosten, C. (2013). Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses. Proceedings of the national academy of sciences, 110(21), 8349-8356.
- 31 CDM International. 2018. Water for the environment in Tanzania: environmental flows through reserve implementation. Extended policy brief. USAID.
- 32 Ramsar, 2002. New Guidelines for management planning for Ramsar sites and other wetlands

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<sup>33</sup> Ramsar Convention Secretariat, 2010. Wise use of wetlands: Concepts and approaches for the wise use of wetlands. Ramsar handbooks for the wise use of wetlands, 4th edition, vol. 1. Ramsar Convention Secretariat, Gland, Switzerland.

<sup>34</sup> KVRS IMP Foundation. Institutional Models Study. KILORWEMP. 2018.

<sup>35</sup> Minutes of IMP Foundation consultations. KILORWEMP. 2018.

<sup>36</sup> This context is analysed in detail in the project's assessment reports for the KVRS: Land Sector Diagnostic (2017); Pastoralism Diagnostic (2017); KVRS Strategic Issues Report (2018); IMP Spatial Framework Report (2018).

<sup>37</sup> The local government elections of November 2014 generated a very significant change in village government, including both a growth in political diversity and therefore a change in office bearers. A large number of VEOs and WEOs have also turned over, affecting some of the field processes, including institutional memory of the KGCA related processes.

<sup>38</sup> The KGCA consolidation and land conflicts were regularly covered in the Parliamentary debates. The presidential and parliamentary elections held in October 2015 required pausing local consultations on land and KGCA issues, because political campaigns took place and touched land issues.

<sup>39</sup> Kilombero Valley is no longer a priority cluster for SAGCOT.

<sup>40</sup> Minutes. Inter-Agency Task Force for the Integrated Management Plan of the Kilombero Valley Ramsar Site First meeting: 12-13 December 2017. held at Ifakara Health Institute. KILORWEMP project.