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SOUTHERN AFRICA

Annual Work Plan

October 2015 – September 2016

Resilience in the Limpopo River Basin (RESILIM) Program



December 2015.

This document was produced for review by the United States Agency for International Development. It was prepared by Chemonics International Inc.

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Important Note:

This Annual Plan for the RESILIM program is being compiled at a time when the program is about to undergo a mid-term performance evaluation. The recommendation of the evaluation may lead to a decision to revise certain areas of this plan (such as the program targets) which could have a considerable effect on the focus of the program in its final two years and necessitate revision to this plan.

EXECUTIVE SUMMARY

The RESILIM Program aims to improve trans-boundary management of the Limpopo River Basin and enhance the resilience of people and ecosystems through three integrated strategic approaches:



Building evidence – to improve knowledge and inform decision-making for resilience



Establishing an enabling environment – by supporting key institutions through knowledge-sharing and assisting in development of strategies and policies



Catalyzing sustainable action for resilience – through promoting transboundary scale-up of pilot initiatives

This Annual Work Plan is for Year Four of the program, which is considered to be the first year of the two year “Consolidation for Legacy” phase, during which RESILIM will concentrate on the following priority areas:



Institutional capacity development – focus will be the development of a strategy for regular engagement and capacity-building of LIMCOM and other key institutions in the Limpopo River Basin (LRB)



Knowledge management and communication – at this early stage of resilience-building in the basin, high levels of awareness of the challenges facing the basin is critical and RESILIM will continue in Year Four to communicate key messages to all levels. Telling the story of the RESILIM program to ensure key lessons are not lost is also key to progression of resilience-building.

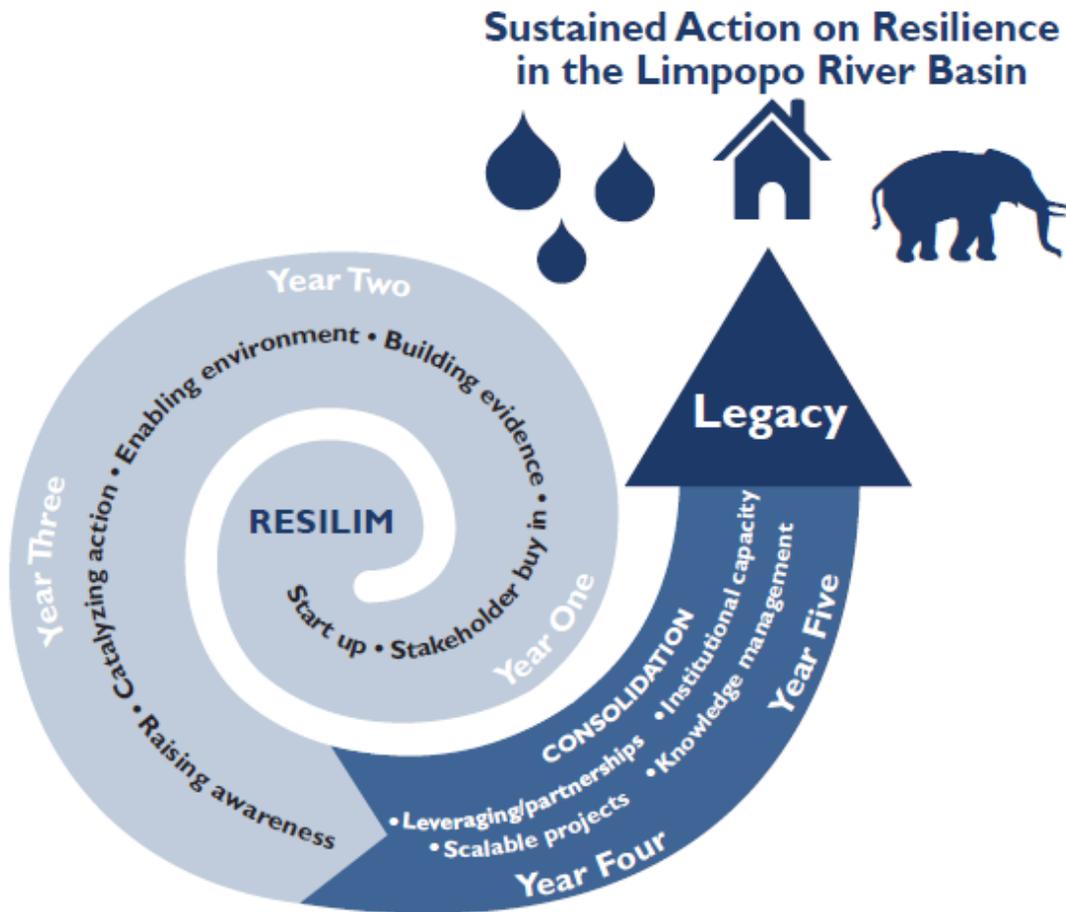


Scalable adaptation projects – in this consolidation phase the emphasis will be on scaling-up of existing initiatives.



Leveraging partnerships and resources mobilization – to maintain the momentum created by the RESILIM program all activities will prioritize leveraging for sustainability.

The below graphic represents the program's path through key strategic interventions, culminating in the transition to the consolidation phase. Years Four and Five highlight the program's legacy pillars which are key elements of ensuring the future sustainability of program results.



ACRONYMS

CBNRM	Community Based Natural Resource Management
CBO	Community Based Organizations
CSAG	Climate Systems Analysis Group
DWS	Department of Water and Sanitation
FANR	Food, Agriculture and Natural Resources
GIS	Geographic Information Systems
GIZ	German Society for International Cooperation
GLTFCA	Great Limpopo Transfrontier Conservation Area
GWP-SA	Global Water Program Southern Africa
IES	Institute of Environmental Studies
IUCN	International Union for Conservation of Nature
IWMI	International Water Management Institute
IWRM	Integrated Water Resource Management
JPTC	Joint Permanent Technical Committee
KRA	Key Results Area
LIMCOM	Limpopo Watercourse Commission
LRB	Limpopo River Basin
MRCA	Marico River Conservation Association
NCCRS	National Climate Change Response Strategy
NGO	Non-governmental Organization
NORAD	Norwegian Agency for Development
OW	OneWorld Sustainable Investments
OSC	Overseas Strategic Consulting
PMP	Performance Monitoring Plan
R&V	Risk, Vulnerability and Resilience in the Limpopo River Basin
RESILIM	Resilience in the Limpopo River Basin
RAA	Resilience Action Area
SADC	Southern Africa Development Community
SAWC	Southern African Wildlife College
STTA	Short Term Technical Assistance
TFCA	Trans-frontier Conservation Area
UCT	University of Cape Town
USAID	United States Agency for International Development
WACDEP	Water Climate and Development Program
WWF	World Wildlife Fund

1 INTRODUCTION AND BACKGROUND

The USAID/Southern Africa-funded Resilience in the Limpopo River Basin (RESILIM) program seeks to improve the trans-boundary water resources management of the Limpopo River, increasing the resilience of communities and ecosystems, particularly with regard to climate change adaptation. RESILIM's key stakeholder and partner is the Limpopo Watercourse Commission (LIMCOM), an organization conceived in 2003, ratified in 2011 and launched in July 2014 that provides a forum for South Africa, Botswana, Zimbabwe, and Mozambique to collaborate, coordinate, and cooperate on Limpopo water-related challenges. The RESILIM Program supports LIMCOM in the implementation of the strategic objectives of its 2011 - 2015 Integrated Water Resources Management (IWRM) Plan. In parallel to collaborating with LIMCOM, RESILIM provides support to the national-level institutions that comprise the trans-boundary organization.

The RESILIM Program is implemented by a consortium of partners made up of Chemonics International Inc., the prime contractor, and a team of qualified subcontractors, namely:

- Global Water Partnership – Southern Africa (GWP-SA), an intergovernmental water resource management network that supports the sustainable development and management of water resources at all levels in Southern Africa;
- OneWorld Sustainable Investments (OW), a regional climate change entity with experience in developing and implementing climate change programs and strategies across Sub-Saharan Africa;
- Overseas Strategic Consulting (OSC), a certified small business that provides strategic communications programs with measurable results throughout the world.

This work plan is structured to present RESILIM's results framework, the strategy for the final two years of the program ("Consolidation for Legacy" phase) and a summary of activities to be carried out under the program's key results areas (KRAs). The narrative here should be read in conjunction with the work plan Gantt chart ([Annex 1](#)), which presents the timeline for when activities will be implemented.

"Resilience Action Areas"

RESILIM conducted a risk and vulnerability assessment of the basin to better understand climate-related risks to ecosystems and people living in the basin; eight representative case study areas of climate vulnerability "Resilience Action Areas" (RAAs) were identified for particular focus for the RESILIM program. The location and characteristics of these RAAs are summarized in [Annex 2](#).

2 RESULTS FRAMEWORK

The results framework below illustrates RESILIM’s strategy to achieve the key results needed to accomplish the vision of each program component and the overall program objective of improving transboundary management of the Limpopo River Basin to enhance resilience of people and ecosystems. Each component presents a critical element in improving management of the basin — reduction of climate change vulnerability, improved conservation and management of key conservation areas, and improved capacity of stakeholders to manage water and ecosystem resources. Success in all components will result in achievement of the overall program objective and contribute to the fulfillment of USAID’s development objectives in climate change and natural resource management. Achievement of these objectives will support the LIMCOM IWRM plan, as well as the water and climate change priorities of the Southern Africa Development Community (SADC). Implementation will include particular focus on improving people’s lives and building local capacity (especially of non-government organizations and Community Based Organizations) through awareness creation, scientific developments, study tours, workshops and seminars.

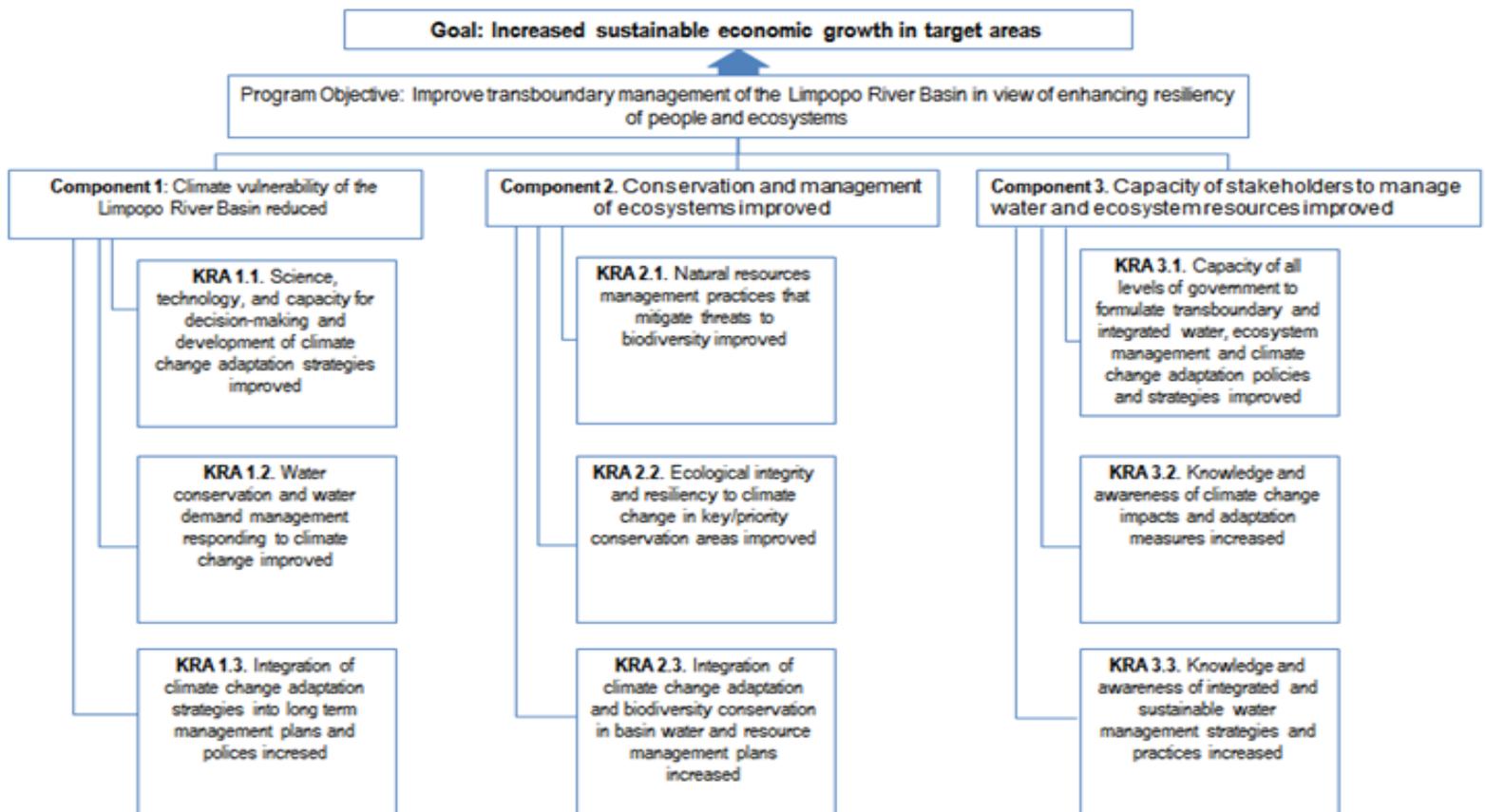


Figure 1: Life of RESILIM Program Results Framework

The results framework provides a structure around which RESILIM can develop consensus and shared ownership of program scope and direction amongst RESILIM staff, partners, and key stakeholders. It is also a key program management tool for the measurement and assessment of performance framework targets, allowing poorly performing activities to be identified, then reviewed and adjusted. The RESILIM team returns to the framework as needed where results are not being adequately achieved, when assumptions are no longer valid, or when critical resources are no longer available; all revisions will occur in consultation with USAID.

Implementation of the RESILIM Program involves working and partnering with government, intergovernmental bodies, private sector and civil society that have varying capacities, mandates and interests. This complexity of players and levels of governance requires a participatory and flexible approach to ensure inclusion of all these stakeholders and achieve maximum benefit from the program. To achieve this the RESILIM Program will continue to employ an adaptive management approach in that as new information becomes available, stakeholder interests and capacity evolve, the Limpopo River Basin changes and develops, and the outcomes of initial activities become clear, project leadership, in consultation with USAID, will adapt the work plan to meet the evolving needs of the program and benefit from emerging opportunities.

3 STRATEGY - CONSOLIDATION FOR LEGACY

Program Strategy

The RESILIM Program aims to improve trans-boundary management of the Limpopo River Basin and enhance the resilience of people and ecosystems through three integrated strategic approaches:



Building evidence: There is already a significant body of scientific evidence that demonstrates the need for accelerating the building of climate change resilience, the improved protection and management of biodiversity, and improving livelihoods of people living in the Limpopo River Basin. However, this evidence is not fully integrated, and the resulting lack of coherence makes it difficult to pinpoint the priority actions in the biodiversity-climate-livelihoods “nexus” that would strengthen the resilience of people and ecosystems in a closed and water-scarce Limpopo River Basin. Identifying these entry points and subsequent action for enabling increased and sustained water flows requires knowledge of the critical thresholds or tipping points in the basin, as determined on an ecosystem and livelihoods basis. The RESILIM-produced Risk, Vulnerability and Resilience in the Limpopo River Basin Synthesis (R&V) assessment of the Limpopo River Basin, as well as the mapping and economics evaluation of the mangroves ecosystem at the Limpopo River estuary, are examples of scientific evidence that RESILIM has produced in order to improve knowledge and inform decision-making for resilience.

The processes that RESILIM has engaged in the implementation of the program are as important to document as the program achievements themselves. For example, in Years Two and Three, it became apparent that, even with the availability of resources, the development and operationalization of collaboration mechanisms for the engagement of potential partner institutions can often be challenging and time-consuming. The documentation of some of these challenges will, in Year Four onwards, allow lessons learned in the process of program implementation to be captured, analyzed, packaged and shared with key stakeholders, with a view to improving the implementation of the RESILIM program.



Establishing an enabling environment: RESILIM will improve the trans-boundary management of the basin, strengthen resilience, and maintain a strategic focus on sustainably translating evidence into action. This approach is comprised of actions that build and share knowledge, develop appropriate strategies and policy, implement and manage plans, and thereby support institutions to become more harmonized and adaptive. In addition, the majority of these actions require frequent dialogue and cooperation within and between multiple countries in the basin, and therefore demands savvy navigation of the complex political environment, as well as fostering and maintaining healthy, trusting and productive collaborative relationships. This is critical for effective water resource management in a shared basin, especially in the likely scenario where certain seasonal water flows may decrease due to climate change.



Catalyzing sustainable action for resilience: Opening basin water flows and building resilience requires programmatic and scalable interventions and actions. A wide range of transboundary, national and local level biodiversity conservation and climate adaptation initiatives are under implementation in the basin – many with RESILIM support. Given the challenges in the Limpopo River Basin, adaptation to scale of these initiatives will need to be trans-boundary and multi-sectorial, with partnerships leveraged for sustainability. RESILIM will review lessons learned from existing interventions and use them to demonstrate what works and what does not, as well as what can be replicated and what can be scaled beyond boundaries.

Consolidation Phase Strategy

RESILIM Years Four and Five are considered as the consolidation phase of the program. Our R&V assessment and the Investment Strategy developed in Years Two and Three, identified the need to enhance the ability of the LRB to anticipate and reduce risk to climate variability and change as a means of enabling socio-economic development and ensuring water and biodiversity security. This includes the ability to “bounce back” from negative impacts or to “bounce forward”, transforming challenges into opportunities (Investment Strategy, 2015). This notion includes a focus on reducing inequality and increasing social and other capital.

Building on the foregoing, the RESILIM program will consolidate its programmatic gains in Years 4 and 5 by concentrating efforts in the following four inter-related legacy pillars, with a view to creating an enabling environment for building resilience at basin level.



- i) **Institutional capacity development:** There is need to increase resilience of institutions at local, national and transboundary levels, and to equip these institutions with the necessary and desired capacities and capabilities to respond or adapt to variability and change, which is inherent in the complex and dynamic LRB system. This will ensure functional leadership and management of the Basin now and into the future; improve basin level coordination which is likely to boost investors’ comfort to invest in much-needed transboundary initiatives; and enhance local and regional institutional capabilities to leverage resources for projects that can enhance cross-border cooperation in the management of resources. Institutions that support joint monitoring and information exchange are necessary to promote trust and accountability amongst riparian countries. Robust and productive institutions with relevant desired resilience capacities would appear to be more adaptive to variability and change, and leverage and aggregate resources so as to create a secure lasting transboundary impact.

Robust, resilient and productive institutions are, by definition, capable of incentivizing basin-wide cooperation and efficient and effective delivery of mandates (and informing any changes needed to these mandates).



- ii) **Knowledge management and communication:** RESILIM acknowledges that as part of building productive and resilient institutions, it is also necessary to improve capabilities to generate data/information and manage knowledge for purposes of adaptive decision making. Credible data and information from productive institutions will accelerate stakeholder buy-in, whether to a shared vision or to enable policy implementation. Effective management of knowledge will also facilitate increased awareness of issues and challenges facing the basin at all levels. For instance, currently across the Limpopo River Basin, key policy- and decision-makers, the general public and many of the stakeholder and custodians of the Basin's key resources are unaware of the water scarcity problem in the Basin (closed system status in terms of science) and of the issues that are and will exacerbate current scarcity (climate and development impacts and changes).



- iii) **Scalable adaptation projects:** RESILIM sees the need to continue investing in pilot projects whose aims are to address specific issues related to sustainable livelihoods, climate change adaptation/mitigation and improved natural resources management, all of which when aggregated, enhance resilience in the Basin. Best practices from pilot projects will continue (through RESILIM and other leveraged resources) to be replicated or adapted in other basin contexts with a view to scaling resilience building by sharing knowledge and learning lessons from other initiatives .



- iv) **Leveraging partnerships and resources mobilization:** RESILIM developed an Investment Strategy and Action Plan for Building Resilience in the LRB, which integrates the central RESILIM themes of water, climate change and biodiversity. However, there will be a need to raise the profile and improve ownership among key stakeholders, institutions and partners of the investment strategy across these sectors, to build a pool of resources to continue supporting the initial investments that RESILIM made in resilience building in the basin and to ensure that the Investment Strategy is used to leverage additional investments outside of RESILIM, into the Basin. RESILIM and other leveraged resources involving strong partnerships, active networks, and community of practice are deemed necessary to sustain efforts so far made to enhance resilience of the LRB. This includes fostering an enabling environment that is conducive to investments, supporting appropriate entities in the basin to address technical, financial and capacity gaps that will enhance finance readiness. Being finance ready means that the basin (or its riparian countries and sectors) is able to plan for, access and mobilize financial resources from both public and private sources and to track and verify the correct use of these resources.

These four areas are the pillars of a framework for RESILIM's legacy in the consolidation phase of the program. All on-going and new activities will be focused around these four pillars upon which the legacy of the RESILIM Program rests.

4 THE PLANNING PROCESS

As the USAID RESILIM Program enters into its final two years (2015 – 2017), the “Consolidation for Legacy” phase, 27 members of RESILIM partner organizations came together at an interactive Sharing and Learning workshop in August 2015, to reflect on the RESILIM program’s achievements and challenges thus far with a view to shaping the future of the program.

The partners included the public, civil society, International Cooperating Partners (ICPs), non-government organizations (NGOs) and private sector organizations.

Revised vision for the RESILIM program:

“A Limpopo River Basin where natural resources are sustainably and collaboratively managed through transboundary, national and local action, that ensures communities and ecosystems are resilient to climate change impacts.”



The objectives of the workshop were to:

1. Confirm a common vision for the RESILIM Partnerships moving forward;
2. Enhance the planning for consolidation phase of the RESILIM program;
3. Allow the RESILIM partners to share information on their RESILIM activities and related opportunities;
4. Share insights on resource mobilization for resilience building the Limpopo River Basin; and
5. Determine how RESILIM and partners can consolidate their efforts to build resilience over the next two years.

Key outcomes of the Sharing and Learning workshop were taken into consideration during the Annual Planning Workshop, where the RESILIM technical team identified areas of work that need critical attention, revisited availability of resources, and set priority activities.

From the Annual Work Planning, the RESILIM team identified the four pillars of consolidation that are mentioned in the section “Strategy – Consolidation for Legacy”.

5 RESILIM STAKEHOLDERS

The RESILIM program seeks to make impact on resilience building at a transboundary level across all four riparian countries, different levels of government, different sectors and related industries. This presents a level of complexity in initiating and maintaining these stakeholder relationships as they are all key in RESILIM delivering on its mandate. The focus of the program has been to enhance the capacity of its key stakeholder-base in decision-making for resilience building, this includes actors both within and outside government, importantly including community leaders. Stakeholders directly active in sectors like water and biodiversity attract more attention from the program because of their proximity to influence relevant resilience building initiatives in the four countries. Local government authorities and community leadership structures equally attract significant attention as they are closer to implementation of RESILIM program activities. A special effort is made to track youth and women participation in our activities, and enhance these.

The recent initiative by the SADC Water Division in which Ministers of Water in the four riparian countries met to initiate a process to revitalize LIMCOM operations is an encouraging development, especially as RESILIM looks to implement recommendations from the institutional capacity-building analysis completed in Year Three (e.g. through development dialogues). RESILIM is also evaluating different opportunities that might be available to strengthen related LIMCOM institutions.

The focus of the stakeholder engagement thrust over the next two years is to strengthen the RESILIM consolidation theme and related initiatives. This means RESILIM will narrow its focus on specific activities and leverage more from partners and key stakeholders. In particular some activities might be discontinued in favor of consolidation for legacy impact. It also means less likelihood of new initiatives and new stakeholders but *more partnerships towards a community of practice in building resilience*. An important aspect of this is a focus on the private sector as we implement the investment strategy for leveraging resources over the next two years.

6 COMPONENT 1: CLIMATE VULNERABILITY OF THE LIMPOPO RIVER BASIN REDUCED

6.1 KRA 1.1 - SCIENCE, TECHNOLOGY, AND CAPACITY FOR DECISION-MAKING AND DEVELOPMENT OF CLIMATE CHANGE ADAPTATION STRATEGIES IMPROVED

Year Four Planned Activities

Activity 1.1.1 - Determination of the potential role of the Transboundary Ramotswa Aquifer in resilience of Limpopo River Basin (LRB)

Activity 1.1.2 - Support up-scaling of biodiversity conservation and climate change adaptation initiatives:

Transboundary IWRM issues in the Upper Limpopo Resilience Action Area (RAA1) are coordinated through the Joint Permanent Technical Committee (JPTC) set up under a bilateral agreement between Botswana and South Africa. In Year Two the JPTC highlighted to RESILIM the water crisis in Gaborone area due to a (still on-going) drought, and current reports indicate that the Gaborone Dam's level at as low as 3 percent. As proposed in the Year Three Work Plan, in support of this critical need, RESILIM has secured a partnership with the International Water Management Institute (IWMI) to determine the potential role that the transboundary Ramotswa freshwater aquifer can play in adaptation to climate variability and human induced changes. The objective of the initiative is to support a long-term bilateral vision for cooperation on the shared groundwater resources through the facilitation of joint management and better groundwater governance focused on coordination, scientific knowledge, social redress and environmental sustainability, in order to reduce poverty and inequities and to increase prosperity, livelihoods and food security in face of climate change and variability.

During Year Three interest was expressed by the USAID's Global Development Lab, due to the initiative's strong emphasis on utilizing ground-breaking scientific research as a driver for combating poverty. A proposal has been developed for the Global Development Lab to fund the development of a hydrogeological model to allow scenario planning, the development of managed aquifer recharge and appropriate agricultural solutions for sustainable livelihoods.

This activity will be implemented over two years; during Year Four a transboundary diagnostic analysis (TDA), comprising a baseline gender-focused socio-economic, and institutional assessment will be carried out as well as a hydrogeological characterization. These will be captured in a joint database which will be linked to the International Groundwater Resources Assessment Center (IGRAC) Global Groundwater Monitoring Network portal (GGMN) as well as relevant national data bases. Training will be provided to relevant institutions in Botswana and South Africa on the techniques used in data collection and the actual findings.

In Years One and Two, RESILIM conducted an R&V assessment of the basin, validated the findings through regional workshops with experts from various sectors, and incorporated the inputs and comments in an assessment report that was finalized in Year Three. The purpose of the assessment was to better understand climate-related risks to ecosystems and people living in the basin. RESILIM continued to

research and analyze the biophysical, economic, and socio-political systems down to eight representative case studies of climate vulnerability as identified in the R&V assessment to better understand what climate change means for the basin by looking at best and worst case scenarios of climate change impacts in each of the representative case study areas (“Resilience Action Areas”). From this study, RESILIM produced communication products such as posters, banners, PowerPoint presentations and policy briefs. In Year Three RESILIM continued to disseminate the knowledge gained from the R&V assessment at scientific forums and other events.

The R&V assessment recommends areas where adaptation interventions are needed to build the resilience of the Limpopo River Basin. Some of these include:

- Securing high altitude catchment areas
- Restoring degraded land
- Enhancing water quality
- Improving/increasing climate forecasting
- Protecting groundwater
- Investment strategy for Resilience Building

The R&V assessment then formed the basis for the development of a LRB investment strategy in Year Three. The investment strategy for resilience building in the basin highlights priority areas for investment where interventions are critically needed. The strategy is aimed at guiding potential investors, including private and government donors as well as NGOs, in climate change adaptation and biodiversity conservation in the basin. The increased investment will enhance socio-economic benefits from sustainable natural resource management in highly vulnerable areas identified in the risk and vulnerability report. Four investment programs were identified as critical to start setting in place an enabling environment for building resilience in the LRB (examples of current and planned activities in brackets):

- Productive/resilient institutions (JPTC capacity building, Ramotswa Aquifer training, SAWC support)
- Secure water (Man and Biosphere, MRCA Stewardship and Tati River sub-catchment management)
- Resilient ecosystems (Xai Xai Mangroves, Pafuri Integrated Plan)
- Diversified livelihoods (GLTFCA Alternative Livelihoods Strategy, Xai Xai Mangroves)

In Year Four, RESILIM will intensify its efforts to package data and information generated through RESILIM interventions with a view to tell stories as to how RESILIM is contributing to the realization of the four investment programs and subsequently achieving its goal of building resilience in the LRB. This will form part of the knowledge management initiatives reflected in Component 3, and will also be intended to leverage external resources to secure water and biodiversity in at least one high altitude/high biodiversity/high water yielding area.

As an attempt to improve transboundary cooperation, RESILIM will provide assistance in facilitating the development of flagship transboundary projects’ proposals as may be identified by the riparian countries and/or LIMCOM. Such flagship projects would strive to enhance necessary desired capacities for institutions for resilience building in the LRB. Possible sources of funding would be identified including UNDP-GEF resources.

During Year Four RESILIM will consider creative approaches to enhance the capacity of government officials in trans-boundary natural resources management / climate change adaptation in the Limpopo River Basin, for example through leveraging of resources such as training in transboundary aquifer management through the Global Development Lab funding. Working through local/regional NGOs will allow RESILIM to build the capacity of these organizations to be able to interpret the work of RESILIM, institutionalize it in their own organizations and for them to be able to apply it in the work that they do, including beyond the completion of RESILIM.

RESILIM will also continue to support pilot projects initiated in Year Two/Three with a view to packaging best practices to enhance replication and future upscaling (beyond RESILIM Program), including the following:

Support natural resource management in Limpopo river estuary:

RESILIM has been working with the Center for Sustainable Development of Coastal Zones (CDS) on their mangrove restoration program in Xai-Xai, Mozambique (within RAA 8). In Year Three RESILIM completed the economic and environmental valuation of the mangrove ecosystem in the Limpopo river estuary, upgraded the mangrove seeding nursery, developed a communication strategy including communication material aimed at schools and assisted the planting of 100,000 mangrove seedlings on 10 hectares of suitable land. In Year Four CDS will be planting a further 100,000 mangrove seedlings and RESILIM plans to consolidate its work in this area through support to CDS in establishing a “Mangrove Ecosystem Resource Center” and implementing the communication strategy developed in Year Three to secure on-going awareness of the importance of mangroves to the local ecosystem and livelihoods. RESILIM will support CDS in the establishment of a nursery for cultivating trees for dune-stabilization for further protection of the Limpopo River estuary. The trees will also provide a long-term sustainable supply of firewood for the local communities, thus relieving the pressure on the mangroves. To encourage community members continued support for the mangroves restoration, CDS is planning an incentive scheme in which fruit trees will be provided to local people who contribute to re-planting of the mangroves, the nursery will also be used to grow these trees. In the process of providing this support RESILIM will seek to improve the capacity of CDS to seek funding for their long term mangrove rehabilitation plans.



100 000
mangroves
planted with
RESILIM
support

Regional resilience training consolidation: In Year Three RESILIM developed six new resilience training modules and tools, as well as enhanced existing ones in partnership with the SAWC. These were developed in close collaboration with conservation and climate change agencies and communities. In Year Four RESILIM will be consolidating this work with SAWC by ensuring that the new modules developed in year three are officially accredited by the South African Qualifications Authority (SAQA), a manual will be produced on the nature based economic opportunities using the Zimbabwe women’s group training as examples, and the community



governance training for resilient villages will be further refined. RESILIM will also work with SAWC and the GLTFCA process to facilitate the creation of a new extension of the SAWC into the Pafuri area and to establish a “resilience training center” to serve rural communities in the region. The Tshikondeni coal mine, which is next to the Kruger National Park, has shut down and there are plans to include it into the conservation area. There is existing infrastructure that can be used by the SAWC and will be donated to the SAWC by the private mine owners. This new training center will offer the resilience training modules we have developed with them as well as existing wildlife courses and will support long term capacity building in the region. This activity, too, intersects with activities planned under Component 3 on knowledge management.

Key deliverables - KRA 1.1:

- i. Ramotswa Aquifer:
 - Transboundary diagnostic analysis
 - Hydrological maps and report on hydrogeology for the Ramotswa aquifer
 - Database capturing data from above assessments
 - Training materials and training of officials from relevant institutions
- ii. Another 100 000 mangrove seedlings will be planted at the Limpopo estuary.
- iii. Mangrove Ecosystem Resource center promoting improved resilience of Xai-Xai community through knowledge-sharing
- iv. New training modules consolidated, further developed by SAWC and SAQA accredited.
- v. A new training center run by the SAWC in the Pafuri Region, including a launch (media event).
- vi. SAWC nature based economic opportunities manual

Resources:

- Grant agreements with IWMI, CDS and SAWC
- Subcontracts – Ramotswa aquifer diagnostic and database development
- USAID Global Development Lab
- RESILIM Team

Target audience:

- LIMCOM JPTC
- Academic institutions including SAWC, Massachusetts Institute of Technology, Agricultural Research Council
- Department of Water Affairs for Botswana
- Department of Water and Sanitation for South Africa
- Department of Environmental Affairs for South Africa
- Botswana Department of Wildlife and National Parks
- Botswana Department of Waste Management and Pollution Control
- Regional and national planners, donors and development partners
- Local communities like Hartbeespoort Municipality in SA
- North West Parks Board
- Exploration Resources International Geophysics (XRI)
- Center for Sustainable Development of Coastal Zones (CDS) in Mozambique

- Local schools in Xai-Xai
- Makuleke Community Property Association

6.2 KRA 1.2 - WATER CONSERVATION AND WATER DEMAND MANAGEMENT RESPONDING TO CLIMATE CHANGE IMPROVED

Year Four Planned Activities

Activity 1.2.1 - Conduct a transboundary cost benefit analysis on Water Demand Management

Activity 1.2.2 - Development of best practice catchment management model and scale-up across the basin

Activity 1.2.3 - Facilitate and support development of basin level disaster risk reduction action plan

In Year Three, through RESILIM, the Marico River Conservation Association (MRCA, located in RAA 1 – Upper Limpopo) successfully hosted a number of trainings school learners, MRCA employees and local community members were trained in various aspects of natural resource management, with the emphasis on building resilience. Training included firefighting, river health monitoring and project management.



From left to right: Project Managers Training; firefighting training; and youth camps on conservation and river health monitoring.

MRCA has applied for 18 100 hectares to be protected as part of the South African government's Biodiversity Stewardship program and is also in the process of applying for the area to be declared a UNESCO Biosphere Reserve. A successful application will result in almost 60,000 hectares of land in the area being protected by this international instrument in Year Four of the RESILIM program. Based on this experience, RESILIM will develop a best practice model for catchment management strategies for replication elsewhere in the basin, such as in the Upper Umzingwane Catchment (RAA 4).



Left: In August 2015, MRCA handed over an application to the North West Parks on behalf of 35 landowners for a proposed 15 000 hectares protected area in the Marico Catchment. From left to right: Pastor Piet Hlabanyane (MRCA), Kereng Tumetsane (MRCA), Irene van der Merwe (MRCA), Beatrice van der Merwe (MRCA), Daan van der Merwe (MRCA), Moremi Lesenyane (North West Parks Board), Steve Collins (RESILIM)

In Year Four RESILIM will continue to build the capacity and support MRCA, which manages water demand in the Groot Marico Catchment in South Africa, through:

- Improvement in adaptive capacity of land owners to conserve and manage ecosystems in Groot Marico, such as through invasive species management training;
- Improvement of water quality and quantity through the *River Health Approach* (this is a DWS - South Africa program linked to the *Adopt-a-River* initiative focusing on local community river management); and
- Strengthen capacity building for natural resources management in Groot Marico, including training and assistance in the development of land management plans.

RESILIM conducted an awareness training session on the Adopt-a-River (AaR) program in the Blood River during Year Three, and this resulted in community volunteerism growing almost threefold from 36 to 106. Further training is envisaged at the same area in Year Four to strengthen resilience (through improved river catchment management) and enhance alternative livelihoods of this community (through improved river water quality / quantity).



In Year Three, RESILIM partnered with the Department of Water Affairs Botswana to bring together different government and non-government departments to set up a cross-sectoral model for the management of the Tati River Sub-catchment. Through this partnership a Tati River Management Committee (TRMC) was formed, whose main role is to coordinate the management of the Tati River in the Francistown area in partnership with stakeholders. This initiative is informed by lessons learned from the Adopt-a-River interventions facilitated by RESILIM at the Blood River in South Africa. Under Component 3, RESILIM will document and share (through various media) the experience of these two communities to demonstrate best practice in local water resource management.

In Year Three, the RESILIM also facilitated (through financial and technical support) the development of the TRMC joint work plan and a communication strategy to guide the implementation of the work plan. Awareness raising initiatives on pollution related issues on the River were carried out targeting different stakeholder groups.

In Year Four, RESILIM will work with the TRMC to strengthen the cross-sectoral mechanism to manage the sub-catchment, with specific focus on:

- Availing support to the TRMC to develop a Strategic Environmental Management Plan for the Tati River sub-catchment;
- Capacity enhancement of the TRMC through development of relevant training toolkits on sub-catchment management/river management and provision of training workshops; and
- Exchange visits to other flagship RESILIM sub-catchment models in the basin e.g. MRCA; identifying opportunities and leveraging resources to link livelihoods to best practices (minimum of two exchange visits).

During Year Three GWP-SA completed planning for a transboundary cost-benefit and feasibility analysis on water demand management (WDM). Implementation of this initiative will continue in Year Four and focus on WDM options across the basin and may include recycling water, rainwater harvesting and incorporation of indigenous knowledge to improve water conservation. As RESILIM identifies and prioritizes opportunities, the program will conduct cross-sectoral stakeholder engagement to ensure that relevant actors, such as those in the mining and agriculture sectors, are engaged via focus group discussions, and targeted meetings with experts and key ministries. GWPSA will strive to make the linkages with the other local level WDM initiatives such as Groot Marico and other resilience action areas towards consolidation of related activities and thus results at different scales.

In Year 3 GWP-SA continued developing a Disaster Risk Response (DRR) action plan for the basin through in-country workshops and a workshop with basin-wide representation. LIMCOM has recommended that the RESILIM partnership enhance country ownership of the DRR Action Plan by hosting further in-country consultations to solicit further inputs from other sectors in each country to inform the draft action plan that will be ratified by a regional workshop of key stakeholders. These consultations will start in September 2015, and will conclude with a regional workshop to be held in October where the Draft DRR Action Plan will be ratified.

Key deliverables - KRA 1.2:

- i. Best practice model for sub-catchment management strategies developed for sharing across the basin
- ii. Declaration of UNESCO Biosphere (core protected area promulgated and UNESCO application submitted)
- iii. Cost-benefit and feasibility analysis on water demand management
- iv. DRR Action Plan including mapping of vulnerable zones

Resources:

- Subcontract with GWP-SA
- Grant with MRCA
- RESILIM staff

Target audience:

- LIMCOM
- SADC DRR Unit and SADC Water Division
- Department of Water Affairs for Botswana
- Department of Water and Sanitation for South Africa
- Department of Environmental Affairs for South Africa
- Office of the President, National Disaster Management Unit, Botswana
- Office of the District Commissioner – District Disaster Coordinator, Botswana
- Zimbabwe National Meteorological Services Department
- Zimbabwe Catholic Relief Services
- Botswana Red Cross Society
- Water Research Commission (WRC)
- Marico River Conservation Association
- North West Parks Board
- Mozambique National Institute of Disaster Management (INGC)
- ARA-Sul : Southern Mozambique Water Authority
- Tati River Management Committee
- Tati River Tribal authority
- Private sector water users, municipalities, commercial and subsistence farmers, conservation and ecotourism organizations, etc.
- Local government authorities like South Africa Local Government Association (SALGA) in SA
- International Cooperating Partners and related disaster relief agencies like Famine Early Warning Systems Network (FEWSNET)
- Civil Society Organizations and NGOs

6.3 KRA 1.3 - INTEGRATION OF CLIMATE CHANGE ADAPTATION STRATEGIES INTO LONG-TERM MANAGEMENT PLANS AND POLICIES INCREASED

Year Four Planned Activity

Activity 1.3.1 - Support development of National Climate Change Response strategies and policies

In Year Two and Three, RESILIM in partnership with the Climate Systems Analysis Group (CSAG) from the University of Cape Town successfully trained technical officers and decision makers/resource managers from the four riparian countries. The specific aim of the trainings was to enhance understanding of climate change in the basin and share information and tools on climate change impacts and opportunities for

adaptation. Some of the trained officers formed part of the technical reference group that spearheaded the development of the Botswana National Climate Change Adaptation Policy and Strategy (which is in draft format awaiting approval by Parliament). RESILIM also supported the finalization of Zimbabwe's National Climate Change Response Strategy (NCCRS).

In Year Four, RESILIM will continue identifying opportunities in the four riparian countries, at all levels of government, to integrate climate change adaptation into long-term management plans and policies. One example is the North East District/Province of Botswana, where a need to develop a green growth strategy and action plan has been identified. The North East District borders with the Umzingwane sub-catchment in Zimbabwe, and together they form one of the RESILIM's Resilience Action Areas (RAA 4) located in the headwaters of the Limpopo. The proposed strategy and action plan will provide the necessary guidance to multiple key sectors (e.g. agriculture, tourism, water, energy, and mining) in terms of modalities to harness the greening opportunities that exist.

Key Deliverables - KRA 1.3:

- i. Climate change adaptation integrated into national strategies in basin's riparian countries.

Resources:

- RESILIM staff

Target Audience:

- Department of Water Affairs for Botswana
- Department of Water and Sanitation for South Africa
- Department of Environmental Affairs for South Africa
- Department of Environmental Affairs for Botswana
- Department of Meteorological Services

- Ministry of Environment, Water & Climate and other Ministries
 - Climate Change Office; Ozone Office, Biodiversity Project
- Partners in Zimbabwe NCCRS development:
 - UNICEF Zimbabwe
 - Confederation of Zimbabwe Industries
 - Zimbabwe Urban Councils Association
 - Research Council of Zimbabwe
 - University of Zimbabwe (Institute of Environmental Studies)
 - Zimbabwe National Economic Consultative Forum
 - Zimbabwe Environmental Management Agency

7 COMPONENT 2: CONSERVE BIODIVERSITY AND SUSTAINABLY MANAGE HIGH-PRIORITY ECOSYSTEMS

7.1 KRA 2.1 - NATURAL RESOURCE MANAGEMENT PRACTICES THAT MITIGATE THREATS TO BIODIVERSITY IMPROVED

Year Four Planned Activities

Activity 2.1.1 - Support Basin states to improve knowledge about and management of environmental flows

Activity 2.1.2 - Support country driven processes for integration of resilience building into national biodiversity strategies

Activity 2.1.3 - Advocate for integration of resilience into CBNRM

Activity 2.1.4 - Support and scale-up to basin level mechanisms for collaboration on joint water quality and aquatic weed management

Activity 2.1.5 - Build capacity in LRB for combatting wildlife trafficking and crime to mitigate threats to biodiversity

In Year Four RESILIM will continue to support country-driven processes for integration of resilience into South Africa and Zimbabwe's biodiversity strategies. With RESILIM input, the South African Department of Environmental Affairs (DEA) recently revised the National Biodiversity Strategic Action Plan (NBSAP), which now has resilience and climate change adaptation as one of its key components. USAID was noted as one of the important international programs investing in biodiversity.

RESILIM and South Africa's DEA have been working on integrating resilience into a national integrated biome-based climate change response strategy. Of the nine biomes in South Africa, the Savanna biome falls within the borders of the Limpopo River Basin. In Year Three RESILIM initiated a process with DEA of the development of a climate change response strategy for the Savannah Biome, which aims to:

- i. Strengthen an enabling environment, at national and provincial levels, for responding to climate change in the savanna biome (putting in place a policy and planning framework for climate change responses in the savannah biome);
- ii. Facilitate and showcase implementation of demonstration projects that apply ecosystem based adaptation principles while also responding in a positive way to climate change impacts and livelihoods in the savanna biome;
- iii. Support an effective communication strategy that builds and harnesses collaborative partnerships around biodiversity conservation, land degradation, research and development projects and ultimately climate change.

In Year Four RESILIM will provide support in the finalization and implementation of this strategy, such as assisting in identifying adaptation pilot projects that could serve as examples for the entire Savannah Biome.

Building on support provided to the Botswana/South Africa JPTC in previous years in water quality and water hyacinth management, in Year Four RESILIM will promote up-scaling of transboundary water management programs to the Zimbabwe and Botswana bilateral committee through the facilitation of technical coordination and knowledge sharing.

RESILIM support of JPTC has resulted in the finalization of a joint work plan for South Africa and Botswana on water quality and water hyacinth control. The joint plan contains harmonization of standards by both countries and the first draft of the harmonized standards is planned to be completed by the end September 2015, after a joint workshop to deliberate on this subject. This work is linked to the MRCA and Ramotswa aquifer work as they all respond to the issue of water quality in the Upper Limpopo Resilience Action Area (RAA 1) – the site of the head waters of the Limpopo River and one of three near natural river systems in the country. RESILIM will also strengthen the JPTC plans to enhance transboundary communication with stakeholders on water hyacinth and water quality management. Additionally, RESILIM will support the joint identification and compliance monitoring of point and non – point sources of pollution in the Limpopo River. This will go a long way towards collating existing mapping data on water hyacinth infestations to identify priority regions, water bodies and assets at risk due to expansion of areas invaded by water hyacinth control and monitoring.

In Year Four, RESILIM will raise awareness about the different methods of managing water hyacinth, specifically targeted at farmers in water hyacinth infested areas. RESILIM is also furthering its investigation with the Botswana Department of Water Affairs on the feasibility of using water hyacinth as a source of biomass for charcoal. This follows the successful proof of concept conducted with the department in Year Two as well as improved production and initial testing done with Massachusetts Institute of Technology (MIT) D-Lab in Year Three, which showed that the charcoal could have potential as a fuel source. The feasibility will look at how water hyacinth could be combined with other feedstock as well as looking at issues such as emissions. It is hoped that we could collaborate with the USAID Global Development Lab and University of Botswana on this next stage. Depending on the outcome of this work, the JPTC will decide how to take the process further.



Above: A batch of charcoal produced from dried water hyacinth

In the context of the LRB, water allocation is one major strategic objective of the LIMCOM's IWRM Plan (2011-2015). From RESILIM's perspective, this would be deemed achieved if LIMCOM has in place tools that are used in decision-making for water allocation at the transboundary level, taking into account environmental/ecosystems needs. It is worth noting that during the Limpopo Monograph Study supported by GIZ, on behalf of LIMCOM, a basin-wide environmental flows tool was put in place. However, the tool is very rudimentary as it was developed using data from only 8 sites in the Basin and data sampling was done in one season (wet season). Taking into account the size of the Basin (416, 000km²) and the

variability inherent in the Basin system, data would require to be captured from many more sites over different seasons, to ensure that the tool is robust enough to generate information to feed into decision-making.

RESILIM sees value-add in further supporting the strengthening of the LRB environmental flows tool and the capacity of decision-makers to apply the tool for improved management of the Basin. However, the process to improve the robustness of the environmental flows tool would need to be completed over a long period of time, beyond the scope of the RESILIM Program. It is therefore planned that in Year Four, RESILIM will focus on enhancing the capacity of decision makers and technical officers in applying the environmental flows as a tool for informing holistic transboundary management. RESILIM will partner with IUCN (and others) to provide training on environmental flows and water governance to targeted institutions in the LRB e.g. government water and non-water departments, water/conservation associations, NGOs and civil society organizations.

RESILIM will continue to advocate for resilience to be built in to community-based natural resource management (CBNRM) practices through existing initiatives such as the development of the GLTFCA Livelihoods Diversification Strategy and the partnership with MRCA, as well as potentially in new endeavours that are identified in the course of implementation.

The RESILIM program is committed to mitigate threats to biodiversity caused by poaching and, during Year Three supported the U.S. Department of Justice in the planning of a four-day regional training workshop for prosecutors and judges on investigating, prosecuting, and presiding over cases involving illegally taken and trafficked wildlife and fish. The training will be held at the beginning of Year Four in Zambia and include approximately 40 trainees include prosecutors and judges from the Southern African countries of Angola, Botswana, Malawi, Mozambique, Namibia and Zambia.

The training will have long term effects on the capacity of the participants to investigate, prosecute and in some cases decide wildlife crimes, thereby enhancing the rule of law and combating wildlife trafficking. Participants will also be able to share the techniques and information gained in the training with others in their country, creating follow-on effects. Working relationships between U.S. government officials and participants will provide ongoing opportunities to develop joint investigations, additional capacity-building, and other exchanges.

Key deliverables - KRA 2.1:

- i. LIMCOM and key national government institutions trained in environmental flow management (at least one training session per country is planned)
- ii. South Africa and Zimbabwe National Biodiversity Strategies include resilience building
- iii. Report of mapping data on water hyacinth priority areas, and a Protocol plan for early detection
- iv. Database of pollution sources in the LRB between the South Africa and Botswana
- v. Research products on water hyacinth and water quality (from University of Botswana)
- vi. Awareness raising materials on water hyacinth and water quality management
- vii. Six Prosecutors/Judges from the LRB (Mozambique/Botswana) with increased capacity in the investigation and prosecution of wildlife crimes

Resources:

- RESILIM staff
- USAID Global Development Lab (Research Fellowship Program)
- MIT D-Lab
- IUCN
- US Department of Justice (Environment and Natural Resources Division)

Target audience:

- LIMCOM
- Riparian countries' departments of water and environment
- Private sector and local communities
- Relevant government agencies
- Natural Resource Management institutions
- Local government and ecotourism organizations including wildlife tourism
- Research and academic institutions (local and regional)
- Judges and Prosecutors from Botswana and Mozambique

7.2 KRA 2.2 - ECOLOGICAL INTEGRITY AND RESILIENCE TO CLIMATE CHANGE IN KEY/PRIORITY CONSERVATION AREAS IMPROVED

Year Four Planned Activities

Activity 2.2.1 - Support development of an integrated livelihoods diversification strategy for better resilience of the Great Limpopo Transfrontier Conservation Area

Activity 2.2.2 - Develop best practice model from lessons-learned in implementation of GLTFCA for Mapungubwe- TFCA and other protected areas

Activity 2.2.3 - Share lessons learned on resilience thinking in protected areas governance (including World Parks Congress feedback)

The Great Limpopo Transfrontier Conservation Area (GLTFCA) links the Limpopo National Park in Mozambique, the Kruger National Park in South Africa, the Gonarezhou National Park, Manjinji Pan Sanctuary and Mailpati Safari Areas in Zimbabwe, as well as the two areas between Kruger and Gonarezhou, namely the Sengwe communal land in Zimbabwe and the Makuleke region in South Africa. The GLTFCA sustains ecosystems that are home to various endangered species such as the white and black rhino, the wild dog and a number of rare antelope species such as the roan, sable and tsessebe, making it a key biodiversity area with immense challenges around conservation within the Limpopo River Basin (RAA 6 – the Pafuri Triangle is located within the GLTFCA).

In Year Two, RESILIM consulted key stakeholders in and around the GLTFCA, including the International Coordinator of the GLTFCA, to capture challenges and opportunities of improving ecological integrity and resilience to climate change in the area. The GLTFCA area was identified as one of the key biodiversity focus areas that is threatened by climate change and the lack of community resilience. In Year Three RESILIM began support to the GLTFCA through a partnership with Peace Parks Foundation (PPF) to develop a GLTFCA long-term integrated livelihood diversification strategy to ensure the inclusion of building the resilience of communities living in the buffer zones of the GLTFCA, and improved biophysical conditions of a biological significant area.

Image : Number of people living in the buffer zones of the GLTFCA:



In the development of the strategy, PPF will conduct a workshop in the Pafuri Triangle to scope the livelihoods initiatives in the GLTFCA, including climate change scenario planning exercise. The knowledge gained from the analysis will feed into the development of an integrated management plan for livelihoods diversification strategy and the formulation of resilience building pilot initiatives aimed at addressing human-biodiversity conflicts in the buffer zones of the GLTFCA. The development of the strategy includes a biodiversity threats analysis that will assess and prioritize critical habitats within the GLTFCA that are projected to be impacted by climate change and water scarcity.

The knowledge gained from the analysis will feed into the formulation of resilience building pilot initiatives, aimed at addressing human-biodiversity conflicts in the buffer zones of the GLTFCA, which will be piloted in the Pafuri cross-border conservation area. This work will be done in coordination with RESILIM-Olifants (RESILIM-O), which is also working in the GLTFCA, to ensure a common approach, the sharing of lessons and the efficient use of USAID/Southern Africa resources.

If the GLTFCA work is successful, it is expected that the Greater Mapungubwe TFCA will use the same methodology and approaches used in the GLTFCA. The international coordinator of Greater Mapungubwe is part of the GLTFCA process to ensure she learns about the process and outcomes.

In Year Three RESILIM attended the 6th International Union for Conservation of Nature (IUCN) World Parks Congress (WPC). RESILIM was part of a SADC delegation and exhibition at the event and made numerous presentations to the world's protected area managers and stakeholders. The theme of RESILIM's input was Resilient Protected Areas-Resilient Communities. As part of a follow-up to the WPC, we worked with the IUCN and SA DEA to jointly host a workshop in South Africa with country-based stakeholders that began to put together a program to implement the conservation commitments and themes from the WPC.

It was hoped that the other basin countries would work with RESILIM and IUCN to hold their own workshops but this has not taken place.

In Year Four RESILIM will continue to raise the lessons and themes from the WPC and in particular the lessons around the role of protected areas in climate change adaptation. Working with South Africa's DEA, RESILIM will explore how to introduce climate change resilience into existing Protected Area (PA) management plans, such as Dinokeng, as a way to create a model for future PA management plans.

Key Deliverables – KRA 2.2:

- i. Integrated vision and plan for the Pafuri node of the GLTFCA
- ii. Integrated livelihood diversification strategy for GLTFCA
- iii. Resilient Protected area management plan framework for replication
- iv. Methodology, including scenario-planning, for developing an integrated livelihoods diversification strategy for more resilient TFCAs.

Resources:

- Grant – Peace Parks Foundation
- RESILIM staff
- RESILIM-O

Target Audience:

- Riparian government departments of water, environment and agriculture
- Departments of Environment and Wildlife
- Park Management Authorities
 - Limpopo National Park
 - Kruger National Park in South Africa
 - Gonarezhou National Park in Zimbabwe
 - Manjinji Pan Sanctuary and
 - Safari Areas in Zimbabwe
- Communities in GLTFCA buffer zones
 - Makuleke Community in SA
 - Sengwe-Tchipise Community in Zimbabwe
- Local government authorities in affected transboundary parks of SA, Mozambique and Zimbabwe
- Regional and local tourism organizations
- Disaster management organizations
 - DMI in SA
 - INGC in Mozambique
 - Department for Civil Protection Zimbabwe
- Customs and other policing authorities in Zimbabwe, Mozambique and South Africa

7.3 KRA 2.3 INTEGRATION OF CLIMATE CHANGE ADAPTATION AND BIODIVERSITY CONSERVATION INTO BASIN WATER AND RESOURCE MANAGEMENT PLANS

Year Four Planned Activities

Activity 2.3.1 - Build capacity of government and civil society institutions involved in the long term protection and rehabilitation of High Altitude Water Catchments

Activity 2.3.2 - Support development and implementation of adaptation strategies, protected area management plans and tools in the basin

In the RESILIM R&V Assessment the high altitude water catchment areas, which produce 100 times the amount of water compared to lower areas, were identified as central to the long term adaptive capacity of the Basin. There is a need to build the capacity of government and civil society institutions already involved in the long-term protection and rehabilitation of these vital water producing areas and in Year Four RESILIM will build capacity through the existing community of practice represented through the Biosphere reserves and communities working with protected areas.

One of the outcomes of the GLTFCA livelihoods study and planning will be the recommendation for altering or enhancing existing protected area management plans. While RESILIM is not in a position to force protected areas to change their plans, it is hoped that the process of the work will lead to resilience, climate change and possible adaptation scenarios becoming part of the management plans, as also promoted by the UNDP program on Protected Area Financing / Governance Effectiveness.

Key deliverables – KRA 2.3:

- i. Government and civil society institutions with increased capacity to manage transboundary protected areas.
- ii. Protected Area Management Plan for GLTFCA includes resilience, climate change and adaptation scenarios

Resources:

- Peace Parks Foundation
- RESILIM staff

Target Audience:

- Department of Water and Sanitation for South Africa
- Department of Environmental Affairs for South Africa
- Ministry of Agriculture, Mechanization & Irrigation Development in Zimbabwe
- Waterberg Biosphere Reserve
- Kruger to Canyons Biosphere Reserve
- Vhembe Biosphere Reserve
- Stakeholder working groups
 - Farmers, tour operators etc.
- LIMCOM and its Institutional partners

8 COMPONENT 3: CAPACITY OF STAKEHOLDER TO MANAGE WATER AND ECOSYSTEM RESOURCES IMPROVED

8.1 KRA 3.1 - CAPACITY OF ALL LEVELS OF GOVERNMENT TO FORMULATE TRANS-BOUNDARY AND INTEGRATED WATER, ECOSYSTEM MANAGEMENT AND CLIMATE CHANGE ADAPTATION POLICIES AND STRATEGIES IMPROVED

Year Four Planned Activity

Activity 3.1.1 Based on capacity building needs assessment implement key priorities areas for capacity building to strengthen, promote existing and new capacity building initiatives

In Year Three RESILIM conducted an institutional resilience capacity needs assessment in the four riparian countries of Botswana, Mozambique, South Africa and Zimbabwe, and, the respective countries' transboundary institution, namely, LIMCOM. The capacity needs assessment aimed to identify the institutional capacity needs for building institutional resilience in the management of the Limpopo River Basin. The specific institutional resilience desired capacities that were assessed are: external regime; flexible resource management; resources; legitimacy and accountability; variety and diversity; monitoring and evaluation; identity; forward thinking; iterative approaches; mainstreaming; creativity and learning; knowledge management and institutional memory; access to research, data information; internal agency and authority; collaboration and partnership; leadership; organizational structure; transparency and participation, and, gender considerations.

The findings of the institutional capacity needs indicate that the national water and climate institutional frameworks are poised for addressing climate change adaptation and resilience through existing and planned governance instruments and structures including water sector reforms. However, the national needs specific to creating an enabling institutional environment for resilience building needs to be strengthened. Therefore strengthening the transformation of national and local/basin systems and processes for meeting the climate resilience measures required to be effected at transboundary level is an important factor in resilience building within each riparian member state.

At a transboundary level the capacity needs assessment revealed that LIMCOM's governance instruments seek to address and respond to climate change impacts. Opportunities for strengthening were identified inter alia in supporting knowledge management systems; scenario planning and budgeting for climate impacts; facilitating agreements on information and data sharing; exchange capacity building visits and training on water monitoring; database development, stakeholder engagement; mainstreaming resilience actions in program design; monitoring and evaluation; visioning processes; iterative planning; communication, sensitization and awareness on climate resilience, and, developing and use of tools for mainstreaming social inclusion and gender equity. The operationalization of the LIMCOM Secretariat also provides an opportunity to mainstream climate resilience actions within the processes, systems and practices in its structures. Furthermore, the operationalization of LIMCOM should be effected to ensure that the transboundary institution has the human, financial, technological systems, processes and tools

for facilitating and coordinating actions of adaptation and resilience building. All findings and proposed interventions are contained in an institutional resilience capacity strengthening plan.

In Year Four, RESILIM will engage LIMCOM and the riparian countries to vet the outputs of the institutional capacity analysis with a view to obtaining LIMCOM's endorsement of the institutional resilience capacity strengthening plan. RESILIM will facilitate LIMCOM development dialogues, where actions within the institutional resilience capacity strengthening plan would be prioritized and possible sources of resources identified and agreed upon. The institutional resilience capacity plan recommends a ministers' development dialogue be organized by RESILIM to secure ownership and political will to see the process through. Based on the results of the foregoing, RESILIM will support LIMCOM to develop a budgeted work plan, including clear institutional responsibilities for execution purposes.

RESILIM plans to build organizational capacity through fostering existing relationships and initiating new strategic collaborations and partnerships in trans-boundary integrated water and ecosystem management. For example, as previously mentioned under KRA 2.1, RESILIM facilitated a meeting for the JPTC to refine an action plan for water quality and water hyacinth management between South Africa and Botswana. The work plan is still under development but RESILIM has agreed that the program will build the capacity of the JPTC as per their needs that will be articulated in the action plan. RESILIM will also support the establishment of new strategic collaborations such as bilateral agreements between the other riparian countries.

The R&V Assessment recommends an improvement in climate forecasting through a better understanding of regional climate circulation and behavior in order to inform planning and decision making. This could include more accurate medium-long term prediction of droughts, which is already a high risk in the basin, and will enable regional decision makers to implement change management strategies. Informed by the institutional capacity needs assessment report, RESILIM will target climate change science training of JPTC, meteorological departments, other climate change adaptation and biodiversity conservation practitioners and groundwater officials.

RESILIM will also continue to coordinate efforts with the RESILIM-O program. In Year Two, RESILIM engaged RESILIM-O to participate in the R&V validation workshop, the training needs assessments conducted by SAWC and the launch of the SAWC and RESILIM partnership. At the launch, RESILIM-O was given the opportunity to engage stakeholders from across the basin to profile their program. Working in the same geographical space and having the same results framework, the two programs recognize that it will frequently engage the same stakeholders and will collaborate to create synergy between the two programs.

There are currently existing platforms, such as the GLTFCA, where RESILIM and RESILIM-O are working together and are regularly exchanging information. Other events where RESILIM and RESILIM-O are engaging stakeholders together is for example a meeting between the two programs and the Limpopo Department of Environment and Tourism (LEDET)¹, to profile the programs and explore how the two RESILIM programs and the department can work together to implement responsible catchment management and environmental controls.

¹ LEDET is the main government agency dealing with the majority of the rivers in the basin.

RESILIM will continue to strengthen the participation of RESILIM-O in the DRR work where GWP-SA is developing a DRR Action Plan for the basin, and this will be achieved through active involvement of RESILIM-O (and its stakeholders in the Olifants sub-catchment) in scheduled consultation forums during the process. As this work resonates with RESILIM-O's work in Mozambique, participation and collaboration is important. The collaboration will present the opportunity for RESILIM-O to ensure alignment of basin and catchment strategies – significantly strengthening what works across this divide and pointing to gaps that need urgent attention.

Deliverables – KRA 3.1:

- Development dialogues (LIMCOM and ministers) aimed at securing political buy-in for the RESILIM-produced resilience capacity strengthening plan
- Key government Institutions with increased capacity to develop robust climate change adaptation strategies and policies.
- Technical experts, government officials and traditional authorities trained in climate change science.

Resources:

- RESILIM-O
- RESILIM staff

Target Audience:

- LIMCOM and its institutions like the JPTC
- Riparian governments departments of water and environment, and related agencies
- Departments responsible for mining, energy, agriculture, local government
- Regional NGOs active in resilience building in the LRB, amongst others
 - International Union for Conservation of Nature (IUCN)
 - World Wide Fund For Nature (WWF)
 - FEWSNET
 - Adaptation Network
- RESILIM-O

8.2 KRA 3.2 - KNOWLEDGE AND AWARENESS OF CLIMATE CHANGE IMPACTS AND ADAPTATION MEASURES INCREASED

Year Four Planned Activity

Activity 3.2.1 Promote and sharing of existing climate change - related data and information:

Knowledge management is not just a work plan activity; it is a strategic tool for delivering on RESILIM's highest level goals of improving the transboundary management of the Basin. As such, knowledge management was identified as one of the four pillars of RESILIM's "Consolidation and Legacy Phase" for the last two years of the program.

Knowledge management aligns squarely with RESILIM's integrated approach of building evidence for change, creating an enabling environment for decision-making and catalyzing sustainable action.

At the Sharing and Learning Workshop with RESILIM partners in August 2015, RESILIM identified themselves as a community of practice that shares a common vision for the Basin, "*A Limpopo River Basin where natural resources are sustainably and collaboratively managed through transboundary, national and local action, ensuring communities and ecosystems are resilient to climate change impacts.*"

This community of practice will not only be RESILIM's key source of content, but also the main distribution channel of knowledge management materials and products. The program will actively seek to strengthen this community while also leveraging its expertise in service of knowledge management goals.

During RESILIM's "Consolidation and Legacy Phase", the project plans to work closely with its partners, this community of practice, to generate a range of scientific and technical products as described under Component One and Two activities. These materials will provide stakeholders with case studies and best practices regarding climate change adaptation, biodiversity conservation, improved water demand management and resilient livelihoods.

The *R&V Synthesis* was finalized in Year Three. It is a scientific product targeted at high-level decision makers with a technical background. RESILIM's stakeholders, however, extend beyond that group and include various non-technical audiences such as rural communities, traditional leaders, youth, and others. RESILIM thus sees the need for the technical translation of the *Risk, Vulnerability and Resilience Synthesis Report* into simplified key messages, repackaged to distribute to a range of stakeholders and share at various events such as conferences, workshops, community meetings, and the media.

The *RESILIM Investment Strategy* includes key messages and recommendations for interventions to build the resilience of the basin. These messages can and should be applicable to people who contribute to the well-being of the ecosystems and the communities of the Limpopo River Basin. The audience for the investment strategy is not only for financial investors, but also decision-makers and key influencers whose daily work makes a positive or negative impact on the natural environment of the basin. Building on the foundation created with the R&V materials described above, additional products related to the Investment Strategy are required to ensure it, too, reaches a wider audience in accessible and easily translated language. In Year Four, RESILIM will partner with GWP to repackage the strategy for different

“investors”/audiences in a targeted range of materials in different formats (print, PowerPoint, animated video). Effort will be put into creating compelling, high-impact products that will inspire and catalyze action.

As mentioned under Component 1, RESILIM in partnership with GWP-SA is developing a DRR Strategy for the Limpopo River Basin in support of LIMCOM. From this strategy, RESILIM will look at how best to *communicate disaster preparedness information* in the form of tools, procedures, mechanisms for respective national disaster management teams in the member states.

Alongside these technical products, RESILIM will devote resources to creating non-technical, impact oriented materials for a larger audience.

As mentioned under KRA 3.1, RESILIM assessed the capacity needs of the institutions that manage the Basin and also those that play a role in the management or have activities impacting in the basin, and produced an *Institutional Capacity Development Plan for the Limpopo River Basin*. RESILIM will repackage this plan into a more consumable/simplified product from which opportunities for capacity building can easily be picked up by institutions in the basin.

In Year Three, RESILIM, together with GWP-SA, and with support from Overseas Strategic Consulting, started a process of developing a *Communications Capacity Building Plan*. Communication at transboundary level is hampered by a number of barriers such as institutional development challenges, system rigidities, unskilled human resources, isolated programs and poorly integrated approaches, lack of incentives, and fragile financing mechanisms. This situation is highlighted in an assessment by RESILIM on Institutional Capacity needs in the Limpopo River Basin, which points to inadequately designed, resourced, and weakly capacitated institutions that leads to a vicious cycle of poor services, including knowledge management and networking, and poor uptake on climate resilience.

The proposed Communications Capacity Building Plan (to be finalized in Year 4) and the existing Resilience Capacity Strengthening Plan, will provide clear recommendations for institutions at catchment, bilateral and regional level for better information generation, knowledge dissemination, and networking, which will feed into improved communications at a basin-level. Some of the targeted institutions would be current RESILIM partners who are part of the community of practice, such as MRCA and the JPTC.

In Year Three RESILIM adjusted its work plan to accommodate the delay in the development of a basin communication strategy for LIMCOM, as LIMCOM was not in a position to actively participate in the process. RESILIM and GWP-SA, have since developed the methodology for the Communications Capacity Building Plan and will commence with the development of the plan in Year Four.

RESILIM will also produce a Resilience Series to showcase the issues and climate-related challenges people and ecosystems face in the basin and how the RESILIM program has worked with its partners to address these challenges and build resilience through its various climate change adaptation and biodiversity conservation activities on the ground. The series will be produced in various media formats including print, video, and podcasts. These stories could include:

- The diversification of livelihoods, as a climate change adaptation strategy, through improved quality and quantity of marula oil production.
- The success regarding the inclusion of “resilience” and recommendations from the Risk and vulnerability Assessment in the South Africa National Biodiversity Strategy and Action Plan, and the consequences thereof.
- RESILIM’s support in the adaptation to climate change and addressing the threat to biodiversity, with a specific focus on the mangroves in the Limpopo River Estuary.
- Captured lessons learned from communities of practice in the Limpopo, North West and Mpumalanga regarding the implementation of climate change adaptation pilot projects for the savanna biome.

In Year Four, RESILIM will continue reach out to stakeholders with these products to promote access and use of science based information, including success stories and lessons learned, for improved climate change adaptation and biodiversity conservation in the Limpopo River Basin.

A Knowledge Management and Communications workshop is planned for Year Four to offer RESILIM partners (community of practice) a powerful platform for sharing information, case studies, successes, challenges and other stories, and promote best practices on innovative climate change adaptation and biodiversity conservation interventions that build the resilience of people and ecosystems in the basin to the impacts of climate change. This sort of exchange is a critical aspect of building RESILIM’s knowledge management legacy and ensuring the sustainability and scalability of activities in the future.

RESILIM will also work with RESILIM-O program to add a basin perspective to catchment management at RESILIM-O’s Resilience Learning Network. RESILIM might also take lessons from other catchments such as the Marico Catchment in the form of supporting the participation of MRCA in the network or sharing of materials and stories at the event.

RESILIM also recognizes international and in-country events and climate and biodiversity-related significant days as opportunities for outreach to profile the RESILIM program and promote and share climate-related information on climate change impacts and adaptation measures, support the mitigation of threats to biodiversity. See [Annex 3](#) for a list of important dates.

Deliverables – KRA 3.2:

- i. Communications Capacity Building Plan
- ii. Resilience Action Area Case Studies
- iii. Repackaged Investment Strategy for Building Resilience in the Limpopo River Basin
- iv. Disaster Risk Reduction in the Limpopo River Basin Strategy Document
- v. Climate Change Adaptation Strategy for the Savanna Biome Document
- vi. Institutional Capacity Development Plan for the Limpopo River Basin Document

- vii. Awareness campaigns linked to international and in-country events and/or climate, biodiversity or water-related significant days.
- viii. Resilience Series
- ix. Knowledge Management and Communications Workshop

Resources:

- GWP-SA
- OSC
- RESILIM Team

Target Audience:

- SADC Water Division, LIMCOM and its institutions
- Departments responsible for water and environment in riparian countries as anchor departments
- Other relevant and affected government departments
- International Cooperating Partners active in resilience building programs
- RESILIM’s implementing partners
- Key influencers and decision makers across the basin at transboundary, national and local level, as well as NGOs,
- River Basin Organizations
- Stakeholders in the 8 Resilience Action Areas, with a focus on women and youth groups
- RESILIM-O

8.3 KRA 3.3 - KNOWLEDGE AND AWARENESS OF INTEGRATED AND SUSTAINABLE WATER MANAGEMENT STRATEGIES AND PRACTICES INCREASED

Year Four Planned Activity

Activity 3.3.1 - Support knowledge, awareness, and capacity pertaining to integrated and sustainable water management

Intersecting with KRA 3.2, RESILIM, through GWP-SA and with support from OSC, will advocate for integrated and sustainable water management strategies and practices through knowledge management and awareness-raising. RESILIM, together with OSC, will develop a knowledge management strategy that will feed into the basin-wide communication strategy for LIMCOM. The knowledge management strategy will guide RESILIM and its partners on how lessons learned across the three components of the RESILIM program can be packaged into robust communication products and disseminated through various communication channels and platforms in order to share the information needed for sound decision-making. These include platforms under *KRA 3.2 sub-activity* as well as LIMCOM’s Limpopo Information System (LIMIS) and the media, such as the broadcasting and printing press. RESILIM will support LIMCOM in populating the LIMIS with research papers, short films, podcasts, articles, and other forms of communication to allow for a robust LIMIS. RESILIM will also continuously engage the media to share success stories and lessons learned.

The knowledge management strategy will also look at possibly working with local journalists, community mobilizers or other individuals such as volunteers from Peace Corps in the four riparian countries to support RESILIM as “knowledge seekers” and conduct interviews and capture stories in format such as videos, podcasts, photographs and short snippets

As mentioned under KRA 3.2, RESILIM will similarly translate the science-based information from research done under Component One and Two in Year Two and throughout Year Three into easily consumable key messages for a wider non-technical audience.

RESILIM, together with GWP-SA and GRID Arendal is developing an atlas of the Limpopo River Basin to compile information on the basin’s changing environment. The atlas, which was endorsed by LIMCOM, will include information to support sound decision making with regard to integrated and sustainable water management, including raise awareness of the impacts of climate change in the basin. Following an inception workshop with experts from various sectors across the basin, it was agreed that the atlas will target a technical audience. The scope of work for the development of the atlas, including the refinement of the audiences is still being finalized.

Following a workshop that RESILIM facilitated together with UNEP in Year Two to explore the extent to which relevant data reaches appropriate decision makers, how relevant information on 'natural capital' is generated, analyzed and shared, and how the process can be simplified, RESILIM will also explore a possible partnership with UNEP to establish an environmental database for information sharing in the basin.

Similar to KRA 3.2, RESILIM will ensure that vulnerable groups, including women and the youth, are a priority, and will design materials that cater to a wide variety of stakeholders.

Deliverables – KRA 3.3:

- i. Limpopo River Basin Atlas
- ii. Communication products that raise awareness on integrated and sustainable water management strategies and practices relating to science-based information gained from Component One and Component Two
- iii. Environmental database for information sharing in the basin (subject to partnership being developed with UNEP).

Resources:

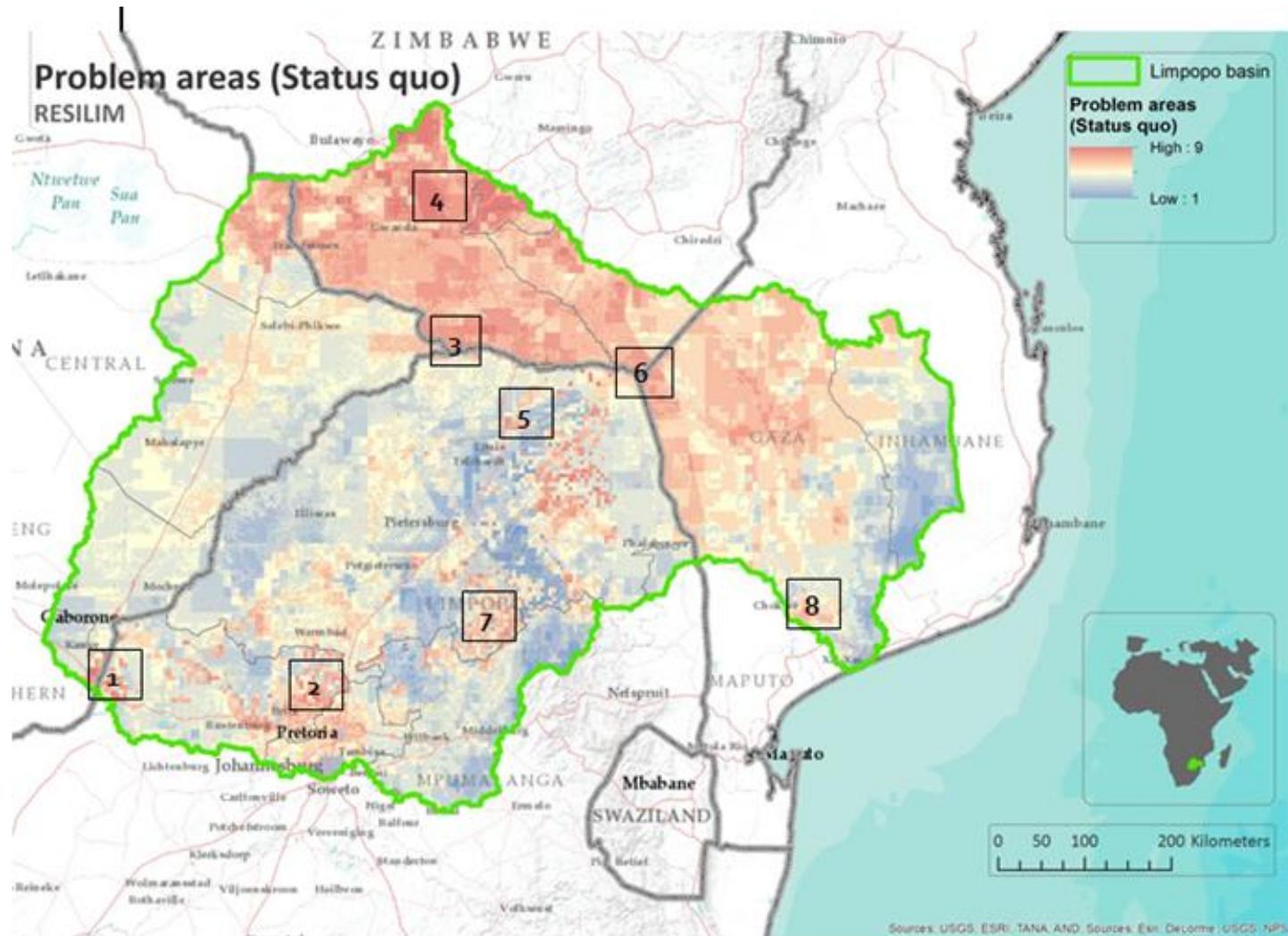
- GWP-SA
- OSC
- RESILIM staff
- UNEP
- Reporters/communication officers to serve as “knowledge seekers”

Target Audience:

- Riparian government departments of water and environment
- Local government departments linked to water and environment, including tourism
- Infrastructure Development Practitioners
- Women and youth groups active in resilience building programs
- Regional and local NGOs active in the water sector
- Knowledge management institutions in the basin, including universities

ANNEX 1: YEAR FOUR GANTT CHART

ANNEX 2: RESILIENCE ACTION AREAS (RAAs)



Resilience Action Area	Characteristics
1. Upper Limpopo	<ul style="list-style-type: none"> • Transboundary Action Area • Dolomitic aquifers, associated springs and wetland systems are fed by underground water from the upper catchment of the Groot Marico River, and highly sensitive to groundwater abstraction. • Biodiversity in the area relies on the free-flowing nature of the Groot Marico River • High population density – thus potential conflict as water becomes scarcer • Expected temperature increase will impact agriculture and livestock productivity that will affect incomes and livelihoods
2. Pretoria North – Moretele	<ul style="list-style-type: none"> • Area consists of low-lying land and wetlands, and characterized by variable rainfall, intense summer thunderstorms, periodic flooding and droughts – an increase in temperatures expected • Highly dense population, with high vulnerability and limited capacity to adapt to the impacts of climate change, due to poor development and infrastructure (lack of tar roads, sanitation, lighting and schools), which places a burden on the local economy. • Over-grazing of livestock • Highly polluted flowing water through urban and industrial effluent originating in Tshwane
3. Shashe-Limpopo confluence	<ul style="list-style-type: none"> • Transboundary Resilience Action Area, with the Greater Mapungubwe Transfrontier Conservation Area • Expected decline in rainfall will see decrease in agricultural productivity - therefore a <u>need for alternative livelihoods</u>, but this could take the form of increased mining activities, which will have a significant impact on downstream water quality. • Potential for development of ecotourism and cultural/historical tourism (Mapungubwe and other areas) – but increasing economic reliance on mining (open cast coal mining east of Mapungubwe, and diamonds south of SA and Zim border) and irrigated agriculture in all three countries threatens (over grazing) these possibilities. • Need for better understanding of livelihoods in the region, and how communities can be supported by a conservation area (If alternative livelihoods are not addressed, the challenges such as increased poaching may increase.)
4. Upper Umzingwane	<ul style="list-style-type: none"> • High levels of poverty with reliance on climate-sensitive natural resources, with rained-agricultural livelihoods, which results in the intense utilization of catchment resources. This leads to high levels of erosion and sediment transport into river and tributaries. • Increased severity and occurrence of drought as unpredictable rainfall is expected

	<ul style="list-style-type: none"> • Flood plains used for agricultural purposes • Pollution caused by (legal and illegal) gold mining and gold panning • Water resource infrastructure poorly maintained and is in disrepair. • Threats to biodiversity from destruction of vegetation, soil erosion, land degradation and siltation, and unsustainable depletion of water resources.
5. Soutpansberg	<ul style="list-style-type: none"> • The area is home to many endemic plant species (68% of all Vascular species in the southern African region) and an abundance of biodiversity. • High population growth, dense crowding and low productivity make this a poor area. • Limited infrastructure roll-out is possible given the large area and dispersed nature of the extended villages. Social grants are a major source of income. • Mining poses only limited impacts currently, however if conservation resources has led to conflicts between commercial and smallholder/subsistence farmers, and conservation areas.
6. Pafuri Triangle	<ul style="list-style-type: none"> • Particular harsh, arid climate, with low rainfall, intense summer heat, droughts and occasional flooding. • Climate change will have an exacerbating effect on the ecosystems in the Pafuri Triangle. GLTFCA needs stronger governance and enforcement of conservation legislation. • There are competing interests for water and natural resources, which makes the area particularly vulnerable to climate stress. • Erratic weather patterns can have significant impacts on the traditional rain-fed agriculture in the area, therefore a need for alternative livelihood options • Climate variability will also have impact on eco-tourism, further reducing the ability of the population to make a living away from subsistence livelihoods.
7. Lebowa – Middle Olifant	<ul style="list-style-type: none"> • High food insecurity. Lack of production is based on cultural factors and environmental conditions other than climate (eroding, over-used soils). • Biodiversity and natural resources are highly degraded in the highly populated areas, but relatively intact in the Sekhukune mountain land. • Poverty is widespread and extreme. The region is dependent on • Government grants and unlikely to turn around in the short term. • Human health is in crisis, with very high levels of HIV/AIDS and • tuberculosis.

8. Lower-Limpopo – Chokwe (From Chokwe to Xai-Xai)	<ul style="list-style-type: none">• Low-lying area dominated by the Limpopo River flood plain, used extensively for agriculture• High population density in urban centers.• Area heavily affected by severe flooding caused by cyclones, as well as heavy rainfall upstream.• Uniquely, in addition to the flooding, the area also undergoes significant periods of drought• The area's unique vulnerability stems from the reliance on the floodplain by most of the region's population with low adaptive capacity to flooding due to high levels of poverty and reliance on agricultural livelihoods.• Risks of waterborne-diseases.
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ANNEX 3: INTERNATIONAL DAYS RELEVANT FOR RESILIM

2015	October	5	World Habitat Day
		13	World Disaster Risk Reduction Day
		15	International Day of Rural Women
		24	International Day for Climate Action
	November	20	Universal Children's Day
	December	5	World Soil Day
11		World Mountain Day	
2016	February	2	World Wetlands Day
	March	3	World Wildlife Day
		14	International Day of Action for Rivers
		21	International Day of Forests
		21	World Planting Day
		22	World Water Day
	April	22	International Mother Earth Day
		29	Arbor Day
	May	22	International Day for Biological Diversity
		22	World Climate Finance Day
	June	5	World Environment Day
		8	World Ocean's Day
	July	18	Nelson Mandela International Day
	August	9	International Day of the World's Indigenous People
		12	World Elephant Day
	September	16	International Day for the Preservation of the Ozone Layer
		22	World Rhino Day
		27	World Tourism Day