

Fieldbook: Exploring biodiversity in landuse planning & enterprise development

Moletele Youth Programme



USAID: RESILIENCE IN THE LIMPOPO BASIN PROGRAM (RESILIM) – OLIFANTS



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SOUTHERN AFRICA

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How to use this field book

This is a field book. You will use it to guide you during activities and learning experiences over the duration of the programme. You will be expected to bring the field book along to all sessions.

This field book is made up of six modules: In each module there are a number of tasks that you have to complete. At the end of each module there is a task for you to complete on your own at home. At the beginning of each session you will be given an opportunity to give feedback on your homework task.

Note that the tasks are designed to provide you with a learning opportunity whereby you will engage in:

- Group work
- Individual tasks
- Fieldwork
- Two projects

Always come to the field prepared for field work. This means you are to wear comfortable clothing, closed shoes, hat, water bottle and medication (if required).





Module 1: Orientation to the Landscape

In the first module you will be orientated to the physical geography of your land. The orientation is important for you to know where different areas are on your land and how the landscape has been changing over the years.

We will also look at your role in this changing process.

LEARNING OUTCOMES

By completing this module you will have learned about:

- The aspirations that people have for future use of the land
- The spatial location of various Moletele farm portions
- The various land uses occurring on the land.

YOU WILL NEED

For this module you will need the following:

- Your Field Book
- Camera
- Colour Pens and markers
- Flipchart
- A3 sheet of paper
- Magazines
- Internet access

Activity 1: Creating a vision for the place where you stay

Step 1:

The first step involves visioning. A vision means what you would like the future to look like based on your dreams and goals.

- a. Sit in pairs and discuss what you would like to include in a vision statement or picture for yourself and the Moletele Community.



- b. You may use drawings, pictures from magazines or any other mediums that you would like to create a vision in picture form.
- c. Explain to your group what you have included in your future vision and why
- d. Are there elements that are common to everybody in the group that may be part of a vision for the Moletteles? List them

Activity 2: How is the land used?

Day trip to farm portions. Before we go out for the field, you will be look at the map showing the Molettele land. The purpose of the trip is for you to have an idea of what the land is used for. During the field trip, we will stop at a number of farm portions where our field guide will tell us more about the farm portion.

Step 1:

- a. Travel around the portions of land owned by the Molettele CPA noting the different farm names in the table below
- b. Indicate the main land use for each portion.

TABLE 1. LAND USES ON MOLETTELE LAND

Farm Portion Name	Main land use on farm portion
1.	
2.	
3.	
4.	



DID YOU KNOW?

- The Moleteles currently have 52 farm portions registered in their name.
 - These portions cover an area of approximately 10,000 hectares.
 - All these farm portions are located in Maruleng Local Municipality
 - Some of the most highly productive agricultural land in South Africa is found in this municipality.
-

Activity 3: How well do you know the place where you stay?

Some people live in a place for a whole lifetime but are not sure what can be found on the land. During this activity you will see how much you and your team members know about the place where you stay.

Step 1: Myths and Legends of Moholoholo

For this step you will interview each other



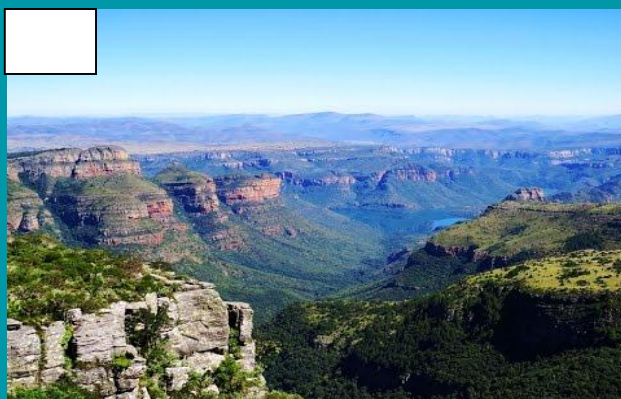
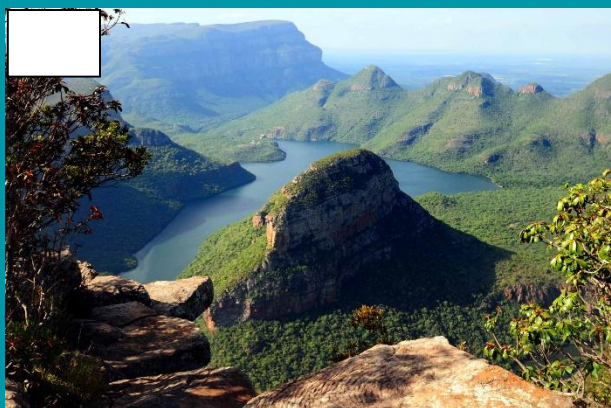
- a. What is shown in the picture above?
- b. Where is Moholoholo located?
- c. What is the meaning of Moholoholo?
- d. What stories have you heard about Moholoholo?

You will now listen to a brief account of Moholoholo. How different is it from what you know or have been told about it?



Step 2: Places to visit

Use the list of names provided below to correctly identify the areas shown in the pictures



- A. Bourke Potholes
- B. Mac Mac Pools
- C. Table Mountain

- D. Three Rondawels
- E. J.H. Strydom Tunnel
- F. Blyde Canyon



Step 3: Let's talk

- a. Using the pictures above, discuss why these sites are important?
- b. Do you know of any other local, important sites that should be included in this list?

Step 4: Do your homework

- a. Split into groups of two.
- b. Using the internet, find out how each of the sites you mentioned are marketed?
- c. Prepare a small presentation for the next meeting



Module 2: Important and useful tools

There are many different tools and methods that are used to represent location, the natural landscape. In this module you will be introduced to some of these mapping tools and the legislation associated with spatial planning.

LEARNING OUTCOMES

By completing this module you will have learned about:

- The various tools used to represent different aspects of geography.
- the legislation used by municipalities to guide spatial planning
- the priorities of the Moletete CPA to develop the community

YOU WILL NEED

- Maps
- Internet access
- A3 blank sheets of paper

Activity 1: Tools that help us know what is around us

You will be introduced to tools used to create maps, to show the location of areas in relation to each other and to represent different features of an area.

Step 1: Introduction to tools for spatial planning

Today's presentation will be on mapping tools and instruments

Step 2: Mapping Exercise

- a. You will work in pairs to complete this task.
- b. Use the A3 blank sheet of paper provided to map out the areas you visited yesterday.
- c. You may use Google Earth to help you in drawing your map.
- d. Indicate on your map the route you took to get to these areas.
- e. At the end of the activity you will give feedback on your map the rest of the group.



Activity 2: Finding things!

Using Google Maps, find the following places. Put a pin on all these places.

- Hoedspruit Police Station
- Your family home
- A church in Moloro
- A forest area
- The highest peak on Moholoholo mountain
- Moditlo Game Reserve
- Klaserie Dam

The first team to find all these places will win a prize!!!!

Activity 3: Tools for spatial planning

In this activity we will learn more about key concepts in land use planning.

Step 1: An introduction to spatial planning

The municipality plays a key role in the development and planning of a municipality. It is important for you to be aware and know about what goes into spatial planning to be able to think and plan better for your land.

- a. We will have the municipality's spatial planner sharing with us the work they do in land use planning.
- b. Ask questions.
- c. Take notes during the session (one of your assignments for the programme is to develop a land use plan for the Moletele land).

Step 2: Do your homework

SPLUMA (Spatial Planning Land Use Management Act) is the most recent national legislation on spatial planning. You will be provided with a copy.

- a. Read the Act and make notes on the key principles of the Act.
- b. Study the Moletele Constitution to understand the objectives, mission and vision of the MCPA



Module 3: Natural resources and biodiversity

Natural resources are a source of life for us all. The availability of natural resources depends largely on how we use them. Different parts of the landscape offer different kinds of natural resources such as vegetation. In this module we will be introduced to vegetation types.

LEARNING OUTCOMES

By completing this module you will have learned about:

- Different vegetation groups
- The value of natural resources as a source of different benefits

YOU WILL NEED

- Field Book
- Book on Biomes of South Africa
- Guide on vegetation types
- Manual on indigenous trees and plants in Southern Africa
- Camera
- 4m X 4m String and Plant press
- Closed shoes for the field
- Water bottle

Activity 1: Our growing wealth

Step 1: An introduction to vegetation types

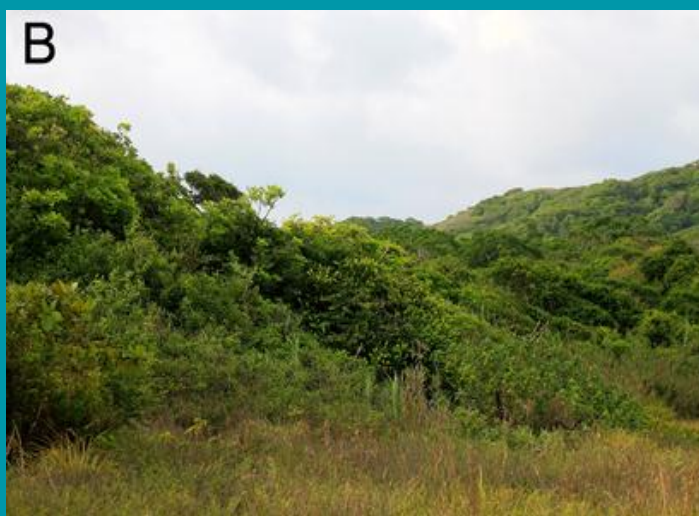
To begin this activity you will listen to an introductory talk on:

- Vegetation types
- The importance of vegetation for people
- The difference between biomes and vegetation types



Step 2. What is the difference?

Study the pictures below:



- a. Are there any differences between the two pictures?
- b. If yes, what is different?

Step 3: Vegetation types on Moletele land

Field exercise:

We will visit one farm portion to look at vegetation types. For this exercise you will work in two groups on a 4m by 4m plot. Each plot will be subdivide into 2m by 2m.



Within the plot you will have to:

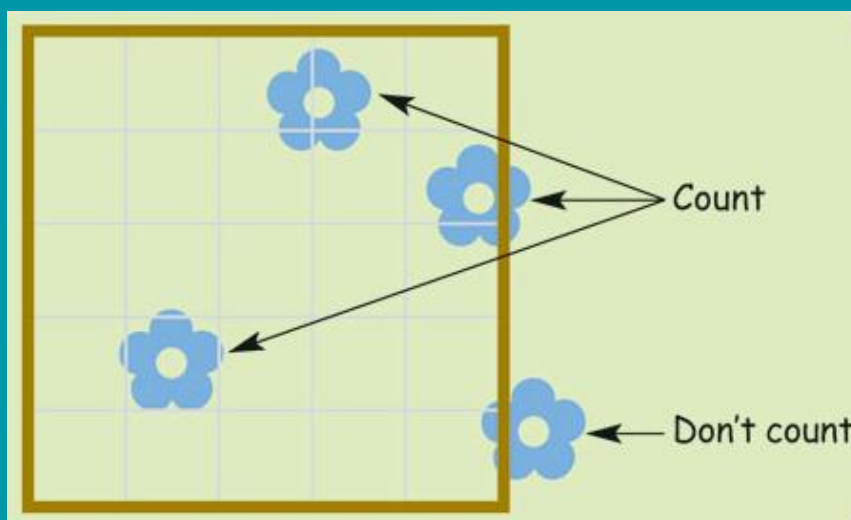
- Count the total number of plants and trees present
- Count the number of different types of plants (are there only grasses or are there trees as well?)
- Using your *Vegetation types guide* to identify the vegetation types on your plot
- Draw up and complete a table such as indicated in Table 2 below.
- Are there any differences in the vegetation types on the two plots?
- What would you say are the reasons for the differences?
- Think about the area where you live? Which vegetation type do you think your area is in? Why do you say so?

TABLE 2. VEGETATION SURVEY

Farm Name	Plot number	Total number of plants present in the plot	Total number of different plants in the plot	Vegetation type
<i>Example: Scotia</i>	<i>1</i>	<i>12</i>	<i>2: Grass, trees,</i>	<i>Legogote Sour Bushveld</i>



Example of a field visit and how to count the vegetation on you plot



Step 4: Do your Homework - Opportunities offered by different types of vegetation

Different vegetation types offer different resources to people and animals. You will investigate what opportunities are offered by different vegetation types.



Look at the following pictures as examples of opportunities offered by different vegetation types



Canopy tours

Canopy tour activities are usually done in mountainous and/or high lying areas. Forests usually exist in such areas and offer a great opportunity for such an activity

Game Reserves


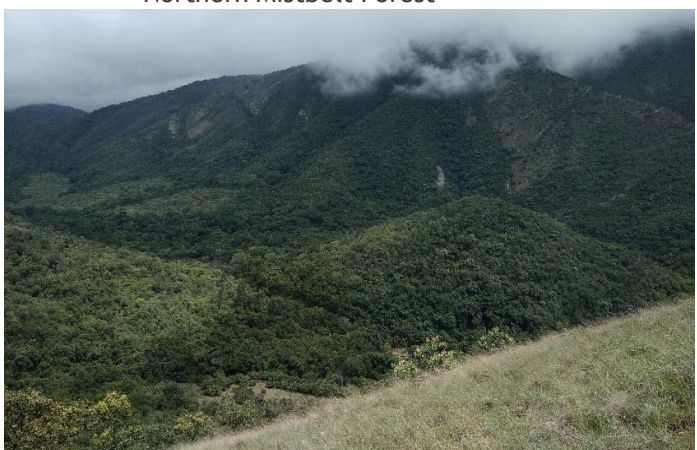

In this second picture one can see the type of habitat required to have a game reserve. In many parts of South Africa the savannah is a suitable area to own a game reserve.





Use the pictures below in Table 3 to do your own research on what types of opportunities are offered by these vegetation types

TABLE 3. OPPORTUNITIES OFFERED BY VEGETATION TYPES

Vegetation type	Business Opportunities
<p>Sour bushveld</p> 	
<p>Northern Mistbelt Forest</p> 	
<p>Legogote Sour Bushveld</p> 	



Activity 2: Our changing landscape

In this task you will be introduced to the concept of land use and will be using maps to look at changes in land use over time.

YOU WILL NEED

- Maps on land use changes
- A3 blank paper
- Coloured pens

Step 1: Analysing land use change patterns

You will be provided with three maps which represent the change in land use in a rural area over a number of years.

Study the three pictures and discuss the questions below:

- a. What were the land uses on the land in the 1970's?
- b. What were the new land uses in the 2000's?
- c. What impact does these developments have on:
 - People?
 - The environment?
- d. What other opportunities do you think exist on this land?

Step 2: Risks and Opportunities

Looking at the maps, how do land use changes impact on:

- a. People?
- b. Animals?
- c. Tourism?
- d. Food production?
- e. The economy?
- f. Natural resource availability?
- g. Having looked at the risks and opportunities, draw up your own representation of all the land use activities in a way that will show the best use of the land.



Step 3: The bigger picture of “what are we are not seeing”

Some risks that we need to consider for land-use planning are not as obvious as the changes we can see in a map. For example, changes in the climate happen slowly and are not always observable in a very tangible way. This makes risks such as climate change impacts so dangerous - we cannot always see them coming! This section introduces climate change and how it can impact risks and opportunities related to land-use planning.

Activity 3: What is our local climate? How is it changing?

We will have a group activity to draw up a temperature and rainfall calendar for our areas - indicating the rainfall and temperature for each month of the year. Then we will discuss how climate change could change these calendars.

For this activity we will use:

- a blank flipchart paper;
- Koki's (at least 3 colours);
- Prestik; and
- Sticks

Study further: translations and conversations

- a. How would you translate climate change to explain it using your mother tongue?
- b. Try to explain these concepts to an elder (e.g. grandfather or grandmother) and ask them if they have seen any changes comparing now with when they were your age.



Project 1: Development of a Land Use Plan for the Moletele Land

Land-use planning is often assumed to be only the role of the municipality. By now you have been to your land and have seen the role that land owners play in the development of their land and their wider community. It is clear that land owners can make important choices in what kinds of land use activities they can conduct on the land. But these decisions cannot be made by the land owner alone, there are legal regulations and restrictions on what can be done on a piece of land. In this project you will get to think about what sorts of land uses are the best for a piece of land and why.

The purpose of this project is for you to develop a land use plan for your land that looks at the best possible combination of land uses for a particular piece of land and its natural resources.

A land use plan allocates land to different kinds of uses. If you are to use the land in the future, it is important to note that it requires careful planning and understanding of what the land can offer. You will also learn about some of the legislation that regulates the way a piece of land can be used.

Instructions

- a. In groups of two you are required to develop a land use plan for a particular piece of land (you will be given a particular portion of a farm to work with)
- b. Your land use plan must be based on what you know about the portion of farm, what we learned from the natural resources on the land, the legal requirements for land use planning, the guidelines for land use planning, the critical biodiversity areas map, economic contribution by activity etc.
- c. Additional support materials can be used to develop your plan.
- d. Your land use plan is the most important part of the project. You will have to present your land use plan in the form of a map but you will also have to provide a supporting document that explains:
 - i. The location of the land in the form of a Google Map with a marker pin
 - ii. The major natural resources on the land (water, animal and plant resources)
 - iii. The zoning of the land according to the SDF
 - iv. The activities that you would like to see on the land according to the guideline
 - v. Categories of the portion of land according to the CBA map
 - vi. How the land use plan complies with the principles of SPLUMA
- e. You must consider the priorities of your vision and the development priorities of Moletele Community.



An example of a land use map



Additional Documentation you will need:

- The SPLUMA booklet is provided and full document of the Act can be downloaded from https://www.gov.za/sites/www.gov.za/files/38594_rg10397_gon239.pdf
- Municipal Spatial Planning Framework (SDF),
- Municipal Spatial Development Plan (SDP),
- Maruleng's Critical Biodiversity Areas Maps (CBA),
- Moletele Farm Portions List
- Municipal Land Use Management Schemes (LUMS)
- The Moletele Constitution



Module 4: Cultural importance of plants and animals

South Africa is referred to as the rainbow nation because of its diversity of people and cultures. Within each culture practices and customs have different values and meaning for people. In this module we will learn more about the cultural significance of the natural environment to people.

LEARNING OUTCOMES

At the end of this module you will have learned:

- About the multiple uses of plants and animals by people
- about the history of the Moitebele people

YOU WILL NEED

- Field Book
- Camera
- Plant samples

Activity 1: Hearing from the Community

Step 1. Indigenous knowledge on plants

Medicinal plants have been used for hundreds of years by people to cure diseases and to improve health and wellbeing of people. Nowadays some of these medicinal plants are cultivated and harvested for selling as there is a growing interest in medicinal products. Some of the most widely used medicinal plants in communities of South Africa include Moringa, the African ginger and Imphepho. (See pictures on next page)

We will have a guest speaker talking to us about the various uses of local plants. Pay attention to types of plants from which people benefit.

- a. List the different plants and their uses which were highlighted during the talk.
- b. List the different animals and their uses which were highlighted during the talk
- c. Using the plant samples you collected during Module 3, find out if what their beneficial uses are to people (if any).

Some of the most widely used medicinal plants in the communities of South Africa

Moringa



African ginger



Imphepo





Step 2: Looking back to the past

History plays a vital role in the lives of people and contributes to the heritage of people. It shapes the lives of people, and has contributed largely to where and how people have lived.

For this activity we will have an elder from the Moletele Community sharing with us the history of the Moletele people



- Prepare a list of questions that you would like to ask the elder.
- Decide who is going to ask which questions.
- Take notes during the talk.
- This is also an opportunity for you to engage with members of your community by asking questions or asking for clarity

Step 3: Do your homework

- Interview an elderly person from your area to find out which plants they used and still use for medicinal, spiritual or cultural purposes.
- List the plants/animals and their uses.
- Find out about your clan praise song (*sereto ka sepedi/xiphatho hi Xitsonga*). Does your clan praise song make mention of any animals? What is the significance of these animals in your culture?
- Take pictures of the plants people use in your village
- You will give feedback at our next meeting on your interview and your clan praise song



Module 5: Opportunities from our precious resources

Animals have an important place in nature and to society. Different kinds of animals are found in different parts of the world. Certain animals have different types of values to different groups of people. In this module we will learn more about the value of animals in our local area.

LEARNING OUTCOMES

By completing this module you will:

- Be more aware of the value of animals in our economy
- Find out more about the value of some animals in your culture

YOU WILL NEED

- Field Book
- Camera
- Field Guide on Biomes

Activity 1: “Tourism is often built on animals, landscape views and cultures”

Step 1: Visiting local conservation/wildlife business

For this activity we will visit a local conservation/wildlife business. The purpose of the field trip is for you to see some animals and to learn more about how animals can be a source of education and contribute to our economy

- List all the animals which you saw during the day
- Which other animals were mentioned as important to our economy?
- Which other animals do you know that are found in this area or you have seen?

Step 2: Matching animal types with vegetation types and eco-zones

- Working in groups of two, do the following activity.
- Match the animals with the vegetation types in which they are found.
- How did you decide which animals belong to which biome?



Step 3: Economic benefits from animals

“Tourism is often built on animals”



- Do you agree or disagree with the above statement.
- Split into two groups. Group 1 will present an argument for and Group 2 will present an argument against this statement.

Activity 2: Mapping climate change impacts on our natural resources

Through the previous modules, we have explored all the various opportunities and values of our natural resources. We have learned how our lives are interconnected with our landscape.

With the following exercise, we will explore the bigger picture, namely, what is threatening this system which we are part of. Climate change is such a large-scale threat that can change the entire context we live in. Particularly relevant for our area, it is very likely that climate change will increase temperatures - meaning hotter days and more heat waves. What could be the consequences of this change regarding the risks and opportunities for using our natural resources?



Step 1: Consequences of climate change

For this activity we will use:

- a blank flipchart paper (one for each group);
 - Koki's (at least 3 colours);
 - Prestik; and
 - Cards (at least 2 colours).
-
- a. Using cards, write down what you think will happen to your natural resources if temperatures increase.
 - b. Think back to the temperature chart that we did in Module 2 - how each month becomes hotter.
 - c. Discuss these impacts within your group, and see if you can identify how these different impacts are linked. Then consider the following questions.
 - d. The landscape and the climate change changes. How could this impact our livelihood options?
 - e. Looking at the impact of increased temperature on our natural resources, how do you think can these changes impact you?
 - f. What actions can we take to address these risks?



Module 6: Making a living from nature

Resources are our source of food and can provide valuable business opportunities if correctly planned for and managed. Making the best decisions on how to benefit from nature requires an understanding of the environment around you and a plan. A business plan enables you with planning carefully for various aspects such as markets, the operation and sustainability of a business. In this module you will learn more about conservation based enterprises and how to develop a business plan.

LEARNING OUTCOMES

By completing this module you will have learned:

- more about how biodiversity can be used to generate benefits
- the important components of a business plan

YOU WILL NEED

- Fieldbook

Activity 1: Visiting an existing business enterprise - The Home of Amarula

During our visit we will learn more about the importance of the Marula fruit for the beverage industry and local people.



The Home of Amarula



- What is the main product?
- What is unique about this product?
- How is it marketed?
- How are the resources sourced to make this product?
- Where in the world is the biggest market for Amarula?
- How much of this product is exported?
- Do you think it has a positive impact on the local economy of Ba-Phalaborwa? How?

Activity 2: Introduction to Business Planning

Developing a business plan is very important to help you to carefully outline how you would achieve your vision for your land. You will be introduced to 11 important components of a business plan.

Step 1: The business planning process

- Attend two sessions which will introduce you to 11 components of business planning.
- These sessions will assist you in the development of your own business plan.



Step 2: How climate can influence our business opportunities?

Below are a few evaluation questions that can be used to include climate change considerations in the business plans as part of a risk management strategy. We covered basics of climate change in Module 3. Using the Amarula business as an example answer the following questions:

- a. How could climate change impact on your product or services?
- b. Think about how extreme weather events such as drought, flooding will impact on a conservation based business.
- c. How would you reduce the risk of climate change impacts on your product and services? What adaptation measures do you have in place?



Project 2: Developing your Business Plan

Instructions

- a. In groups of two, develop a business plan using the 11 step guideline.
- b. Your business plan must detail a local product such as body lotion, beauty product or medicinal product or an activity such as a nature walking trail, a BMX trail, an adventure activity, birding etc.
- c. Your product should have a product name, branding and a logo
- d. You must include an advertising campaign to support your product.
- e. Ensure that you use all 11 steps in developing your business plan.
- f. Consider the vision you developed in Module 1 and the Moletele development priorities in your business plan.
- g. You will be expected to present your business plan to the rest of the group
- h. After your business plan has been finalized you will present it to the Moletele CPA committee.

The Association for Water & Rural Development (AWARD)

AWARD is a non-profit organisation specializing in participatory, research-based project implementation. Their work addresses issues of sustainability, inequity and poverty by building natural-resource management competence and supporting sustainable livelihoods. One of their current projects, supported by USAID, focuses on the Olifants River and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems to sustain livelihoods and resilient economic development in the catchment.

About USAID RESILIM O

USAID: RESILIM-O focuses on the Olifants River Basin and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems that support livelihoods and resilient economic development in the catchment. The 5-year program, involving the South African and Mozambican portions of the Olifants catchment, is being implemented by the Association for Water and Rural Development (AWARD) and is funded by USAID Southern Africa.

*P O Box 1919, Hoedspruit 1380, Limpopo, South Africa
T 015-793 0503 W award.org.za
Company Reg. No. 98/03011/08: Non-profit org.
Reg. No. 006 - 821*



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Acknowledgements: Project Funding & Support

The USAID: RESILIM-O project is funded by the U.S. Agency for International Development under USAID/Southern Africa RESILIENCE IN THE LIMPOPO BASIN PROGRAM (RESILIM). The RESILIM-O project is implemented by the Association for Water and Rural Development (AWARD), in collaboration with partners. Cooperative Agreement nr AID-674-A-13-00008

Authors

William Mponwana & Derick du Toit