

# RESILIENT WATERS PROGRAM BASELINE STUDY

## MASSINGIR

USAID’s Resilient Waters Program aims to **build more resilient and water-secure communities** in the Okavango and Limpopo river basins. Resilient Waters focuses specifically on transboundary water security and resource management; safe, sustainable drinking water and sanitation services; climate change adaptation; and conserving biodiversity and ecosystems.

The purpose of this document is to:

- Provide the community of Massingir with feedback from our study;
- Highlight priority areas for Massingir to become more resilient; and
- Facilitate a planning session based on the information we have collected.

### MASSINGIR AT A GLANCE

We interviewed **35 people in Massingir**

The distribution of people interviewed was almost equally split between youth and non-youth.

* Younger than 35 (49%)	Older than 35 (49%)
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The majority of people interviewed were female.

Male (31%)	Female (69%)
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In Massingir, **farming** is the primary source of income.

### Understanding of resilience in Massingir



Sources of natural shocks and stressors in Massingir are **droughts, extreme wind and wild animals**.

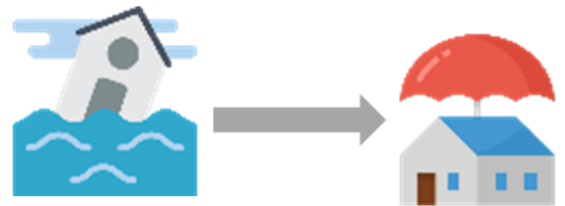


These shocks and stressors negatively impact households involved in agriculture; and result in there being **very limited food and water** for the community



In Massingir, resilience is seen as **social protection from the government**.

### What is resilience?



**Resilience** is the ability to respond to shocks and stressors. There are four dimensions of resilience.

### Absorptive Capacity



Can we **protect** ourselves and **cope** with events?



### Adaptive Capacity

Can we **adjust** the way we live after an event has happened?

### Anticipatory Capacity



Can we make a **plan** for other events that might happen to us?



### Transformative Capacity

Can we **change the way that we do things** based on what we have learned?

\*Age graph: 2% = Prefer not to say



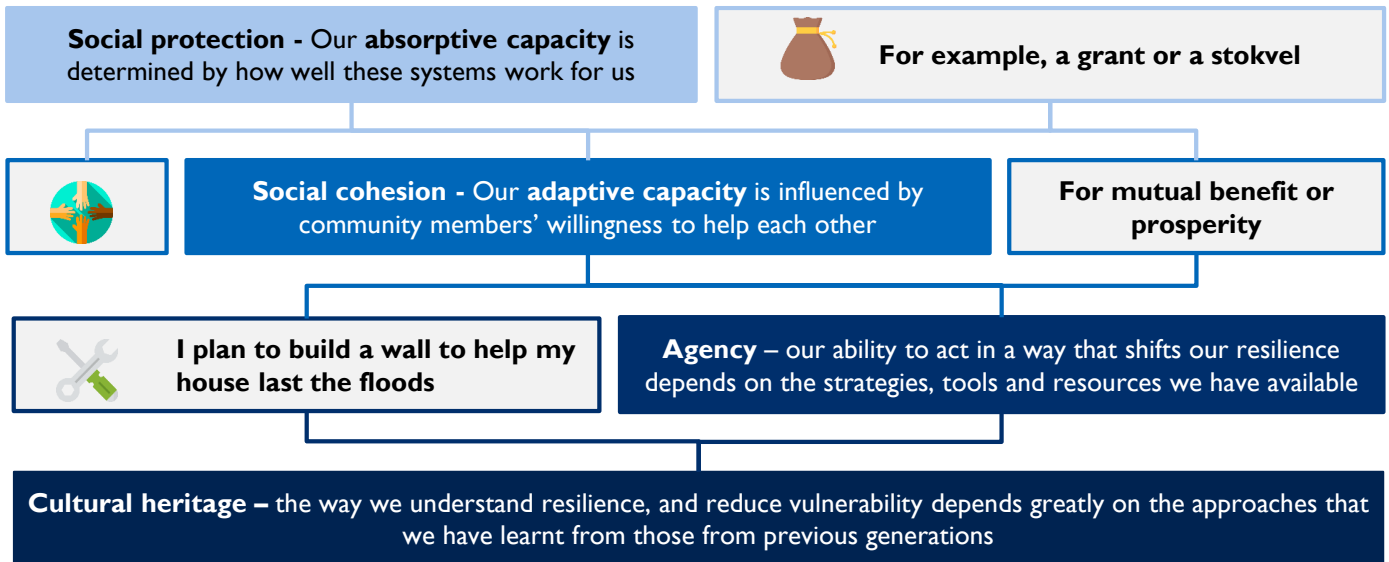
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## BASELINE STUDY

We did a baseline study in 13 communities in seven countries in the Limpopo and Okavango river basins. We did this to find out how households understand resilience, how communities are building resilience, and what this means for our work. One of the areas that we surveyed was Massingir. Massingir falls into the Limpopo River Basin. The Limpopo River Basin covers southern Botswana, northern South Africa, southern Zimbabwe and southern Mozambique.

### WHAT DETERMINES RESILIENCE?

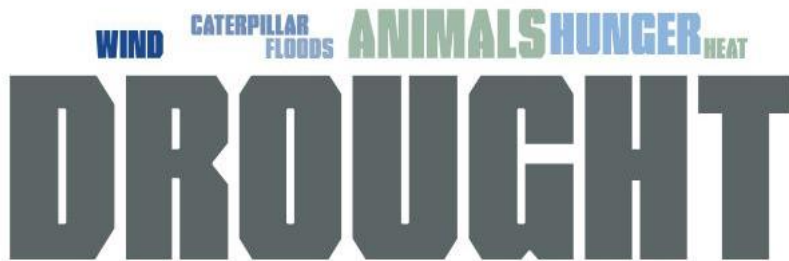
Our baseline study found that resilience is determined by four factors: **1. Social protection, 2. Social cohesion, 3. Agency, and 4. Cultural heritage.**



### WHAT DID WE FIND OUT IN MASSINGIR?

Drought is the biggest challenge faced by communities in Massingir. Droughts have a widespread effect reducing crop yields and increasing food insecurity. This is exacerbated by high temperatures and strong winds. The latter can destroy homes and crops. Natural resources are seen as a source of food and income, but animals are also viewed as a threat, emphasising the concern with animal-human conflict. The latter is likely to increase as competition for the remaining natural resources continues to grow.

### DROUGHT IS THE BIGGEST CHALLENGE IN MASSINGIR



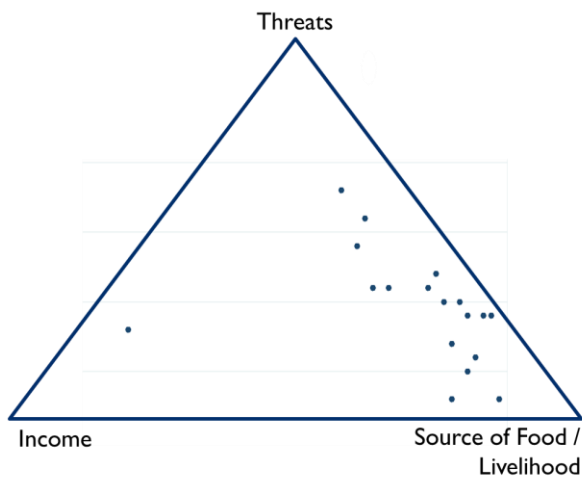
Water shortages caused by the drought is the biggest source of stress for households in Massingir. These have damaging knock-on effects in terms of food security particularly in Massingir where many communities are dependent on subsistence farming for food and income generation. Worsening droughts reduce the crop yields resulting in widespread hunger in the communities around Massingir.

Community members also reported higher temperatures and strong winds. The latter reportedly destroy homes and crops. Community members also noted that the proximity of wild animals is a threat particularly related to damaging crops and endangering stock. The effects of the drought are widespread.

## MASSINGIR AND NATURAL RESOURCES

**Natural resources are source of food and income, but also pose a threat for households in Massingir**

The heatmap below shows that water is primarily a source of food / livelihood in Massingir. The lack of acknowledgement of water as a threat is most likely due to the lack of water in the area, and the community's interpretation of the question.

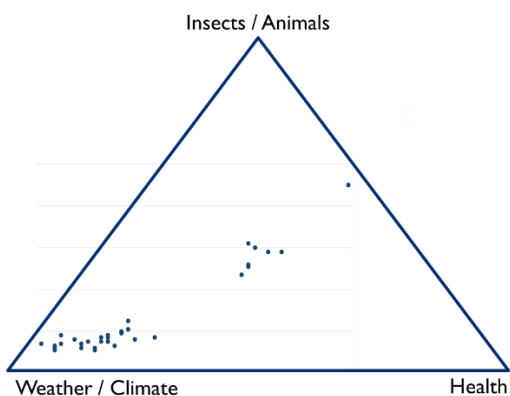


- Plants are primarily seen as a source of food and income. There was a minor acknowledgement of them as threats. This may be due to the scarcity of plants due to drought.
- Animals are seen as both a source of income and food. They can also be seen as threats – recognising the issue of human-wildlife conflict in the region.

## THE CAUSES OF SHOCKS AND STRESSORS

**Weather/climate is the main form of shocks and stressors, with some concern related to the threat of human-wildlife conflict.**

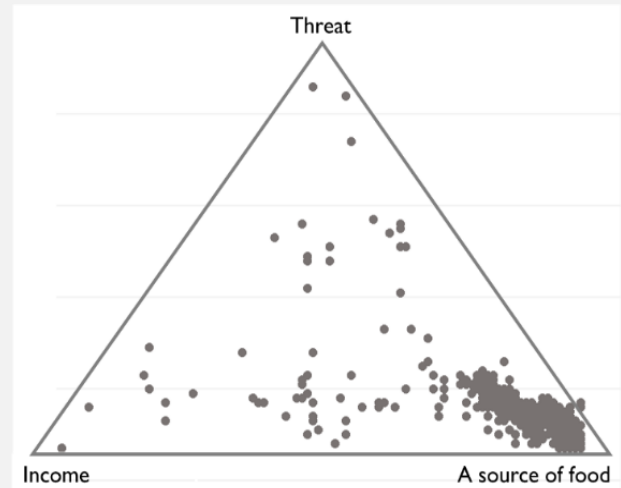
Massingir is heavily affected by drought conditions which in turn negatively impacts on food security. Poor nutrition can further weaken immune systems accommodating for the acknowledgement of health as a shock / stressor.



## MASSINGIR COMPARED TO THE LIMPOPO RIVER BASIN

**As with Massingir, national resources are primarily seen as a source of food or livelihood but can also be threats.**

When compared to Massingir, water (or the lack thereof) is acknowledged as a threat in the Limpopo River Basin. The recognition of water as a source of income is recognized more strongly in the overall basin.

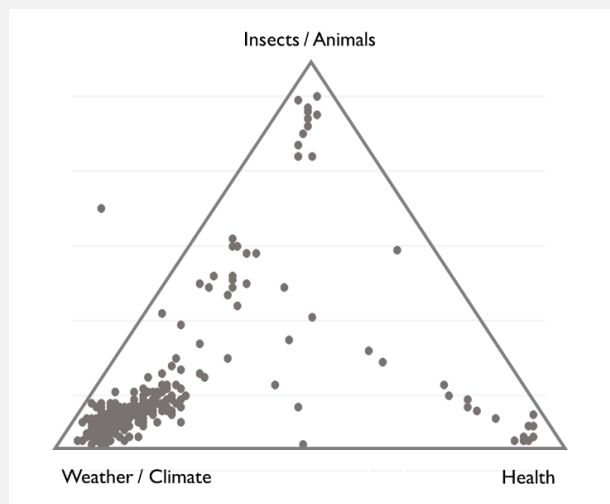


- As in Massingir, plants are primarily seen as a source of food although they can also be a source of income.
- As in Massingir, animals are mostly seen as a source of food but can be both a source of income and a threat.

## THE CAUSES OF SHOCKS AND STRESSORS

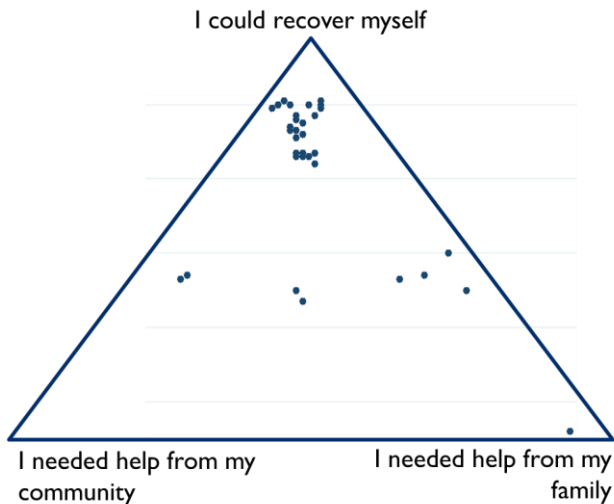
**As with Massingir, water and climate are the main forms of shocks and stressors in the Limpopo River Basin.**

The threats presented by insects / animals and health are acknowledged much more acutely in the basin, as is health which is not viewed as a prominent threat in Massingir.



## RECOVERY FROM SHOCKS AND STRESSORS

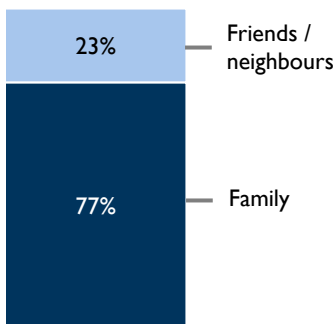
Households in Massingir mostly rely on themselves to recover with few instances of receiving assistance from family and community members.



## SUPPORT AND PLANNING FOR SHOCKS AND STRESSORS IN MASSINGIR

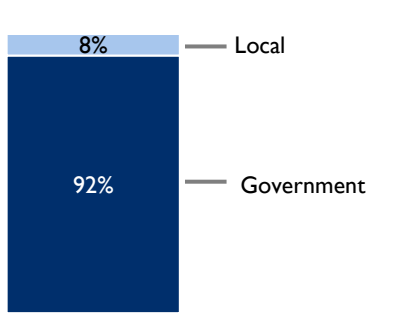
37% of households have people that they can turn to for support

There are therefore very low levels of support in Massingir. Of those that **do have people to turn to**, most could turn to family.



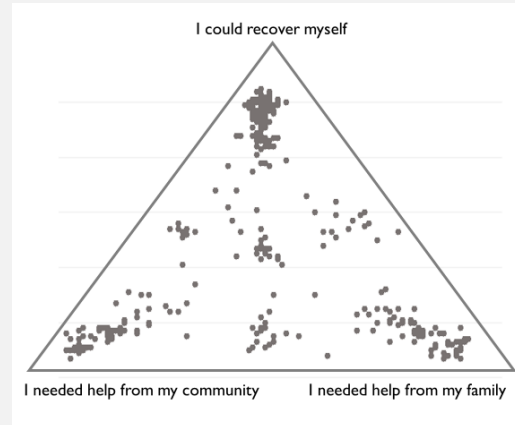
37% of households have organizations that they can turn to for support

Of the 37% who have organizations to, the majority depend on government.



## MASSINGIR COMPARED TO THE LIMPOPO RIVER BASIN

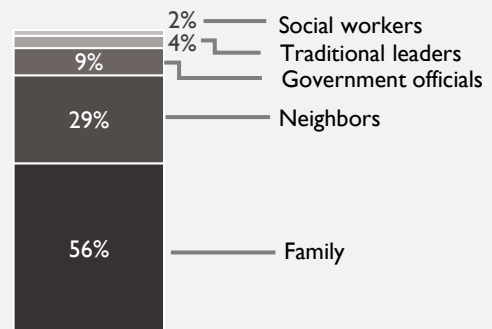
Households in the Limpopo River Basin can draw on help from their family and community as well as themselves. This is different to Massingir where self-reliance is more prevalent.



## SUPPORT AND PLANNING FOR SHOCKS AND STRESSORS IN THE LIMPOPO BASIN

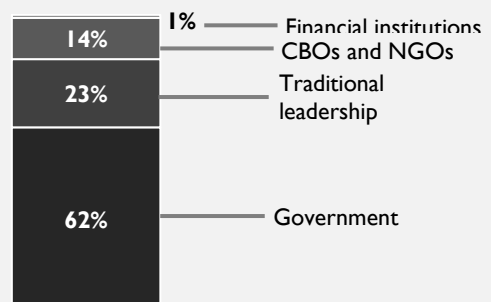
56% of households in the Limpopo River Basin have people that they can turn to for support

This is considerably higher than the 37% in Massingir. Of those who do have people to turn to, the majority (56%) turn to family.



42% of households in the Limpopo River Basin have organizations that they can turn to for support

This is very similar to Massingir. Of the 42% who have organizations to turn to, the majority, as in Massingir, rely on government.



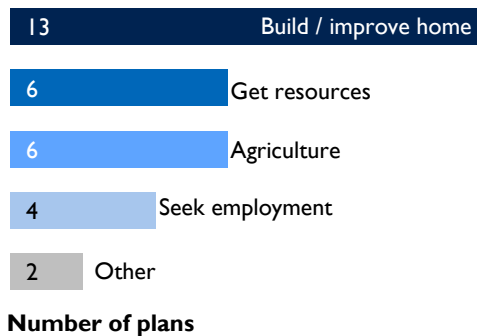
## PLANNING FOR THE FUTURE

Overall, households in Massingir felt **that more resources and to lesser extent more information would help them to respond better** to shocks and stressors in the future.

**What others in the community do and the information received were identified as the most influential for people’s decision-making.** Therefore, there is a need to ensure that there is clear communication within the community to allow for collaborative actions.

**86%** of households in Massingir **have a plan** for future natural shocks and stressors. Of the 86% of households in Massingir that have a plan, many are related to building or improving their home and the need for additional resources. Examples of the plans that people reported include:

- **Build a home:** Many have plans to either build or improve their family home
- **Get resources:** This would either depend on government social relief or NGOs in the area
- **Agriculture:** Maintaining farming practices, keeping chickens, installing water pumps to improve irrigation
- **Seek employment:** Limited income is prompting community members to source alternative employment.
- **Other:** Plans to improve the general community including planting more trees.



**A lack of resources and support prevents people in Massingir from implementing their plans.**

## HOW COULD MASSINGIR BECOME MORE RESILIENT?

Our research has found that communities that are resilient to natural shocks and stressors can 1. Protect themselves from events and adjust their way of living after an event has happened; 2. Make a plan for other events; and 3. Change the way that they do things. More specifically:

**Communities that can protect themselves from events and adjust their way of living after an event have:**

- Strong communication channels
- Strong social networks
- Access to functional institutions

**Communities that can plan for other events that might happen have:**

- A plan for shocks and stressors

**Communities that can change the way they do things:**

- Manage ecosystems well
- Manage water systems well
- Adapt agricultural practices to climate change
- Adapt livelihoods strategies

Communities in Massingir felt that the lack of resources and lack of social support prevented them from making decisions in response to natural shocks and stressors and thus weakens these communities’ resilience given the harsh climate conditions and human-wildlife conflict.

Residents in Massingir felt they would be better enabled to respond to these natural shocks and stressors if they had access to resources. Diversifying income sources plays an important role in this, and climate smart agriculture could play a part in boosting household income.

Massingir is facing challenges of variable access to water that affect the whole community. There are strong community ties, and leveraging these is identified as an important way to strengthen resilience in Massingir. As household decision making is greatly influenced by what others in the community decide, there is a need for more public engagement platforms, such as community radio. This will enable local leaders to communicate with the whole community.

The desire expressed by households in Massingir to improve the community infrastructure provides an opportunity for people to come together, and plan together, for more efficient infrastructure development, and stronger, locally rooted planning.

Based on the findings of our research, the effects of shocks and stressors were experienced in the form of reduced food and water, social support and income / resources. The initiatives highlighted above seek to enable the communities in Massingir to improve their preparation for future shocks, and to recover from these shocks quicker. This is enabled by creating primarily through adaptive farming methods and collective seed purchasing to minimize individual risk.

# OVERVIEW OF USAID'S RESILIENT WATERS PROGRAMME

USAID's Resilient Waters Programme aims to build **more resilient and water-secure communities** in the Okavango and Limpopo river basins. We have four goals:

- 1** To improve **transboundary water security and resource management** in the Okavango and Limpopo river basins
- 2** To increase **access to safe, sustainable drinking water and sanitation** services
- 3** To strengthen the **ability of communities and key institutions to adapt to change**, especially the impact of climate change
- 4** To conserve **biodiversity and ecosystems**

In order to do this we will build:



## RESILIENT INSTITUTIONS

- Institutions are central to managing resources and building resilience
- We are supporting institutions in building capacity to plan, building strong networks, enhancing an enabling environment and meeting their objectives.
- Institutional ownership is important for sustainability.



## ROBUST INFORMATION SYSTEMS

- To manage resources better and build resilience, we need information that is accessible and that can be used to make decisions.
- We are working on filling information gaps, synthesising information and integrating it into decision-making.



## INNOVATIVE PRACTICES

- We need to consider new ways to live to adapt to climate change. To this, we need to understand what these practices are and how we can use them.
- We will support the innovation and systems of dynamic adaptation.