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AWARD
Tech Report
Series

Monitoring Progress

Farmer Field Visits under the AgriSI Project

Bigboy Mkhabela, Cryton Zazu

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USAID | **SOUTHERN AFRICA**



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DAY ONE: 06 February 2018

Participants: Bigboy Mkhabela and Cryton Zazu (AWARD), Nelson Ngobeni (Hoedspruit HUB) and Rorisang Matabane (conservation Africa)

We toured the villages to introduce our partners Hoedspruit HUB and Conservation SA to our farmers and to familiarize them with what we are doing by tracking changes and challenges in the communities since last growing season.

We visited 4 areas, namely:

- Lepelle
- Sedawa
- Bochabelo
- Willows
- Oaks

Team introducing themselves to Patricia (cluster leader)



Failing crops due to lack of rain



Farmer incorporating fruits and vegetables



Sweet potatoes crop





Lepelle

Patricia Ngobeni

- At the homestead of Patricia Ngobeni (one of Lepelle's cluster leaders), the garden was green, but she complained about lack of water, saying the 2017/18 rain season did not provide sufficient rain which made it very difficult for the farmers. This has affected the yield of the springs up the mountains from which they draw water by gravitational force.
- To manage the unpredictable water supply Patricia employs simple water harvesting techniques such as filling empty plastic drums with water for emergency storage.
- She also practice water and soil conservation practices which she learnt from AWARD's AgriSI project.
- In addition she diversify her livelihoods with integrating fruit trees and crop production



Pauline showcasing her Marula stockpile harvest ready for brewing

Spray irrigation with water from the mountain





Paulina Mafoga

- At Paulina Mafoga, residing near Patricia in Malemeng village, we found that she has planted mostly rain dependant crops such as legumes, round Bambara nuts and peanuts.
- Paulina diversifies her livelihood strategically by selling Marula beer (for R30 per 2lt) which she makes from the Marula fruits harvested from nearby trees.
- She also has a flourishing poultry production project, rearing traditional chickens which she sells for R50 each.
- Like Patricia she also complained about insufficient rain received so far in their area.

Flora Mosomo
showing us
her garden



The team are
sampling
peanuts from
Flora's harvest



Flora Mosama

- At Flora Mosoma's homestead she also complained about insufficient rain this year. She however did not have any mulching in her field.
- Flora has planted a variety of crops ranging from Cassava, Sweet potatoes, Pumpkin leaves, Sugarcane, Peanuts and Bambara nuts.
- The Cow peas given to her by the project were infested with spotted beetles and aphids but it seems the beetles were attracted by the aphids.
- Flora is now, given the scarcity of rains, thinking of introducing trench beds as she has seen results from her sister's garden



Clara showing
the team her
fruit trees

Pumpkin Leaf
(Morogo) doing well
in Clara's trench bed



Dried Pumpkin leaf
(Morogo) to be used
next season



Clara Letebele

- From Flora's garden we went across to visit her sister Clara Letebele who is also an active participant in the AgriSI project.
- Clara's garden is well utilized with an integration of fruits and vegetables in the garden.
- She is also practising post-harvest food preservation such as sun drying pumpkin leaves for use later when there are out of season. This will help her cope better with the changes associated with climate change.

* *Brandon* is residing in Lepelle's "Malemeng" village. His field was flourishing with vegetables, but was not available when we visited the field

The Lepelle community's water pipe connections that supply water to their homesteads. The system is leaking badly and needs urgent intervention



A gravitational system from the waterfalls in Lepelle are used for irrigation, bathing and drinking. According to Patricia, this system was initiated in the 1960's



Lepelle Water Supply

We also visited the gravitational water supply system which the farmers (communities) have been using since 1960. This water supply seems to be functioning very well and is a good example of community collective agency and self-organisation. Having said this, it is important to point out that the water supply system is not without challenges.

Some of the observed challenges include:

- There is no control on who is abstracting from the system and how much is being abstracted. (The water continues to flow throughout the year, thus it gives the communities a false sense that their water resource is infinite, hence there is a lot of leakage along the system that are not being fixed).
- It is an open canal system; therefore lots of water is lost due to evaporation, especially during the hot summer days that is characterised by the Lowveld).
- The system is old and due to numerous leakages, the amount of water that reach the farmers are probably less than 50% of what the spring is yielding.
- The farmers are calling for government support to upgrade the water system to make it more efficient. There is a need for support from the government and/or NGO's to formalize support so that water could be shared equally.



The drip irrigation dried up inside the tunnel and the crops are not doing well



Replanted trees have desiccated



The farmer standing next to his trench beds. Behind the trench due to the lack of sufficient rain, the garden is as dry as bones.



Alex's chillies are dying from the heat



Sedawa

DAY TWO: 15February 2018

Participants: Bigboy Mkhabela (AWARD) Nelson Ngobeni (Hoedspruit HUB) and Edgar Kgwedi (Youth Farmer from Willows)

Alex Malepe

- We visited Alex Malepe, one of the promising farmers in Sedawa
- He was very down and seemed like he has lost all hope due to the way his crops were burnt from the sun and the trees he re-planted were also desiccated.
- The Sedawa community has been without Municipal water supply for two months. To make matters worse, it hasn't started raining yet. Even drought resistant crops like chillies are beginning to wither



Christina demonstrating her electronic moisture monitor

Christina's weather station



Christina showcasing her seeds bank initiative from her 2017 harvest

Underground rain water harvesting tank





Christina Thobejane

- Christina Thobejane is one of the local facilitators and she continues to prosper and flourish in terms of her agro ecology farming practices.
- Christina is a good example of small holders utilising modern technologies to support water conservation. She demonstrated to us the use of her electronic moisture monitor which she received from AWARD's AgriSI project via Mahlathini. This monitor determines the moisture in the ground to prevent over watering.
- Christina has a weather station in her yard equipped to determine the weather and capture daily data. She also emphasised the importance of having up to date information on weather for all farmers. Through the social WhatsApp groups she should be able to share the information with many other farmers.
- The Weather station's main features include:
 - Thermometer for measuring air and sea surface temperature
 - Barometer for measuring atmospheric pressure
 - Hygrometer for measuring humidity
 - Anemometer for measuring wind speed
 - Pyrometer for measuring solar radiation
 - Rain gauge for measuring liquid precipitation over a set period of time
- She has an underground rain water harvesting tank. The tank serves as a life line since the community haven't received Municipal water supply in the past two months. The tank is about to run dry. She uses it for irrigation.
- Christina proudly showed us her seed bank initiative from her 2017 harvest. She sells small bags of seed to other agro ecology farmers. (She has more than 13 different types of seed packets for sale: Spinach, Thyme, Tomatoes, Moringa, Peanuts, Chillies, Okra, Pumpkin leaf, Maize and Beans. She also incorporates Marigold into her crops to help control pests



Farmer showing us recently planted crops in the garden with no mulch

Tower garden crops not growing well



Water harvesting tank

Beans planted in the tunnel





Bochabelo

Mariam Malepe

- We visited Mariam Malepe, the cluster leader (who has been newly elected Induna of Bochabelo).
- Her garden and crops were not doing well at all. She complained about the lack of water.
- She further asked us if we can help her procure a water pump so that she can collect water from Lepelle(Oliphant) river as she thinks she has the right to do so. She exclaimed: “Commercial farmers are doing the same without authorisation and I need to support my family and my crops are dying”.
- She also reported that the underground water harvesting tank constructed through the AgriSI project is leaking.



**Malaita Mmapule
(Willows cluster
leader)**

**Farmer
collecting 2lt
bottles to
protect millet
from being
eaten by birds
in her garden**





Willows

Malaita Mmapule

- Next was Malaita Mmapule, cluster leader in Willows.
- Her field was dry as a bone! She reported that it has been 6 months without water.
- She buys water from those in the community who have boreholes. (25lt for R1 and when you buy for R10 you get two 25lt for free).
- Malaita said that “We love farming but water challenges hinder our progress and the issue of less rains make it worse and unbearable for farmers”.



Nelson from HUB discussing with Thomsont he challenges of farming

Crops and Moringa trees protected with improvised shade cloth





Thomson Motseo

- At Thomson Motseo's (Cluster leader) homestead - the field is bare and dry, there is no sign of crops growing, only Moringa trees are on his farm.
- He attempted to introduce his improvised shade cloths in his garden, but the crops are still struggling.



Tunnel in Florence's field



Weeds inside the tunnel



Drip irrigation not utilized,
but well erected



Oaks

Florence Lewela

- We ended the day by visiting Florence Lewela (cluster leader in Oaks).
- There were also no crops in her tunnel, except for weeds.
- The farmer complained about lack of water from the Municipality and a very hot and dry summer.



General Comments & Observations to Carry Forward

What practices are farmers experimenting with?

- In most of the villages there are many trench gardens for tunnels.
- Alley cropping and companion planting.
- New gadgets in the field .e.g. moisture sensors.
- Rain water harvesting tanks are being introduced.
- Farmers are experimenting with new crops in all the villages.
- Some farmers have mulch in their fields.
- Lots of farmers have dug trenches in preparation for tunnels.

What areas needs improvement

- Farmers in Lepelle needs to improve on mulching; especially the local facilitators need to lead by example.
- Control of the spread of aphids on the cow peas. There is a need to experiment with biological pest control methods.
- Diversification of livelihood practices are not yet utilised at its full potential (e.g. bee keeping can be experimented with, marula fruits can be used to make more than just traditional beer but also jam, cooking oil and soap).
- Small livestock like rabbits and chicken needs to be upscaled.
- Mushroom production is another option with good potential given the high demand of mushrooms in the local lodges and urban centres.
- Grey water is not being re-used effectively.
- Farmers need to own their practices, rather than it being for the project.
- The current water crisis requires that we engage with other stakeholders to address the lack of adequate water resources.
- Small holder farmer's right to "access to water for food" needs more exploration.





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The Association for Water and Rural Development

AWARD is a non-profit organisation specialising 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.

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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 programme, 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.

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