



Photo Report
Field visits to Africa RISING Malawi project sites in Dedza,
Machinga and Mangochi districts
15 – 17 February 2017





Summary

A joint field visit for the Africa RISING project and the INVC Bridging Activity was organized to projects intervention sites in Dedza, Machinga and Mangochi districts between 15-17 February 2017. The field tour involved visits to:

- Linthipe and Golomoti Extension Planning Areas (EPA) in Dedza district,
- Ntubwi, Nsanama and Nyambi EPAs in Machinga district, and
- Ntiya EPA in Mangochi district.

Africa RISING partners from the Malawi Government, District Agricultural Offices, Catholic Relief Services and Chancellor College participated. Most of the field discussions centered on sustainable intensification in nutrients and water limited environments. Farmers were excited about the introduction of water management practices alongside practices that increase soil fertility. Despite 2016/2017 having above normal rainfall by the time of the tour, farmers indicated that responsive water management was still vital as seasons such as the current one are now very rare. Graduate students took advantage of the interactions with farmers and extension services to refine their research questions.



Legumes driven sustainable intensification (SI)

The team visited a total of nine Africa RISING mother trials in Dedza, Machinga and Mangochi districts under different SI technologies. Farmers who have interacted with Africa RISING during Phase I could easily articulate practices that result in increased productivity. All farmers cited closer ridge spacing as what could easily be implemented with some training.

Also, the farmers demonstrated deep knowledge on the recommended plant spacing for all the different crops planted in the trial plots i.e. maize, groundnuts, pigeon peas, soyabean and cowpeas. It was also clear that mother and baby farmers viewed themselves as new centers of knowledge in their communities.

On nutrient cycling through legumes, the message that residues were supposed to be recycled (in situ or through livestock) was emphasized by both extension personnel and researchers. Emphasis was also made on the importance of the legumes for nutritional and financial status improvement.



Africa RISING research team in the field viewing some of the treatments in a sustainable intensification mother trial in Linthipe.



Water and nutrient management

Three mother trials under the water and nutrient management theme were visited in Golomoti, Ntubwi and Ntiya EPAs. Similar to the mother trials in the SI technologies, the trial plots had to have their ridges aligned at distances of 75cm apart. In his explanation about the trial, one of the host farmers, Edda Boison, identified co-learning as one of the major strengths of using the mother- baby trial approach.

An important highlight was also made on the tied ridges being promoted in the water and nutrient management trial plots. Farmers recognized tied-ridges as part of the solution to poor harvests linked to erratic rainfall. With tied-ridges, soil erosion is minimized while the extra water stored mitigates the negative impacts of dry spells. An important discussion point was related to the need for simultaneous management of water and nutrients – water management alone doesn't substantially increase yield but that yield improvement is achieved as a result of a combination of good management and optimal nutrient management. The mother trials were designed to adequately quantify the water effect, the nutrient effect, as well as the nutrient x water effects. This is part of a PhD thesis study.



When asked about the reason why tied ridging is not practiced by most farmers, one of the mother trials host farmers stated that some farmers don't just have interest to follow improved technologies. However he continued to say that he was confident that more farmers would begin practicing tied ridges once the farmers observe a difference in yield between their harvests and the Africa RISING participating farmers and also when the research results of trials are disseminated to the other farmers. As Africa RISING, we are therefore being challenged to champion a research to impact pathway for these communities.



With tied-ridges, soil erosion is minimized while the extra water stored mitigates the negative impacts of dry spells.



Residue management themed interventions

The team also visited mother trials that are focusing on residue management in Ntubwi, Nsanama and Nyambi EPAs. Three farmers (Agnes Tiyesi, Harry Milanzi and YakumalaYusufu) hosting the residue management trials were visited in Ntubwi, Nsanama and Nyambi. In their description of the trials, the farmers reiterated what other farmers said about ridge realignment and adherence to recommended planting spacing of the crops on the trial field.

One of our objectives is to assess how management of residues of different quality and in different quantities (with and without tied ridges/water management) affects immediate crop productivity and residual effects over a 3-year cycle. Burning of crop residues as part of land preparation is one of the challenges that were highlighted by farmers. It is therefore critical to demonstrate that the benefits associated with retention of residues in the field offset the additional labour burden associated with land preparation without burning.



A mother farmer explaining activities at his mother trial in Nsanama EPA.



Catalyzing sustainable intensification through local level seed production

Africa RISING is working with over 300 households that are producing groundnut and soyabean seed on 0.1 ha. Farmers were trained on basic seed production procedures and were provided with foundation seed. We anticipate that each of the beneficiary farmers will produce enough seed for at least 10 new farmers to produce the grain legumes on 0.1 ha during the next cropping season.

Seed producing farmers were visited in Linthipe, Mtubwi, Msanama, Nyambi and Ntiya EPAs. Each of the seed producers received 10 kg of foundation seed for Makwacha soybean or CG7/JL24 groundnut varieties. During discussions, farmers mentioned inoculant use, double-row planting of legumes, and closer ridges that ensure that soil is quickly covered by the crops.



Muhammad Grant's 0.1 ha groundnut seed production field in Nsanama EPA. Productivity is estimated to be at least 1.5 t/ha.



Africa RISING INVC Bridging Activity

During the field tour, the team visited 2 sites of the project in Linthipe and Ntiya EPAs where soybean production is being carried out. In Linthipe, Chitowo Cooperative farmers were visited. The cooperative has a total of 1476 farmer membership, 799 female and 677 male farmers. The INVC Bridging Activity farmers also received 10 kg of Makwacha soybean seed. Farmers in the cooperative have gained new knowledge on inoculant use in soybean production, double rows planting and closer ridge spacing. The farmers collaborate with Agricultural Commodity Exchange (ACE) to identify reliable buyers of their produce. Farmers are expected to keep part of the produce for consumption.



In Ntiya, the team visited Tujulunda club where farmers are producing soybean to be sold collectively as a group. Unlike farmers in Linthipe who prefer Makwacha variety, the farmers in Ntiya opted for Tikolore soybean variety. Mr Yusufu George, one of the farmers visited, explained that he chose Tikolore because the grains are heavy. Farmers clearly explained that during the next cropping season, they would plant maize in sequence with the soyabean so as to benefit from soil fertility inputs by the legumes. In the visit to another field of one of the members of the cooperative, it was note worthy to realize that farmers are now beginning to realize the importance of ridge alignment because according to him, even though. On the additional labor associated with closer ridges (more ridges will be made per area), farmers explained that that this additional labour would be compensated for by higher crop yields.





Field day and farmer exchange

A field day was held in Nyambi EPA in Chapola and Sale II villages where a mother trial and seed production fields were visited. About 40 farmers from Msanama and Mtubwi EPAs travelled to Nyambi EPA as part of farmer exchange activities to benefit from cross site learning. Traditional leaders from the surrounding communities also attended the field day.

Farmers were taken on a tour of a mother trial and soyabean seed producing site. Much of the discussions happened in the field as enthusiastic farmers wanted to learn more from researchers about varieties and inoculant use. Later, farmers employed drama, song and poetry to communicate important messages on crop production practices, post harvest management of crops, household consumption and nutrition benefits as well as income benefits associated with intensified farming.



Challenges identified from the discussions centered on crop-livestock interactions – pigeonpea intensification curtailed by severe damage from goats. In his speech, the District Agricultural Development Officer (DADO) for Machinga indicated that the Machinga district council was in the process of formulating bye laws to tackle the livestock problem so as to enhance increased adoption of pigeonpea production in the district. This field day was attended by 210, with 65% female participants.





A cross-section of participants who attended the field day in Nyambi EPA viewing a residue management mother trial field.



The DADO further commended Africa RISING for bringing the project to the area as the project is feeding into the strategies for addressing food insecurity in the district. The DADO particularly highlighted four strategies that are used to address food insecurity and these were:

- growing improved varieties,
- crop diversification, good soil management, and
- legume production.

He commended Africa RISING for encouraging farmers to practice all the four strategies, especially legume production, which will contribute to soil fertility restoration in the area.

Dr. Hoeschle-Zeledon, the Africa RISING Project Manager for ESA, explained the Africa RISING approach – working with stakeholders for change. The expectation is for crop production intensification to continue beyond Africa RISING’s active engagement phase with farmers.



The questions that farmers had asked were much appreciated and would become an input as Africa RISING refines its strategy to increased research to impact. Finally, the Group Village Headman, Mr. Sale, thanked Africa RISING for the field day activity as well as for bringing the project to his area. He also thanked the extension officers and Africa RISING team for working hard in extending knowledge of different improved technologies that will improve the lives of the people in the communities.



Conclusions

Narratives from farmers were detailed and must be used to inform the research process. Farmers engaged by Africa RISING from Phase I articulate key messages well and could be used as new change agents in new areas as Africa RISING reaches more farmers in Phase II. The seed systems objective is very popular – at 0.1 ha, farmers seed a real path to both increased productivity and production. Therefore, scale matters as we push for technology adoption. This is the realm of development partners and Africa RISING must continue to catalyze this path as part of Research in Development (RinD).



List of participants

No	NAME	ORGANISATION
1	Dr. Irmgard Hoeschle-Zeledon	IITA
2.	Dr. Regis Chikowo	IITA/ AR
3.	Dr. Elizabeth Sibale	IITA/INVC
4.	Dr. Gundula Fischer	AR Tanzania
5.	Dr. Vimbayi Chimonyo	AR Malawi
6.	Jonathan Odhong	IITA Nigeria
7.	Mulundu Mwila	SIMLEZA- Zambia
8.	Osmond Chapotoka	Ministry of Agriculture, Irrigation and Water Development (Maid)
9.	Joshua Mphanda	MoAIWD
10.	Emmanuel Jambo	AR Malawi
11.	Edward Mzumara	AR Malawi
12.	Gift Ndengu	PhD student
13.	Jester Kalumba	LUANAR student
14.	Mireille Mkandawire	MoAIWD
15.	Ruth Chimbenji	MoAIWD
16.	Rosina Malamba	MoAIWD
16.	Dennis Mahata	MoAIWD
17.	Hannah Livuza Munthali	AR Malawi



Africa RISING local partners in Malawi

Non Governmental Organizations

- Agricultural Commodity Exchange (ACE)
- Catholic Development Commission in Malawi (CADECOM)
- Catholic Relief Service (CRS)
- We Effect (WE)

Malawi Ministry of Agriculture

- Agriculture Development Division (ADD)
- District Agriculture and Livestock Development Offices Malawi

International Research Centers

- International Center for Tropical Agriculture (CIAT)
- International Food Policy Research Institute (IFPRI)
- International Institute of Tropical Agriculture (IITA)
- World Agroforestry Centre (ICRAF)

Academic Research Institutions

- Michigan State University (MSU)
- Lilongwe University of Agriculture and Natural Resources (LUANAR)
- Wageningen University and Research Centre (WUR)

Allied initiatives and projects

- Malawi Improved Seed Systems and Technologies Program (MISST)
- Soils, Food and Healthy Communities, Malawi (SFHC)

Farmer organizations

- Farmers' Union of Malawi (FUM)



Credits

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“Africa Research in Sustainable Intensification for Next Generation”.

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