WWF-Milestone 6: Fifth progress report above including a focus on improving social agency for value chain support

EXECUTIVE SUMMARY

During this period, village-based learning groups in KZN (11) and EC (7) respectively, have continued with their prioritized CRA learning and implementation processes.

- Conservation Agriculture has been implemented in KZN (126) and EC (30). Field monitoring has been undertaken for around 60 participants. Experimentation has included: intercropping, crop rotation, strip cropping, cover crop mixes, perennial fodder and short season maize, awa use of tractor drawn 2 row planters to plant larger fields to CA.
- This season 9 participants from Bergville and 2 from the Midlands in KZN are involved in fodder supplementation. A large group in Ozwathini (Midlands) are still active in their calf rearing farmers' association (43 participants).
- Vegetable production: 20 Micro tunnels have been procured to bring the total to 90 and are in the process of being installed. Learning sessions in soil fertility, liquid manures, bed design, tunnel construction, natural pest and disease control have been undertaken mainly in the EC, in 7 villages for 144 participants.
- Bucket drip irrigation systems have been installed in 53 tunnels to date and is ongoing.
- The household poultry production units (now 118 participants) have been supported throughout: farmers are now providing monies for further orders of birds and feed.

Monthly farmers market stalls have collapsed in Bergville (KZN), partly due to the seasonal shift in emphasis for the farmers and partly due to the village- based pension pay out points being discontinued by SASSA. Recently, a collaborative effort with the Uthukela Economic Development Agency has been agreed to and the first market was held in Emmaus on the 2nd of March 2022, with and overall income of R1 350 for 19 farmer participants. In Ozwathini (Midlands, KZN), the learning group has continued with their monthly market stalls independently of MDF and have tried out a number of interesting variations. At total annual income of around R78 000 has been realized from these market stalls, for an average of 12 participants per market day and an average income of R250 per participant per market.

Stakeholder engagement in the period has included:

- Conservation Agriculture farmers Day: Emmaus Bergville 2nd March 2022
- UCP Programme: 34th Quarterly meeting – Matatiele 25th February 2022
- Presentation by Erna Kruger of a paper "CbCCA in central Drakensberg improves resilience for smallholder farmers." on 15th march at the SAMC conference
- Presentation of the farming for Climate Justice research at the Asset Research symposium at Stellenbosch University on 14th March by Temakholo Mathebula.

The mid- term evaluation of this project was undertaken by the MDF team and Margaret Jack mid- December 2021- mid January 2022.Recommendations have been made for each area (Matatiele, SKZN, Midlands, Bergville) and suggestions have been included into the planning and ongoing work.

NARRATIVE REPORT

PROJECT DETAILS

Project No and Title	GT06177_ID315_ Climate Resilient Agriculture in mixed smallholder farming systems allows for sustainable food and nutrition security and local incomes for the rural poor in the lower Drakensberg foothills of KZN and the Eastern Cape.
Date of approval	6th October 2020
Start and end date	1st October 2020-30th August 2022
Project value	R3 000 000

Contractor's name	Mahlathini Development Foundation
Project objectives	Increased productivity and resilience in the mixed smallholder farming system through implementation of a basket of Climate Resilient Agriculture practices: 1. Work with existing CCA learning groups to scale up production in the short term within the confines of the COVID-19 pandemic 2. Support a range of intensified food production activities; vegetable production, field cropping and livestock integration 3. Improve social agency for value chain support (VSLAs', bulk buying, local farmer centres and local marketing initiatives)
Project outcomes	*Outcome 1 - Food and nutrition security at household level for poor, rural homesteads with enough farming income to sustainably maintain farming activities in the short term* 1. Activity 1 - Learning group review and planning sessions to prioritize each participant's most appropriate basket of CRA practices to be implemented, within the present confined of the COVID-19 pandemic and climate change 2. Activity 2 - Prioritize a basket of appropriate adaptive practices for the individuals and groups involved within different thematic categories: Crops, livestock, water, soil and natural resources 3. Activity 3 - Provide learning and implementation support for the CRA* practices using a Participatory Innovation Development (PID) approach *Outcome 2 - Development of social agency for community led local economic development and social safety net Improvement of the natural resource base* 4. Activity 1 - Build social and economic capital within each of the learning groups using approaches such as Village savings and loans associations (VSLAs), farmer centres, small business development and local marketing initiatives 5. Activity 2 - Set up a participatory monitoring and evaluation (PM&E) system for monitoring and assessing the impact of the CSA practices on livelihoods and resilience. 6. Activity 3 - Use an iterative approach of farmer level experimentation and social learning to build local adaptation and innovation capacity
Reporting period	October 2020- 30 August 2022
Significant approved changes	None
Changes in capacity to deliver outcomes	None

1 PROGRESS PER OBJECTIVE AND OUTCOME

The last three months have been focused primarily on field cropping and the Conservation Agriculture experimentation processes. In addition, installation of micro tunnels and drip kits, learning on agroecological gardening practices and continuation with the poultry production aspects have been given some attention (12 villages in KZN and 7 in EC). A total of 372 participants have been supported

We have continued with local marketing processes where possible, mostly with organic produce market tables at central points, such as pension days, hospitals and taxi ranks.

Table 1: Progress against specific outcomes and activities for the period January -March 2022

Outcome	Activities	Progress (Milestone 5)
Livelihood security at household level	1. Learning group review and planning sessions	KZN: Ezibomvini, Stulwane, Vimbukhalo, Eqeleni, Emadakaneni, Madzikane, Gobizembe, Mayizekanye, Ozwathini, Spring Valley, Ngongonini, Plainhill EC: Rashule Nkau, Lufefeni, Mngeni, Ned, Mechachaneng, Nkasele CCA introduction workshops held for 4 new villages in the EC

	2. Prioritized baskets of appropriate practises	**Gardening:** Tunnels, drip irrigation, mixed cropping, natural pest and disease control, trench beds and eco-circles, tower gardens and greywater management **Conservation Agriculture:** Experimentation with close cropping, inter cropping crop rotation, cover crops, perennial fodder crops, short season maize varieties and 2row tractor drawn no till planters. **Livestock integration:** Continuation of micro poultry enterprises (broilers and layers). Procurement of brush cutters for more intensive veld grass baling
	3. Learning and implementation support	**Conservation Agriculture**: ✓ Planting and monitoring of CA plantings in 13 villages in KZN and EC. ✓ Late planting of short season maize and cover crops plots in KZN (22 participants) Livestock integration: ✓ Fodder supplementation experimentation and monitoring in KZN (11 participants) Gardening: ✓ Tunnel construction training KZN and EC (20 tunnels) ✓ Gardening learning and mentoring in bed design, greywater management, organic soil fertility, natural pest and disease control (98 participants in EC) ✓ Drip kit construction learning workshops in KZN and EC (53 participants)
Social agency for LED and social safety nets	1. VSLAs, business development, farmer centres	✓ Monthly farmers market stalls for Midlands KZN ✓ Marketing in Supermarkets and in association with Uthukela Development Agency in Bergville KZN ✓ 26 VSLA's in KZN; monthly mentoring and share out meetings. ✓ Continuation with bulk loan fund for two new groups (Ngongonini, Bergville KZN).
	2. PM&E system and monitoring	✓ Local marketing income monitoring ✓ Poultry monitoring ✓ CA crop growth monitoring ✓ Initiation of resilience snapshots
	3. Iterative PID approach for improved adaptation and innovation	✓ 34th quarterly UCP meeting: Presentation of CRA activities and interactions with environmental programmes (Feb 2022) ✓ CA open day in Emmaus Bergville, for `70 farmers and 110 stakeholders including students form UZKN (March 2022) ✓ External evaluation: Formative (mid-term) conducted, and action plan developed for remainder of project. ✓ Case study in Midlands for solidarity networks and their role and impact. Presented at Asset research symposium in Stellenbosch (March 2022)

1. *Progress overview.*

CRA support for different activities is seasonal. During this period (January -March 2022) the following activities have been undertaken:

- The Conservation Agriculture (field cropping) activities undertaken for the 2nd round for 155 participants across KZN and EC.
- Support for micro poultry enterprises have continued and a total of 67 participants have been supported with broilers and 51 with layers. This activity is extremely popular, as a quick win production strategy for income generation and demand has far outstripped our ability to support smallholders. Participants have continued with their production units and have paid for their own inputs, after the initial support

- Gardening (vegetable production) is traditionally a winter activity and 90 participants have been supported with micro-tunnels and drip irrigation kits. Small learning workshops in organic vegetable production have been held in all the villages where tunnels have been installed
- Livestock integration activities supported consisted of planting of fodder production trials for 11 participants in KZN only. In addition, members of one learning group have bought brush cutters for cutting and baling of vled grass for their winter fodder requirements (Stulwane, Bergville, KZN).
- Monthly market stalls have continued for Ozwathini and alternative marketing avenues for Bergville are being explored.

The table below provides an overview of the number of participants for all activities to date.

Table 2: Overview of participants in the WWF-GT project for all activities undertaken: March 2022

		CA				Tunnels					Broilers		Layers		Fodder supplementation		
Total number proposed 270		Proposed	Actual 2020/21	Actual 2021/22	Field cropping ha's	Proposed	Actual 2020/21	Actual2021/22	Dripkits2021/22	Gardening ha's	Proposed	Actual 2020/22	Proposed	Actual 2020/22	Proposed	Actual 2020/21	Actual 2020/22
2021/22	**372**	**135**	**172**	**155**	**31,5**	**100**	**70**	**20**	**53**	**2,5**	**50**	**67**	**18**	**51**	**100**	**19**	**11**
2020/21	**360**																
KZN	**233**		**112**	**125**			**59**	**7**	**44**			**52**		**37**		**19**	**11**
	Bergville		73	70			41	1	36			38		21		19	9
	Midlands		24	33			8	6	8			8		9			2
	SKZN		15	23	**0,3**		10					6		7			
EC	**144**		**60**	**30**			**11**	**12**	**9**			**15**		**14**			
	Mzongwana		48	8			1					5		7			
	Rashule,		10	10			3	4	3			1		3			
	KwaNed							4									
	Nkau		2	12			7	2	6			9		4			
	Mechachaneng							1									
	Nkasele							1									

The proposed number of participants for the programme is 135 per annum (55 from KZN and 80 from EC), thus 270 in total over the 2 years of implementation. At present there are 372 participants in the programme, 233 from KZN and 139 from the EC. In KZN the learning groups are well developed and are expanding every year as more participants come on board. In the EC, the learning groups are new and in the process of being introduced to the various aspects of CRA and working in learning groups.

In terms of expenditure, the budget allocations and use for the various activities is summarized in the small table below.

Table 3: Summary of expenditure on CRA activities: March 2022

Cost break down	Mar-22	Remainder	Budget (2021 and 2022)
Poultry	R184 770,22	-R48 250,22	R80 000,00
Tunnels (90)	R432 849,20	-R2 199,20	R430 650,00
Seedlings, marketing etc	R21 155,14	R73 344,86	R94 500,00
CA (2 seasons)	R102 068,82	-R2 353,82	R127 715,00
Fodder supp	R6 502,39	R16 497,61	R23 000,00
	R747 345,77	**R37 039,23**	**R755 865,00**

For all the activities (poultry, seedlings, CA and fodder supplementation) farmers were supported with a proportion of the start-up inputs and have contributed to their own inputs thereafter. MDF is still assisting in procurement and delivery. Due to the combined effects of COVID-19 and the social unrest, many agricultural inputs are in short supply and are not easy to get hold of. This includes day old chicks, point of lay hens, maize seed, fertilizer and seedlings.

2. *Conservation Agriculture 2nd cycle of implementation*

A brief comparison of implementation in the 1st and 2nd season is provided in the small table below.

Year	Area	No of villages	No of participants	1000m² trials (10x10's)	400m² trials	Strips	Fodder species	Seed	Poultry	Two row planter	Short season maize	Actual planted (hectares)
2021	KZN	24	365	73	184	119	29	8	17	22	44	25,66
2022	KZN	11	125	34	85	11	10			53	22	31,25
2021	EC	5	60		48					2		0,32
2022	EC	3	45		30							0,3

Both the number of villages and number of participants reduced in the 2nd implementation season, primarily due to attrition in farmer numbers related to COVID-19. Some farmers could not afford to plant this season and dropped out as planting subsidies were not longer being provided. For KZN the area planted however increased, as this season Government role players took part in supporting planting through provision of tractors and spraying equipment.

This aspect has a much larger focus in KZN, where co funding from the Maize Trust and further assistance from KZNDARD extension officers, the LandCare unit and Local Municipalities have ensured coherent implementation for 125 participants across Bergville, the Midlands and Southern KZN. The table below outlines the CA experimentation undertaken both as collaboratively managed trials (CMTs), where farmers and the MDF staff work together to plan and manage these CA plots and what are called Baby trials, where farmers are supported through the Learning groups and in delivery of inputs but plant their CA plots according to their own preferences. This has meant planting of 4,5ha's of CA trials and around 12 ha's of CA plots planted to maize.

Table 4: Conservation Agriculture experimentation details for participants form KZN: March 2022

CMTS per area							**Baby trials**
Area	**Village**	**Name**	**Surname**	**10x 10's**	**Strips**	**Fodder**	
Bergville	**Ezibomvini**	Phumelele	Hlongwane	1	1		47
18		Mantombi	Mabizela	1		1	
5 males		Zodwa	Zikode		1	1	
13 females		Nombono	Dladla	1	1		
	Eqeleni	Thulani	Dlamini		1	1	
		Sthabiso	Manyathi	1			
		Nomavila	Ndaba	1			
		Ntombakhe	Zikode		1	1	
		Thulile	Zikode	1		1	
	Stulwane	Nothile	Zondi	1		1	
		Khulekani	Dladla	1		1	
		Thulani	Dlamini	1	1	1	
		Dombi	Buthelezi	1	1		
		Nelisiwe	Msele	1			
	Vimbukhalo	Sibongile	Mpulo	1		1	
		Zibonile	Sithole	1			
		Zweni	Ndaba	1			
		Bukhisiwe	Ndaba	1	1		
SKZN	**Spring Valley**	Mboniseni	Dlamini	1			17
9		Letta	Ngubo	1			
7 males		Bonginhlanhla	Dlamini	1			
3 females		Gertrude	Khwela	1			
	Ngongonini	Mandla	Mkhize	1			
		Leonard	Gamede	1			
		Moses	Zulu	1			
	Madzikane	Cosmos	Xaba		1		
		Nombuyise	Shozi	1			
Midlands	**Mayizekanye**	Babekile	Nene	1			21

14		Ntombi	Shandu	1		1	
3 males		Dumazile	Nxusa		1		
11 females		Fikelephi	Mapumulo	1			
		Mavis	Shezi	1			
	Gobizembe	Rita	Ngobese	1			
	Ozwathini	Martina	Xulu	1			
		Nora	Sibiya		1		
		Aaron	Nkomo	1			
		Ndabenkhulu	Myeza	1			
		Lindiwe	Khanyile	1			
		Nomcebo	Zondi	1			
		Philani	Ngcobo	1			
		Nokuthula	Dube		1		
TOTAL	**40**			**34**	**11**	**10**	**85**

KWAZULU NATAL

Bergville

We focused mainly on five villages: Stulwane, Ezibomvini, Vimbukhalo, Eqeleni and Emadakaneni with a total of 18 CMTs and 47 baby trials.

The Okhahlamba Local Municipality and the local KZNDARD extension office assisted with tractors for both spraying and planting the CA plots, primarily in Vimbukhalo and Stulwane, but also in the other two villages (20 plots in Stulwane, 28 in Vimbukhalo and 5 in Eqeleni). They made use of the 2-row no till planters, owned by the farmer learning groups in these villages.

CMTs were sprayed using knapsack sprayers, also using a tank mix of Round-up and Kemprin (600 and 250ml respectively, in 2x16litres of water). The learning group members in each village assisted in all CMT plantings.



Figure 1: The Okhahlamba LM, municipal tractor and boom sprayer provided to participating farmers in B


Figure 2: Spraying of herbicide and pesticide 1-2 weeks prior to planting and Far Right: Learning group members in Ezibomvini assist with planting of the 1000m² CMTs.

The main issues in Bergville this season have been difficulty with weeding, as participants planted large control plots with assistance from both KZNDARD and GrainSA and then could not keep up with weeding. In addition, there has been substantial run off damage in some plots - especially those planted in January – fodder and short season maize. Insect damage has also been substantial – specifically stalk borer as well as CMR and flea beetles. Farmers were responsible for buying their own insecticides and many did not.

LAN provided through the bulk buying process was not enough, which meant a large proportion of the CMTs were not properly top dressed. This was partly due to a lack of supply of LAN in the local towns during December-January and partly due to a very sharp increase in prices thereafter.

Figure 3: Above Left: Runoff damage to a short-season maize CA trial plot planted by Phumelele Hlongwane (Ezibomvini) in January 2022. Above centre: Weedy and yellowing maize in a CA control plot which was not top-dressed using LAN for Khulekani Dladla (Stulwane). Above right: CMR beetle infestation on sunflowers in SCC CA trail plot for Bukisiwe Ndaba (Vimbukhalo).

Despite this, crop growth and production for most of the Bergville participants has been very impressive.

Figure 4: Left: Maize and beans intercropped with close spacing (Zodwa Zikode – Ezibomvini), Middle: Strip cropping of maize and cover crops (Thulani Dlamini -Eqeleni) and Right: Summer cover crops (sunflower, Sun hemp and fodder sorghum) (Nombono Dladla-Ezibomvini).

9 Participants planted small mixed plots of the fodder species, partly as this planting from late December- to Late January coincided with heavy and almost continuous rainfall which made field preparation and planting very difficult.

Table 5: Fodder trails planted by 8 participants in the Bergville area 2021-2022.

Village	Name & Surname	Plot Type	Area Planted (m^2)
Vimbukhalo	Sibongile Mpulo	Mixed Intercrop	101
Ezibomvini	Mantombi Mabizela	Mixed Intercrop	35
	Zodwa Zikode	Mixed Intercrop	96
Eqeleni	Ntombakhe Zikode	Mixed Intercrop	40
	Thulile Zikode	Mixed Intercrop	19
Stulwane	Khulekani Dladla	Intercropped 10x10s	500
	Thulani Dlamini	Fodder	700
		SSM+CP	1300
	Nothile Zondi	Strip	600
	Sabelo Mbhele	Mixed Intercrop	17

Figure 5: Clockwise from Top Left: Thulani Dlamini and Dlezakhe Hlongwane preparing the Knapik planter for planting fodder strips. Khulekani Dladla standing is his fodder trial and strip cropping of tall fescue between Lespedeza re-growth from 202/21.

Southern KZN

Participation in CA in this region has dropped substantially this season – primarily as subsidized inputs were no longer available thought support programmes. Those who have continued are now in their 4th and 5th seasons of implementation and are seeing very marked improvement in their production. Mr Xaba from Madzikane (Creighton) is one of these farmers.

Mr Xaba really admires the two-row tractor drawn planter not only for its efficiency in saving time and money but also for sparing the soil needless ploughing. The CA plot where a combination of practices; micro dosing, rotation, intercropping, relay cropping, retaining residue; are implemented simultaneously is proving it's worth when compared to a plot in the same field just next to it. Maize growth, colour and health differences are vivid and provide evidence of gradually improving results..

Figure 6: Above left: CA strip cropping trial visible in the background, with yellowing stunted maize in the foreground. The latter was not planted to CA and clearly shows the differences in production due to CA being implemented over a period of time, vs the conventional tillage typical in the area. Above right: tow of Mx Xaba's strip plots in his CA trial – late season weeds are present, but not impacting growth of the maize all that much.

Midlands

14 CMT's were planted and 2 fodder experimentation plots. One CA demonstration was conducted with a new group which is interested in learning more about regenerative agriculture. For all CMTs, germination of maize has been good (85-95%), germination of beans and subsequent growth has been poor (40-75%), germination of the SCCs has been poor and there has been an abundance of weeds. The high level of rain fall has made it difficult for participants to get into their fields to undertake weeding. The season has also shown a high level of stalk borer infestation.

Figure 7: Left: Summer cover crop plot (Norah Sibiya- Ozwathini). Middle: Mazie plots in the background and pumpkin in the foreground (Norah Sibiya-Ozwathini). Right: Maize and bean intercropped plot (Martina Xulu- Ozwathini).

3. *CRA implementation in EC, Matatiele*

In Matatiele, the Climate Change Adaptation Introduction workshops where participants assess the impact of climate change and explore strategies and practices for adaptation have been conducted for 144 participants across 7 villages.

MDF has been collaborating with ERS and SaveAct in the implementation and have brought the eco-champs in the region on board in terms of training in CRA. The intention was that they could assist in the implementation as a part of their environmental management and monitoring activities. Four eco-champs have taken on this process and will start Learning Groups in their own villages (Phumla Nyembezi, Katleho Tsokele, Motobatsi Nthunji and Tukulo Mtshayelo). They will also assist with implementation and monitoring in adjacent villages where the learning groups are active.

This cropping season, 30 participants undertook the Conservation Agriculture experimentation, fewer than in the first season. Most participants are a lot more intent on assistance with mechanization and inputs (seed and fertilizer) and did not want to focus on methods for improving soil quality and production. In addition, the soils have suffered from inappropriate management practices for at least 50 years, leading to soils with no structure, almost no organic carbon with high levels of compaction and acidity. Strong remedial actions will need to be taken before CA is likely to be able to effect positive changes in the soil.

The largest participation (98 participants, across 5 villages) has been in the intensive homestead food production CRA practices: mainly gardening and poultry production.

Table 6: Summary of CRA activities undertaken in Matatiele: March 2022

Activity	Village	Individuals	Learning group participants	Quantity delivered
CCA Workshops and trainings	All villages - 7		144	
Conservation Agriculture (30)	Nkau	12	12	
	Lufefeni	8	21	
	Mngeni		12	1 two row planter
	Rhashule	10	15	1 Haraka planter, 2 MBLI's
Poultry: Broilers (15)	Nkau	13	19	422day-old chicks, 13 drinkers and feeders
Layers (14)	Lufefeni	6	29	
	Nkau	4	19	
	Mafube	2	13	123 POL hens, 15 drinkers and feeders

	Rhashule	3	14	
Gardens: Tunnels (22)	Nkau	9	22	10 tunnel kits and mixed bunch of seedlings
	Rhashule	7	15	
	Ned	4	16	
	Nkasele	1	30	
	Mechachaneng	1	20	
Gardening practices: (98)	Nkau	11		Tower gardens, eco-circles, natural pest and disease control, liquid manures, seed saving, soil and water conservation
	Rhashule	21		
	Ned	13		
	Nkasela	25		
	Mechachaneng	20		

Learning workshops have been undertaken in the CRA practices:

- CCA introduction (Ned, Mechachaneng, Rashule, Nkasela)
- Greywater management and tower gardens (Rashule)
- Bed design: trench beds and eco-circles (Ned, Rashule, Nkau)
- Soil fertility: Composting and liquid manures (Rashule, Nkau)
- Tunnel installation and (Nkau, Ned, Rashule),
- Drip kit construction (Nkau, Rashule)
- Mixed cropping and Natural pest and disease control (Nkau, Rashule),

A focus on soil and water conservation is planned alongside the installation of the final 10 tunnels going into the winter season.

The most recent village where the CCA process has been introduced is **Nkasela** – home to one of the eco -champs (Phumla Nyembezi), who initiated a learning group there. Their observations of changes in climate and weather patterns can be summarized as:

- A change in onset of summer rainfall from September to November or sometimes even later. It is no longer possible to plan when to plan – one just has to wait and see
- Generally drier conditions in the environment have meant that most cropping fields have been abandoned
- Dry periods alternating with high and intense rainfall has led to much increased erosion in the villages (roads and houses washed away) and fields (gulleys in fields and grazing areas).

Tier climate change impacts mapping exercise is summarized in the table below.

Table 7: Climate change impacts and adaptive strategies for Nkasela village, Matatiele February 2022

Impacts	Description and linkages	Outcomes	Potential adaptive measure
Less rainfall	Grass will stop growing, indigenous plants and crops will die, nature is not beautiful	Lack of grazing, livestock die, loss of traditional medicines	Stop cutting trees and burning of organic matter
Flooding	Crops struggling to grow	No or less harvest	They don't know how to solve flooding problems, besides having diversion ditches to divert water out of the fields, which requires more energy and most of them are old.
Soil	Lots of soil erosions and donga formation	Bad roads and low crop production.	Leaving soil cover to avoid soil erosion and fixing the roads.
Crop production	Yield decreases each year and crop diseases increase	No yield or less yield	They use fertilizers which are expensive on half of the field to have some yields.
Theft	Increase in livestock theft	Not having livestock as it will be stolen	Having livestock will be waste of money due to increase in livestock theft.
Pests	There are lots of pests on crops	Less crop production	Buying pesticides and using of blue death for pest control

This was followed by presentation and discussion of various CRA practices. The group have already visited Nkau to see tunnel implementation. They felt this strategy would work well for frost and snow in winter, which reduces their ability to cultivate vegetables in winter. They were also very interested in greywater management as well as the agroecological gardening, which they felt resembled what their elders used to do, but which they have largely forgotten.

After prioritization of practices, which included tower gardens, tunnels, natural pest and disease control, soil and water conservation practices, poultry production and seed saving. Phumla introduced the trench beds concept and showed the group how to lay out ad dig their trench beds (*Picture on the right)*.

Activities in **Ned** village were initiated after farmers saw the CA and tunnels in Nkau and asked to be involved. They went through the CCA introductory process and prioritized soil fertility practices, CA, poultry and plant management practices.

Mr Sifiso Shozi started digging his trench beds by himself and thus a workshop in trench beds and soil fertility was undertaken shortly thereafter at Ned. Here also the 4 eco-champs were involved, so that they could continue with trench bed digging and packing with learning group participants from their own and neighbouring villages.

Figure 8: Left: The trench beds laid out for tunnel construction over the beds and dug by 4 participants of the Ned learning group. Middle: Filling the trench beds with mixtures of manure, grass, cabbage, weeds, bones etc and Right: The filled trench bed planted to a mixture of vegetable seedlings.

Natural pest and disease control workshops were held for the **Nkau and Rashule** learning groups. This includes an exploration of the pests and diseases participants know and problems they experience. They discuss their methods of control. Generally, participants use generic poisons such as 'Blue death', 'Bulala zonke' and soap.

The learning sessions consists of going through a number of topics with participants, including "enemies and friends", as not all insects and life forms in gardens are in fact harmful to crops. Some insects are pest predators and assist the farmer in control. A discussion on nature, natural balance and garden sanitation is also given as are the negative effects of using generic poisons on insect pollinators which are essential in the garden. Some examples are also given of common diseases on plants and crops. Farmers tend to not focus on diseases and do not provide for any control or management. Management strategies are discussed including garden sanitation, pest and disease repellent plants, physical barriers and control for pests and diseases, and then natural brews and remedies.

It is also discussed that healthy, vigorous plants are the best gardening strategy as they are less likely to be attacked by pests or contract diseases. Prevention is an important strategy and includes for example

1. **Garden sanitation**- By removing infected plant material, the chance of disease spread is reduced.
2. **Timing of Planting**- It is also important to plant crops in the season that they prefer. Planting crops out of season places them under stress and makes them more susceptible to pest attacks and diseases.
3. **Mixed cropping**- Crops can be inter-cropped to gain advantages such as sharing of nutrients through different uptake by different crop types. Space above the ground- different crops have different growth habits, some growing closer to the ground some growing taller and can share space in this way. Space below the ground - different crops have different shapes and sizes of root systems and can thus easily share space underground. Sunlight - some crops are shade tolerant and need cooler conditions than others and can be planted under the partial canopies of larger crops.
4. **Crop rotation**- is the best method to control soil-borne diseases. Crop rotation will reduce the build-up of diseases on a particular crop. Species with few or no pests in common should be chosen (for example, crops from different plant families). This measure is of crucial importance for the control of soil-borne diseases and pests, such as

nematodes. Rotations can improve soil fertility, as different families add and subtract different things in their growing cycle. Legumes add nitrogen to the soil, while potatoes break up the soil, and leave their fibrous roots behind, opening up the soil structure.

5. **Natural fertilizers** - Composted plant wastes, animal manure, green manure and earthworms. One can use the following as green manure; sunn-hemp, oats, mustard spinach, fodder radish, legumes and comfrey (which is a good source of Potassium K).
6. **Mulching**- It is the process of covering the bare soil with organic matter, that are beneficial to plants as they maintain uniform soil temperature and keep moisture in the soil and it also add nutrients to the soil. With mulching in the garden there's less evaporation, good weed control, and good soil structure through soil organisms and less soil erosion.

Liquid manures are then discussed, and a fortified liquid manure is produced as a practical. This foliar feed is made of dark green leaves/ weeds, manure, bone meal, milk and sugar, to provide for high levels of nutrients (N, P and K) once the 10-14 day fermentation period is completed

Figure 9: Left: Chopping the dark green leafy weeds (blackjack and Amaranthus and mixing with water prior to pouring into the 200-litre drum. Middle: Adding the sugar and bone meal to the drum and Right: Stirring the final liquid manure brew prior to let it stand to ferment. It can be diluted 1:4 and used within 10 days.

Tunnel production has continued with a new batch of 12 tunnels early in 2022. Construction and use of drip kits has also been demonstrated for most of the earning groups. Monitoring is done to ensure participants are trying out the natural planting methods, mixed cropping, mulching and natural pest and disease control methods. Below are a few indicative pictures.

Figure 10: Left: A workshop in Nkau to construct the drip irrigation system together with farmers. Middle: A participant from Rashule in her tunnel, showing good growth of a range of vegetables. Right: Installation of the drip irrigation system in a tunnel in Nkau – not the range of vegetables – mustard spinach, swiss chard, cabbage, fennel and lettuce.

Figure 11: Left: Preparing the tower garden, filling of the bag after mixing the soil, manure and ash medium. Centre: Starting to make small holes in the side of the tower for 'planting' of seedlings and Right; Mixture of seedlings to e planted and an eco-circle with a 2litre perforated bottle for irrigation.

4. *Local marketing*

The combined effect of SASSA withdrawal of village-based pension points and the seasonality of vegetable production in Bergville has meant that the initial successes in local market stalls have not been maintained. Around 3 participants sold spinach mainly to shops in Bergville between October-December 2021. Recently MDF has forged a relationship with the UEDA (uThukela Economic Development Agency), who have a mandate to support and develop marketing initiatives in the district. We held our first joint local marketing day at Emmaus on the 2nd of March 2022. The day was reasonably successful with 19 farmers making and income of around R1 310,00. UEDA provided a tent, chairs and meals for the day. They have undertaken to assist in procuring a site in Bergville Town for the next marketing day towards the end of March.

In Ozwathini, the marketing group have continued to independently forge a local marketing process and have experimented with a number of options. Mainly they have seen that they need to have a more ongoing presence, rather than just appearing once a month. They have now undertaken weekly stalls in Bamshela and have garnered assistance from local shop owners to store their produce and marketing equipment. They use local taxis to transport themselves and their produce to the market. For the easter market, they will again advertise and make up the combo-packs, as was done successfully over the festive season.

The group said they are now used to setting up their stalls and keeping records and can manage mostly by themselves. They appreciate the extra support provided by online and social media orders in Pietermaritzburg, which brought an extra R1 000 for their January market. The difficulty is unreliability of the SASSA process as many shoppers need to get their pensions prior to buying and sometimes the officials arrive very late – on occasion after 2pm in the afternoon.

The group has also thought about succession planting and continuity. Unfortunately, 2 large hailstorms all but decimated some of their veggies for this round: notably cauliflowers, broccoli, spinach and cabbage.

Figure 12" Ozwathini Market December 2021. View of the Veggie box combos prepared for the festive season market; R25, R35, R45 and mega (R185).

Figure 13: Ozwathini market January 2022. Left: Chopped mixed vegetalbes sold at the market. Centre: Eggs in trays or in smaller egg boxes and Right: Potatoes sold in 10kg bags, or smaller packets.

The small table below provides a running total of sales from the market stalls between April 2021 and March 2022.

Table 8: Sales records for local market stalls in Ozwathini and Bergville. April 2021 to March 2022

Summary of market incomes for Market stalls: April 2021-March 2022					
Date	**No of farmers**	**Villages**	**Amount**	**Market**	**Produce; in order of sales**
2021/04/10	11	2	R2 419,00	Emmaus	Pork meat, dry beans, traditional mats, vegetables, pumpkins, processed chilli, green mazie, eggs
2021/05/09	16	3	R1 580,00	Emmaus	Vegetables, pork meat, dry beans, dry maize, sweet potatoes, pumpkins, incema, broilers
2021/06/04	16	4	R11 527,50	Bamshela - Ozwathini	Eggs, pork, sweet potato, mealie cake, broilers, beans, vegetables
2021/06/09	18	4	R5 072,00	Emmaus, Stulwane	Pork meat, broilers, vegetables, pinafores, dry beans, dry maize, processed chilli, vegetables
2021/07/10	16	4	R3 415,00	Emmaus, Stulwane	Pork meat, vegetables, broilers, processed chilli, dry beans
2021/08/04	8	4	R3 866,00	Bamshela - Ozwathini	Pork, buns, slaughtered chickens, eggs, amadumbe, potatoes, cabbage, swt potato, carrots, spinach, avocado, pumpkins
2021/08/07	9	3	R2 379,00	Emmaus	Pork, broilers, sweet potatoes, amadumbe, eggs, spinach, onion, cabbage, chillies, tomatoes, snacks
2021/09/09	18	4	R3 745,00	Emmaus	Broilers, traditional chickens, potato seed, spinach, mustard spinach, cabbage, carrots, lettuce, eggs, processed chillies, amadumbe.
2021/10/08	8	4	R845,00	Bergville fresh produce market	Spinach, mustard spinach, cabbage, beetroot, leeks, onions, tomatoes
2021/09/03,06,07	12	5	R5 448,00	Bamshela - Ozwathini	Eggs, spinach, chillies, green peppers, carrots, tomatoes avocados, beans, pumpkins, bananas, lettuce, herbs, sweet potato, amadumbe, potatoes, maize and potato seed
2021/10/05,06	12	5	R3 354,00	Bamshela - Ozwathini (taxi rank)	Eggs, slaughtered chickens, beans, cabbage, spinach, beetroot, lettuce, amadumbe, green peppers, carrots, onions,, tomatoes, avocados, amadumbe, lemons
2021/11/03,04	9	4	R2 964,00	Bamshela - Ozwathini (taxi rank)	Potatoes, pork, eggs, spinach, cabbage, dry beans, lettuce, red cabbage, cauliflower, broccoli, onions, green peppers, chillies, herbs
2021/10/11	3	2	R19 800,00	Sale: Boxer and Saverite in Bgvl	Spinach
2022/03/02	19	4	R1 310,00	UEDA – Emmaus Hall	Butternut, green pepper, spinach, pumpkins, potatoes, green mealies, onions, cabbage
2021/12/02,03	10	4	R2 964,00	Bamshela - Ozwathini (taxi rank)	Lettuce, broccoli, cauliflower, spinach, carrots, beetroot, cabbage, potatoes, onions, pumpkin.
2021/12/03	10	4	R1 400,00	Ozwathini-social media	Combo packs - via social media in Pietermaritzburg

2022/01/05,06	6	3	R2 610,00	Bamshela - Ozwathini (taxi rank)	Potatoes, carrots, eggs, chillies, onions, cabbage (half and chopped), green beans, beetroot, avocado, brinjals, green peppers, chopped mixed veg.
2022/02/05,12,19	8	4	R3 010,00	Bamshela - Ozwathini (taxi rank)	Eggs, chicken, potatoes, green mealies, green peppers, brinjals, chillies, …
	12		**R77 708,50**		

A total of R77 708,50 has been made from local market stalls in the last 12 months, averaging around R2 988,79/ market day. On average 12 participants have been part of each market, earning an average of R249,07 per market day.

For SKZN and Matatiele, the local politics and group dynamics have not been conducive to setting up these local market stalls. Individuals sell informally from the farm gate. A few further options will still be explored with the groups.

5. *Strengthening of Innovation platforms and networks*

The table below summarizes stakeholder interactions for the period (December 2021-March 2022).

Table 9: Stakeholder interactions summary. December 2021-March 2022

Activity	Description	Dates
Okhahlamba Local Municipality (OLM)	Fresh produce market, planting support and materials provision	Ongoing
KZNDARD	Farmers' day in Vimbukhalo	2022/03/11
MDF and stakeholders	CA open day in Emmaus Bergville (195 participants) incl UKZN students (45), OLM, UEDA, Landcare, National Dept of Agric, Asset research, Zunckels Farms, FSG, Wildlands and around 70 smallholder farmers	2022/03/02
Research of Climate Justice	Presentation at the Asset Research students' symposium in Stellenbosch (Temakholo Mathebula): "How can solidarity networks undergird agroecology in promoting the resilience of women in the face of climate change?'	2022/03/15
SAMC (South African Mountains Conference – Drakensberg)	Oral presentation by Erna Kruger "CbCCA in central Drakensberg improves resilience in smallholder farmers"	2022/03/14
UCP partnership	Presentation at the 24th quarterly multi stakeholder session "Update on CRA implementation in partnership with WWF (E Kruger)	2022/02/25
ESS research - WRC	UKZN research in ecosystem services mapping supported by MDF: water walks, focus group discussions planning, eco-champs	Ongoing

Figure 14: MDF CA Open day in Emmaus: Left: 190 participants in the Emmmaus hall. Centre; The UEDA local market held in the hall grounds and Right: Field visit to Nothile Zondi in Stulwane to see baling and fodder supplementation activities.

2 MID-TERM EVALUATION

(*Report by Margaret Jack)*

Margaret Jack conducted a day-long workshop with staff, and also conducted three site visits. In Bergville, she witnessed members of the learning group in the area assisting Slindile Mpinga to plant her CA trial plot, visited Mama Msele's farm with Mr Denjwa Dlamini and Mama Buthelezi, and also visited the farmers' centre in the area. In the Midlands, she visited Ma Xulu and Ma Chamane in Ozwathini and visited the Bamshela market site. In Southern KZN (SKZN), she visited Mam Sylvina Kheswa's farm, Baba Leonard Gamede's farm, and Baba Mandla Mkhize's extensive plot in Ngongonini.

1. Results from monitoring data

Results so far have been very positive, with quantitative milestones reached in many aspects. More participants have joined the project (407 vs 270 expected) and this has implications for the support MDF can offer each farmer. Only 90 of the expected 100 tunnels have been constructed, but it is unlikely that more will be built due to the cost factor. More farmers have started owning broilers and layers than expected, but far fewer have grown their own fodder, and all the fodder farmers are in Bergville.

Results	CA	Tunnels	Broilers	Layers	Fodder
Proposed	270	100	50	18	100
Actual 20/21	172	70	61	47	19
Actual 21/22	155	90	67	51	11
Hectares	31,25	1.75			

In terms of conservation agriculture, monitoring data show that:

- There is much reduced run-off (50%);
- WP for maize grown in a multi-cropping rotation CA system is much higher than CA mono-cropped maize (by 1.1kg/m^3) or conventionally tilled maize (by 1.5kg/m^3);
- Average yields: Bergville 6.7t/ha; Midlands 3.2t/ha; SKZN 3.5t/ha;
- Average monthly field cropping income is R1,585 for those participants producing enough to sell.

Of the 90 tunnels that have been built, approximately 53drip kits irrigation systems have also been installed, and farmers have been trained in creating trench beds, mixed cropping, and inclusion of herbs and multipurpose plants.

Farmers were supported to set up homestead-based poultry units (71 broilers, 51 layers), and average monthly poultry incomes from sales at pension points, market days, and farmgate sales are:

- R1,113 for broilers (min -R1,387 and max R9,185);
- R929 for eggs (min R105 and max R8,560).

There are 468 people in 29 voluntary savings and loans associations (VSLAs): 22 in Bergville; 1 in the Midlands; 3 in Southern KZN; and 3 in the Matatiele. The total amount held by those VSLAs is R1,578,448 which is an average of R3,372 savings per person. There are bulk loan funds operating in Ngongonini and Bergville, which are being prototyped by MDF as a way of allowing learning groups to access more capital than their VSLA provides.

2. Sites

In this mid-term evaluation, Margaret asked staff to conduct SWOT analyses for each of the four areas and have presented the results and observations from field trips according to those areas. Each of the four sites is quite different, with different water and topographical features, different cultures and politics, different distances from towns and markets. In addition, each of the MDF field staff will behave and respond differently to each other, a natural human trait, based on their own preferences and beliefs. All these differences create the conditions for development to happen in different ways in different places.

2.1. Bergville

In Bergville, many of the participants are farmers, have grown up as such, and they see that white commercial farmers are sustained by it, so farming holds a lot of legitimacy in the area. MDF has also been working in the area for many years and one of its staff members comes from there. It is a mountainous terrain with high rainfall, good for farming. But household access to water is limited. However, it is far from the office, which means working there incurs great costs in fuel, PDs, and accommodation. And the team feel that resources are a limiting factor in their work – money, cars, tools – and that if one person gets sick, the team is in trouble. It is an area with high crime and high unemployment, and people are seeing the effects of climate change: it is a threat because it is unpredictable, eg, it was dry, so people had to wait to plant, then it rained and it was too wet.

But the team also reflected on the successes of the project: many farmers are engaging in CA, which is more resistant to harsh weather and tunnels protect crops from storms. The team reported that farmers have compared their results and seen that CA methods work better, and that MDF farmers have become activists in sharing CA practices with others. The team feels that food security is close at hand, if it has not already been reached. As one person said to me, “CA has changed lives”. The farmers’ centre in the area brings inputs closer, and there are 22 village savings and loans (VSLA) groups, which is money in farmers’ hands. There are business opportunities to change produce into money, there are local auctions, and there are municipal and Department of Agriculture (DoA) networks available. There is only one other NGO active in the area, and staff therefore feel MDF’s presence remains relevant, and is required to nudge the municipality into greater collaboration with farmers. An example is that the municipality has a two-row planter now and does not plough any more. Youth involvement has been limited, and in an effort to change that, MDF has partnered with Umgeni Water in an Eco Champ initiative, where young people are planting with families and will do alien clearing. However, the MDF farming methods are hard and not suitable for an ageing population.

The team also reported that the farmers are gaining in confidence of their own knowledge and needs. After the riots in July, the pension point in town closed so the municipality allocated the farmers a stall in a peripheral spot, and the farmers told MDF that they were not interested in that. A new spot has been negotiated with the municipality. The farmers held markets between April and September 2021, each market making between R3,000 and R4,000, which is an average of R332 per farmer per market. In the later months, only farmers with tunnels had produce to send to market.

Monitoring data show that in Bergville, in 12 villages (n=75):

- 70% have enough food for the year;
- 30% food and sale of surplus;
- Incomes from sales are R1,000-R5,000 (with an average of R1,586);
- 53% of participants are in savings groups;
- Average saving for farming inputs is R1,275.

Margaret visited Slindile Mpinga’s farm. She is a young women, an Eco Champ, and the learning group were helping her to plant to CA plot with beans, mealies, cover crops. Slindile is hoping to sell the beans and eat the rest. She joined MDF about six months ago when she attended a meeting, and she now has a tunnel. She ordered the seedlings for the tunnel from MDF, but it is not clear that her family are eating more than the spinach that was planted.

Slindile joined a VLSA in June 2021, and wants to use any payouts to start a business in layers and broilers, which she will sell in town and at farmgate. I asked about her standing in the community, and she thinks that she is now seen as young hard worker, and she seemed very pleased with that, suggesting some empowerment has been created by the project. I asked her about other youth, and she replied that they are ‘lazy’, although she did say that money for seedlings is also a limiting factor for them. Mama Msele, Mr Dlamini and Mama Buthelezi agreed that lack of youth involvement in farming is a common problem. Ma Msele’s children call it “your thing”, but they believe it is changing a bit and a few young people are getting involved.

Mama Msele has been a farmer since she was born, but her methods and understanding changed when she met MDF in 2014/15. Some examples of the changes are:

1. Ploughing puts fertile soil under the ground so now she uses minimum tillage;
2. With disturbed soil, the maize falls in the wind because the roots are not strong enough;
3. Soil can be tested and the results can help you understand how to feed the soil;
4. She did not know there are micro-organisms in the soil that makes it alive;
5. There is now less erosion;
6. She knows that rotation is a good idea;

7. She used to plough big lands or use oxen and that needed a lot of people, but she can work on her own now;
8. She saves money on inputs with minimum tillage.

At her plot, Margaret saw her chickens, who stay inside all the time, and whom she feeds with greens from her garden. She claims that she is planting a bigger variety of garden crops, although she admitted that she is not using the herbs in her tunnel as she says the kids do not like them. She is eating from her garden and reported that it is rare that she goes to the shops now, and only buys oil and salt. She makes some sales, locally and in town, and although the sales are small, it does make a difference to her that she can give a child R10 to take to school.

When she visited, Margaret was accompanied by Mr Denjwa Dlamini and Mama Nothile Buthelezi, and they all spoke together once she had walked around the farm. All three are in a VSLA (Mr Dlamini's wife is the member), and they have been in it since 2012 – an organisation called SaveAct helped them start it. They have their monthly meetings in the very room we sat in, and shesaw the shareout plates, waiting for the next meeting.

Figure 15: VSLA shareout plates

She asked what they had learned from the VSLA, and they were pleased to tell me that they have learned about shares, interest, how to borrow. They use their payouts in different ways – one uses them for groceries and clothing, another bought cattle. Goats have been bought using loans. A staff member pointed out to me that CA and VSLAs work well together because these three farmers are now spending less money at the shops because they are eating from their gardens and this frees up money that they can buy shares with in the VSLA.

They are part of the same learning group that Slindile belongs to, and it meets every July to discuss the planting, gather money to buy inputs from town, deal with any issues. They buy in bulk with the help of MDF. She broached this issue of difficulties working with others, relying on them, and possibility of bad group dynamics. They said that that had been an issue once, but that the group as a whole is learning to sit and talk, they understand better how to work together, they are learning humility. This is an excellent by-product of MDF's work. These three farmers corroborated what staff said about MDF methods spreading. Initially, the community thought they were mad not to plough, but now they are starting their own gardens! Their standing in the community has grown – they are seen as honourable, and everyone watches them and takes their lead: when they plant, everyone plants. They mentioned that they have learned a lot from MDF, particularly about livestock integration, and Mama Buthelezi said that she did not know that you can grow fodder for dry seasons. We visited her farm briefly, and she has a pen with her hay bales in it.

Figure 16: Ma Buthelezi's fodder

MDF staff took her to the farmers' centre, run by Phumelele Hlongwane. The centre was MDF's idea and it stocks fertilizer, chemicals, seeds, so that farmers can buy locally instead of having to go to town. At first MDF subsidised it, but now Phumelele has taken it over as a small business. She orders from Winterton and repackages what she buys into small quantities that farmers can afford. It appears that one of the reasons why this centre is successful is that Phumelele has also diversified her goods and runs a spaza shop too, so the centre gets more foot traffic and she makes a bit of money.

Figure 17: Bergville farmers' centre

2.2. Midlands

In the Midlands, field staff believe that although many participants have been farming for a long time, they have changed their farming methods in favour of CRA. They plough less, use two row planters, have experienced increased yields, and have engaged in group bulk buying. There was some existing interest in raising calves, and MDF arranged for some training on that, and a number of participants now have calves and bulk buy medicine together. There is a sense that the farmers have an independent mindset and are willing to put some money into purchasing what they need, for example, a few are interested in rabbits and have bought and bred some. They do not expect free goods. The groups are cohesive and growing, which poses a dilemma for the organisation as there is limited funding for more participants. Men are proactive and helpful even if they are not involved, which is important for getting the hard labour done.

Both of the farms Margaret visited (Ma Xulu and Ma Chamane) have CA trial plots that MDF provided the starter kit for, and which they each paid for: maize, beans, ground cover, herbicide, and fertilizer (which they use for micro-dosing only). Both store inputs for their learning groups at their farms. Ma Xulu reported that she started her layer and broiler business after MDF training, the calves that she already had improved in health after MDF training, and that now that she plants by hand, she saves money on hiring a tractor and using large amounts of fertilizer. When her calves are big enough, they can be sold for between R4,000 and R5,000 and she has worked out her profit margin based on the cost of the calves, the feed, and the medication they need. She will sell at a local auction. She has pigs too – and each of the pens has a thick chain hanging in it because she heard that they like to chew on it.

Figure 18: Ma Xulu's pigs

She works her farm with her two daughters, and on the day I went there was a young man digging and opening lines – he is a farmer to and works for a day rate. However, Ma Xulu does all the planting herself.

Ma Chamane has been a farmer for 45 years and met MDF four years ago. When asked what changes she has made to her farming methods, she said that not ploughing is important because it makes the soil more fertile, and it saves money because of the cost of the tractor and fertilizer. She planted her potatoes without ploughing, in open lines, and has got good yields, so she is seeing a difference. The variety of things planted has not increased a lot but she does now plant cow peas and cover crops. She said that her CA trial plot has been very useful for home eating and selling. She also started her broilers and layers after MDF training – she did not know how to start before that – and has two calves. She has a tunnel and reported that it gives her a longer growing season. She does most of the labour herself although she sometimes hires her grandchildren, and she confirmed that young people are generally uninterested in farming. She joined a VSLA group in 2021 and used her payout for fencing.

She is the chair of her learning group, and attends a farmers' association (FA) meeting once a month. This was started by the community in an effort to get assistance from the Department of Agriculture (DoA) – advice, spraying programmes, seeds – but DoA does not always fulfil its promises. Members of the FA work together, share knowledge, and assist each other if they face any challenges. She shares MDF ideas and methods with the FA, for example, intercropping.

In the Midlands, in nine villages (n=24), monitoring data show that 80% of participants have sold some of their maize, madumbes, and sweet potatoes and actual incomes range from R120 (400m^3) to R39,550 (2,700m^3). Farmers sell to bakkie sellers and some have shifted their planting dates to later so that their goods are not in competition with commercial farmers. MDF organised a market staff in Bamshela and assisted farmers with transport, record keeping, and sales.

However, in September no MDF staff attended and the community arranged transport and kept good records of sales, which is a signal of independence from the organisation. However, MDF does print and put up posters advertising the stall, and might consider how the farmers can do that themselves. Ma Xulu reported that one of the challenges she has is food rotting in the ground if it does not get sold, and the market does help with that. Her pigs are fed old cabbages, and their manure drains into her fields – so her whole system works well for growth and improved yields. The money from the market also helps with expensive feed for her livestock. However, she has recently purchased land so that she can plant fodder for her livestock. Ma Chamane also mentioned food rotting in the ground and the market assisting with this, and also feeding vegetables to her cows. However, after the riots in July 2021, sales decreased as pension payouts were disrupted since there was no big supermarkets or ATMs, so people went to large towns to get their money and ended up buying their food there.

There are a range of organisations working in the area giving the participants a wide network for information and resources. However, it can also create challenges if the information is different or incompatible. One DoA personnel is very active in this area, and actually introduced Ma Xulu to MDF. There are opportunities for VSLAs to grow as most only began in late 2021.

There are tensions in some groups, and limited commitment in one group in particular. Farmers would like more support from their municipality, particularly for market space. They feel there is too much bureaucracy involved in accessing a market space. This is an ageing community of farmers, and MDF staff fear that efforts will be lost as these farmers age and decline. There seems to be very limited interest in farming from the youth.

2.3. Southern KZN

Staff in SKZN reported that this area is quite different from other areas that MDF works in because many farmers in the area were not born there, they are people who retired there. Most of the MDF participant farmers are formerly employed people: nurses, police, teachers, miners. This has a number of implications. They have some money so can afford to buy farming inputs or livestock or chickens. The elite are able to then buy more calves, more chickens etc than their poorer counterparts, sell them, and make more money. It is not only farm produce, but they are also able to go to dairy farms to buy maas, or to town to buy clothes, and sell these products locally There is a sense that there is an accelerated enriching of the rich and that this is not pro-poor enough. However, the flip side is that these farmers are better educated than many other MDF farmers and the team believes that this makes them more interested in trying out new methods and expanding on what they are doing.

The staff characterise this as an area where group politics may be impacting on its work. Traditionally in this area, co-operatives are created with a focus on making money rather than working together, and this seems to be the ethic of some MDF participants too. For example, some of the elite farmers wanted to start chickens and an experienced but fairly poor woman was willing to share her experience and advice, but these elite men would not listen to her. Staff feel that women are undermined and they drop out of the learning group. The learning group suffers from poor levels of team work: a 1,000m^3 CA plot needs between 16 and 20 people to plant it, but now everyone plants for themselves only. The elite argues with MDF about minimum tillage, so it seems that they want MDF support and goods for free but are not always willing to engage with the MDF processes. Staff reported the same about tunnels – people in the area want tunnels but are not willing to join a learning group.

However, the learning group has diversified its activities, and there is land and water available here, although some soil is acidic. There is the possibility of value-adding activities, and there is a local abattoir where people can take their chickens for slaughter. There is some knowledge sharing: one woman attended a poultry training and she teaching others and gives tours of her set up and routine.

Margaret visited Mam Sylvino Kheswa's farm. She has been with MDF for four years, has a CA trial plot, a tunnel, and is part of the VSLA. Her CA plot has beans and maize, which she planted by hand. During the visited, Mazwi explained that she could plant more in her tunnel, planting right to the edges. As with other tunnels, Margaret noticed that some of the food is untouched, for example, rocket, which was going to seed. She does use some of the herbs though, although she does not know what they are called. Water to her farm is erratic.

Figure 19: Mam Kheswa's tunnel

She eats from this tunnel every couple of days and shares with her neighbours (who are family). She does not sell much at all because she rarely has surplus and wants to use the food for her own family. This tunnel may mark a greater food and nutrition security situation for this family as she previously did not grow vegetables at all. She joined MDF because growing family food is her task, and she grew maize but not much daily food, and then she heard the MDF yields are much better. She believes that MDF has been useful. She knows that ploughing leads to erosion and that has stopped, she does not use nearly so much fertilizer, and MDF gives her proper inputs – she used to buy seeds from street traders and sometimes the seed was old. She has also diversified by acquiring three goats.

Mam Kheswa mentioned that farming is hard for the elderly, and Margaret asked whether anyone younger helps her She said that her son lost his job and is at home, and he has seen the increase in yields, and he planted the CA plot, so he is becoming more interested. Baba Mkhize thinks that youth may be more interested in poultry because it is less labour intensive. Margaret asked Mam Kheswa about her social standing, and she believes it has improved. She sees the benefits of having a tunnel and the growth of the food in their, and now people are asking her about her process and looking up to her.

margaret also visited Baba Gamede's farm, where most of what is planted in CA. He joined MDF in 2015 because he wanted to try to get better yields. The advantages of being part of MDF have been in the maize yields, but also getting access to resources he could not previously afford through bulk buying of seed, fertilizer, herbicide, and chicken feed. He needs a better fence as goats manage to crawl in and in the previous week they are two rows of his control plot. He has a small vegetable garden where he is staggering planting maize, potatoes, and madumbes. She asked him about the difference between his control and CA plot, and he said that most people have deserted conventional agriculture for a number of reasons. Bulk buying has allowed him to buy herbicide, which is cheaper than hiring a plough, and the soil is healthier. He knows that run-off is bad when the soil is ploughed, and the run-off takes with it both the seeds and the fertilizer. He has noticed that he soil is getting darker and he thinks that is healthy, and he has seen that intercropping leads to reduced weeds.

He makes very little money from selling produce but he is making something, whereas previously he was eating all the food he produced and that would run out too. This indicates that his yield is up and his food security is improved. He also mentioned that he is saving on tractor costs. He has goats and chickens too. However, he has very little variety of food growing. In terms of his status in the community, Baba Gamede said that initially people did not want to engage with his methods because they are too labour intensive but now that he is getting much better results, people are coming to see him.

The final visit was to Baba Mkhize's vast farm. He is one of the elite, and MDF's local facilitator. He has a large house with numerous outbuildings and a couple of vehicles. He has 150 layers and sells eggs to community members – R45 for 30. He used his VSLA loan to buy some cages, and got others from the municipality. He has a tunnel and the food is for eating and selling: he had sold five bunches of spinach that week. He also does not use the herbs in the tunnel as he says his family is not familiar with them. He constructed some tower gardens after he saw them elsewhere, and he has calves and goats too. He has been with MDF since 2010. He uses a two row planter for all his land, and has been introduced to cover crops, intercropping, and growing fodder. He used to buy seed at any shop but now understand the importance of buying specific seed from specific shops because of their yield, costs, and environmental impacts.

He does make money from his farm, and he won a procurement deal from the municipality to provide produce for a school feeding scheme.

Mam Kheswa believes that her learning group is useful because Baba Mkhize is experienced in CA so she can ask him questions and get fertilizer and seed from him. Baba Gamede echoed that and added that the learning group is a source of labour.

In terms of the VLSA, the elite have more money, so they save more in the VSLAs, which increases their wealth, and they are getting richer while the poor members of the VSLA watch on with envy. I asked Mam Kheswa about her VSLA. This is her third year of involvement, and her only income is a pension. She can only afford to save R100 a month, but others in her

group save R400 or R500. She knows that the more she saves, the more interest she will make, but she simply cannot do anything about it. Margaret asked her how she feels about that, and she said that she is scared to say anything, but that the elite are making more. Baba Gamede is happy with the VSLA because that is the mechanism though which bulk buying happens, and the bulk goods are stored at Baba Mkhize's house. It seems that MDF picks up the bulk and delivers it to the Mkhize's house and this should be curtailed if possible. However, Baba Gamede has used his payouts to pay for tertiary fees for two children who are studying in Durban, and for fencing and poles.

This VSLA has a bulk loan fund, in which members put a lot of money in every month so that the VSLA can afford to provide large loans. I found it very disturbing that Baba Mkhize wants to use that to bulk buy and sell Christmas grocery packs to pensioners so that the expensive foreign spaza shops fail and they leave the area and money will stay here rather than go to their families. This is wrong on a number of levels: it is xenophobic; VSLA funds should be used for positivity not negativity; and unless Baba is prepared to run a spaza himself, he may be doing more harm than good. We saw after the riots in July, when spazas and large shops were destroyed, ordinary people suddenly could not access what they needed close to home and had to travel far to get basics like airtime.

2.4. Matatiele

The project is not working very well in the Eastern Cape yet but in 2022, efforts will be re-doubled in this regard. There are a number of reasons for this. Firstly, MDF can only spend limited time there, there is no local field staff there, and it is so far from the office that staff can only travel there once or twice a month. Secondly, it is difficult to initiate projects in the Eastern Cape due to local politics and traditions. MDF did introduce the project in the villages, explained the criteria for selection, and how CRA works but it seems locals were suspicious of that. They said that were not interested in CA because it is too much hard work, so they only wanted tunnels and poultry. When MDF wanted to host a market day, they heard rumours that it would be boycotted because people said they did not know how MDF participants were selected, so the market was postponed indefinitely. Thirdly, there are very high input costs in Matatiele, for example R400 vs R262 in Pietermaritzburg for a bag of layer mash, which means it costs too much for farmers to try out things. MDF buys in bulk in Pietermaritzburg and transports to Matatiele, but that is expensive for MDF. Fourthly, the area is characterised by sandy soils, poor soils with no organic matter, and people have tried CA for six years with nothing happening on those plots. There are erratic rains and water scarcity.

The area is populated by families with strong ties so there is a good sense of communality. There is a good gender balance, and people have money to buy stock because of the activities of the VSLAs. There is organic growth between participants, and new opportunities for local markets and other income generating activities such as a bakery. There is a young and vibrant local facilitator in the area who collects monthly data, sets up meetings, and is the contact point, and that is very useful. However, the groups are ageing, and with digging and tunnels, it is more and more of a task, and there is a push away from CA. MDF has noticed that there is poor record keeping on the part of farmers and has identified the need to work on that.

3. Conclusions and recommendations

Conclusions

I believe that this project has been successful in its CRA efforts. Staff reported that their own mindsets have shifted: where they used to have set ideas about what smallholders can grow – vegetables or beans, or maize – they now see that through mixed farming is possible and preferable and being adopted by farmers. But it is more than that, there are important social aspects for the farmers such as trying different approaches, adapting their behaviour, seeing different results, and getting increased yields and reduced run-off. The project also means that locals can buy fresh food from local farmers instead of buying it in shops. All of the people I spoke to are eating the food from their gardens and this is food security. It is also a saving as they are not spending money in shops on this. Some of them are also selling some produce and making small amounts of money.

My understanding is that CA involves minimum soil disturbance, increased yields, decreased erosion and run-off, and diversifying efforts. Everyone I visited reported improved yields and production, and most indicated increased adaptive practices of growing vegetables, field cropping, and livestock integration. Most people mentioned minimum tillage, savings on tractor hire, erosion, and soil health. In terms of soil coverage, I did not see any mulch anywhere. I also noticed that there are blackjacks everywhere. People can eat the leaves but they should do that before the blackjacks seed. There is some diversification of foodstuff grown, but I saw repeatedly that some plants are completely ignored in the tunnels – herbs, rocket, chinese cabbage, etc. This is difficult as it is about taste and familiarity with how to prepare the food.

One aspect that has not been hugely successful is the marketing. When markets were attended, some farmers earned a few hundred rand, which is not enough. I am sure MDF costs for those markets were considerable, which is fine when an organisation is trying to get something off the ground but is not sustainable in the long term. It was assumed that new networks and relationship will form for local food systems. This has happened but needs a bit of a push. This is linked to marketing.

Youth were supposed to be a large part of this project, but it seems they are not really interested. There are complications in involving youth that MDF has not nailed down properly. It was assumed that farmers will have the time, labour, and motivation or hope to make the changes that MDF suggests. A recurring issue is that many MDF farmers are ageing and there are fewer labourers.

It was assumed that farmers will learn financial literacy and planning skills from VSLAs, and that they will use extra income from farming to maintain farming activities. There is limited financial literacy in VSLAs, but many farmers do know about budgeting, input costs, planning a market. Some are using loans for farming inputs like medication for calves.

In terms of the outcomes of the project, I believe that the availability of food has increased, food production has increased, and there has been limited local marketing. The community level social security net has happened to some extent through people learning together and saving together but it is not clear to what extent that creates a net.

Recommendations

The project only has another eight months to run and I strongly suggest that a targeted approach be set in each site, although there are some general recommendations.

In the office:

1. Focus a bit more on planning and documentation. There is a suggestion for making six-month plans and reviewing them every month.
2. This project is ending and you need to identify an exit strategy or new funding. Think about the legacy – what is the most important outcome MDF wants to achieve in each area and focus on that. Are there any local stakeholders that you can begin to hand over some responsibility to, such as the municipality or DoA?
3. Develop a youth involvement strategy. This may include working with 10 eco champs, meeting with a youth organisation, and involving youth in small working efforts eg tunnels or poultry.
4. Monitoring data show that fodder has been less popular than was proposed. Is this an acceptable result to MDF or is this something that you want to work on? All the fodder farmers are in Bergville.
5. Is mulch something MDF wants to take up again? Blackjacks?
6. Are you happy with all the produce that is grown in tunnels? Would you change it? How can you get people to use all of them? This speaks to diversity and nutrition security, and I think it needs to be boosted.

In the field:

7. Climate resilience snap shots need to be focused on, so that MDF is teaching CRA.
8. Consider how to scaffold the independent procurement processes in communities. They need to be able to source inputs without MDF – so they can get the chicks etc without us – know who to go to and how much it costs – so we need to take them
9. It seems that in town, the markets were not well supported, why is that? Why do customers not buy all their vegetables at the markets? Why don't farmers sell more farm gate produce? This is something that you could talk about with farmers, to try and find out what market exists for vegetables, and how to access more of it. Empower them by tapping their joint knowledge.
10. Encourage farmers to get a market stall again and allow them to organise it.
11. Water access systems and community strategies for that need to be clear. MDF does not have funding for that, but you need to understand it. Perhaps you can draw PRA maps with learning groups and ask farmers to think about who can assist them with water.
12. Case studies – of what? Develop a strategy for what information you need and how you will collect it. One suggestion is to use a case study to research what a community level social security net looks like, what it needs to be able to do, and instances in which it is needed.

SWOT analysis and planning per area

- **Bergville SWOT analysis and plans**

STRENGTHS • Good comm bet MDF and locals, Madondo is a local • Doing CA, more resistant to harsh weather, tunnels protect crops from storms • Bigger team in Bergville, team spirit is up and down but largely good – many years of experience • They have grown up as working in agric – own or farmers' • In farming towns – Winterton and Bergville, they know about it, and that white commercial farmers are sustained by that • Mountainous terrain, high rainfall • Farmers' centre in our area – brings inputs closer • We have a lot of savings groups – 22 – that is money in farmers' hands	WEAKNESSES • Team depth, if one gets sick, we are in trouble • Shortage of resources – money, cars, tools of work, if one breaks messes everything up • Distance to Berg – costs in PD, accom, petrol • Documentation is not our strength – holes
OPPORTUNITIES • Not sure if food sec and nutrition sec is an opp or we are there yet • Business opps – markets, changed produce into money, money making (not income) • Networks – local st/k, DoA, municipality (tractors) • Auctions – opps to sell there, conservative as they are – don't want to sell a bull • Youth involvement – this has been a challenge, how to make it attractive to young people. Partnered with Umgeni putting Eco champs, they are planting with families, and will do alien clearing	THREATS/CHALLENGES • Crime and unemployment is v high – more that 50% in Berg, Savings being robbed and people killed • Increasing fuel and food prices, so need to work harder to prod fod • Covid • Staff turnover • Funding streams are getting slimmer • Poor network for people who work in the field, comm is bad • Aging participants so our work needs energy and power • Climate issues – threat because unpredictable, eg, it was dry so people had to wait to plant, then rained and too wet • Lack of water
PLANS FOR THE REST OF THE PROJECT • Issue of skills transfer, team should be bigger, team around Erna to learn and get her skills • Shortage of resources – more effort and time to source and diversity ito sources and partnerships with bigger organisations, eg Lotto, Operation Jumpstart in KZN • Aging participants: more vigorous on youth involvement, and youth-focus orgs	

- **Midlands SWOT analysis and plans**

STRENGTHS • Livestock integration and expansion as part of CA, intro fodder, but some were trying out calves, so arranged expertise on that, took a life of its own, now raising and selling, making money, unintended consequences • Increased production ito CA plots, intro of two row planter • Group cohesion – groups have expanded over time, potential for division because over to municipalities, respect, unity, transparency – v imp • Independent mindset that farmers have, them willing to put money into, a bit better off financially, eg interested in rabbits, and could buy them. Do not expect things for free all the time • Have been farming for a long time, set on ploughing, and were willing to do things diff and try • Bulk buying – fertiliser, medication for calves • High rainfall with deep well-drained soils • Marketing – various outlets, bakkie traders, to PMB, mkting was building on what was already there • Men are proactive and want to be incl more – so men will assist even if not involved directly. • Group expansion over the years, now a dilemma because we wanted to slow down but more people want to join	WEAKNESSES • Lack of follow up – because of diversity, some things fall off and we do not monitor on time, ltd number of people • Lack of continuity because farmers change sites, in the beginning they choose poor site for their CA trial plot, so makes it diff to compare over the years • Shortage of inputs, DoA ploughed and now no seeds • Imbalance between field work and report writing – not enough time for reports because of field work • Group politics in one area – cause tension and hinder. Eg we were told one farmer had left the project but someone told her that MDF was demoting people and not to come • Limited commitment in one area – people not that interested

• Exposure to diff orgs – have bigger networks – DoA, us, business owners, UKZN, diff sources of info • Team experience: dreamer and practical	
OPPORTUNITIES • Opps for VSLA to grow, only started two months ago • Start farmers' centre and sell inputs locally • Exposure to food processing gives value add opps • Increase market stalls to other areas and sell to other villages – marketing across vills • Livestock fodder production • CA expansion – conventional agric deeply entrenched, and we reach v few. Small group has shown us that when expose to knowledge, people are willing to change • Money made on green maize, madumbe, sweet potatoes	THREATS/CHALLENGES • Clash of projects – diff orgs working and practices do not agree • Comms belong to 2 munics, rels are fragile because if someone good happens to one side, the others feel wrong • Covis – farmers got sick, passed one • No munic support – farmers often raise this. Looking for a market stall space but munic red tape and not being able to deal with the same person • Network – can't get hold of farmers • Farmers are aging and threatens continuity of what we are doing, how long will they be sustainable for, next five or 10 years, eg people that died, no-one continued on that plot, youth are not interested • Varying levels of commitment • Bad roads
PLANS FOR THE REST OF THE PROJECT • More training workshops on fodder and livestock supplementation, set targets • Better co-ordination of activities, alternative weeks between livestock and crops • Two days in the office in last week of the month for reports • Intensify CA monitoring – do not change sites • Focus more on committed farmers (in one area in particular) • Do a quarterly plan and review at the end of each month • Focus on marketing initiatives [lots of work by MDF and is it worth it so near the end]	

- **Southern KZN SWOT analysis and plans**

STRENGTHS • Land is available and water too – Mzimkulu runs all year round, slowly working those areas again • Most we work with are retirees – nurses, police, teachers, miners, so can afford stuff better – more middle class. This also means they save a lot more every month • Many have diversified – calves, broilers, layers, wanting to try our more ito income generation. Also education helps in them wanting to try more stuff	WEAKNESSES • More affording are getting better while to poor are worse off – buy calves, sell more heads, more eggs. Seems biased to the richer and they take over the learning group, not pro-poor enough • Acidic soils • Office and field are too distant • Poor levels of team work, CMT, 1,000m needs about 16-20 people, every person for themselves when it comes to planting
OPPORTUNITIES • Value adding – sells thrashing, kids, sunflowers to feed • Train others in the villages eg one women attended poultry so teaching others, gives tours • Local abattoir – place for people to take their chickens • Affording muscle allows people to go to dairy farms, access maas and clothes, and sell it locally.	THREATS/CHALLENGES • Theft • Diseases • Hailstorm Nov 21 • Learning groups are aging, rest on chairs
PLANS FOR THE REST OF THE PROJECT • Land is fenced by prob is water to those plots as rivers are running below fields – build st/h relations that could help putting water to fields • Categorising farmers according to commodities of interest eg financing water access from nearby Umzimkhulu – elite and poorer – give voice to the poor in their own group. Different groups different people	

- **Matatiele SWOT analysis and plans**

STRENGTHS • Fams so strong ties • Good gender balance so no-one excluded and good division of labour	WEAKNESSES • Limited time – no field staff there, so much travel once or twice a month only, or someone there

• Young and vibrant local facilitator – collects monthly data, sets up meetings • Mostly penioners, good because they are always at home, so no to and fro for meeting dates • Have money to buy the stock • Most vulnerable group so do not have to go to town to buy	• Sandy soils, poor, no organic matter, tried CA for 6-7 years and nothing happening on those plots • Erratic rains and water scarcity • Villages spread far apart, bad roads
OPPORTUNITIES • Organic growth between participants • Opps for local markets/sales, eggs, broilers, green • New opps outside of agric eg bakery • Villages are one or more hours away from town, so buy bulk in PMB and supply farmers there by decanting	THREATS/CHALLENGES • Politics – did org intro in the vuillage, and when it came to CA, people said no because hard work, tunnels and poultry, people asked questions about who was getting, rumours of boycott of our market day – postponed indef • High input costs in Matat, R262 vs R400 for bags of layer mash, costs too much for them to try out • Theft • Poor record keeping on the part of farmers – need to work on that • Groups are aging, with digging and tunnels, more and more of a task, push away from CA
PLANS FOR THE REST OF THE PROJECT • Presence of field staff, more team member or local FO for coherent process and see through of activities – activities are stand alone, not an integrated livelihood strategy, and to monitor any changes. FO would provide support for local facilitator and be available to everyone all the time • Incentive scheme for sourcing and transporting inputs for local availability, farmer centres for inputs, knowledge, charged assistance eg spraying – getting proper inputs and on time, this could be youth	

MDF staff have already picked up on the following recommendations:

- A greater presence and push in Matatiele – there are now 144 participants across 5 villages active mostly in gardening and poultry production
- Assisting marketing groups to be more independent and transport their own produce
- Local procurement options
- Sourcing of new funding options
- Greater and more coherent linkages with institutional role players; LM, KZNDARD, Development Agencies and
- Methodology development for the overall monitoring of project impacts using climate resilience snapshot interviews

3 GAPS AND CONSTRAINTS

Work has been hampered by high levels of rainfall, which has caused flooding, made roads impassable and has slowed down field work. This is obviously a temporary condition. Surprisingly little damage was done in the Conservation Agriculture fields and tunnels.

4 COMMENT ON FINANCIAL REPORT

NOTES ON EXPENDITURE

Expenditure has been compiled up until the end of February 2022

1. Staff cost: Staff costs are somewhat higher than the budgeted amount for this period. This was compensated for by reducing the 3rd party and external evaluation fees for this period.
2. Operating expenses- Materials: This budget item is on target according to the budget.
3. Overall expenditure for the period of December 2021-Febraury 2022 has been 4% higher than the allocated funds.

Below is a summary of the Financial report.

5 TWO COPIES OF ANY PUBLICATIONS

6 FINANCIAL REPORT

The financial report excel sheet is attached as a separate document: WWF_Financial report_GT06177_ID315_CRA KZN-EC_20220310. Documentation for explaining full expenditure summaries is available on request.

WWF: GT06177 Financial report				Date: 10 March 2022			Milestone 6	
		ESTIMATES			ACTUALS			
Code	Description	Project Budget Oct 2020-August 2022	Full Year 2nd Oct 2020-March 2022		Previously Reported YTD Actuals	This quarter Actuals (September-November 2021)	Year-to-Date (YTD) Actuals	Forecast minus YTD Actuals (=Variance)
	A - OPENING BALANCE	R3 000 000,00	R2 222 500,00		R2 011 039,26	R317 800,27	R2 328 839,53	-R106 339,53
	Cash received	R1 847 500,00						
	Other income (interest, FX gains/loss)	n/a						
	B - TOTAL income + o/balance	R1 847 500,00	R2 222 500,00		R1 847 500,00	R1 847 500,00	R1 847 500,00	R375 000,00
	EXPENDITURE by code							
1	Staff costs	R1 210 066,50	R624 466,50		R914 736,08	R117 337,50	R1 032 073,58	R177 992,92
2	Third party fees	R458 919,00	R237 219,00		R184 121,32	R29 305,00	R213 426,32	R245 492,68
3	Travel and Subsistence	R446 809,50	R230 959,50		R267 626,86	R65 667,42	R333 294,28	R113 515,22
4	Capital Asset costs	R0,00						
5	Operating expenses; materials	R755 865,00	R181 523,00		R625 947,50	R66 962,85	R692 910,35	R62 954,65
6	Meetings / Education / Training	R0,00						R0,00
7	Project Promotion / Communication/ Printing / Publication	R37 260,00	R19 260,00		R4 500,00	R8 000,00	R12 500,00	R24 760,00
8	Project Evaluation by 3rd party	R91 080,00	R47 080,00		R14 107,50	R30 527,50	R44 635,00	R46 445,00
	C - TOTAL EXPENDITURE	R3 000 000,00	R1 340 508,00		R2 011 039,26	R317 800,27	R2 328 839,53	R671 160,47
	D – CLOSING BALANCE	R0,00	R1 659 492,00		R0,00	R0,00	R0,00	-R777 500,00

7 SIGNIFICANT PLANNED ACTIONS FOR NEXT REPORTING PERIOD

Outcome	Activities	Planned actions (Milestone 7)
Livelihood security at household level	1. Learning group planning and seasonal review sessions	✓ KZN: Ezibomvini, Stulwane, Vimbukhalo, Eqeleni. Madzikane, Gobizembe Mayizekanye, Ozwathini, Spring Valley, Ngongonini, Plainhill ✓ EC: Nkau, Rashule, Ned, Nkasele, Mechachaneng, Mngeni
	2. Prioritized baskets of appropriate practises	✓ CA: Finalization of yield monitoring for 2nd round of CA implementation. ✓ Gardening: Finalization of installation of last 20 tunnels and 37 remaining drip kits. Tunnels, drip irrigation, mixed cropping, herbs and multi-purpose crops ✓ Poultry production: Continue process for 100 participants across KZN and EC.
	3. Learning and implementation support	✓ Drip irrigation and intensive homestead gardening, including natural pest and disease control. ✓ Poultry production: sanitation and disease management, feed rationing, marketing options
Social agency for LED and	1. VSLAs, business development, farmer centres	✓ Marketing exploration workshops continuation and monthly farmers market stalls ✓ 26 VSLA's in KZN; monthly mentoring

social safety nets		✓ Continue monitoring of 2 bulk loan funds set up
	2. PM&E system and monitoring	✓ Finalization of resilience impact methodology and survey forms
	3. Iterative PID approach for improved adaptation and innovation	✓ Climate resilience snapshot individual interviews (min 30 participants) ✓ Participatory impact assessments x 3

8. LIST OF ANNEXURES

Complementary information, including photographs.

ANNEXURES

1. Farming for Climate Justice: Individual survey and focus group discussion report

F4CJ: CASE STUDY 1: MAHLATHINI DEVELOPMENT FOUNDATION

- **BACKGROUND: MAHLATHINI DEVELOPMENT FOUNDATION**

Mahlathini Development Foundation is a non-profit organisation that specializes in participatory learning and action in smallholder farming systems. The organisation has worked directly with more than 1000 farmers across three provinces mainly KZN, Limpopo and the Eastern Cape under the Maize Trust Smallholder Farmer Innovation program (MT-SFIP). The primary aim of the program is to promote conservation agriculture and its principles, i.e. minimum soil disturbance, permanent soil cover and crop diversification in order to increase productivity, improve soil health and increase the sustainability of these farming systems. Beyond the CA program MDF has also worked on a number of climate resilient agriculture (CSA) programs which also focus on working in harmony with nature instead of against it. One such project is the WRC CSA project where the organisation developed a Decision Support System (DSS) as a tool for farmers to use when deciding what to plant, when and how, depending on climatic and environmental factors. In addition, the organisation supports more than 23 village loan and savings associations (VLSA) in KZN and 7 in Limpopo to save money for agricultural inputs and enterprises, although most of the groups support a wide range of household needs and only a small percentage goes back to agricultural initiatives. MDF also works with a number of stakeholders, both from government and non-governmental organisations in implementing and supporting farmer led experiments and initiatives that help mitigate the effects of climate change and increase household food security.

The research was conducted in the Midlands region of KwaZulu-Natal, South Africa. It covered three sub areas namely Mayizekanye, Gobizembe and Ozwathini. These areas fall under uMshwathi Municipality and are all farming communities that practice mixed farming. The farmers cultivate a wide range of crops including maize, beans, amadumbe, sweet potatoes, sugar cane, potatoes, butternuts, cabbages and others. In addition, there are also fruit trees namely guava, mangoes and peaches. It is a temperate area with deep well drained soils which are mostly reddish brown in colour. The yearly rainfall is above 750 mm per annum with Ozwathini having occasional mist in summer. Some farmers own livestock and the men focus more on cattle, sheep and goats while the women farm traditional chickens, broilers and layers. All three areas are situated on communal land. Gobizembe and Mayizekanye fall under Chief Gcumisa and Ozwathini falls under Chief Mthuli. There are local indunas in the areas who are the chiefs' ears on the ground and are responsible for resolving conflict and ensuring that there is peace and harmony in the communities. A total of 30 farmers volunteered to be part of this research who are between the ages of 40 and 75 years old, of which 95 % are women. All of them are unemployed and depend on social grants, remittances and farming in order to survive.

- **RESEARCH METHODS**

A Participatory Action Research (PAR) approach was used for this research. From the introductory stages of the research farmers were given an option to volunteer to take part and thereafter there were individual interviews and a workshop.

- **Introduction of research in Midlands**

The field work commenced with a series of introductory meetings in all three areas where the project was formally introduced and explained to the farmers. Thereafter, they were requested to volunteer themselves to take part, where the limit was set at 10 farmers per area. The names of the farmers who were interested in being part of the research were then recorded.

- **Individual Interviews**

A total of 15 individual interviews were conducted across the three areas, with 5 completed in each area. These interviews were done during planting and were conducted by Tema, Nkanyiso and Nontokozo from Mahlathini over a period of two days.

- **Workshop: Focus Group Discussion on local Solidarity Networks**

Subsequent to the completion of the individual interviews there was a focus group workshop with all farmers to share some findings from desktop research and individual interviews, as well as gain insight into local context, what solidarity networks are there? How do these function? What are the challenges? PRA tools were used to facilitate the discussions and record information as a way to encourage equal participation between farmers and researchers. The workshop framework was as follows:

1. Introduction to the research and findings from literature review
2. Introduction to solidarity networks and Identification of existing networks (break away groups); feedback session
3. Prioritization of networks according to impact (matrix ranking), breakaway groups
4. Plenary discussion: Challenges experienced in networks
   4.1. Resources needed for farming/agro-ecology
   4.2. Links between agro ecology and networks
5. Discussion on savings groups/stokvels, link to agro ecology
6. Plenary session: SWOT analysis to understand what inhibits and enables these groups.

❖ RESULTS: INDIVIDUAL INTERVIEWS

The aim of the interviews was to explore the solidarity networks and economies of care that individual farmers are part of and how these impact their farming, and also to shed more light on how solidarity networks can be used to strengthen agro-ecology initiatives.

Existing Solidarity Networks

The individual interviews brought to light that there are existing solidarity networks within the community which were formed for various reasons, including food production, saving money and market access. These networks serve as a knowledge bank and platform for sharing experiences and include both formal and informal groups. The groups include local farmers' association, savings groups and stokvels, livestock groups amongst others. The main purposes of the groups is to provide knowledge, access to resources, networking and sharing. Majority of the farmers were reluctant to share the challenges associated with working in a group.

Access to Knowledge

Two main groups were mentioned as playing a pivotal role in providing knowledge on farming and these are the farmers' associations and the conservation agriculture learning groups. Through the farmers' association, the farmers mentioned that they were trained on grain crop production and have run trials on maize, beans and potatoes. The second learning network is the conservation agriculture group, where they learned about best practices for improved farm productivity. Some of the practices learned through the CA group include no-till and reduced use of synthetic fertilisers, crop diversification through the incorporation of cover crops as well as intercropping and crop rotation. The groups have also learnt about intensive homestead garden, where they learnt about importance of incorporating organic matter and water conservation. These groups have influenced their farming in that before becoming a part of them, they had no organised way of farming but simply sowed seed and hoped for the best. These groups have brought some structure and organisation in their lives and serve as a platform where they can voice their concerns, ask questions, reflect and improve on what they are currently doing. Stokvels and savings groups were mentioned as important in supplementing household income, saving money towards inputs, helping one another towards burials and providing support during ceremonies.

Access to resources

This is probably the most important reason why many farmers create networks or join existing ones; *to make it easier to access resources.* The interviews revealed that farmers access resources through the various networks in the following ways:

- *Bulk buying* under the farmers' association where they all contribute an equal amount towards, seed, fertiliser and chemicals.
- *Subsidised Inputs:* In the CA learning groups, the inputs are provided by Mahlathini where farmers pay a small percentage towards the total cost, although in previous years they have received the inputs for free.
- *Free Inputs* from the Department of Agriculture
- *Stokvels:* buying groceries as a group around December works out cheaper than buying individually. Stokvels come in different forms; rotating money stokvel, blanket, meat, grocery stokvels
- *Easy access to credit*, through savings groups which is used for various household needs. Shareout once a year, i.e. pool of money for procuring inputs and fulfilling household obligations.

Current Practices

The individual interviews also revealed that farming practices are largely informed by what the farmers have been taught at trainings and by their own experiences. Through the support of DARD, many practice a monoculture model of mechanized agriculture, particularly when it comes to maize, beans and potatoes. Through the CA learning groups, they have received training CSA practices such as intensive garden production where they apply more organic methods. Through conservation agriculture they have learnt about planting different crop varieties, livestock integration, water conservation and financial management through savings groups.

What is necessary to strengthen agro ecology?

Although their current farming practices do have elements of agro ecology, more still needs to be done to incorporate agro ecology principles into their farming systems. Some of the responses regarding ways to strengthen agro ecology in their current system were as follows:

- Greater exposure to agro ecology through the CA learning network
- More research on agro ecology principles and practices
- A paradigm shift on agro ecology and what it entails
- More access to organic inputs
- Greater control of predators that damage crops such a monkeys
- Employing more sustainable practices that work in partnership with nature rather than against it.

How can existing platforms be used to strengthen agro ecology?

A few farmers gave the following responses regarding the role networks can play to strengthen agro-ecology?

- Existing networks can train the youth on agro ecology in order to ensure continuity
- Department of Agriculture can help more in supporting agro ecology
- Networks can run a joint training on agro ecology principles and practices
- More cross visit, farmer field days that focus on agro ecology
- Networks can provide farming tools

The tables on the following page give a summary of the findings from the individual interviews.

Table 2: Mayizekanye Individual Interviews

No	Name and Surname	M/F	Age	Education	Head/HH	Income Sources	Income level	Current Activities	Solidarity Networks	What is necessary to strengthen agro-ecology?	How can existing platforms be used to strengthen agro-ecology?
INDIVIDUAL INTERVIEWS: MAYIZEKANYE											
1	Bongiwe Shezi	F	60	Grade 4	No	Pension, disability, HIV and social grant	R5 000,00	amadumbe, maize, beans and spinach	CA Learning Group,	More exposure to agro-ecology principles through learning network	Unclear
2	Ntombi Shandu	F	55	Grade 4	Yes	Remittances, social grant	R1 000,00	amadumbe, maize, beans, vegetables, broilers	Savings Group, CA Learning Group	No Answer	No Answer
3	Mavis Shezi	F	71	Grade 6	No	Pension and farming	R3 000,00	maize, beans, amadumbe, potatoes	CA Learning Group,	Unclear	They can train younger people on agro-ecology principles to ensure continuity
4	Fikelephi Maphumulo	F	48	Grade 3	No	Social grants, remittance	R2 500,00	Dryland cropping of grain crops, potatoes, amadumbe	CA Learning Group, savings group	No Answer	No Answer
5	Dumazile Nxusa	F	65	Grade 5	Yes	Social grants, pension and farming	R3 800,00	potatoes, beans, amadumbe, sweet potatoes, vegetables	Estezi Farmers Association, CA Learning Group, Zethembeni Stokvel	More research support on agro-ecology principles (e.g. wants to learn how to grow organic potatoes)	Dpt of Agriculture can help them learn more about agro-ecology

Table 3: Ozwathini Individual Interviews

No	Name and Surname	M/F	Age	Education	Head/HH	Income Sources	Income level	Current Activities	S/Networks	What is necessary to strengthen agro-ecology?	How can existing platforms be used to strengthen agro-ecology?
INDIVIDUAL INTERVIEWS : OZWATHINI											
1	Philani Ngcobo	M	49	Tertiary	Yes	Employment, farming, grant	R10 000,00	maize, beans, strawberries, tomatoes, scc, chickens, calves, pigs, rabbits	Mathulini Farmers' Association, CA Learning Group, Livestock Grp	Need for a paradigm shift in farmers through greater exposure to agro-ecology	Unclear
2	Martina Xulu	F	65	Grade 5	No	Pension, social grant	R3 500,00	amadumbe, maize, beans, vegetables, broilers, layers, rabbits calves	Mathulini Farmers' Association, CA Learning Group, Livestock Grp, Savings Group	No Answer	No Answer
3	Nokuthula Dube	F	56	Grade 4	No	social grant, unemployment grant, remittance	R0,00	maize, beans, amadumbe, potatoes, calves, broilers	Mathulini Farmers' Association, CA Learning Group, Livestock Grp, Savings Group, stokvel	More access to organic inputs	Networks can run a joint training on agro-ecology and promote agro-ecology initiatives
4	Doris Chamane	F	66	ABET	Yes	Pension grant, farming	R2 600,00	Dryland cropping of grain crops, potatoes, amadumbe, broilers, layers, calves	Mathulini Farmers' Association, CA Learning Group, Livestock Grp, Savings Group		They can help set up experiments comparing agro-ecological practice to conventional practice
5	Ntombi Hlophe	F	65	Grade 8	Yes	Social grants, pension and farming	R2 000,00	Beans, potatoes, vegetables, calves, maize, cover crops	Mathulini Farmers' Association, CA Learning Group, Livestock Group, Savings Group, Coded Cooperative, blanket stokvel	No Answer	No Answer

Table 4: Gobizembe Individual Interviews

No	Name and Surname	M/F	Age	Education	Head/HH	Income Sources	Income level	Current Activities	S/Networks	What is necessary to strengthen agro-ecology?	How can existing networks be used to strengthen agro-ecology?
INDIVIDUAL INTERVIEWS: GOBIZEMBE											
1	Rejoice Bhengu	F	58	Grade 10	No	Remittances, social grant	R2 000,00	maize, beans, vegetables	CA Learning Group, Burial scheme	Building stronger relationships among members, more workshops on agro-ecology	More cross visits, farmer field days and workshops that focus more on agro-ecology principles
2	Thokozile Mahlaba	F	55	Grade 11	No	Remittances, social grant	R1 900,00	maize, beans, layers	CA Learning Group, bulk buying group, stokvel	No Answer	No Answer
3	Mariam Ngubane	F	69	Grade 5	No	Pension	R1 800,00	maize, beans,	CA Learning Group,	Assistance with controlling predators such as monkeys	They can provide farming tools
4	Rita Ngobese	F	68	Grade 4	No	Social grants	R4 000,00	maize beans, amadumbe, vegetables	CA Learning Group, stokvel	Making compost, planting multipurpose crops such as legumes, i.e. employing better practices	Networks can focus more on increasing knowledge access to agro-ecology
5	Khombisile Mncanyana	F	55	Grade 5	Yes	Social grants	R2 000,00	potatoes, beans, amadumbe, sweet potatoes, vegetables, traditional chickens	CA Learning Group, Informal support network	Making compost, increasing better practices, e.g. intercropping	More training on agro-ecology practices

❖ RESULTS: FOCUS GROUP WORKSHOP

Background

The focus group workshop was conducted on the 17th of February at Gobizembe community hall in Swayimane, KwaZulu Natal Province, South Africa. It was attended by 26 out of the 30 farmers who volunteered to be part of the research. Out of the 26 farmers in attendance, there were 23 females and three males. Those who did not make it sent in their apologies prior to the workshop. The initial idea was to have the F4CJ solidarity team take part in the workshop through Zoom, however due to poor network coverage in the area this did not materialise. It was agreed that Dr George Mudimu would pre-record a short video introducing the team and project to farmers and share some of feedback from the interviews. The video was played at the beginning of the workshop.

Reflections from the Workshop

A. Identifying Local Solidarity Networks

The process of identifying local solidarity networks and their roles started with a definition of these networks and the reasons why they are formed. Thereafter there was a discussion around how farmers organise themselves so as to carry out their various activities after which they were divided into three groups. The three sub areas were asked to each stay in their respective areas as the workshop provided a platform for them to not only discover their respective networks but to also get to know each other as a larger group. From the group discussions, each group nominated someone to present the findings and below is a general list of the solidarity networks that were identified across the three areas. For a detailed list with the function of each group please refer to Table 4.

1. CA Learning Groups
2. DARD Farmers'Associations
3. Stokvels
4. Savings Groups
5. Livestock Groups
6. Mushroom Group
7. Sewing Group
8. Church Groups
9. Burial Schemes
10. Networks that look after orphans

Figure 20: First Breakaway Session: Identifying and describing local solidarity networks

Table 5: Existing Solidarity Networks and their Purpose

No	AREA	GOBIZEMBE		MAYIZEKANYE		OZWATHINI	
	Group/Network Name	Y/N	Purpose	Y/N	Purpose	Y/N	Purpose
1	Dlalanathi Orphan Group	Y	Bring together orphans to comfort and provide counselling. To encourage them to reach out to other community members without fear or shame	N		N	
2	Mushroom Production Group	Y	Mainly to encourage each other to be independent in business. Formed with assistance from DARD, mushrooms sourced from china, each woman has a nursery, market the mushrooms independently.	N		N	
3	DARD Farmer Group	Y	To learn about nature, farming and selling	Y	To learn about different ways to grow food and obtain inputs through bulk buying	Y	To learn about growing grain crops and vegetables and or bulk buying.
4	Burial/ Ceremony Savings Scheme	Y	Savings group mainly for funeral and ceremonies such as weddings, traditional functions/rituals	Y	To support bereaved group members	Y	
5	Stokvel Group	Y	Rotating stokvel where each member gets a fixed lump sum every month	?		Y	Rotating stokvel where each member gets a fixed lump sum every month/ also grocery, meat stokvels
6	Savings Group	Y	Meet to save monthly, and take out loans. Interest charged at 30% per month share out once a year	Y	Meet and save R5/week, share out at the end of the year	Y	Supported by MDF, Meet to save monthly, take out loans at an interest of 10% per month, share out once a yea

No	AREA	GOBIZEMBE		MAYIZEKANYE		OZWATHINI	
7	Sewing Group	Y	Group of women who sew church and school uniforms as well as pinafores	N		N	
8	Poultry Group	Y	Women's group for traditional chickens and layers	N		Y	Mainly farm layers and broilers through support from MDF
9	CA Learning Group	Y	Learning about planting without disturbing soil and planting different types of crops	Y	To learn to farm while saving money and protecting the soil	Y	No-till planting in order to save money and to learn about cover crops, poultry and livestock farming. Regular meetings and report back on CA, assist each other with planting
10	Church Group	N		N		Y	Different denominations meet Thursdays/Saturday/Sunday to pray against COVID, family crises, societal challenges. Encourage one another
11	Calf Group	N		N		Y	Rear calves together from a week old and sell them after 6 to 8 months

B. Prioritization of these Networks

Matrix Ranking was used to gain insight into which networks are most significant to farmers. The functions of these networks were summed up and used as criteria to identify which ones were most significant and why? The function of these networks as identified by the farmers are as follows:

1. Access to knowledge
2. Conservation of soil and water
3. Saving money
4. Increase resilience to climate change
5. Cultural Preservation
6. Solidarity

A score of 0 to 2 was used to rank each group, with 0=bad/no impact, 1=okay, 2=good and the final scores were added up in the end. The following was brought to light by the matrix ranking exercise:

- ❑ Agriculture production groups ranked the highest when compared to other social groups. This shows that food production is a crucial component of survival in the rural villages covered in this study
- ❑ CA learning groups were ranked no 1 across the three areas, in Ozwathini they tied with the calf group and in Mayizekanye they tied with the DARD farmers' association which further proves the aforementioned point
- ❑ Stokvels, burial schemes, savings groups and church groups played a more significant role in saving money, preservation of cultural values and solidarity.
- ❑ All of the identified groups had were ranked high in terms of access to knowledge across the three areas
- ❑ All the groups except he stokvel group and DARD group in Gobizembe were ranked high in terms of promoting solidarity.

Below are the Matrix Ranking Diagrams for each area

Gobizembe						
	CA learning group	**DARD Farmers Association**	**Sewing Group**	**Money Stokvel**	**Grocery Stokvel**	**Mushroom Group**
Access to Knowledge	2	2	2	1	2	2
Soil and water conservation	2	2	0	0	0	1
Saving money	2	2	2	2	2	1
Increased resilience to climate change	2	0	0	0	0	1
Preservation of culture	2	2	2	1	2	2
Solidarity	2	1	2	2	0	2
Total	**12**	**9**	**8**	**6**	**6**	**9**
FINAL RANK	**1**	**2**	**4**	**5**	**5**	**3**

Mayizekanye						
	CA learning group	**DARD Farmers Association**	**Savings Group**	**Burial scheme**	**Stokvel**	**Harvesting Group**
Access to Knowledge	2	2	2	2	2	2
Soil and water conservation	2	2	0	0	1	1
Saving money	2	2	2	2	2	1
Increased resilience to climate change	2	2	2	0	0	1
Preservation of culture	2	2	2	1	2	2
Solidarity	2	2	2	2	2	2
Total	**12**	**12**	**10**	**7**	**9**	**9**
FINAL RANK	**1**	**1**	**3**	**5**	**4**	**4**

Ozwathini						
	CA learning group	DARD Farmers Association	Calf Group	Savings Group	Burial Scheme	Church Group
Access to Knowledge	2	2	2	2	2	2

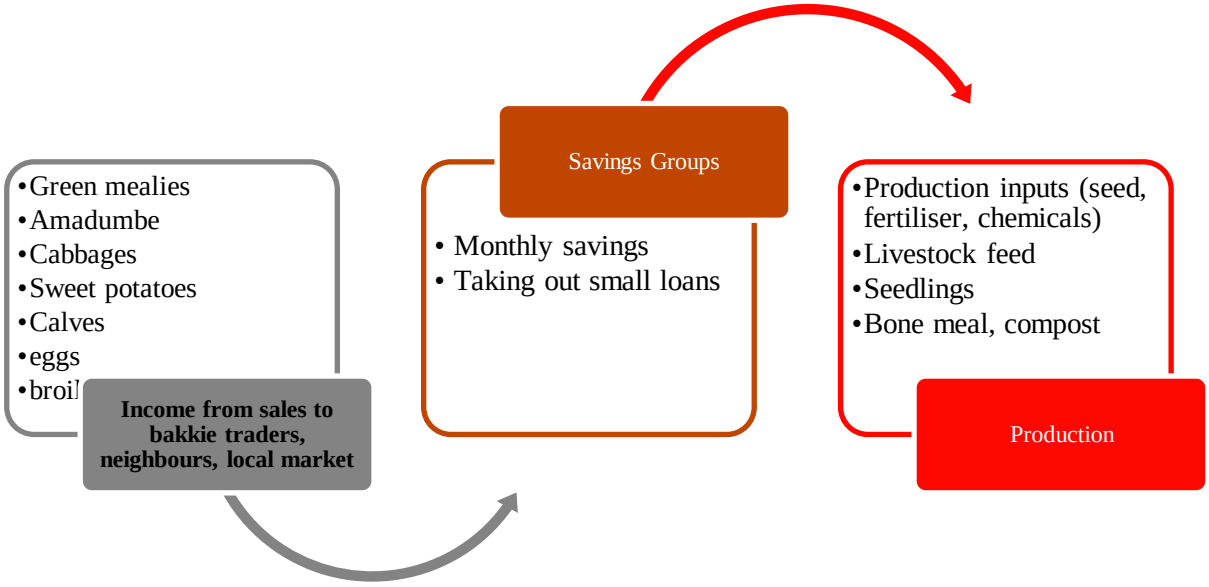
Soil and water conservation	2	1	2	0	0	0
Saving money	2	2	2	2	2	1
Increased resilience to climate change	2	1	2	0	0	0
Preservation of culture	2	2	2	0	2	2
Solidarity	2	2	2	2	2	2
TOTAL	**12**	**10**	**12**	**6**	**8**	**7**
FINAL RANK	**1**	**2**	**1**	**5**	**3**	**4**

Links between Existing Networks and Agro-Ecology

Following the matrix ranking exercise there was a discussion about the links between solidarity networks and agro ecology. The focus of this discussion was the savings groups and the conservation agriculture learning groups.

Savings Groups and Agro-ecology

During the plenary session, the group was asked whether they see any links between their savings groups and agro ecology. Their immediate response was that they saw no link but later they retracted and said their income from farming normally goes towards monthly contributions in savings groups, and loans that they take out from savings go towards buying production inputs and feed for their livestock. However, the money that is shared out at the end of the savings cycles seemed to have different uses. Stokvels were said to have no link to farming, as they are formed for very specific reasons, i.e. to "pay" each other on a rotational basis for household needs, to save up for groceries at the end of the year, buy blanket, meat, soaps and other goods. This nevertheless raises a question over the possibility of forming a stokvel dedicated to agro ecology initiatives? Although the farmers did not specifically say that savings are linked to agro ecology in particular, they did concede that they definitely play an important role in their farming activities as summed up in their words, "without farming they would be no savings groups, and without savings groups we would not progress in their farming activities."



Conservation Agriculture Learning Network and Agro-Ecology

The farmers were also asked to discuss why they gave the conservation agriculture learning groups a perfect score across all the five categories and their responses were summarized as follows:

A. Access to knowledge

- ❑ According to the farmers, the CA learning network provides a variety of platforms for learning and sharing through farmers days, workshops, cross vists and field demos
- ❑ They now have a greater understanding of the destructive effects of mechanical ploughing and excessive use of synthetic fertilisers
- ❑ Individual experimentation has allowed them to see the effects of CA first hand and draw their own conclusions

B. Soil and Water Conservation

- ❑ The farmers have seen that CA reduces runoff and soil erosion through the planting of cover crops and intercropping maize and legumes
- ❑ Diversification has played a role in improving texture of the soil

C. Increased Resilience to Climate Change

- ❑ Introduction of a multifunctional farming system of planting cover crops that can be used as fodder and manure from animals in turn being used to add organic matter to the soil
- ❑ Reduced soil erosion means greater nutrient and water retention and increased sustainability of production.
- ❑ One of the farmers shared how the hail storm on the 23rd of December wiped out a lot of people's crops but hers survived despite her field being on the steep slope, the summer cover crops and maize had little damage but the beans in between the maize were wiped out.

D. Saving Money

- ❑ Saving of money for tractor hire
- ❑ Reduced use of synthetic inputs, means less is required
- ❑ Savings group help to make better decisions about money

E. Preservation of Culture and Solidarity

- ❑ The CA learning group encourages crop diversification which is something they used to do before switching to mechanization.
- ❑ Strengthened community relations through planting together
- ❑ Assisting each other with planting, significant for older women who can no longer do high amounts of physical labour

Challenges Experienced within Solidarity Networks

Issue of gate Keepers

Though the farmers sang praises about the different networks of which they form part, they also shared that being part of a group has its setbacks even if you have a common vision. One of the challenges is that some of the gate keepers in the groups end up being a hindrance between the group and information about new technologies/innovations, either through the hogging of resources or by systematically excluding those who oppose their views from the group.

Intergroup Dynamics

Jealousy was also identified as a major challenge of which the consequences are often quick and sudden. When people are jealous of an individual/group's success they simply withdraw their support or try to sabotage them. Varying levels of commitment by some members was also raised as a point of concern as there are people who come when things go well and step back when challenges arise. There are also members within the group who simply refuse to pull their weight. Others are often quick to complain about being excluded from activities but when given the platform, fail to take full advantage of it.

Effects of COVID-19

The pandemic also had an impact on how the networks operate and the way farmers relate with one another. Firstly, many farmers lost their produce after failing to secure a market due to the lockdown, although a few of them doubled their income during the same period. In addition, organisations who came to purchase produce from to distribute to families in need faced a dilemma as to who to support because everyone was desperate for a market. It was not uncommon for those whose produce was not bought to be left feeling unjustly treated even though they knew it was impossible to purchase from everyone. The rotting of produce in the field, death of loved ones, personal COVID infections, disrupted routines and uncertainty about the future all took their toll and some farmers stopped being actively involved in the networks. The situation is however, starting to improve.

Unpredictable Weather Patterns

Climate Change has brought with it a myriad of challenges and farmers have never been under this much pressure to find innovative ways to effectively grow food. Even those who insist on continuing with mechanical ploughing have started to feel the brunt of harsh and erratic climatic conditions. Case in point, there were two major hailstorms in KZN in December that ravaged through fields, damaged houses and even killed some livestock. These harsh weather conditions coupled with a sharp rise in input costs have resulted in some becoming discouraged and either downscaling or not planting altogether.

SWOT Analysis

At the end of the workshop, a swot analysis was done to try and highlight what enables solidarity networks to function well, what inhibits them from effectively bringing about change, the opportunities that exist for strengthening their roles and the threats that place their sustainability under question. Below is a diagram of a SWOT showing what came out during the discussion.

What enables networks to function well?	What inhibits networks from performing well?

Working together with a common goal **Gaining of knew knowledge and skills on good agricultural practice** **Love for farming** **Able to grow food for our families** **Physical exercise** **Helping the needy** **Eat food from our own garden/field** **Assist each other with market** **Bulk buying**	Lack of sufficient training on usage of chemicals Poor coordination Differing views Not attending meetings/demos and expecting to piggy back on others Gossiping Lack of trust Poor record keeping
What are the opportunities for growth?	**What could threaten the future of local networks?**
Build stronger relationships **Plant new types of crops and due to CC** **To grow more food due to increase in demand for local produce** **Buying produce from one another**	Unpredictable weather patterns Old age Rise in input costs Competition with commercial farmers High mortality due to COVID and other diseases

Conclusion

The workshop brought a lot of issues to the surface and afforded farmers and the field workers an opportunity to critically reflect and identify factors that influence the effectiveness of their collaboration. From the workshop, it is clear that solidarity networks are central to developing the social agency needed to cement new ideas and innovations in rural communities. There is great potential to support and strengthen agro ecology within the CA learning groups, DARD farmers associations and savings groups.

Coventry University
Research Centre
Agroecology, Water and Resilience

Bio-economy RESEARCH CHAIR

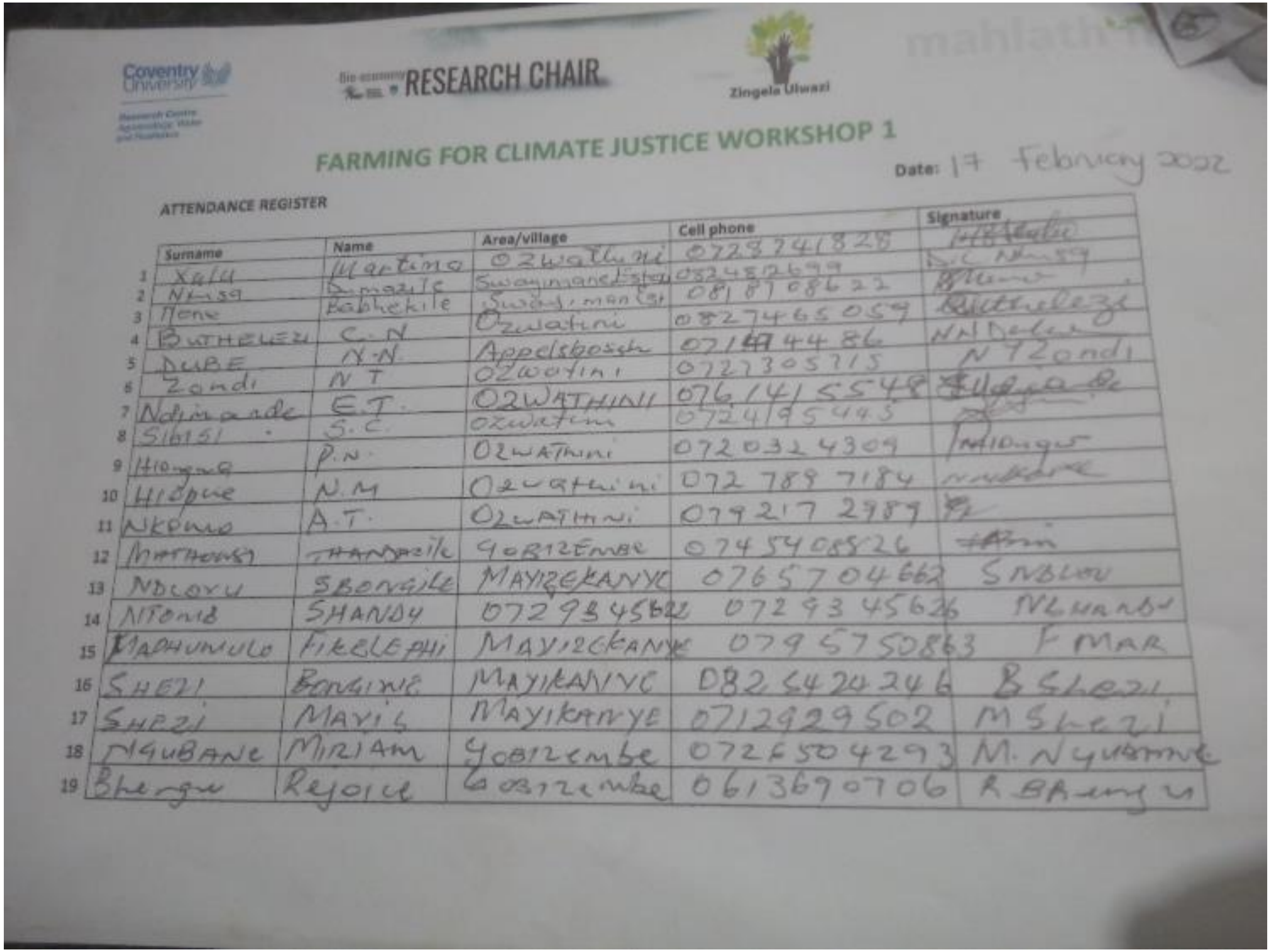
Zingela Ulwazi

mahlathini development foundation

PROGRAME

ITEM	TIME	PERSON RESPONSIBLE
Opening Prayer	09h30-09h40	Farmer Representative
Welcoming of Farmers	09h40-9h45	Tema
Greetings on behalf of F4CJ Team and background to research	09h45-09h50	Dr Mudimu
Introduction to Research • Research questions • Findings from literature and Individual Interviews	09h50-10h20	Tema
Identifying solidarity networks (explain solidarity networks) *Exercise:* split into groups and list existing networks and their purpose, prioritize in order of importance. Each group to choose ONE network and break down how it is organized, formal or informal? Benefits? Purpose? SWOT Analysis?	10h25-11h15	Tema

How do individual value systems influence these networks? **Report back and Questions**		
TEA BREAK (15 min)		
Discussion around challenges experienced in networks (impact of COVID? Group dynamics?)	11h30-11h45	Tema and Nkanyiso
Excersice: split into groups What resources are needed for farming/agro-ecology and how do you obtain these? Links between farming and networks? How can networks strengthen agro-ecology? **Report back and Questions**	11h45-12h15	Tema
Discussion around savings groups and stokvels How were they formed? What is their role? What were our reasons for joining? Is there a relationship between stokvels and your farming activities?	12h15-13h00	Tema
LUNCH!!! (30 min)		
Reflections	13h30-14h00	Tema and Nkanyiso



Coventry University

Bio-economy RESEARCH CHAIR

Zingela Ulwazi

FARMING FOR CLIMATE JUSTICE WORKSHOP 1

Date: 17 February 2022

ATTENDANCE REGISTER

	Surname	Name	Area/village	Cell phone	Signature
1	Xalu	Martino	Ozwathini	0723741828	[illegible]
2	Nkisa	Dumazile	Swayimane Estate	0824812699	D.C Nkisa
3	Nene	Babhekile	Swayimane Est	0818708622	[illegible]
4	Buthelezi	C.N	Ozwatini	0827465059	Buthelezi
5	Dube	N.N	Appelsbosch	071[illegible]4486	NN Dube
6	Zondi	N T	Ozwatini	0727305715	N T Zondi
7	Ndimande	E.T.	OZWATHINI	0761415548	[illegible]
8	Sibisi	S.C.	Ozwatini	0724195443	[illegible]
9	Hlongwa	P.N	OZWATHINI	0720324309	[illegible]
10	Hlophe	N.M	Ozwathini	072 789 7184	[illegible]
11	Nkomo	A.T.	OZWATHINI	079217 2987	[illegible]
12	Mathonsi	Thandazile	GOBIZEMBE	0745408526	[illegible]
13	NDLOVU	SBONGILE	MAYIZEKANYE	0765704662	S Ndlovu
14	NTOMB	SHANDY	0729345622	0729345626	[illegible]
15	MAPHUMULO	FIKELEPHI	MAYIZEKANYE	0795750863	F MAR
16	SHEZI	BONGIWE	MAYIKANYE	0825424246	B Shezi
17	SHEZI	MAVIS	MAYIKANYE	0712929502	M Shezi
18	NGUBANE	MIRIAM	Gobizembe	0726504293	M. Ngubane
19	Bhengu	Rejoice	Gobizembe	0613670706	R Bhengu