

APPENDIX 3: INTERIM PROGRESS REPORT

CA Farmer Innovation Programme (CA-FIP) for smallholders in Matatiele; Grain SA June 2014 to March 2015 (Year 2)

**Farmer Centred Innovation in Conservation Agriculture in upper
catchment areas of the Drakensberg in the Matatiele region of the
Eastern Cape**



Mahlathini Organics:

Promoting collaborative, pro-poor agricultural innovation.

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Time of operation: 2003-2013

Legal status: Sole proprietor (SP)

BEE status: - 4. –Certificate available.

Identification of the project

Description and selection of study areas

Work in the Matatiele (EC) site continued with a scaling out (horizontal expansion) process put in place, to include more villages around central nodes and more farmers within each village. In this way villages included expanded from 3 to 10 and the numbers of farmer participants in farmer level trials have increased to 63, from 26 in the 2013-2104 season. However only 26 of these participants planted both their trial plots and their controls and work has continued with these participants.

Approach and Methodology

The farmer centred innovation systems research process underpinning the programme, which is based on working intensively with farmer learning groups and local facilitators in each of the villages has been continued and strengthened.

Within the learning groups farmer innovators volunteer to set up and manage farmer managed adaptive trials as the 'learning venues' for the whole learning group. Farmer field school methodologies are used within the group to focus the learning on the actual growth and development of the crops throughout the season. New ideas are tested against the 'normal' practise in the area as the controls. Farmers observe, analyse and assess what is happening in the trials and discuss appropriate decisions and management practices. Small information provision and training sessions are included in these workshops/ processes. These are based also on the seasonality of the crop and the specific requests and questions from farmer learning group participants.

Local facilitators are chosen from within and by members of the learning group to be a person who has the required experience, knowledge and a willingness to support the other farmer innovators in their implementation. Facilitators are only chosen and appointed where people with the appropriate skill and personality exists. Local facilitators receive a stipend for a maximum of 10 working days per month, for their support to the farmer innovators. They fill in detailed timesheets outlining their activities against which they claim a monthly stipend.

In this instance the CIG (commodity interest group) members agree to a season long learning process and put forward the farmer innovators to run the trials. Each prospective innovator was interviewed and visited and signed an agreement with the Grain-SA team regarding their contribution to the process. They undertook to plant and manage the CA trials according to the processes introduced as well as a control plot of the same size. For the latter, farmers would provide their own inputs.

The adaptive trials are also used as a focus point for the broader community to engage through local learning events and farmers days. Stakeholders and the broader economic, agricultural and environmental communities are drawn into these processes and events. Through these processes *Innovation Platforms (IPs)* are developed for cooperation, synergy between programmes and development of appropriate and farmer led processes for economic inclusion. These IPs also provide a good opportunity to focus scientific and academic research on the 'needs' of the process.

In this season (2014-2015) we have added further elements to the model, namely:

- a) Support farmers who are in their 2nd season,
- b) 2nd Season Farmers include and support another 5 farmers each to start CA,
- c) Initiate nodes for farmer centres that can offer tools, input packs and advice and
- d) Support the process of starting a local maize milling operation for maize meal and cattle feed in Khutsong.

Key activities: August 2014- June 2015

The table below outlines the key activities and deliverables planned for the period. The last column summarises actual expenses.

TABLE 1A: KEY ACTIVITIES, OUTPUTS AND DELIVERABLE FOR JULY 2014-JUNE 2015; PLANNED AND ACTUAL.

Farmer experimentation Bergville: Milestones/ Outputs			
Key activities	Expected Outcomes/ Deliverables	Budgets	Expenditure: 1st 6 months
Reporting, documentation, administration, sundries	Meeting and monthly reports	Administration and sundries (R8 850/ month) R 105 080,00	R 56 822,04
Farmer level experimentation (1st and 2nd level)	List of participants, interviews and contracts, awareness and training	Farmer led experimentation (R24 000/ month) R 240 000,00	R 114 481,80
Set up experimentation	Commodity interest group MoU's, inputs, materials, farmer centres	Farmer led experimentation R 103 248,00	R 76 184,54
Monitoring and evaluation, market based mechanisms, students and interns	Quarterly reports, monitoring reports, baselines , presentations	Reporting and Administration R 20 748,00	R 13 402,00
Innovation platforms and awareness		Innovation platforms R 9 396,00	R 9 298,00
Totals			R290 520,00 Incl materials R 339 099,66

The budget set aside for the 1st six months, according to the overall work plan is R290 250. Actual expenditure has been very much in line with this figure. The overall programme is on track and the budget is deemed sufficient for completion on target in June 2015. **Table 1b** indicate the actual spending (Year to Date) until January 2015 and the remaining budget according to the Grain SA financial system; the difference between the tables is due to outstanding transaction still to be processed in the Grain SA system.

Table 1b: Interim financial report for the period 1 July 2014 - 31 January 2015 of the Matatiele project

Project	YTD Total	Total Budget	Remaining
Small Scale Farming (Matatiele, Eastern Cape)	102,401	502,198	399,797

Results achieved to date

Baseline surveys

Baseline surveys have been conducted in the form of livelihoods assessments for a sample of SCG (Saving and Credit Group) and CIG (Commodity Interest Group) members in conjunction with the SaveAct Trust. For this assessment post graduate students at UKZN were employed as interns between July-September 2014 to conduct an e-questionnaire of around 70 questions related to livelihoods, savings and credit enterprise activities and the like. One hundred (100) participants were interviewed from 15 villages. A summary of the livelihoods assessment outcomes is provided in **Attachment 2**.

Mobilisation of learning groups/CIGs.

For the 2014-2015 season the learning groups and experimentation were continued and expanded in Matatiele. The process was continued in Pontsheng, Lubisini and Khaoue - to be expanded through 2nd level participants each choosing 5 new farmer volunteers to work with. The idea is also that these villages will become the central focus for expansions to neighbouring villages and the locations of the new farmer centres are to be here. Five (5) new villages were included in this way, which are areas where people had shown an interest through observations and attendance of farmers' days and learning workshops in the 2013-2014 season. Two new areas were included – Ghobo and Moeaneng. See **Attachment 1** for a detailed outline of the CA planning and implementation framework for the 2014-2015 season.

The savings and credit groups (SCGs) brought together to form Commodity Interest Groups (CIGs) around maize, under the auspices of SaveAct, were the anchoring point for the process.

The framework for scaling out (implementation) included:

- Continuation with existing farmer experimentation. Each of these farmers can become volunteers and select a further 5 farmers each to support
- 2-3 New areas are to be included, based on their interest in CA, and their participation in SCGs. These areas are to expand out from nodes where the programme is already active .
- Farmer Centres are to be set up in these nodes i.e. Emmaus, Stulwane and Okhombe.
- Processes for learning workshops, bulk buying and ordering of materials set up

Planning for distribution of materials and provision of further tools (Hand and animal drawn planters, knapsack sprayers)

The table below summarises the planned and actual 1st and 2nd level farmer trial implementation for the 2014-2015 planting season. A total of 63 trial participants volunteered through the planning processes across 10 villages. Eventually only 26 of these farmers planted trials. The implementation has been disappointing and the programme will be re-oriented going into the future.

TABLE 2: SUMMARY OF FARMER INNOVATION NUMBER AND AREAS PLANTED PER VILLAGE IN THIS CA PROCESS; MATATIELE

Area	Village	Farmers selected	Farmers planted (1 st level)	Farmers planted (2 nd level)	Local facilitators	Comments; incl planters used.
EC Matatiele,	Khaoue	3 (1 st), 4 (2 nd)	1	3	Mr Dzingwa (ill health reduced her efforts) Mr Bekaphezulu has been suggested as a replacement.	Soil samples taken. 100m ² plots, Only 1 new person for 1 st level experimentation even though a concerted effort made for existing implementers to bring in 5 new farmers each

	Pontsheng	5 (1 st), 5 (2 nd)		1	Mateboho Motsoko. She has not been very active in working with others.	Only one person continued from 2013-2014. Husbands in this area insisted on going back to ploughing when returning for work in town. Soil sample taken. 100m ² plot
	Lubisini	3 (1 st) 4 (2 nd)		1	Mrs Pikwa: She has been largely inactive	Moving to a different part of Lubisini and including other SCGs did not have the desired effect of expanding implementation. Soil sample taken. 100m ² plot
NEW	Sekutlong	5 (1 st)	5		Mrs Mekabeleng – formed a working group with others in the village	Soil samples taken. 100m ² plots, 1 st level experimentation.
	Khutsong	5 (1 st)	4	1	Tsoloane Mapheele. Pro-active and assisted with new farmers	Soil samples taken. 100m ² plots, 1 st level experimentation. Mr Mapheele found volunteers to work with and assisted them. He also started a local maize and animal fodder milling operations which has been very successful thus far.
	Jabulani	6 (1 st)	4		Thabiso Dihholo: Pro-active and assisted with new farmers	Soil samples taken. 100m ² plots, 1 st level experimentation. Mr Dihholo volunteered to assist and learnt the processes quickly and pro-actively.
	Nkau	5(1 st), 1 (2 nd)	2	1	Bulelwa Dzingwa: Pro-active and assisted with new farmers	Soil samples taken. 100m ² plots. Bulelwa has expanded her CA practise to a larger area and her husband is now assisting in the work.
	Mapeng	5 (1 st)	-			No farmers initiated the experimentation despite initiation and initial interest. Learning workshops were conducted
	Moeaneng	5 (1 st)	3			Small village with 1-2 SCGs – expansion options here are limited. Soil samples taken. 100m ² plots
	Ghobo - Thinana	6 (1 st)	-			After initial interest there was no actual implementation by smallholders
TOTAL	10	48 (1st), 15 (2nd)	19 (1st)	7 (2nd)		Total area planted~ 0.5ha

Ordering and delivery of materials and inputs worked smoothly. Participant farmers were provided with their 'pack' of inputs. Mostly this did not include the agrochemicals (herbicide and pesticide), as these were seen to be too dangerous and local facilitators and field officers took charge of these.

Right: Mr Kwazi Zuma addresses participants in the store room at Khaoue re plot layout and inputs for the farmer level trails. Note the planters, knapsack sprayers, fertilizer and agro chemicals for the group.



Learning and monitoring processes

Using the Farmer Field School Methodology as an overall learning approach, a learning group was set up in each of the villages, including the trial participants and other interested farmers and SCG members. Each learning group followed a schedule of workshops with implementation and practical learning sessions including:

- Input requirements, bulk buying, saving and ordering (July-August 2014)
- Plot layout, CA principles and inputs- including delivery (September-October 2014)
- Herbicide spraying, use of knapsack sprayers, types of herbicides (October-November 2014)
- Conservation agriculture; planting and layout, including a focus on soil and doing visual soil assessments (November- December 2014)
- Top dressing and integrated pest management (January- February 2015)
- Varieties of crops, seed saving, harvesting (including measurement of yields) and storage options and considerations (March-May 2015)

Below are a few examples selected from the herbicide spraying workshops held.



Far Left: The fieldworker, Kwazi Zuma looks on while one of the participants assembles a knapsack sprayer as demonstrated. Left; He assists one of the participants in spraying technique and how to calibrate her spraying. November 2014 Jabulani



Far Left: Mr Tsoloane Mapheele the local facilitator assembles the knapsack sprayer as a demonstration for participants in Khutsong while the field worker Mr Dumisani Magubane looks on. Left: Spraying of herbicide on the field as a demonstration.

Planting and growth monitoring forms were provided to the field workers to complete for each trial participant. Planting forms are to be filled in at planting and the growth monitoring forms 6-8 weeks later at topdressing stage and once the first weeding has been done. Summaries of these provide the detailed information for each trial participant.

CA practice

This season variations have been introduced in the introduction of different varieties of crops. Farmers were expected to still use hand hoes and compare that practice with one of the planters or just use hand hoes depending on their preference. Plot layout was kept very much the same as for the 2013-2104 season as farmers in Matatiele still need to become more familiar with this planting process before starting to experiment themselves with plot layout and design.

The overall plot layout is sketched below

	PLOT 1: Hand Hoe			PLOT 2: Planter	
10m or 5m	Maize 1, bean 1	Maize 2, Bean 1		Maize 1, bean 1	Maize 2, Bean 1
	Maize 1, Bean 2	Maize 2, Bean 2		Maize 1, Bean 2	Maize 2, Bean 2
	10m or 5m				
	PLOT 3:	OR repeat plot 1 and 2		PLOT 4:	
	Hand hoe	Planter		Hand hoe	Planter
	Maize 1, cowpea	Maize 1, cowpea		Maize 1, Dolicho	Maize 1, dolichos
	Maize 2, Cowpea	Maize 2, Cowpea		Maize 2, Dolicho	Maize 2, Dolichos

Figure 1: Examples of plot layouts for the farmer level trails.

Farmer level trials; variations

Variations included were:

- **Minimum tillage planters.** Hand hoes and MBLI planters were used in combination by most farmers. Matracca planters were mostly discarded as hard to use. Many participants just used hand hoes finding their soil a little hard at the beginning of the planting season for using the MBLI planters. The animal drawn no till planters were used extensively. The animal drawn planter was used by Mr Mapheele from Khutsong only.



Above left: Laying out of the plot after spraying with Round up two weeks before at Pontsheng (7 Nov 2014). Above middle Mazwi Dlamini assists one of the participants with filling and calibrating a MBLI planter and Far left: Participants practise using the MBLI planters in Mrs Matsoko's experimental plot,



Above: Mrs Matsoko's plot (the same as above) in January 2015. A combination of a rain storm that washed out some of the seeds and led to bad germination and very late weeding (Here 6 weeks after planting no weeding has been done) has led to stunted and patchy growth of the trial.

- **Selection of seed types:** Farmer participants chose different varieties of both maize and legume seed for planting. This was included in the experimental design for comparison. Seed types used included:
 - Maize OPV: white (Border King AND Nelson's choice), yellow (Colorado AND Sahara)
 - Maize hybrid: white (Pan 6479, PAN 53 and CAP 9017)
 - Beans: Ukulinga (OPV), PAN 148 (hybrid) and Dolichos (Lab-lab)
 - Cowpeas: mixed brown
 - Cover crops: Lucerne
- **Control plots:** farmer generally planted their control plots before the trials in early November. Their practice consists of spreading manure, ploughing and then broadcasting seed and fertilizer. They weed once (and only a few would weed twice) a season around 6-8 weeks after planting.

Technical considerations

Farmer level trials were kept basically similar to the 2013-2104 season. The idea is to make these trials as simple as possible for entrant farmers with only 1 or 2 chemicals and fertilizers so that people can become acclimatized and get used to these. Following the concept of Low External Input Sustainable Agriculture (LEISA), it is also the intention to minimise the use of external inputs and replace agrochemicals with good crop husbandry practices as much as possible.

The basic process for planting thus includes: Close spacing of tramlines (2 rows) of maize (50cmx50cm) and legumes (20cmx10cm) intercropped, use of a variety of OPV and hybrid seed, weed control through a combination of pre planting spraying with herbicide and manual weeding during the planting season and pest control using Decis Forte, sprayed once at planting and once at top dressing stage.

Layout of plots

The plot design for the trials was kept the same as last year using the close spacing and intercropping tramlines as the basis of the design. The following logistical arrangements were put in place:

- a. Local facilitators supported the process actively where possible
- b. Support of volunteer farmers who recruited around 5 new farmers each and assisted them with planting.
- c. Participants worked together in groups (of 3-5 people) to do the spraying and planting of the trial plots – mainly in Sekuthlong and Khauoe. In other areas people worked by themselves.

Use of Agro-chemicals

Fertilizers used included MAP (at planting) and LAN (for topdressing). Lime was added to the plots. Soil samples were taken for all participants and a generic recommendation used for participants.

- a. *Fertilizer recommendation:* Soil samples were taken for farmer participants. These were averaged and a generic fertilizer and lime recommendation given for Matatiele as a whole. Primarily this was done as farmers struggle to understand the complicated version of the soil analysis results and fertilizer recommendations.

The table below indicates the average nutrient requirements used as a generic recommendation.

TABLE 3: NUTRIENT REQUIREMENTS FROM SOIL SAMPLE RESULTS FOR PARTICIPANTS FROM THREE VILLAGES IN MATATIELE; 2014-2015 SEASON.

Summary of nutrient requirements for 3 villages in Matatiele, 2014							Amount of fertiliser to be applied (Bags/ha)				
Area	Name and Surname	Crop to be grown	Yield target (t/ha)	N Required (kg/ha)	P required	K required	Lime req t/h	MAP	LAN	Urea	KCl
Jabulani	Lucea	Dry beans	2	80	20	0	0	1,8	5	Or 3.0	0
		Maize	4	70	20	0	0	1,8	4,3	Or 2.6	0
			7	160	20	0	0	1,8	10,7	Or 6.5	
Jabulani	Abraham	Dry beans	2	80	60	0	0				
		Maize	4	50	60	0	0	5,5	1,4	Or 0.9	0
			7	140	60	0	0	5,5	7,9	Or 4.8	0
Jabulani	Maphala	Dry beans	2	80	70	0	0				
		Maize	4	70	85	0	0	7,7	2	Or 1.2	
			7	160	85	0	0	7,7	8,4	Or 5.1	
Jabulani	Nowethu	Dry beans	2	80	55	0	0				
		Maize	4	70	75	0	0	6,8	2,3	Or 1.4	
			7	160	75	0	0	6,8	8,8	Or 5.3	
Khutsong	Monapo	Dry beans	2	80	40	0	0	3,6	4,3	Or 2.6	0
		Maize	4	70	30	0	0	2,7	3,9	Or 2.4	0
			7	160	30	0	0	2,7	10,4	Or 6.3	0
Khutsong	Tata	Dry beans	2	80	20	0	1	1,8	5	Or 3.0	0
		Maize	4	70	30	0	0	2,7	3,9	Or 2.4	0
			7	160	30	0	0	2,7	10,4	Or 6.3	0
Khutsong	Betta	Dry beans	2	80	20	0	0	1,8	5	Or 3.0	0
		Maize	4	70	20	0	0	1,8	4,3	Or 2.6	0
			7	160	20	0	0	1,8	10,7	Or 6.5	0
Khutsong	Moshoeshoe	Dry beans	2	80	60	0	0				
		Maize	4	70	80	0	0	7,3	2,1	Or 1.3	0
			7	160	80	0	0	7,3	8,6	Or 5.2	
Pontseng	Pitso	Dry beans	2	80	20	0	0	1,8	5	Or 3.0	
		Maize	4	70	20	0	0	1,8	4,3	Or 2.6	
			7	160	20	0	0	1,8	10,7	Or 6.5	
Pontseng	Siziba	Dry beans	2	80	25	0	0	2,3	4,8	Or 2.9	
		Maize	4	40	50	0	0	4,5	1,1	Or 0.7	
			7	120	50	0	0	4,5	6,8	Or 4.1	
Pontseng	Maleth	Dry beans	2	80	60	0	0				
			4	50	60	0	0	5,5	1,4	Or 0.9	
			7	140	60	0	0	5,5	7,9	Or 4.8	

TABLE 4: AVERAGE QUANTITIES OF FERTILIZER RECOMMENDATIONS BASED ON SOIL SAMPLE RESULTS

Amount of nutrient required	No of bags recommended (50kg bags/ha); fertilizer name	Ave recommendation from 10 soil samples (50kg bags/ha)
N (Maize): 60kg-150kg/ha (4-7t/ha)	LAN: 4 bags (200kg)	LAN: 2-8 bags
N(Beans): 20kg-60kg/ha (1-3t/ha)	LAN: -topdressing not required	LAN: 0-2 bags
P: 55kg-70kg/ha	MAP: 5 bags (250kgs)	MAP: 5 bags
Lime: 1ton/ha	LIME: 200 bags (1ton)	LIME: 200 bags

Locally the field workers and participants again adapted the amounts to easy local measures using caps, and matchboxes. The amount required for each basin and or metre row was worked out

- b. *Herbicide application:* Spraying workshops were held in each area and spraying for this season was conducted by local participants. The pre planting spraying of Round-up (Glyphosate) 7-10 days before planting was done. Depending on coverage and efficacy a further at planting spraying of Gramoxone (paraquat). This year the spraying of pre-emergence herbicides was not included as part of the practice.
- c. *Pesticide application:* Decis Forte was applied at planting. For Bergville a 2nd application was done around 6-8 weeks later for stalk borer and beetles. This season, especially for the farmers that planted early in the season (late October- 1st week of November stalk borer incidence has been high. Spraying of Decis Forte was not all that successful and stalk borer granules were subsequently also introduced to those farmers with a lot of damage.

Interim observations for the farmer trials

Some of trends already noticed are the following:

1. *Weeding practice in the area is problematic.* People weed late and then pile the weeds to ensure that they do not re-germinate. This leaves the soil very exposed to damage and run-off from heavy rainstorms and disturbs the crops.

Right: A typical example of a weeded field in Khutsong. Notice the bare soil, with rain damage and small pies of dried weeds. Far right: Two farmer participants actively weeding with hoes....



Late weeding and lack of weeding ; All participants practice late weeding. As planting happened mostly in late November and early December, very few people did any weeding before Christmas. This has caused a lot of damage to the crops and growth of trials has generally not been good. Crop cover in the trails is not complete even by mid-season and thus further weeding would be required.

Above: A plot in Sehutlong (Matshepo Futu) that was weeded late after rain damage. Crop cover is patchy,- but growth is reasonable, especially of the legumes(in this case cowpeas) that seem to recover better from weed competition than maize. Bottom left: A maize field (Mr Mapheele, Khutsong) completely clogged with weeds. Harvests from this field are likely to be minimal. Bottom right: Another plot planted by Mr Mapheele where he managed to weed in time. The difference in the growth of the maize is apparent.





2. *Damage due to rain storms and run-off.* In a number of cases heavy rains shortly after planting washed out many of the seeds and presumably also washed away a lot of the lime and fertilizer applied in the planting holes. This has led to patchy germination and very mediocre growth of the crops. As trials were planted slightly later than the control plots, this has meant in some instances that the control plots have fared better.



Top left: Ma MakabeleIng from Sekutlong standing in her CA trial. Germination has been somewhat patchy and plants are somewhat yellower than her control plot in the background. The control plot was planted according to the local practice of broad casting seed after ploughing.

Below left: Bulelwa Dzindwa's experimental plot in Nkau also shows patchy germination due to washing out of seed during heavy rain.

Below: Mr Dzingwa busy weeding the rest of the trail plot (Nkau).The patchy germination and growth is reasonably evident. This is the second weeding



for this family in 8 weeks and they are likely to need to weed again before the end of the growing season.



3. *Some insect damage is noticeable;* Some damage by stalk borer in maize and CMR beetles on the beans was visible in most of the plots. The Decis Forte spraying was not done at top dressing by a number of the participants and this could account for the incidence of crop pests

Right: Minor stalk borer damage in maize and CMR beetle damage in beans visible in Mrs Makabeleng's plot in Sehutlong.

4. *Growth of legumes has been good.* In most of the plots are legumes; Ukulinga sugar beans and cowpeas has been relatively good and generally better than the maize.



Far left: A reasonably good stand of Ukulinga sugar beans inter cropped with PAN 6479 maize in Majohane Kanetsi's field in Khutsong. Her neighbour Mrs Makhutlang Dodo's field shows cowpeas growing well – while the maize falters somewhat.

Further Innovations

Mr Tsoloane Mapheele has shown himself to be innovative in a number of different ways. He has undertaken the following activities this year:

- Buying of an electrical maize mill to make both maize meal for locals as well as experimenting with producing maize crush for animal feed(poultry, livestock and horses). He will also mill other potential fodder and feed crops to test options for formulation of feed and sale to local farmers.
- He has also planted large plots of beans as cover crops and planted lucernes as well.
- He has started a small SCG(savings nad credit group with a few other smallholders to save specifically for agricultural inputs

Right: Mr Mahpeelee stands next to his mill. He has been very busy with milling nad this operation has replaced his floundering spaza shop as a much more lucrative option.



Problems encountered, milestones not achieved and reasons for that

Limited interest in actual implementation of farmer level trials from CIG participants

Despite a more stringent process of choosing farmer level trial participants and including a comprehensive introductory process to the Grain SA process for all interested CIG members, actual participation in the trials has been disappointing. The following reasons have been put forward in discussions with the farmers themselves, the local facilitators and the field staff:

- Cropping has become less and less common in the last 12-15 years. A significant number of people have migrated to the cities to work. 'Newer' people, who have moved into the area, have come just to live - not to practise agriculture. This implies that the interest and capacity (knowledge- and skills-base) of people to practice agriculture are very low.
- Receiving grants has made people a lot more in-active.

There are also a few technical and bio-physical constraints that have limited the success of the trials. Successful implementation depends on the CA trials to visually perform better than the farmers' standard control practice. This has not really been the case due to the reasons given above. Visual improvements and performance of the CA trials have been somewhat marginal, which is quite normal for farmers new to the CA practice. It can take from two to four years (of participation in the innovation process) for new farmers with this profile to overcome these problems and master a complex new technology such as CA. The control practise in the area consists of broadcasting manure, then hiring a tractor to plough it into the soil after which the maize seed is broadcasted in the field with some fertilizer. Weeding is done only once, and at most twice per season and usually quite late. Early weeding (2-3 weeks after planting) is not commonly practiced. The clear large gap between the two practices illustrates the effort required to transform from the one (control) to the other (CA); it requires a paradigm shift and pushes various traditional, technical and resource boundaries.

It was noticed during field observations in the trials that germination was not very good. Besides the excess run-off during heavy thunder showers as one of the major causes of this problem, the initial seed-soil contact induced during the planting process may not have been very good in these sandy soils. In future more attention will need to be given to this aspect, including the planting depth.

To better illustrate the conundrum described above, comments captured from farmers during field visits include the following:

Positive factors for the CA:

1. - The maize does grow better under CA.
2. It saves energy as we do not need to plough and requires fewer inputs.
3. It is possible to do small areas by hand and get more food than we are used to.
4. It is good to have maize and beans together, as the beans grow better in between the maize than on their own. Normally it is difficult to grow beans.
5. If the process works well then spraying with the round-up before planting and intercropping means that we only have to weed the plots once. This is good as there are no people to help with weeding and it takes a really long time.

Negative factors for the CA:

1. It is not possible to grow maize in our fields as the cattle now stay there the whole year and the fields are not fenced. The cattle management processes have been discontinued.
2. Our husbands come back from town and do not like this idea of planting by hand.
3. Planting in late November and December is too late.
4. We are used to weeding our fields just once during the growing season. The CA plots sometimes need a lot of weeding.

5. Due to the sandy soils and the heavy summer rains and storms we struggle with run-off problems. The seeds and small plants get washed out of the soil. With the no-till this seems to be worse when the soil is bare after spraying herbicide and weeding.
6. With the heavy rain and sandy soils the micro-dosing with fertilizer is not always successful in giving enough food for the plants.
7. Perhaps the SCG (Savings and Credit Group) members are not the correct target group. These people may be interested in the free seed but not so much in farming. They expect free seed because the Department of Agriculture came and gave free GM seed to all people who wanted. Now they think that Grain SA must do the same. Some people even eat this seed and do not plant it.
8. There are those that use oxen-drawn ploughs.
9. It is difficult to implement, as it is more work than our standard practise

Considerations for future cycles

For the moment the idea is to scale down the intervention in Matatiele and to focus (re-targeting) the process to the larger (semi-commercial) smallholder farmers in the area, or to those smallholders really interested and with some experience in grain production. Overall, initiation of the CA process will be done in new areas of the EC targeting qualifying groups and candidates. This innovation process is to start with an awareness event (or led by persons who have been sensitised about CA already, e.g. during the Bergville farmers day), and/or supported with quality on-farm demonstrations and learning-by-doing sessions, comparing CA with local practices, ensuring the correct procedures being used, before starting with the farmer level trials. More specific actions that will be focused on include the following:

1. Work more extensively with oxen-drawn no till planters, especially in Sekhutlong and Khutsong where people have oxen. Ensure correct planter settings for good planting, e.g. the correct depth and seed-soil contact. This year germination has not been good and correct planting protocol will be emphasised
2. Do small field worker (Participating farmers or facilitators and project field workers)managed demonstrations in new areas using 'learning-by-doing' with farmer participants to ensure that the trials work well and there is a visual improvement over standard practices in the area.
3. Find ways to reduce the run-off and washing away of seed and small plants. Demonstrating the effect of sufficient mulch after planting is going to be important, even if it requires mulch such as chopped grass, etc. to be carried into the fields.
4. Plant the winter cover crops as broad cast seed as soon as possible (Start end January 2015-mid March) and request that farmers leave the cover crops on the land for re-planting into these in the next season.
5. Continue into the next season with fewer farmer participants in Matatiele- only those that have shown a continued interest. Consolidation of the present work needs to happen before expansion is possible, including much higher performance of people and practice.
6. Provide for focussed field work with field workers committed to only this task or project. This is needed until farmer facilitators with an acceptable standard are identified. to provide support and back up.
7. Invite people to a cross visit in Bergville so that farmers from Matatiele can see a CA system that is working well and where the potential benefits of this approach are more obvious. This was done on 17 February 2015 – See attachment 3 for a brief report
8. Re-think the incentive mechanism and broaden it. People need to show interest and 'perform' before receiving the farm level incentives. Incentives for effort and results need to be included so that people have something to work towards. Include aspects such as: larger areas of land planted, better crops, early weeding, self-organisation, organised into CIGs (commodity interest groups)and the like.
9. Setup competitions to kick-start the initial activities.
10. Explore a farmer segmentation approach to contextualise and provide a planning framework for implementation support, monitoring and future support. See **Attachment 4** for an initial outline of this approach.

Estimated duration to completion

The annual cycle of the project is to be completed on schedule in June 2015. Between March and June, learning and evaluation workshops, farmers' days, harvesting and yield measurements, storage and milling options and practices and planning processes will be conducted.

Attachment 1: CA planning and implementation framework for Matatiele; 2014-2015

CIG (Commodity Interest Group) and CA (Conservation Agriculture) expansion process is to be combined, keeping the following issues in mind.

- Older groups are not in contact with SaveAct and we may not even know when they meet. – A specific process to draw them in is required.
- It does not work well to rely on one or two people only to try and arrange for meetings and for people to come.
- Lists will be compiled of all SCGs (old and new in focus areas). These will be contacted in clusters for setting up meetings to introduce CIGs and CA. This is a matter of urgency now.
- CIG processes to include a number of different commodities for the area. Start with a process of prioritizing the commodities using participatory value chain workshop.
- Link to Isiqalo , bulk buying and other mentoring and support processes available around e.g. poultry, sheep, and potatoes

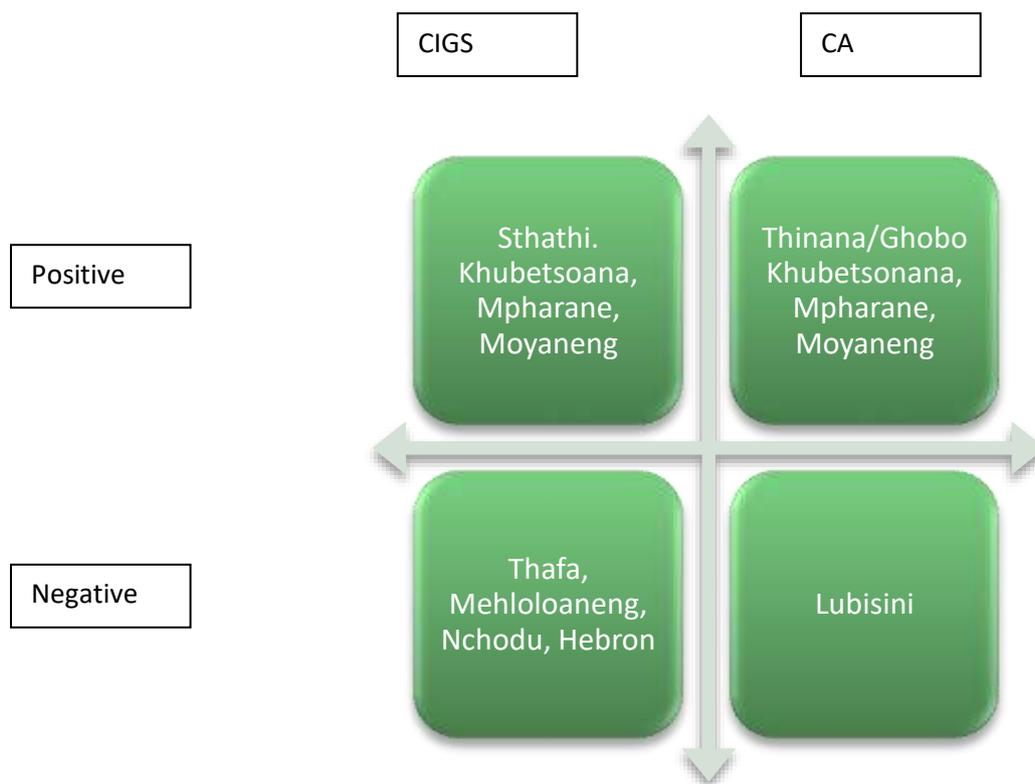


Figure 1: Groups to prioritise for CIGs and CA

CIGs : Commodity Interest Groups

- Linked to formal membership. Each person joins the CIG . Will be linked to certain services and processes in the future – including cell phone info systems,
- Set up in each localised area or village,
- Linked to a slightly larger area through on farmer centre
- Each CIG will host a number of commodity interest areas including CA learning groups where appropriate
- CIGs will incorporate new and old SCGs – between 2-8 SCGs per CIG
- Members of a CIG can form another SCG specifically aimed at agricultural enterprise savings and credit
- Organise bulk buying or cooperative buying and input supply processes, learning and mentoring around production and joint marketing processes

Farmer Centres

Initially a centre for support to the CA process in the area. Later it can provide a focus for other services and inputs. Set up as a functional small business activity for 2-3 members of the CIG to do the following:

- Provide access to CA tools and equipment (Hand planters, knapsack sprayers) to the broader community on a rental basis
- Provide access to small quantities of inputs for CA which could include seed, fertilizer, agrochemicals... as required by the individual. Larger quantities re-packaged and sold
- Provide a show and tell service to individuals who want to try out CA. Both planters and knapsack sprayers need some level of skill to operate and thus a basic level of training which should be offered by the centre as a service.
- Will include members of CIGS from all the villages in a focus area, so needs to be quite central and accessible.

CA expansion process

- The CIG becomes the home for the CA process and also becomes the CA learning group for the area. People in the learning group can be part of the process through learning workshops, access to bulk buying opportunities for field cropping inputs and access to the farmer centre.
- The **trial participants** who did farmer based trials in 2013, continue with a secondary level experimentation process – where they choose the design of their experimentation process. They have the option to become **farmer mentors** and bring on board with them **5 farmer volunteers** each. They will be responsible for assisting these farmer volunteers in setting up and running their own primary level CA experiments/trials
- Five new farmer based trials will be set up in an area adjacent to, or linked into the focus area e.g. working in Nkau, which is right next to Pontsheng and where a few people from this village were in the 2013 process or showed interest in taking the CA process on.
- Two new focus areas are to be chosen, given their readiness both for CIG formation and interest in maize production and 5 new farmer based trials set up there linked to a CA learning group
- Maize **budgeting and bulk buying** input/workshop for each CIG: Talk through what people spend and what conventional versus CA costs per area, the need to plan for this spending, and then discuss how they can do it – savings, small loans and share outs. Get each SCG to agree to discuss, people can decide to order, fill in an order form and get it to the CBP and or FO.

ACTION ITEMS:CIG process June-July 2014

ACTION	PERSON	DATE
1. CIG framework	Erna	6 June
Maize bulk buying order form and files with all information for Office and Mazwi, CIG membership forms	Erna	By Fri 13 June
2. Set up lists for all SCGs in the 'focus' areas; New and old Use the followings headings in the lists: Area, name of SCG, Chairperson, Contact no, Year of establishment, Monthly meeting dates	Nolufefe, Simbongile, Teboho and CBPs	Thurs 12 June
3. Set up introductory meetings for CIGS and CA in Moyaneng, Mpharane and Khubetsoana	Mazwi, Simbongile,	By Fri 27 June
Set up CIG , choose 5 trial participants, discuss farmer centre, Interviews; Moayneng, Mpharana, Khubetsoana	Mazwi, Simbongile, Vuyo	By Fri 18 July
4. Initial meeting in Mapheng to introduce CIGS and CA	Mazwi, Simbongile	By Fri 20 June
5. Meeting in Sekhutlong to set up CIG, choose 5 new trial participants. Interviews	Mazwi, Simbongile	By Fri 20 June
6. Meeting in Nkau, set up CIG, choose 5 farmer volunteers, discuss farmer centre, Interviews	Mazwi Simbongile	By Fri 20 June
7. Meeting in Mapheng, set up CIG choose 2-32 new farmer volunteers, interviews	Mazwi, Simbongile	By Fri 27 June
8. Meeting in Pontsheng, set up CIG, farmer mentor process for CA, discuss farmer centre and set up..(link to Nkau..), new farmer	Mazwi, Vuyo, Simbongile	By 4 July

volunteers. Do budgeting discussion, bulk buying and ordering around maize. Interviews for farmer volunteers...		
9. Maize budgeting, bulk buying and ordering workshop –include other CIG bulk buying processes - Sekhutlong	Mazwi, Vuyo	By 11 July
10. Maize budgeting, bulk buying and ordering workshop –include other CIG bulk buying processes- Nkai	Mazwi, Vuyo	By 11 July
11. Maize budgeting, bulk buying and ordering workshop –include other CIG bulk buying processes- Mapheng	Mazwi, Vuyo	By 11 July
9. Meeting in Khauoe, set up CIG, farmer mentor process for CA, discuss farmer centre and set up..(link to Khutsong..), new farmer volunteers. Do budgeting discussion, bulk buying and ordering around maize. Interviews for farmer volunteers...	Mazwi, Vuyo, Simbongile	By 20 June
10. Meeting in Khutsong/Thabang, set up CIG, choose 5 farmer volunteers, discuss farmer centre, Interviews		By 20 June
11. Meeting in Nkosana to set up CIG, choose 5 new trial participants. Interviews		By 4 July
. Maize budgeting, bulk buying and ordering workshop –include other CIG bulk buying processes – Khauoe		By Fri 25 July
. Maize budgeting, bulk buying and ordering workshop –include other CIG bulk buying processes- Khutsong/Thabang		By Fri 25 July
. Maize budgeting, bulk buying and ordering workshop –include other CIG bulk buying processes- Nkosana		By Fri 25 July
LUBISINI		
. Meeting in Lubisini, set up CIG, farmer mentor process for CA, discuss farmer centre and set up..(new farmer volunteers. Do budgeting discussion, bulk buying and ordering around maize. Interviews for farmer volunteers... Ensure wide participation, set up new are if appropriate		By 4 July finalised By Fri 25 July

BY END JUNE

INTRODUCE CIGs and CA PROCESS AND GAUGE INTEREST

SET UP A CIG IN EACH AREA; CIG membership forms, commodity focus areas, roles and responsibilities for CIG members; input- production support and marketing, A form of committee or group of contact people and how they will inform others needs to be agreed on.

CHOOSE THE FARMER MENTORS, FARMER VOLUNTEERS AND PEOPLE FOR 5 NEW TRIALS; interview forms are to be filled in for ea participant and a home visit done to assess the state of the proposed field.

BY END JULY

RUN A MAIZE BUDGETING and BULK BUYING WORKSHOP IN EACH NEW CIG ; compare prices for conventional and CA processes as well as different levels of inputs (e.g. fertilizer vs kraal manure or a combination of both) etc, Introduce bulk buying concepts and assess interest for bulk buying from each individual in the group. Ensure that a process of discussion of bulk buying includes how each member will pay –e.g. using loans, or share outs or other savings, or setting up another SCG to save specifically or changing share out date for example....

SET UP A BULK BUYING ORDERING AND PAYMENT PROCESS.

BY END AUGUST

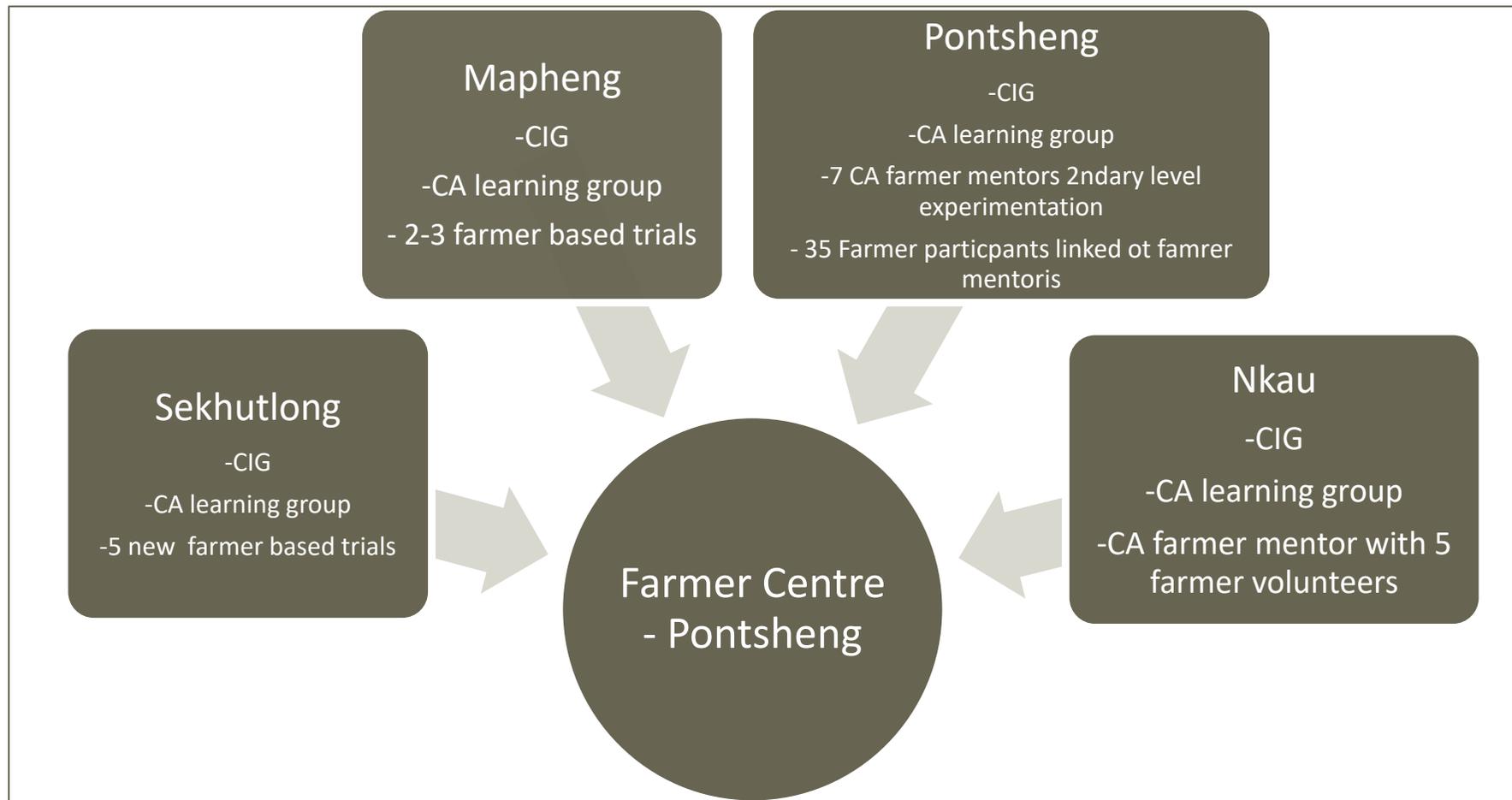
FINALISE PRIMARY AND SECONDARY LEVEL EXPERIMENTS, CONTRACTS, AND FARMER CENTRE PROCUREMENT INITIATION

BY END SEPTEMBER

DELIVERY AND PLANTING DEMONSTRATIONS AND WORKSHOP

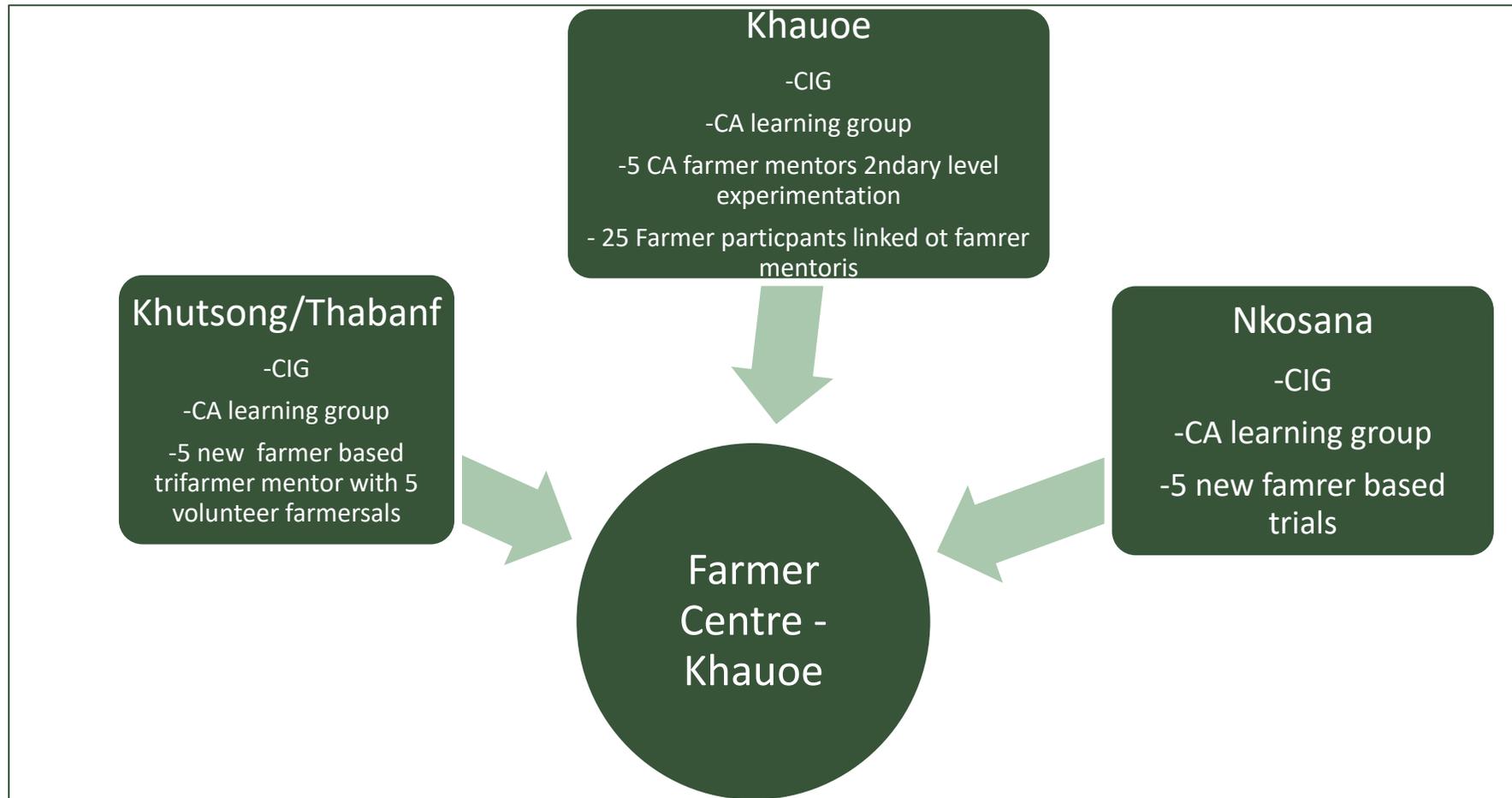
PONTSHENG

- 4 CIGS (Pontsheng, Nkau, Sekhutlong and Mapheng)
- 1 farmer centre
- 6 farmer mentors (with 6 secondary level farmer based trials) doing secondary experimentation
- 30 farmer volunteers linked to the farmer mentors
- 5- 8 new(primary level) farmer based trials



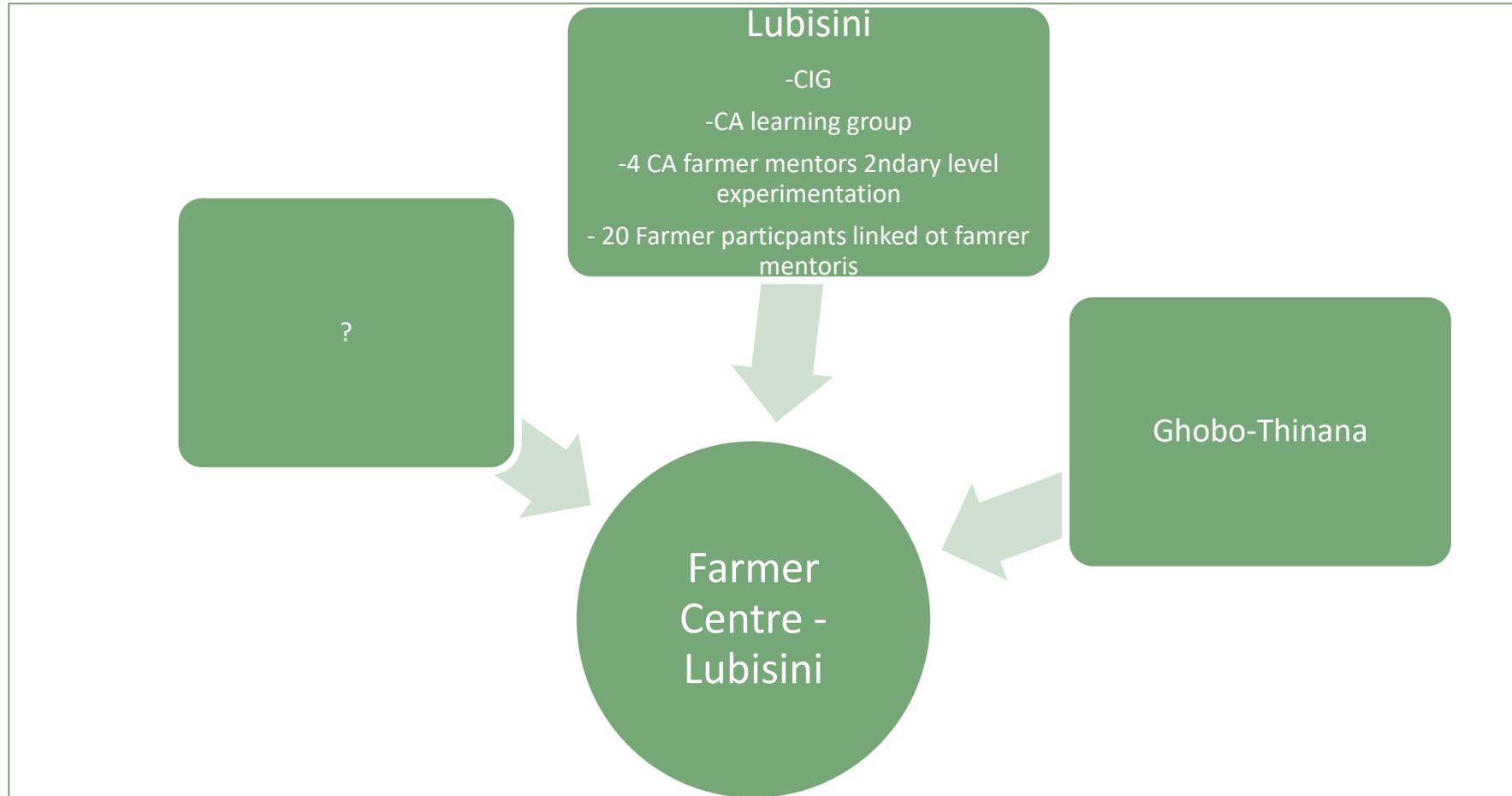
KHAUOE

- 3 CIGs (Khaue, Khutsong/Thabang, Nkosana)
- 1 farmer centre
- 5 farmer mentors (with 5 secondary level farmer based trials) doing secondary experimentation
- 35 farmer volunteers linked to the farmer mentors
- 5- 8 new(primary level) farmer based trials



LUBISINI

- 1 CIG
- 1 farmer centre?
- 4 farmer mentors (with 4 secondary level farmer based trials) doing secondary experimentation
- 20 farmer volunteers linked to the farmer mentors
- 5 new(primary level) farmer based trials



ATTACHMENT 2: Summary of baselines information from the Matatiele livelihoods assessment survey; September 2014

Brief overview of outcomes

Savings and Credit Groups (SCGs) are key within the SaveAct model in assisting the rural poor and specifically women to engage actively in productive activities such as agricultural enterprises. The commodity interest group (CIG) focus for agricultural enterprises assists substantially in providing cheaper inputs, improving production and gaining knowledge for their enterprises. In interviews conducted with participants, of a sample of 100, all CIG participants have mentioned trying out new ideas introduced in the CIG meetings and learning workshops. Around 48% of CIG participants have made use of the bulk buying processes set up.

Currently, there is a growing demand for production training in poultry and vegetables, training and support in rainwater harvesting, and Isiqalo (business start-up) training. Further support in bulk buying and access to inputs has been requested.

Most of the SCG and CIG participants are women, the majority of whom are older women. Their overall average incomes are extremely low at around R1 800/month. People spend around 15% of their incomes on their agricultural enterprises, using primarily SCG loans and share-outs for these activities. Basic needs, home improvements, education and consumption smoothing¹ take up the largest proportion of their expenditure.

Of the 85% of respondents in a survey of CIG participants involved in agricultural enterprises close to 50% do not make an income from these activities, but produce food for their households.

Summary of information presented in the report.

One hundred respondents (89% female) from 13 different villages and representing 54 SCGs (Savings and Credit groups), were interviewed. Total supervised membership at present is 4195 members across 227 SCGs (7726 members in total across 418 SCGs). This sample size provides a confidence interval of 5.86% at a 95% confidence level. Random selection at SCG and CIG (Commodity Interest Group) meetings was used as a sampling procedure.

1. 89% of respondents are female. Their average age is 51 years old.
2. 58% of respondents are 60 years or older and only 5-7% younger than 30 years of age
3. Respondents belong to 54 different SCGs (Some members belong to more than one group. Members have been in SCGs for different lengths of time.
 - a. 9% of sample joined between 2008-2010,
 - b. 83% of sample joined between 2011-201 and
 - c. 8% of sample joined in 2014.
4. The share out dates for the SCGs are mostly around the end of the year, similar to stokvels. With 57% of respondents having their share outs in November and December, 13% in January, 10% from February to April and the rest spread out reasonably evenly throughout the year
5. 68% of Respondents receive social grants as their main source of income, 18% are employed, and 6% run their own enterprises. For the women, remittances still play a role and 7% receive these as their main source of income.
6. Average monthly incomes are low; 23% earn between R1-R1000/month; 48% earn between R1001-R2 000/month; 20% earn between R2001-R3000/month; 4% earn between R3 001-R400 and 5% earn more than

¹ Consumption smoothing relates to a person's abilities to cover their monthly expenses and basic needs such as food, shelter, health, educational and cultural needs and the like and also to reducing indebtedness

R4 000/month. These figures correlate strongly with income from social grants and shows the extremely high level of dependency on social grants.

7. For those with social grants (87% of respondents) as their main source of income around 19% receive R501-R1000/month, 51% receive between R1001-R2000/month and 20,5% receive between R2001-R3000/month.
8. 85% of Respondents have been involved in Commodity Interest Groups. 5% of these respondents are younger than 30yrs and 58% of respondents are older than 60 years of age. Including CIG membership into the age distribution shows a curious trend where women between the ages of 50-60years are the least involved in CIGs, and the younger and older age groups show around 80% representation.
9. 85% of Respondents are involved in agricultural enterprises. The following percentages are given for the main enterprise mentioned by respondents;
 - a. Around 41% of respondents are involved in potato production,
 - b. 16% in maize production and
 - c. 13% in poultry and vegetable production respectively.
10. However, 70% of respondents are involved in more than one agricultural enterprise, with a large proportion of respondents taking part in vegetable, maize, potato and poultry production.
11. 41% of Respondents participated in potato production. Of these 56% did not earn an income from their production and 30% of respondents earned between R1-R1000. A small percentage of respondents earned a reasonably substantial income of more than R2000 and in one case around R8 000 from their potato production.
12. 10 of the 24 participants doing farmer level experimentation in the Conservation Agriculture farmer innovation programme were interviewed
13. Maize is produced mainly for household consumption in quite small plots of land as people primarily use their homestead lots for production, as opposed to the larger fields generally situated much further from the homesteads. Two Respondents made an income of between R501-R1000 and one respondent made an income of R1001-R1500.
14. Poultry is seen as a good opportunity to earn a small income for the household and increase the immediate cash flow. It is less seasonal than crop production and can realise an income on a virtually monthly basis depending on scale. Of the 13 respondents that mentioned poultry production as their main enterprise, 6 (46%) did not make an income. The other respondents earned between R200-R4000 from this enterprise. Poultry production as an enterprise is heavily dependent on scale to be able to generate a small profit and losses can be high during periods of extreme cold or heat.
15. Most respondents (78%) took between 1 and 3 small loans in their previous savings cycle in their SCGs.
16. Around 21% of the small loans taken in the previous savings cycle were taken for agricultural enterprises, 27% for basic needs and house improvements respectively, 14% for education and only 3% for non agricultural enterprises. Other categories for which small loans were taken include starting enterprises and paying off debts, as well as traditional ceremonies, paying of vehicles, buying a water tank etc.
17. Small loans taken in the previous savings cycle for house improvements are the largest and most common with 25% of the loans being between R3001-R5500 and the other 75% being below R2 000. This is followed by agriculture where 76% of the small loans are below R2 000 for the year, 18% were between R2501-R3 000 and 6 % were above R3 000. The small loans for basic needs were predictably smaller with 87% of small loans being less than R2 000 for the year.
18. Of those respondents that used their lump sum share outs at the end of their cycle for thier agricultural enterprises, 49% used between R1-R500, 32,5% used between R501-R1000 and 7,5% used more than R1 000 of their share outs
19. Around 47% of respondents rely entirely on their SCGs to finance their agricultural enterprises and do not use other financial resources, across all five income groups. 74% of the respondents who take SCG loans use between R1-R2000 per year, 16% use between R2001-R3000/ year and 10% use >R3 000.

20. 53% of the respondents use other financial resources outside of their SCGs and main incomes for their agricultural enterprises, across the five different ranges of income. Of these the largest proportion (48%) use between R1-R1000 per year.
21. An amount of R3 250 per respondent per year is used on average for agricultural enterprises. This figure combines financial resources for agricultural enterprises from SCG loans, share out amounts and other financial resources.
22. Thus people spend around 15% of their overall incomes on their agricultural enterprises across all five income groups. Overall average income is around R1 800/month.
23. 40% of the Respondents interviewed participated in bulk buying. Respondents spent mostly between R1-R200 on bulk buying, purchasing vegetable seedlings (19) and potato seed (13) through this system. 5 Respondents participated in the poultry bulk buying process and 3 people participated in buying breeding stock of sheep.
24. In terms of business improvement since involvement in CIGs; 29% of respondents felt that their inputs are now cheaper, 19% felt that production is better, 14% that they have gained knowledge and 5% felt that their incomes have improved. A small percentage have found markets and have found inputs easier to access. 16% of respondents felt that their businesses have not improved.
25. For the most part inputs are still the main problem for respondents, with 25 % mentioning this as an issue. This was followed by the weather (19%) and production factors (18%) such as poor soil fertility and lack of infrastructure. A small percentage of respondents mentioned the need for markets (4%) and credit (3%). 18% of respondents mentioned that they have no issues and are satisfied with how their small businesses are going.
26. 20% of respondents are satisfied with the present support they are being offered in their agricultural enterprises. Most of the other respondents asked for more training and information, specifically in vegetable and poultry production. They also wanted training and support in water harvesting and acquiring Jo-Jo tanks (9%) and wanted to be provided with free agricultural inputs and infrastructure (16%). There were also requests for easier access to day old chicks, herbicides and hand planters as well as for setting up bulk buying in their groups.
27. 18 Respondents received 'Isiqalo', or, business start-up training. 14 of the 18 filled in their business plans. Business plans were filled in for the following commodities: maize (2) and vegetable production (7), poultry (6), sheep (2) and pigs (1).
28. 36% of those that undertook the Isiqalo training did not realise any income from their small businesses, 36% made an income of between R1-R1 000, 21% made an income of between R1 001-R2 000 and 7% made an income of more than R3 000. These incomes are comparable and in line with most respondents involved in agricultural enterprises who did not receive the training. A more detailed study of the small businesses before and after training would need to be conducted.

Agricultural Enterprises

Respondents were asked which enterprises they are involved in, in order of their importance. This will differ for each individual, but does give a broad indication of involvement in agricultural enterprises for all respondents. This shows that around 41% of respondents are involved in potato production, 16% in maize production and 13% in poultry and vegetable production respectively.

TABLE 1: INVOLVEMENT IN AGRICULTURAL ENTERPRISES

Agricultural enterprise	CIG member; Main enterprise	Non member	Total	Single enterprise	Multiple enterprises and CIG members
Maize	16		16	1	47
None	1	14	15		15
Potato	40	1	41	3	41
Poultry	13		13	11	42
Sheep	2		2	2	12

Vegetables	13		13	8	53
Pigs	-	-	-	-	15
Total	85	15	100	25	

Most respondents are involved in a number of different agricultural enterprises; mostly between 2 and 4. This is shown in the small synopsis table above. Those involved in only one agricultural enterprise are proportionally few (25 of 85 CIG members) compared to those involved in 2 or more enterprises (70% of respondents).

Table 6 below gives an indication of the combination of enterprises respondents are involved in. It has been constructed for a series of 3 enterprises to illustrate the trend. If one looks for example at those respondents that grow maize, 1 of the 16 respondents grows maize only, 8 simultaneously keep poultry, 8 also grow vegetables, 3 also keep sheep, 2 have pigs and 1 has cattle.

TABLE 6: COMBINATION OF AGRICULTURAL ENTERPRISES

Enterprise1	Enterprise 2	Enterprise 3	Total
Maize			1
Maize	Poultry		3
Maize	Poultry	Pigs	2
Maize	Poultry	Sheep	1
Maize	Vegetables		4
Maize	Vegetables	Cattle	1
Maize	Vegetables	Poultry	2
Maize	Vegetables	Sheep	2
Sub-Total			16
Potato	Maize		1
Potato	Maize	Poultry	1
Potato	Maize	Vegetables	29
			31
Total Maize producers			47

This analysis indicates that most participants engage in a number of different agricultural activities/enterprises and that each person prioritises their enterprises within their own household and economic context. Most participants do have a 'main' enterprise or activity that they focus on.

Maize

Maize is produced mainly for household consumption and also in quite small plots of land as people now are using primarily their homesteads lots for production and not the larger fields generally situated much further away from the homesteads. Two respondents made an income of between R501-R1 000 and one respondent made an income of R1 001-R1 500.

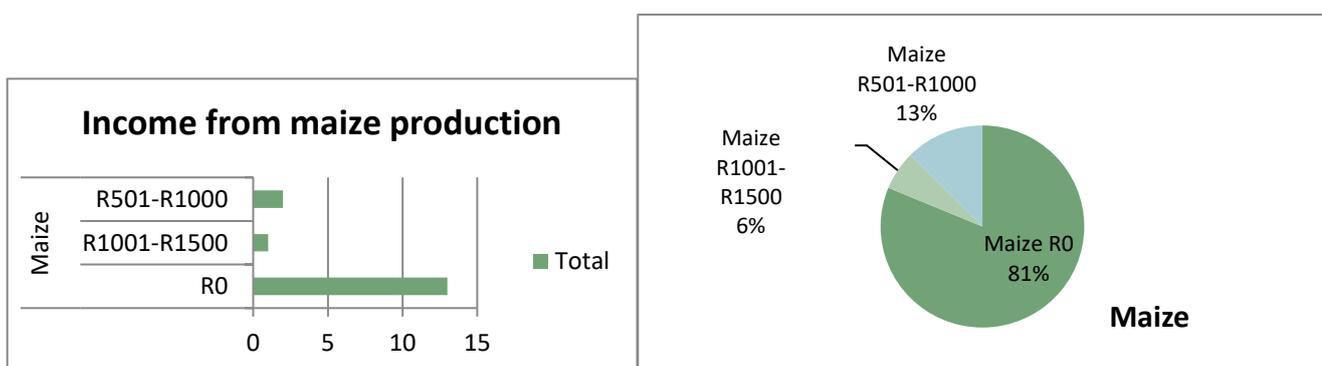


FIGURE 1: INCOME EARNED FROM MAIZE PRODUCTION

Involvement in CIGs

Respondents were asked what activities they have been involved in through their CIGs. Mostly they mentioned the learning sessions and meetings as shown in the small table below.

TABLE 17: SPREAD OF CIG PARTICIPANTS ACROSS ACTIVITIES

Activities in CIGs	
Implementation	1
Learning sessions	42
Marketing	1
Meetings	56
Total	100

They were also asked to describe new activities they have been involved in through their involvement with SaveAct and with the CIGs. Here the research shows that respondents have tried out new ideas in their agricultural enterprises through their meetings and learning sessions.

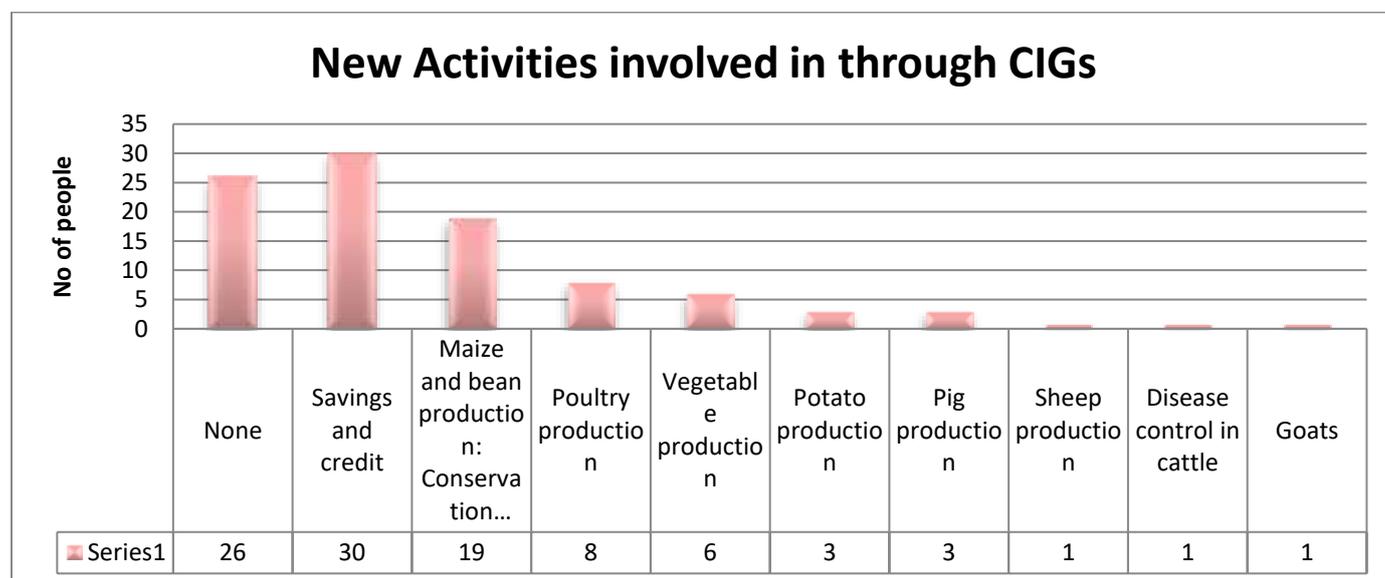


FIGURE 2: NEW ACTIVITIES UNDERTAKEN THROUGH CIGs IN MATATIELE (N=40)

ATTACHMENT 3: Bergville farmers Day 17 February 2015

Background

The Farmers Day is an annual event of the GrainSA CASFIP to showcase the work to other smallholder farmers both locally and from other areas as well as local regional and national stakeholders. It has the intention also of being a learning platform and consolidating and expanding the horizontal and vertical scaling processes of the CA programme.

This year the event was held in Emmaus- Bergville and around 350 people attended. Smallholder farmers from all implementing villages in Bergville attended. Farmers also came from a number of other areas including Msinga, Nkandla, Estcourt, Port Shepstone and even Tsolo in the Eastern Cape.

Participant farmers in Matatiele were also invited. The express aim was to introduce them to CA farmer experimentation process that is working very well, both in terms of results in the field and in terms of farmer innovation, effort and organisation; to give them a better understanding of the elements of success in a CA programme. (See Attachment 1 for an attendance register for the Matatiele Group)

Farmers' Day programme

The programme included the following inputs:

Conservation Agriculture (CA) principles and advantages - farmer presentations discussion and facilitator input.
(Support Hendrik Smith and Njabulo Buthelezi)

- Advantages, progress and local implementation
- Processing and storage
- Implements and labour
- The role of savings and credit groups

Savings and Credit groups and their role in agricultural and enterprise development – SaveAct (Lungile Dube)

Grain SA Farmer Development Programme: approach, inputs, implements, organisation, future, vision – Grain SA
(Jurie Mentz)

National and regional perspectives - DAFF / FAO / NCATF

Seed appropriate for CA - diversification with legumes – PANNAR (Gavin Robinson)

PARALLEL SESSIONS: (2 field walks 2 power point presentations) 20min each) (Dumisani, Mazwi, Njabulo, Thabani)

PRESENTATION 1: Cover crops, types and functions/benefits– South African Cover Crop Solutions (Simon Hodgson)

PRESENTATION 2: Social structures, services, innovation and scaling in the CA project – Mahlathini Organics (Erna Kruger)

FIELD WALK 1: CA trials – intercropping, diversification of seed types

FIELD WALK 2: Expansion of CA by local participants, implements.....

Some comments from Matatiele participants

1. Now we can see what conservation agriculture can and should look like. Bulelwa Dzindwa
2. This has given renewed interest and a new interest group in Lubisini will be set up through Mpilo Sicwebu (a young man in mid twenties)

- The information for the cover crops and different kinds that can be planted is very interesting and we would like to follow up on that- especially with some of the livestock farmers. Teboho Doda.

Illustrative pictures for the day



Above left: A very good turn out of people at the farmers day. Almost 280 names on the register.

Above right; Njabulo Buthelezi our master of ceremonies introduces and translates for William Moleshane from DAFF



Above left: Hendrik Smith and Thabani Madondo from the GrainSA team introduce the principles of CA and Above right; Lungile Dube from SaveAct talks through savings model and saving and credit groups that underpins the social organisation for the programme



Above left; Simon Hodgson presents one of the power point session on cover crops to the groups with the help of Mazwi Dlamini. And Above right: Some out of venue caucusing going down with Erna Kruger speaking to Jaap from the University of Pretoria and Lungile Dube chatting to one of the farmer participants.

Matatiele smallholder farmer participants at Bergville farmers day.16 Feb 2015

Name	Surname	Role	Village
Teboho	Doda	Field Officer-SaveAct	
Thabiso	Dihholo	CA local facilitator	Jabulani
Mpilo	Sicwebu	CA local facilitator	Lubisini
Nobuzi	Dada	CBP	Mt Fletcher
Bulelwa	Dzingwa	CA local facilitator, CBP	Nkau
Kgotsofalang	Matekase	Young graduate	Khutsong
Nozibele	Gwatyeni		Mr Frere
Mattisetso			Fairview

ATTACHMENT 4: Issues of scale – a farmer segmentation approach

It is becoming clearer that smallholder farmers themselves fall within different categories of resource availability, capabilities and aims for their farming. The concepts of subsistence and emerging commercial farmers have not been particularly useful in providing appropriate models of support to assist individuals to produce at scale or to include the myriad of important factors into the thinking process. These would be, for example, including the imperative to food and good nutrition and the imperative to resource conservation and sustainable interventions.

Smallholder farmer segmentation approaches have become more popular of late. Intentionally, CGAP (Consultative Group to Assist the Poor) has worked on a segmentation approach. Nationally Abalimi Bezekhaya² and PLAAS have also developed similar models.

CGAP (Consultative group to Assist the Poor) – a global partnership of 34 organisations, housed at the World bank.

ABLIMI BEZEKAHAYA: The Sustainable Development Chain.

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This development continuum and sustainability index framework was developed by Rob Small for Abalimi Bezekhaya. This model has been developed over 28 years of involvement in micro farming and vegetable production on the Cape Flats outside Cape Town. The chain or continuum proceeds through four phases; survival, subsistence livelihood and commercial.

Survival: Produce is grown seasonally for own consumption with very little sold. Low external input systems are used with a minimum of bought inputs. Land sizes vary but are usually small ~50m². People start to save money as skills and gardens develop and are able to move out of this phase

Subsistence: Produce is grown seasonally for own consumption and sale, but production is intensified. Selling becomes more significant and supplements household income. Minimum land sizes increase to ~100-500m². Here people begin to dream of their futures again and may well have the courage to move off the land into other activities.

Livelihood (semi-commercial): Here a balance is aimed for and is the culmination of effort for the previous two phases. People aim for 50% home consumption and 50% sale. Production is continuous and selling of produce becomes a primary economic activity. Reinvestment occurs and profit earning begins. Other social income earning activities are commonly started at this phase to augment the primary production.

Commercial: In this phase almost all produce is sold for cash and formal profit making can grow rapidly depending on discipline, skills and dedication. Here the focus on helping neighbours and providing social benefit to the community seems to shrink.

Farmers at all phases must receive modest, ongoing, permanent, structural and development support. This includes smallholders at the commercial phase who absolutely cannot do without free or cheap water, electricity, loans etc.

CGAP develops innovative solutions through practical research and active engagement with financial service providers, policy makers, and funders to enable approaches at scale. CGAP combines a pragmatic approach to

² Abalimi Bezekhaya.2010 Newsletter. April 2008-September 2009. No 36. The Sustainable Development Chain. www.abalimi.org.za/news-adn-info/

responsible market development with an evidence-based advocacy platform to increase access to the financial services the poor need to improve their lives.

Their segmentation approach³ relates to the challenge of providing financial services that support the multiple goals of rural households, including those related to their more universal, general household needs and those linked to their agricultural activities. They have proposed three broad segments —(i) non-commercial smallholders (<1ha, mostly for household consumption, limited and informal marketing and financial services), (ii) commercial smallholders in loose value chains and (1-2ha, some for consumption some for sale, limited and informal marketing and financial services) (iii) commercial smallholders in tight value chains (>2ha, cash crops, formal marketing and financial services)—are differentiated by what they grow, how they engage with markets as buyers and/or sellers, and how those markets are organized. These segments are not meant to be fixed, iron-clad divisions, but rather categories based on common traits that can begin to illuminate the financial mechanisms that might best fit the given financial goals and cash flows. Their criteria include gender, size of land holding, crop mixes, engagement with markets, access to improved agricultural technologies and access to financial services.

For the purposes of the Grain SA SFIP (Smallholder Farmer Innovation Programme), a combination of the above two farmer segmentation processes is being developed, to provide the concepts for a development continuum in this context and the needed sustainability criteria to design a specific sustainability index for this application.

Below the initial outline of the Grain SA development chain is provided. Information has also been drawn from a Livelihoods assessment conducted by SaveAct (a partner in this process)⁴.

TABLE 1: FARMER SEGMENTATION IN CONSERVATION AGRICULTURE:

CATEGORY	Non commercial smallholders	Semi commercial smallholders	Commercial smallholders in loose value chains	Commercial smallholders in tight value chains
% of people in each category	72	23	5	-
Farmer priorities	Most production consumed by the household and additional food is bought in	Production is intensified. Selling becomes more significant and supplements household income.	Consumption and sale in various percentage mixes but moving to more sales.	Primarily for sale-working within existing well defined commodity value chains
Gender	Mostly women (89%)	Mostly women (96%)	Women, men (60%♂)	Mostly men
Resources	Low external input systems are used with a minimum of bought inputs	Mixed (low and external) input systems are used with a minimum of bought inputs	Mixed (low and external) input systems are used with greater reliance bought inputs	Mostly high external input systems
Traction	Hand cultivation	Hand cultivation, animal traction	Animal traction, tractors	Tractors
Land size	> 0.1ha	0.1-1ha.	1-2.5ha	>2ha
Farm productivity, including labour access	Extremely low	Low to high	Low to high	Low to high
Access to improved agricultural tech and information	Very limited	Limited	Limited	Good
Access to	Very limited if at all	Very limited if at all	Very limited	Informal and some

³ Robert Peck, Christen and Jamie Anderson. April 2013. CGAP Focus Note No 85. Segmentation of Smallholder Households: Meeting the Range of Financial Needs in Agricultural Families

⁴ E Kruger, E Lewis. December 2014. Matatiele Livelihoods Assessment. Emerging Data. Internal Report.

financial services				formal through buyers
Local organisation	Almost non existent	Almost non existent	Informal farmers groups	Farmers associations and cooperatives
Agribusiness support	Very limited.	Very limited.	Informal but growing	Reasonable
Engagements with markets	Very little; entirely informal	Limited and still informal for the most part	Both informal and formal	Can be good due to value chain farming bundles
Environmental performance	Generally not considered	Generally not considered, some adoption of conservation and sustainable practices	Generally not considered, some adoption of conservation and sustainable practices	Some adoption of conservation and sustainable practices
Crop mix	Staple crops Crop livestock mixes focussing on 4-5 commodities	Staple crops, some cash crops, crop livestock mixes – focussing on 3-4 commodities	Staple crops, some cash crops, crop livestock mixes – focussing on 2-3 commodities	Mostly cash crops – focusing on 1, maybe 2 commodities
Livelihood (FS, Income, assets, poverty likelihood, perceived well being)	FS: low Income:R0-R2000 Assets: minimal Poverty Likelihood; High	FS: low- medium Income:R2001-R4000 Assets: minimal- starting to build Poverty Likelihood: medium	FS: medium-high Income:>R4000 Assets: reasonable Poverty Likelihood: low	FS: high Income: Assets Poverty Likelihood

It is considered that for each different category of smallholders, within the development and sustainability categories defined, different types and sets of interventions would be or are required to provide for the greatest impact at a local farm level. Below is a summary of interventions seen to be most appropriate and required for non-commercial and semi commercial smallholders.

TABLE 2: APPROPRIATE INTERVENTIONS FOR NON COMMERCIAL AND SEMI-COMMERCIAL SMALLHOLDERS.

CATEGORY	Semi and non-commercial smallholders	Appropriate interventions	Gaps
% of people in each category	95	For all semi and non-commercial smallholders	
Farmer priorities	Household consumption and sales	-Focus on household consumption first – household storage and value adding at household level (<i>small mechanical mills, drums, tablets for weevil control, rat bait</i>)	-Harvesting efficiency for non-mechanised systems
Gender	Mostly women (92%)	- technology and systems appropriate for women (<i>hand tools that women can use easily, SCGs, working support groups,</i>)	
Resources	Mixed (low and external) input systems with a min of bought inputs	Focus on localised, natural systems as much as possible (<i>reduced herbicide, Only pre spray of herbicide) and fertilizer usage (micro-dosing)– increase cover crops, inter-cropping, mulch</i>)	- rainwater harvesting in minimum tillage systems
Traction	Hand cultivation, animal traction	Provision of hand planters, animal drawn planters, two row planters for CA to try out, rent and purchase	Access to ploughing and tractors...(Joint acquisition or reliance on KZNDAE.....) Formalise farmer centres
Land size	> 0.1ha- 1ha	<i>Expansion of activities to incorporate more unused land. Longer term allocation of certain plots to CA.</i>	
Farm productivity,	low	Minimise labour (<i>farmer experimentation, working groups, use of pre plant herbicides, close</i>	

including labour access		<i>spacing inter cropping, soil cover)</i> Maximise soil fertility (<i>CA and cover crops, legumes</i>)	
Access to improved agricultural tech and information	limited	-Partnerships with service providers, NGOs, Government and Agribusiness for provision of information, skills development and appropriate technical support (<i>Working partnership with GrainSA, Mahlathini Organics, external funders , KZNDAE?</i>)	Appropriate technology for hand cultivation, animal traction and small implements for tractors. Farmer centres in different localities to supply and support PES services incentive scheme for alternative and ongoing funding for scaling out and up.
Access to financial services	Very limited if at all	- <i>Saving and credit groups linked to group account at local bank (partnership with ABSA)</i>	- Suite of services available in formal system – e.g mobile and cell phone banking, branchless banking, savings, insurance and loan products for smallholders
Local organisation	Almost non-existent	- Focus on local organisation (<i>saving and credit groups for debt management consumption smoothing and input supply</i>) - Organise across villages and areas (<i>digital systems for communication ordering, payment etc to organise large groups of smallholder efficiently – being developed</i>)	-Group organisation for local storage and processing (milling) -Strengthen input buying groups - Software and service providers for digital systems, internet and cell phone reception and access for smallholders
Agribusiness support	Very limited.	- Focus on local organisation for numbers and efficiency (<i>Commodity interest groups, farmer platforms for bulk buying, negotiation of ‘deals’ with businesses and suppliers in the area</i>)	- Agribusiness systems to support smaller quantities, ‘packages’, cash on delivery, pre-ordering, paying off over time,
Engagements with markets	Limited and still informal for the most part	-Arrangements with milling companies in Bergville. - (<i>Local marketing of maize and beans – market is readily available. Sale of beans to shops in Bergville.</i>)	- More formal arrangements to be made where possible
Environmental performance	Generally not considered, some adoption of conservation and sustainable practices	- <i>(farmer field school sessions to underpin activities in CA into environment and environmental concerns. Focus on run-off control, water infiltration soil life)</i> - <i>VSA- Visual soil assessment methodology piloted for local monitoring</i>	-Link in environmental stakeholders and potential long term funders of incentive schemes.
Crop mix	Staple crops Crop livestock mixes focussing on 4-5 commodities	- <i>Focus on inclusion of legumes for nutrition, environmental and economic benefit.</i> - <i>Cover crop mixes are fodder crops for livestock</i>	
Livelihood (FS, Income, assets, poverty likelihood, perceived well being)	FS: low-medium Income:R0-R4000 Assets: minimal, starting to build assets Poverty Likelihood; Medium to high	- <i>increased food security and access to nutritious food.</i> - <i>Increased sales to augment household income</i>	- Assess quantitatively the impact....and economically the real potential of such small systems. - Local seed stores, local mills, local sales, local fodder mixes and production

For Commercial smallholder in loose value chains it is considered that the above criteria and interventions are still relevant but focus should be provided on the aspects outlined in the table below. There are many more gaps for the commercial farmers as support systems within communal tenure areas for such smallholders are extremely low. The management and organisational capacity of farmers at this level needs to be increased considerably.

CATEGORY	Commercial smallholders in loose value chains	Appropriate interventions	Gaps
% of people in category	5		
Farmer priorities	Consumption and sale in various percentage mixes but moving to more sales.	-Focus on sales and community level infrastructure	-Harvesting, storage, transport, local organisation.
Gender	Women, men (60%♂)	- Technology and systems appropriate for women and men – mechanisation - Milling, storage, grading, packaging.	
Resources	Mixed (low and external) input systems are used with greater reliance bought inputs	Focus on localised, natural systems as much as possible Augment with efficient system of input supply <i>(Bulk buying and organisation through local Commodity Interest Groups, linked across villages to specific agribusiness concerns)</i>	- Rainwater harvesting in minimum tillage systems
Traction	Animal traction, tractors	Animal drawn planters, two row planters for CA to try out, rent and purchase Focus on animal traction per se	- Access to ploughing and tractors...(Joint acquisition or reliance on KZNDAE.....) - Formalise farmer centres - Training and management of teams of oxen. - Local arrangements for buying and maintaining tractors
Land size	1-2.5ha	Expansion of activities to incorporate more unused land. Longer term allocation of certain plots to CA.	- Local lease agreements nad involvement of Traditional authorities. - Fencing and arrangements' for livestock control that incorporates needs of crop farmers
Farm productivity, including labour access	Low to high	Minimise labour - employment of labour Maximise soil fertility (include fertilizers)	- Management and monitoring systems for farm productivity at a local level. -Using soil samples for soil fertility management decision making at a farm level).
Access to improved agricultural tech and information	Good	-Partnerships with service providers, NGOs, Government and Agribusiness for provision of information, skills development and appropriate technical support <i>(Working partnership with Grain SA, Mahlathini Organics, external funders , KZNDAE?)</i>	Appropriate technology for animal traction and small implements for tractors. Farmer centres in different localities to supply and support PES services incentive scheme for alternative and ongoing funding for scaling out and up.
Access to financial services	Informal and some formal through buyers	-A range of financial services options appropriate for this scale- formal savings and investment options, cheap and accessible credit and loans, insurance packages, bulk buying systems, accounts with agribusiness suppliers Business management support <i>(Small business training and mentoring, business plan development and monitoring)</i>	- Suite of services available in formal system – e.g mobile and cell phone banking, branchless banking, savings, insurance and loan products for smallholders
Local organisation	Farmers associations and cooperatives	- Focus on local organisation ; development of Commodity interest groups into more formalised associations and structures	-Group organisation for local storage and processing (milling) -Strengthen input buying groups

		- Organise across villages and areas (<i>digital systems for communication ordering, payment etc to organise large groups of smallholder efficiently – being developed</i>)	- Software and service providers for digital systems, internet and cell phone reception and access for smallholders
Agribusiness support	Reasonable	- Focus on local organisation for numbers and efficiency (<i>Commodity interest groups, farmer platforms for bulk buying, negotiation of ‘deals’ with businesses and suppliers in the area</i>)	- Agribusiness systems to support smaller quantities, ‘packages’, cash on delivery, pre-ordering, paying off over time,
Engagements with markets	Can be good due to value chain farming bundles	-Arrangements with milling companies in Bergville.	- More formal arrangements to be made where possible -Brokering of contracts and agreements with buyers -Setting up semi formal sales arrangements in the community – supply of required items- maize meal, animal fodder mixes etc.

ATTACHMENT 4: Summary of livelihoods information for Bergville; Draft 3. September 2014

OUTCOMES

SCGs are central in assisting the rural poor and specifically women to engage actively in productive activities such as agricultural enterprises. The commodity interest group focus for agricultural enterprises assists substantially in improving yields, access to inputs and increasing incomes from these enterprises. Setting up of SCGs specifically for cooperative and bulk buying activities has a significant positive effect on people's ability of finance their enterprises.

SUMMARY

29. 49 People were interviewed: Emmaus 22, Stulwane 17, Potshini 10.
30. 84% of respondents are female. The average age of the respondents is 49 years.
31. Incomes are extremely low; 50% earn between R1-R1 000/month; another 42% earn between R1 001-R2 000/month and 8% earn >R2 000/month.
32. Of the 49 respondents 40 mentioned being involved in agricultural enterprises. Of these 20 were Commodity Interest Group (CIG) members and 20 were not. Commodities include maize, beans, vegetables, poultry, livestock and potatoes. Most CIG members in Bergville are involved in between 1 and 2 commodities.
33. 70% of respondents take small loans of R300-R1 000 for their agricultural enterprises from their SCGs; 19% take small loans of R1 001-R2 000 and 11% take small loans of > R2 000.
34. The percentage of people relying entirely on their SCGs to finance their agricultural enterprises (AE) drops from 78% to around half that, at 43%, as their incomes double. People take out roughly the same size loans even if their incomes are higher. There is a structural limit to the size of the loans each person can take in a cycle and the overall income of the individuals.
35. Other financial resources (day labour, other small enterprises, intermittent remittances etc) are used more often in the middle and higher income groups for AE.. For the low income group 76% of participants use only their SCG loans and share outs for their agricultural enterprises. This reduces to around 38% for the next income group.
36. Overall around 60% of respondents do not use other financial resources, around 20% use between R1-R2 2000 and around 10% use >R2 000 of other finances for their agricultural enterprises
37. The total amounts spent on agricultural enterprises for each of the income groups increases proportionally from R1 200 to R1 500 to R2 100 for the income groups of R1-R12 000, R12 001-R24 000 and >R24 000 respectively. This means that people actually all spend the same proportion of their overall incomes on their agricultural enterprises and will spend a bit more on them if they have a bit more.
38. People spend between 15-18% of their overall incomes on their agricultural enterprises.
39. People do not use their share outs that much for their agricultural enterprises (AE). The amount of share outs spent on AE for this respondent group was around R27 750 for 2013. The overall share out amount for the same period was around R153 480. Only 18% of the overall amount was thus used for AEs and this was on average for around 37,5% of the respondents.
40. 60% of those that used share out monies for their agricultural enterprises belong to the CIGs.
41. Improvements in participants' enterprises that are seen to be due to involvement in CIGs are the following:
 - a. 50% no improvement,
 - b. 21% improved income,
 - c. 9% access to cheaper inputs,
 - d. 4% easier access to inputs and
 - e. 4% no longer sell on credit.
42. Present issues or problems with enterprises include:

- a. Access to inputs (financial) – 22%
 - b. Production factors (e.g soil problems, water, small lands) – 17%
 - c. Access to credit – 13%
 - d. Not having a business – 9%
 - e. Adverse weather conditions- 9%
 - f. Lack of infrastructure and equipment – 4%
43. Financial access to inputs appears to become more of an issue the more respondents focus on their agricultural enterprises and many respondents requested assistance in this regard. People struggle to afford to buy inputs and the assistance from SCGs can only help up to a point.
44. Further support requested for enterprises:
- a. 36%- financial assistance for inputs (fertilizer, seedlings, etc) and infrastructure (tractors, water tanks...)
 - b. 28% - none (not that interested in small businesses or not involved)
 - c. 24% training in enterprise development
 - d. 6% - water for production
 - e. 4%- new enterprises

Requests for further interventions are primarily for financial assistance (36%), and further training in agricultural enterprise development (24%)

45. The Isiqalo, business start-up training was conducted in Emmaus. 90% of respondents (N=21) received the training, filled in AND implemented their business plans. The theme of the training was maize and bean production. 81% of participants kept maize and beans for household consumption only, 14% also realised incomes of R501-R1500 and 5% also realised incomes of R40001-R6000.
46. SCG membership plays a significant role in participation in agricultural enterprise, in this case, maize production. Incomes that have been realised are linked to SCG membership and more specifically to SCGs set up for the sole purpose of saving for inputs and bulk buying.
47. The average monthly income of CIG members is higher than those not involved in CIGs. This indicates both that being involved in the CIGs support income generation from agricultural activities and that involvement in these activities requires a slightly higher average monthly income.
48. 85% of CIG members are active in more than one agricultural enterprise, while only 15% of non CIG members are active in more than one enterprise. This indicates the importance of involvement in more than one agricultural enterprise to diversify and support livelihoods.
49. 87,5% of respondents are involved in maize production, with 73% considering this their primary agricultural enterprise. This indicates the strong focus on maize in the area and people's desire to be able to also make an income from maize production, over and above their food production needs.
50. While the per hectare yield of maize is comparable to commercial yields (for the CA participants)at 4-8tons/ha, actual maize yields are small due to small plots of land being cultivated under rain fed conditions and mostly by hand. Their average total plot size planted is around 0,25ha and the actual yield average is around 233,3kg of grain (Range: 86kg-879kg).
51. The average rand replacement value of this amount of grain is around R1 600,00 (Min R688 – Max R7033). This would be enough maize meal for a family of around 5 people for 4 months and counts as a significant improvement in household food security.
52. 20% of respondents were involved in bean production as an enterprise. Of those involved 50% managed to produce both for home consumption and make an income of between R500-R3000. Beans have a much higher income potential at this scale than maize. There is a good local market for beans and this activity is worth promoting for both income and nutrition stability and diversification.
53. 10% of respondents were involved in vegetable production as an enterprise. Income potential for vegetables is lower than for beans and is likely also to relate to the lack of water and fencing for vegetable gardens in the area.