

Climate Resilient Agriculture: To double production for local markets

September 2021

mahlathini
development foundation



Project Description

CRITERIA (110 participants)

- KZN: 4-6 Villages per year x 2
 - CRA learning group members already implementing CA, intensive homestead food production and livestock integration
 - Intention is to “double” production and support and set up localised marketing options
- Learning group of ACTIVE farmers
 - Women headed households
 - Unemployed
 - Loss of jobs and income
 - No grants/ pension
 - Must have some access to water and labour

ACTIVITIES

- Climate change analysis and choice of CRA practices
- Learning sessions in CRA practices
- Farmer level experimentation with a basket of options in
 - Intensive gardening – tunnels plus
 - Field cropping – conservation agriculture and livestock integration
 - Small livestock – broilers, layers, traditional poultry
- Marketing options and ideas to try out

Conservation Agriculture: Five principles



- **Minimal soil disturbance**
- **Diversified cropping**
 - Intercropping
 - Mixed cropping (multi-species)
 - Crop rotation
- **Keep living roots in the soil**
 - Extension of season – late season cover crops
- **Permanent organic soil cover**
 - Inclusion of cover crops
 - Crop residues and mulching
- **Integrate livestock**

CA implementation in Bgvl

Area, (No of villages	No of participants	1000m ² trials (10x10 's)	400m ² trials	Strips	Fodder species	Seed	Poultry	Two row planter	Short season maize	Actual planted (hectares)
Bergville (12)	172	71	69	79	12	5	5	9	29	14,01



Category	Description	Bergville
Socio-Economic information		
Gender	% women	77%
Age	31-39yrs	10%
	40-49	17%
	50-59	37%
	60-69	30%
	>70	7%
Income	Farming	40%
	Ave monthly farming income	R1 585,71
	Grants	90%
	Ave monthly income from grants	R2 648,21
	Ave overall monthly income	R3 241,07
Per capita income (monthly)	Average members per household (7)	R463,01 (7)
VSLA membership		53%
Average number of years saving		5
Saving for farming inputs; annual amounts	Min	R200,00
	Max	R3 000,00
	Ave	R1 275,00
Bulk buying		33%
Active in learning groups		43%
Collaborative working		43%
No of years of CA implementation	Average	4
	Range	1 to 7

CA implementation in Bergville



- Field cropping; CA.. Maize, beans, cowpeas, SCC, pumpkins, gourds, potatoes.
- Areas between 0,2-1ha
 - Enough for household consumption (home milling), selling surplus maize and beans in the community and at pension points
 - Feeding of poultry (seed from sunflower, sun hemp, sorghum, yellow maize) and livestock (fodder, stover, yellow maize)
 - Women starting to keep and feed livestock
 - Major improvements in yields, reduced run-off (~60%< ploughed fields), less erosion, increased SOC (0,5t/ha/yr)

Intensive homestead food production practices

- Agroecological practices including; *composting, deep and shallow trench beds, mulching, mixed cropping, natural pest and disease control, crop diversification, grey water management*
- Microclimate management; *shade cloth tunnels*
- Improved irrigation practices *drip irrigation, irrigation scheduling (chameleon sensors)*



Tunnel and gardening training



First tunnel training in Bergville; Ezibomvini and Eqeleni
Second combined with intensive organic gardening and S&W conservation in Ozwathini

Tunnels in Bergville



Fodder supplementation and small livestock

- Learning workshops and experimentation: supplementation, nutrition, and condition scoring
- Manual balers; for veld grass, lab-lab, cowpea, Teff and maize stover
- Poultry management workshops and implementation

DATE	NAME	ISIRU ESINAZO	UBUNTU BAO	ENSILAGE
14 June 2019	umkhala be	2L	Number 4	0
	ubuhlabi be	2L	Number 4	0
19 June 2019	umkhala be	2L	Number 4	0
	ubuhlabi be	2L	Number 4	0
26 June 2019	umkhala be	2L	Number 4	0
	ubuhlabi be	2L	Number 4	0
29 June 2019	umkhala be	2L	Number 4	0
	ubuhlabi be	2L	Number 4	0
4 July 2019	umkhala be	2L	Number 4	0
	ubuhlabi be	2L	Number 4	0
9 July 2019	umkhala be	2L	Number 4	0
	ubuhlabi be	2L	Number 4	0
16 July 2019	umkhala be	2L	Number 4	0
	ubuhlabi be	2L	Number 4	0



Fodder supplementation



Poultry Production



Marketing



Bergville Emmaus marketing stall at Emmaus pension point
A range of products from around 33 farmers

Marketing cont.



Marketing: sales to date

Summary of market incomes for Bergville: April- July 2021

Date	No of farmers	Villages	Amount	Market	Produce; in order of sales
2021/04/10	11	2	R2 419,00	Emmaus, Bgvl	Pork meat, dry beans, traditional mats, vegetables, pumpkins, processed chilli, green maize, eggs
2021/05/09	16	3	R1 580,00	Emmaus, Bglv	Vegetables, pork meat, dry beans, dry maize, sweet potatoes, pumpkins, incema, broilers
2021/06/09	18	4	R5 072,00	Emmaus Stulwane, Bgvl	Pork meat, broilers, vegetables, pinafores, dry beans, dry maize, processed chilli, vegetables
2021/07/10	16	4	R3 415,00	Emmaus Stulwane, Bglv	Pork meat, vegetables, broilers, processed chilli, dry beans
TOTAL			R12,486.00		

Note 1: Bergville vegetables include: Spinach, cabbage, mustard spinach, brinjals, tomatoes, onions, spring onions, green peppers

Note 2: Bergville: Little to no sale of butternut, eggs, traditional craft, brooms

Case study

Zodwa Zikode

Unemployed. Woman headed household, looking after 1 orphan.

- 0,14ha, mostly under CA; Maize, beans, cowpeas, SCCs, potatoes, pumpkins
- Able to supply her own annual staples and vegetables from her farming
- Sale of crops in community, pension points, selling of sweets and snacks at schools and local loan shark.
- Pigs (8); slaughters and sells locally.
- Livestock stolen

