

**WATER RESEARCH COMMISSION  
PROJECT: C2022/2023-00746**

**DISSEMINATION AND SCALING OF A DECISION SUPPORT FRAMEWORK FOR  
CCA FOR SMALLHOLDER FARMERS IN SOUTH AFRICA**



**Inaugural meeting  
October 2022**

**mahlathini**  
development foundation

# NEW KNOWLEDGE CREATION REPORT

ITEMS	DESCRIPTION
1. (a) New knowledge to be created by the project	<ol style="list-style-type: none"> <li>1. Development and dissemination of a bespoke model for CbCCA across multiple stakeholders including communities, civil society and government.</li> <li>2. <b>Development of evidence-based indicators for monitoring resilience impact.</b></li> <li>3. Development and promotion of new models and processes for community ownership of water access</li> <li>4. Provision of guidelines and handbooks for programming in local food systems development and effective smallholder microfinance and enterprise development support.</li> </ol>
(b) gap(s) to be filled by the new knowledge?	Design and implementation of an overarching framework for CbCCA in South Africa
2. What product(s) will be produced?	<ol style="list-style-type: none"> <li>1. Desk top review of South African policy, implementation frameworks and stakeholder platforms for CCA</li> <li>2. <b>Monitoring tool for multi stakeholder implementation platforms in CCA</b></li> <li>3. Guidelines for implementation of local food systems and marketing strategies</li> <li>4. Handbook for implementation of smallholder financial services</li> <li>5. <b>Refined CbCCA decision support framework with updated databases and CRA practices</b></li> <li>6. Case studies: CbCCA implementation and community ownership for water access and management</li> <li>7. Manual for implementation of successful multi stakeholder platforms in CbCCA</li> </ol>
3. How Innovative is the new product	The first coherent process of this kind focused on smallholder farmers in South Africa
1. Who are the users and beneficiaries?	multiple stakeholders (Government, Academic Institutions, NGOs, CSOs and community-based CoPs)
1. How do you know that the users need the products of this project?	There is a dire need for coherent implementation of CC adaptation strategies and programs, whether this has been clearly articulated or not. South Africa has excellent policy documents and processes but lack coherent implementation approaches.

# PROJECT TEAM

## PROJECT TEAM

### Mahlathini Development Foundation (MDF):

Erna Kruger, **Temakholo Mathebula**, **Ayanda Madlala**, Michael Malinga, Betty Maimela



### StratAct:

Nqe Dlamini



### Environmental and Rural Solutions(ERS):

Nicky McCleod



### Association for Water and Rural Development(AWARD):

Derrick du Toit



### Institute for Natural Resources (INR):

Brigid Letty

## ROLES AND RESPONSIBILITIES

There are a number of distinct outputs in this process with different team members contributing to those:

- Local level CoPs: CRA learning groups – expansion, new practices, refinement (*MDF and Mphil students*)
- Monitoring tool for multi stakeholder implementation platforms in CCA (*ERS, AWARD, MDF*)
- Guidelines for implementation of local food systems and marketing strategies (*MDF*)
- Handbook for implementation of smallholder financial services(*StratAct*)
- Refined CbCCA decision support framework with updated databases and CRA practices (*MDF + ?*)
- Case studies: CbCCA implementation and community ownership for water access and management (*Mphil students, MDF*)
- Manual for implementation of successful multi stakeholder platforms in CbCCA (*ERS, INR, MDF*)

1. Scaling out and scaling up of the CRA frameworks and implementation strategies lead to greater resilience and food security for smallholder farmers in their locality.
2. Incorporation of the smallholder decision support framework and CRA implementation into a range of programmatic and institutional processes
3. Improved awareness and implementation of appropriate agricultural and water management practices and CbCCA in a range of bioclimatic and institutional settings
4. Contribution of a robust CC resilience impact measurement tool for local, regional and national monitoring processes.
4. Concrete examples and models for ownership and management of local group-based water access and infrastructure

## OUTCOME AND IMPACTS

Vertical and horizontal integration of this community- based climate change adaptation (CbCCA) model and process lead to improved water and environmental resources management, improved rural livelihoods and improved climate resilience for smallholder farmers in communal tenure areas of South Africa

# DELIVERABLES 2022-2025

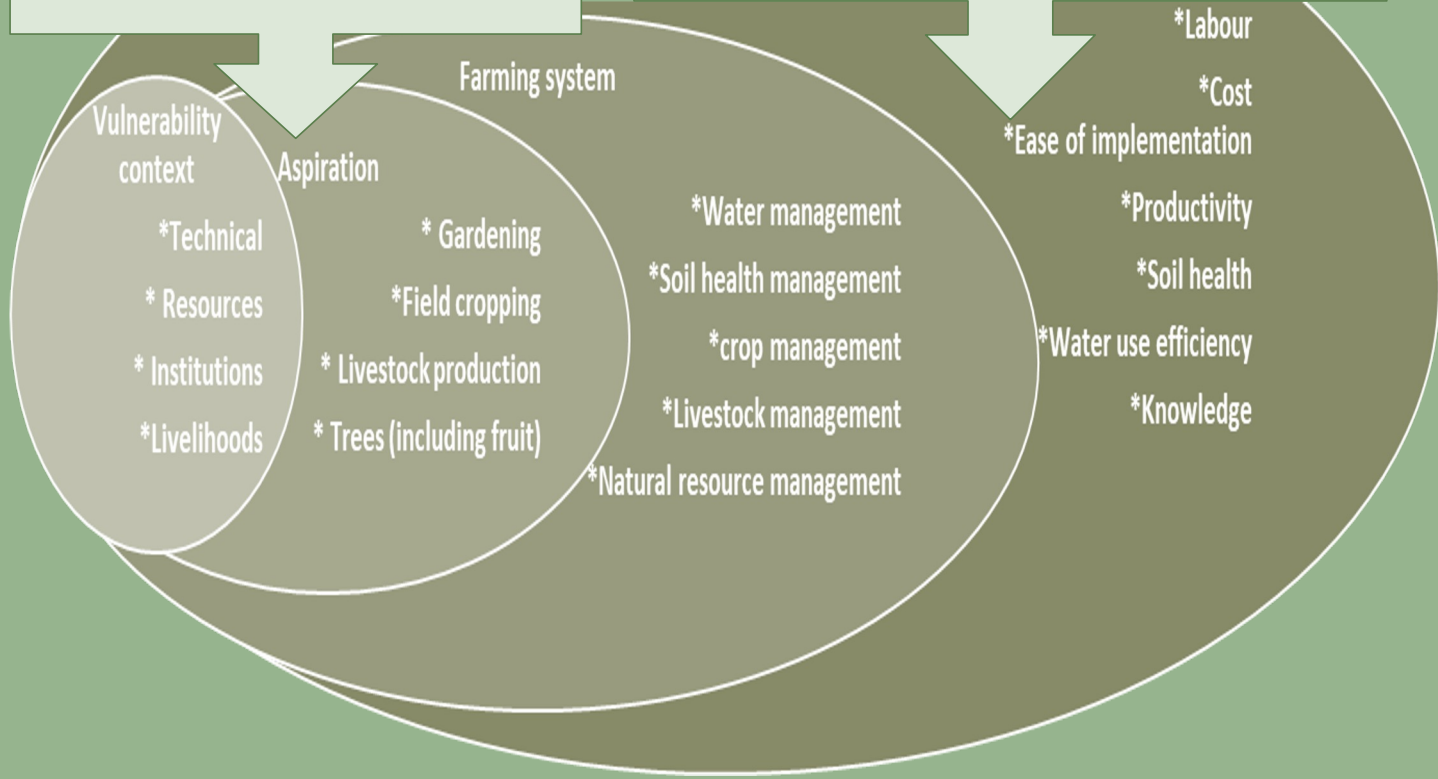
DELIVERABLES				
No.	Deliverable Title	Description	Target Date	Amount
2	Report: Monitoring framework, ratified by multiple stakeholders	Exploration of appropriate monitoring tools to suite the contextual needs for evidence-based planning and implementation.	02/Dec/2022	R100 000,00
4	Development of CoPs and multi stakeholder platforms	Design development parameters, roles and implementation frameworks for CoPs at all levels, CRA learning groups, Innovation and multi stakeholder platforms; within the CbCCA framework.	04/Aug/2023	R133 000,00
5	Report: Local food systems and marketing strategies contextualized - Guidelines for implementation	Guidelines and case studies for building resilience in local food systems and local marketing strategies towards sustainable local food systems (local value chain)	08/Dec/2023	R133 000,00
6	Case studies: encouraging community ownership of water and natural resources access and management	Case studies (x3) towards providing an evidence base for encouraging community ownership of natural resource management through bottom-up approaches and institutional recognition of these processes.	28/Feb/2024	R134 000,00
7	Case studies: CbCCA implementation case studies in 3 different agroecological zones in SA	CbCCA implementation case studies in 3 different agroecological zones within South Africa	12/Aug/2024	R133 000,00
8	Refined CbCCA decision support framework with updated databases and CRA practices	Refined CbCCA DSS database and methodology with inclusion of further viable and appropriate CRA practices	13/Dec/2024	R133 000,00
9	Manual for implementation of successful multistakeholder platforms in CbCCA	Methodology and process manual for successful multi stakeholder platform development in CbCCA	28/Feb/2025	R134 000,00
10	Final Report	Final report: Summary of all findings, guidelines and case studies, learning and recommendations	18/Aug/2025 (Feb 2026)	R400 000,00

# SODI ACTIVITIES

Measures	2022/23				2023/24				2024/25			
<b>5.2.1 Implementierung von Communities of Practice (CoP)</b>												
Cyclical implementation of innovation platforms and multi-stakeholder networks; Implementation and capacity development for innovation (3) and multi-stakeholder platforms (3); meetings and cross visits				X				X				X
<b>5.2.2 Development of an M&amp;E toolbox and a handbuch</b>												
Development of M&E instruments and indicators			X		X		X		X			
Development of the Handbook for Community-Based Adaptation to Climate Change											X	X
Regular M&E by MDF together with smallholder farmers		X		X		X		X		X		X
Seasonal evaluation by learning groups at village level				X		X		X		X		X
Participatory assessments improved climate resilience for a selection of learning groups at village level				X		X		X		X		X
<b>5.2.3 Sustainable water management</b>												
Development and implementation of institutional structures such as water management committees		X	X	X	X	X	X	X	X	X	X	
Development of three concepts for sustainable access to water				X				X		X		X

**PHYSICAL ENVIRONMENT:** Climate and geographical parameters; GPS coordinates, agroecological zones, soil texture, slope and soil organic carbon content

**PRACTICES:** Database of CSA practices including: managing available water, improving access to water, controlling soil movement, improving soil health and fertility, crop management, integrated crop-livestock management, veld management and veld rehabilitation



**DSS OUTLINE**  
Individual (computer model) and Facilitated



# THE CCA-DSS RECAP





# RESILIENCE SNAPSHOTS – CSA/CRA IMPLEMENTATION

Resilience indicators	Increase for Limpopo (N=26)	Increase for KZN (N=45)	Comment
Increase in size of farming activities	Gardening 1% Field cropping; - 98% Livestock; 6%	Gardening 260% Field cropping 360% Livestock 14%	Cropping areas measured, no of livestock assessed Dryland cropping in Limpopo has reduced significantly due to drought conditions and infertile soil
Increased farming activities	No	Yes	In Kzn more participants started gardening and small livestock production. In Limpopo all involved in gardening, field cropping and livestock management
Increased season	Yes	Yes	For field cropping and gardening- autumn and winter options
Increased crop diversity	Crops: 21 new crops Practices: 11 new practices	Crops: 21 new crops Practices: 20 new practices	Management options include; drip irrigation, tunnels, no-till planters, JoJo tanks, RWH drums,
Increased productivity	Gardening; 120% Field cropping: 15% Livestock: 6%	Gardening : 72% Field cropping: 79% Livestock : 25%	Based on increase in yields (mainly from tunnels and trench beds for gardening CA for field cropping
Increased water use efficiency	45%	25%	Access, RWH, water holding capacity and irrigation efficiency rated
Increased income	13%	13%	Based on average monthly incomes, mostly though marketing of produce locally and through the organic marketing system
Increased household food provisioning	Vegetables; 7 types~10kg/week Fruit; 5-10kg/week Dryland crops (maize, legumes, sweet potatoes); 5-10kg/week	Vegetables; 4 types~17kg/week Dryland crops (maize, legumes, potatoes); 19 kg/week Poultry 2-3 /month	Food produced and consumed in the household
Increased savings	R150/month	R262/month	Average of savings now undertaken
Increased social agency	2	2	Learning groups and local water committees
Increased informed decision making	5	2	Own experience, local facilitators, other farmers, facilitators, extension officers
Positive mindsets	2	3	More to much more positive about the future: Much improved

# PARTICIPATORY IMPACT ASSESSMENT; LIMPOPO (2-3YEARS OF CRA IMPLEMENTATION)

	Indigenous crops and trees	Soil health	Income	Productivity	Water use and management	Knowledge sharing with other farmers	Total
Conservation Agriculture	21	25	19	25	23	25	<b>138</b>
Livestock integration	10	19	20	15	15	23	<b>102</b>
Market	10	0	19	19	20	19	<b>87</b>
Tunnel	15	23	20	25	25	25	<b>133</b>
Trench beds	24	25	23	25	25	25	<b>147</b>
Drip kits	10	15	18	23	25	25	<b>116</b>
Mulching	23	25	22	23	23	25	<b>141</b>

We knew nothing about Climate Change and we felt defeated. Now with CRA we have gardens for consumption and are making small incomes from sales.

We know the importance of saving water and protecting the soil and the environment.

We have learnt about integration of livestock and farming and have seen the results, now we have our own livestock to avoid buying manure to use for soil fertility

We now use CA in our cropping instead of using our old system, and the results are good

We have learnt about agroecology, building soil, new crops, value adding and processing and marketing. Hunger has decreased

We work together and also share seeds

Province	Site/Area; villages	CoPs	Collaborative strategies
KZN	Bergville: Ezibomvini, Stulwane, Vimbukahlo, Eqeleni, Vumbukhalo	-Village level Climate Resilient Agriculture (CRA) learning groups: (~130 participants)	- Tunnels and drip kits - Individual experimentation with basket of options (CA, agroecology, fodder supplementation) -VSLAs (village savings and loan associations) -Marketing committee – local markets stalls and Dept of Basic Education -Water committees; Local schemes in 3 villages
	Midlands: Ozwothini, Gobizembe, Mayizekanye	- Village level Climate Resilient Agriculture (CRA) learning groups: (~90 participants)  -Livestock associations and cooperatives (SARDLR)	- Tunnels and drip kits - Individual experimentation with basket of options (CA, agroecology, fodder supplementation) -VSLAs (village savings and loan associations) -Marketing committee – local markets stalls -Livestock committees – with DARDLR for calf rearing, potato and maize production
Limpopo	Sekororo: Sedawa, Turkey, Mulati	- Village level Climate Resilient Agriculture (CRA) learning groups: (~75 participants)	- Tunnels and drip kits - Individual experimentation with basket of options (CA, agroecology, fodder supplementation) -VSLAs (village savings and loan associations)
EC	Matatiele Ned, Nchodu, Nkau, Rashule	-Village level Climate Resilient Agriculture (CRA) learning groups: (~90 participants)	Tunnels and drip kits - Individual experimentation with basket of options (CA, agroecology, fodder supplementation) -VSLAs (village savings and loan associations) in association with SaveAct

## PROGRESS

Development of  
COPs:

Local level

Innovation Platforms

*Specific learning groups, which have done well in implementation and building of social agency will provide the focus for further exploration of food systems, water stewardship and governance and engagement with local and district municipalities*

Province	CoPs	Collaborative strategies
<b>Regional</b>	<ul style="list-style-type: none"> <li>- uThukela Water Source Forum (~50 stakeholder participants)</li> <li>-Mametja-Sekororo PGS (PGS-SA)</li> <li>-South African Agroecology network</li> <li>-WASH scoping study</li> <li>-Umzimvubu Catchment Partnership</li> </ul>	<ul style="list-style-type: none"> <li>-Working with SANBI, WWF, INR and UKZN to develop a water stewardship forum and collaboration in the Northern Drakensberg – Adaptive Planning process in May and early November 2022.</li> <li>-In association with PGS-SA and AWARD, support organic marketing and youth engagement and linked to the KHSa (Knowledge hub for Organic agriculture in Southern Africa)</li> <li>-Engagement in TAFS agroecological transitions review and case studies with SA FoodLab.</li> <li>-In association with Nova Institute a nexus project on agriculture and sanitation</li> <li>–Review of multistakeholder forum operation, principles and successes. Inclusion of youth job creation programmes in water stewardship and CRA, etc. Quarterly meetings and joint participatory research processes</li> </ul>
<b>National</b>	<ul style="list-style-type: none"> <li>-Adaptation Network</li> <li>-SANBI-Living catchments Programme</li> <li>-PGS-SA</li> <li>-CA forums</li> <li>- Environmental Education</li> </ul>	<ul style="list-style-type: none"> <li>-Member of capacity development and learning and vulnerability assessments working groups with ongoing programmatic activities for each.</li> <li>-Co-convenor for uThukela forum, participant in UCP in Eastern Cape and K2C process in Limpopo</li> <li>-Member of certifications, inputs and farmer learning working groups</li> <li>-Member of provincial (KZN) CA forum and national process under auspices of the Maize trust and Asset Research (University of Stellenbosch)</li> <li>-Southern Africa transnational project – conference and MoU</li> </ul>

## PROGRESS

Development of COPS  
Regional and  
National

*Engaging with existing networks and forums at a provincial and national level to explore the themes within this research brief*

### STILL TO DO:

*Develop relationships with local and district government role players for integration of CbCCA into IDPs, adaptation planning and disaster risk reduction*



Work plan August 2022-March 2023				
Deliverable no	Activities	Team members	Dates	Submission
2. Desktop review of Multistakeholder engagements	Exploration of appropriate monitoring tools for evidence-based planning and implementation. Analysis of multistakeholder forums	MDF: Erna Kruger ERS: Nicky McCleod AWARD: Derick du Toit INR: Brigid Letty	2022/11/18	2022/12/02
	Capacity building: Concept proposals for 2 MSc theses and engagement of potential supervisors	MDF: Erna Kruger, Temakholo Mathebula and Ayanda Madlala	Concepts: 2022/12/02 Registration: 2023/02/28	2022/12/02
3. Handbook on microfinance services for smallholder farmers	MoU with StratAct for implementation of research package. Summary for development into a handbook.	MDF: Erna Kruger, Ayanda Madlala, Hlengiwe Hlongwane, Thabani Madondo StratAct: Nqe Dlamini	MoU: 2022/09/01, Workplan: 2022/10/10, Draft report: 2023/01/13 Handbook: 2023/02/18	2023/02/28
4. Development of CoPs and multi stakeholder platforms	COPs: 9 Village level CRA learning groups in KZN, EC and Limpopo engaged - assessments done, annual implementation plans outlined, CRA experimentation outlined and set up (incl. new practices: e.g., multipurpose poultry, linking sanitation and agriculture, water access explorations, veld restoration, youth engagement in resources restoration, Tala Table network, development of local marketing strategies and VLSAs)	MDF: Erna Kruger, Temakholo Mathebula, Ayanda Madlala, Betty Maimela, Michael Malinga	2022/11/15	2023/08/04
	COPs: Multistakeholder forums: uThukela water source partnership	MDF: Erna Kruger INR: Brigid Letty	Stakeholder mapping: 2022/09/29, APP w/s: 2022/11/05	
	Networks working groups: Adaptation Network - capacity development and learning, PGSSA- Certification and farmer inputs, CA forum.	MDF: Erna Kruger, Michael Malinga	Ongoing	
	Tala Table Network: Youth involvement programme	MDF; Erna Kruger, Betty Maimela AWARD: Derick du Toit	Ongoing	

## Work Plan

# FINANCIAL SERVICES PROGRESS AND WORK PLAN

## NQE DLAMINI

- **Problem Statement:** VSLAs not seen as business funding instruments; institutional marginalisation, neglect by government and business community; lack of continued oversight (short-term project based funding)
- **International VSLA experience:** International NGOs, e.g. CARE, World Vision
- **Local VSLA experience:** NGO led interventions; Community led interventions (mainly traditional stokvels); National Stokvel Association of South Africa (NASASA)
- **RSA user-owned financial services legislation and regulations, role of Treasury**
- **Focus:** To examine microfinance options which are available for smallholder farmers participating in the CbCCA programme and to draw lessons for broader applications

# FINANCIAL SERVICES PROGRESS AND WORK PLAN

## Progress so far:

- Structure/framework of research study done
- Finalising literature review, theoretical framework and methodology
- Research sites identified (Bergville and Ixopo)
- Adaptive planning/Theory of Change to tease microfinance options
  
- **Work Plan:**
- **End of Sept:** Internal discussion of draft literature section; data collection instruments
- **Oct through to Nov:** Data collection (Focus Group Discussions, interviews, case studies)
- **Dec through Jan:** Writing up of findings and contents of handbook
- **Feb:** Production of a handbook

**TEMAKHOLO MATHEBULA –**

**The Role of the Social and Solidarity Economy in  
Strengthening Climate Resilient Agriculture (CRA)  
Adoption in Smallholder Farming Systems in KwaZulu-  
Natal**

**AYANDA MADLALA –**

**Power dynamics in a rural setting ignores pre-existing  
co-management systems of natural resources  
(commons) while forcing/injecting change.**

**Capacity  
Building**



**THE ROLE OF THE SOCIAL AND  
SOLIDARITY ECONOMY IN  
STRENGTHENING CLIMATE  
RESILIENT AGRICULTURE (CRA)  
ADOPTION IN SMALLHOLDER  
FARMING SYSTEMS IN  
KWAZULU-NATAL**

**By TN  
Mathebula**

# PROBLEM STATEMENT

- Climate variability the recent COVID 19 pandemic, social unrest and the Ukraine war have caused major disruptions in international and local food systems alike. Impacts more severe in rural areas due to scarcity of resources and limited access to information. In SA, decline in food security worsened during pandemic due to high levels of retrenchments, leading to increased pressure on local food systems, which continues
- Vulnerability of rural communities due to exclusion from mainstream economy and absence of basic services which has lead to the rise of local solidarity networks and care economies, i.e. increased variety of livelihood strategies to circumvent effects of ailing economy
- Solidarity networks set up to pull resources together and share information, due to financial exclusion, but presently have a limited role in promoting climate resilient agriculture

# RESEARCH QUESTION

- How can the solidarity networks be used to strengthen the adoption of CRA in smallholder farming systems?

## SUB QUESTIONS

- What are the different components of the solidarity networks and what are their functions?
- How can the economy of solidarity be used to create a convergence between smallholder farming and CRA?
- What are the strategic points within the solidarity networks through which CRA can be promoted?
- What are the individual and collective perceptions around CRA in rural communities and how do these inform farmers' decision making processes?

## CRA Learning group activities

- **Conservation Agriculture:** *Intercropping, crop rotation, cover crops, fodder production*
- **Livestock integration:** *Winter fodder supplementation, hay baling, conservation agreements, local livestock auctions*
- **Intensive homestead food production:** *Agroecology: Micro-tunnels, trench beds, mixed cropping, mulching, greywater management, fruit production, crop diversification*
- **Community owned local water access:** *Water committees: Spring protection, boreholes, water reticulation, pipes and tanks at homestead level*
- **Village savings and loan associations:** *Village based savings groups for savings and small loans for productive activities*
- **Local marketing and food systems:** *Monthly produce market stalls, organised per village, exploration of further marketing options, small mills for maize*
- **Soil and water conservation:** *Erosion control, road maintenance, veld restoration, youth employment*



## COMMUNITY/INSTITUTIONAL EMPOWERMENT

Building of community organisation to undertake CRA, water access resource conservation and local marketing



# KNOWLEDGE DISSEMINATION DONE

*"PGS-SA certificate ceremony, working group meetings, inputs into policy documents"*



*South African Mountains Conference: Presentation and full paper: CbCCA in central Drakensberg improves resilience of smallholder farmers*

*Youth Tala table Network Development Inception workshop*



*"Adaptation Network webinar presentations; Nature based solutions, Vulnerability assessments"*

*LCP uThukela Water forum/partnership – stakeholder meeting and Adaptive planning workshop*

*Innovation Platform workshops in Conservation Agriculture, CA forum, KZN and national*



THANK YOU