



# mahlath<sup>ni</sup> development foundation

Promoting collaborative, pro-poor agricultural innovation  
2003-2024



## Mission

To design and implement **innovative projects and programmes** which promote **collaborative, pro-poor** agricultural innovation, working in partnership with other organizations and communities.

To work at the cutting edge of development methodology and processes, integrating **learning** (training), **research** and **implementation** into new models and processes, emphasizing synergy and integration.



**CbCCA and innovation system development: For sustainable livelihoods and climate resilience**

# Target beneficiaries



51 years, woman headed hh, Grade 9-11, unemployed, Ave monthly income R2170, field cropping, gardening and livestock husbandry, no access to water in hh, local markets only, savings groups

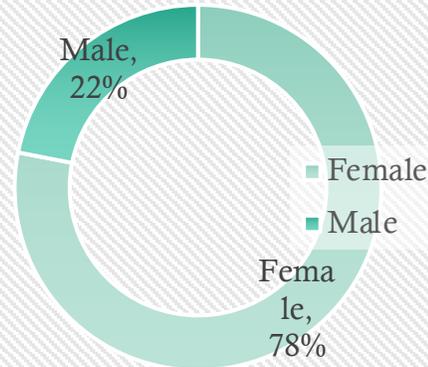
The typologies are briefly summarised below

## Farmer age categories

No of respondents(50)

- 18-
- 36-
- 51-
- >6.

### Farmer gender



10

Typology A- 49%  
 Typology B – 27%  
 Typology C – 24%

A good spread of different community members involved in the Adaptation responses

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TYPOLGY C: (10 000); Male, farm mainly for income, much higher incomes from employment in hh, good access to water, higher education levels and access to formal markets. Belong to cooperatives or farm individually

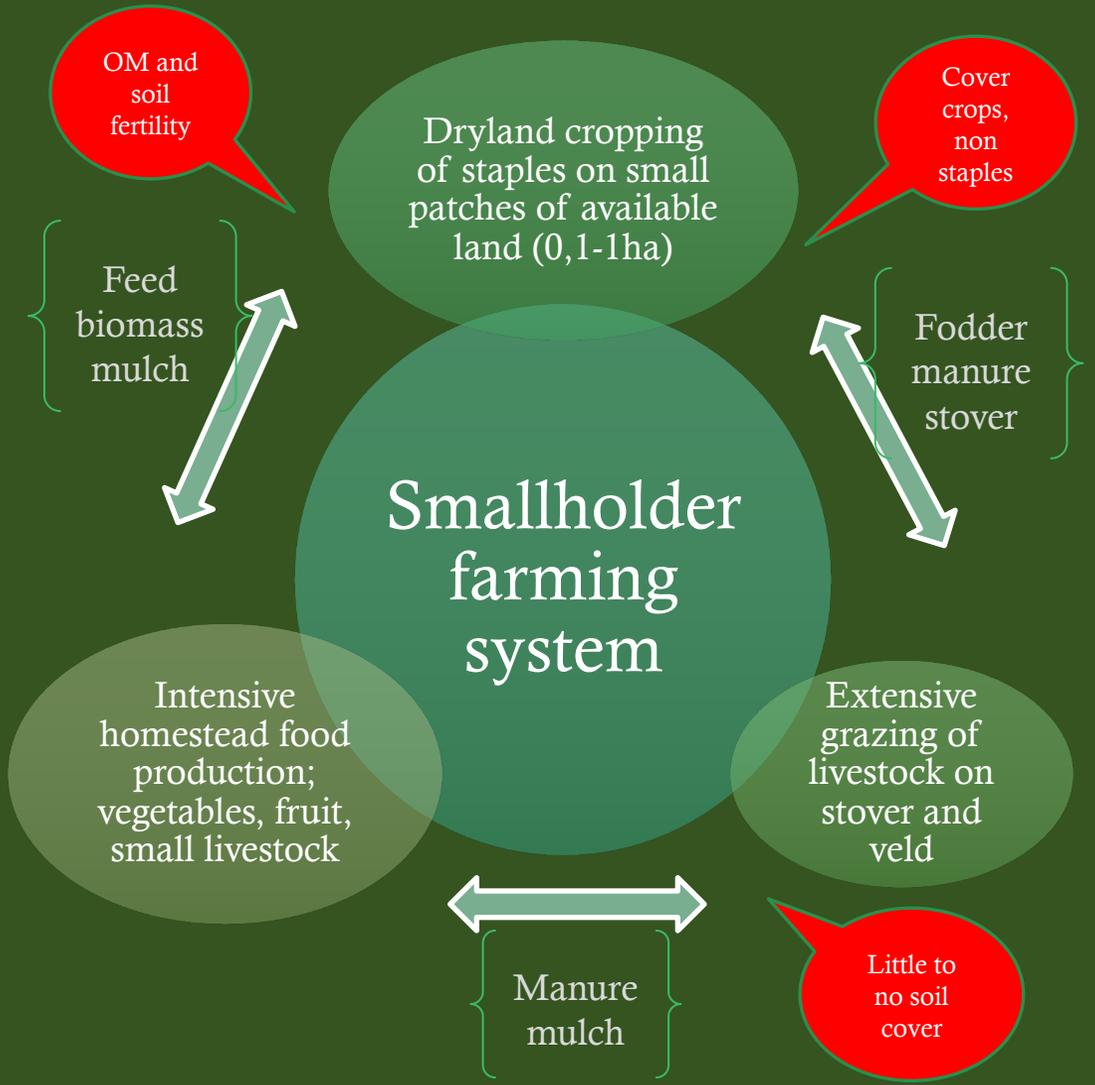
**Communal tenure, deep rural communities in KZN, EC and Limpopo:**

# Vulnerabilities and impacts of CC

- Almost zero contribution to GHGs
- Deepening poverty: COVID19 and Ukraine war
- Increase in extreme weather conditions: Crop failure, livestock mortality, difficulties with access, internalisation of infrastructural failures
- Drying of environment and local water sources: Lack of access to potable water and improved sanitation options
- Increased rate of environmental degradation
- Decreased dietary diversity and increased mortality in young children from malnutrition
- Staggering level of unemployment among youth ~50%



# The smallholder farming system



# METHODOLOGY: CbCCA– locally led adaption



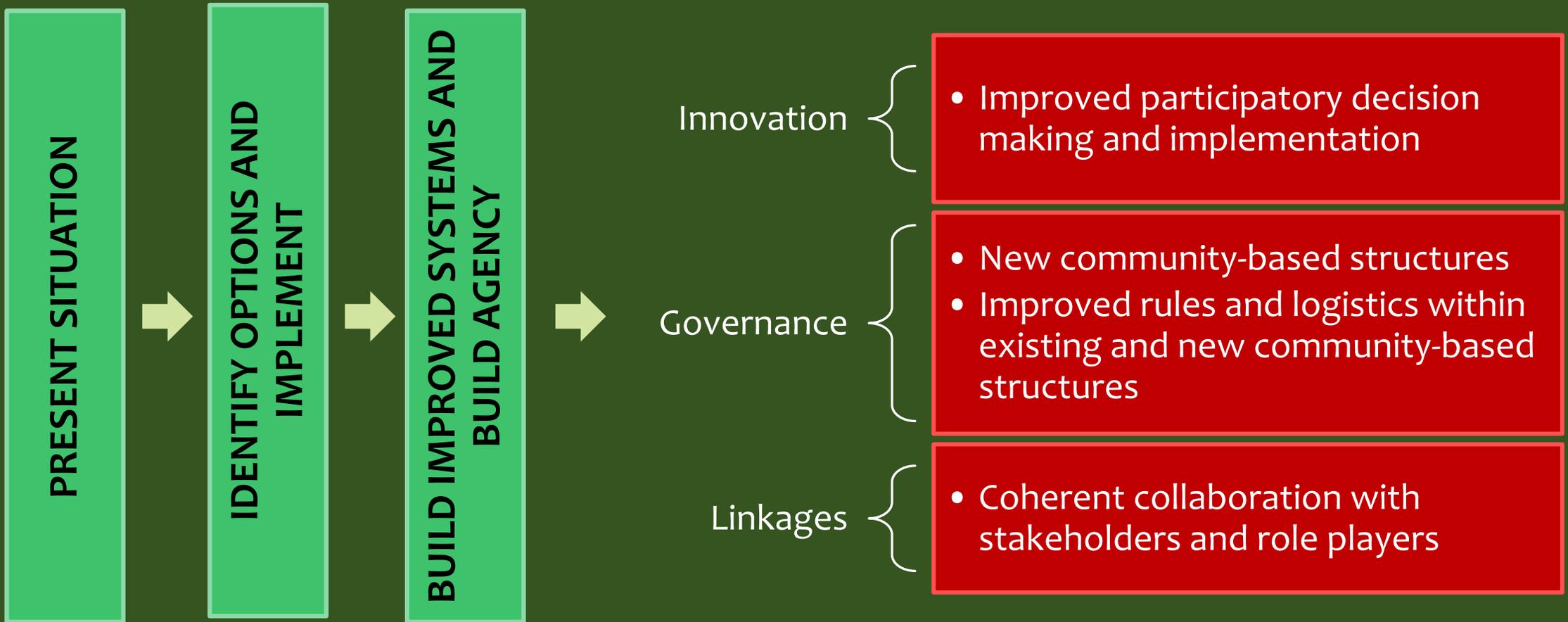
Collect and analyse information

Identify options and implement

Build improved systems and social agency

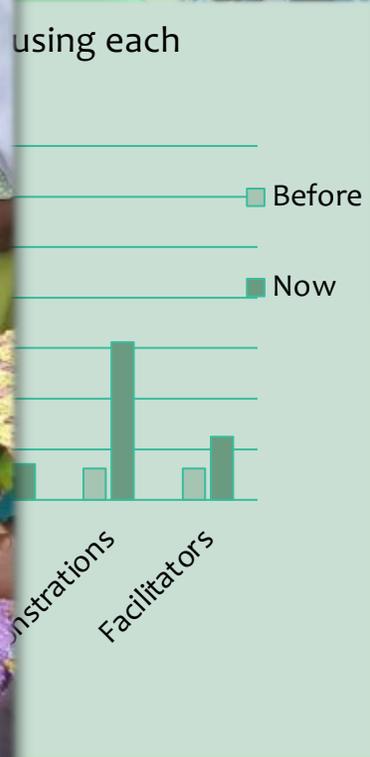
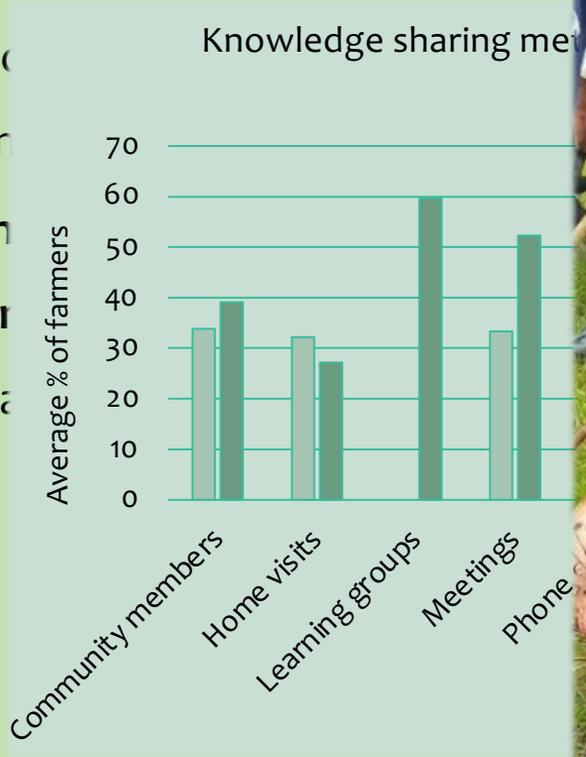


# Putting the bits together for locally led adaptation



# EMERGENT ACTIVITY: Governance

- Social learning and knowledge co-creation
- Improved community management
- Community governance and local



# ACTIVITY: Climate Resilient Agriculture and innovation system development for sustainable and productive use of land and water

- **Conservation/ Regenerative Agriculture:** (LEI) Quantitative research support to the Smallholder Farmer Innovation Programme; intercropping, crop rotation, cover crops, fodder production
- **Livestock integration:** Winter fodder supplementation, hay baling, conservation agreements, local livestock auctions
- **Intensive homestead food production:** Agroecology; tunnels, trench beds, crop diversification, mulching, greywater management, fruit production
- **Food system elements:** Nutrition enhancement of diets, value adding and seed saving
- **Village savings and loan associations:** 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

48 villages in EC, KZN  
and Limpopo



850 small holder  
farmers



3500  
beneficiaries



# Young mothers interest groups



## PARTICIPATION

- Vulnerable young women (unmarried, unemployed with small children) at village level are targeted
- Join the young mothers' groups to:
  - Share issues, situations and aspirations
  - Share information and learning around topics of concern and interest including primary health care, nutrition (specifically for children <5years), pre-school education, improvement of livelihoods and upskilling towards increased employability and access to formal education opportunities.
  - Climate resilient agriculture implementation appropriate to young mothers inclusive of microfinance options and support

9 villages in EC, KZN  
and Limpopo



100  
beneficiaries



# Conservation Agriculture



# Intensive homestead food production practices



Mixed cropping



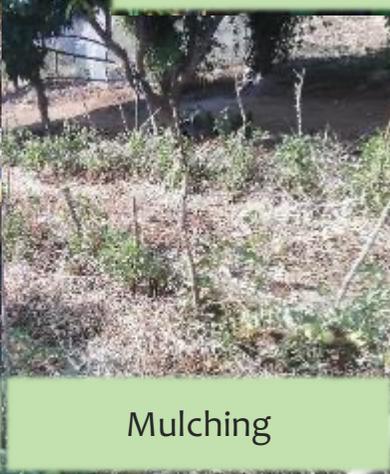
Improved irrigation practices:  
Drip irrigation



Crop diversification



Grey water management



Mulching



Microclimate management: Shade cloth tunnels

Improved irrigation practices: Irrigation scheduling (chameleon sensors)

Composting

Natural pest and disease control

Deep and shallow trench beds

# Livestock integration: Fodder production



Sunflowers, Sun Hemp, millet



Turnips



Lespedeza



Bird resistant Sorghum



Tall fescue



Radishes, oats

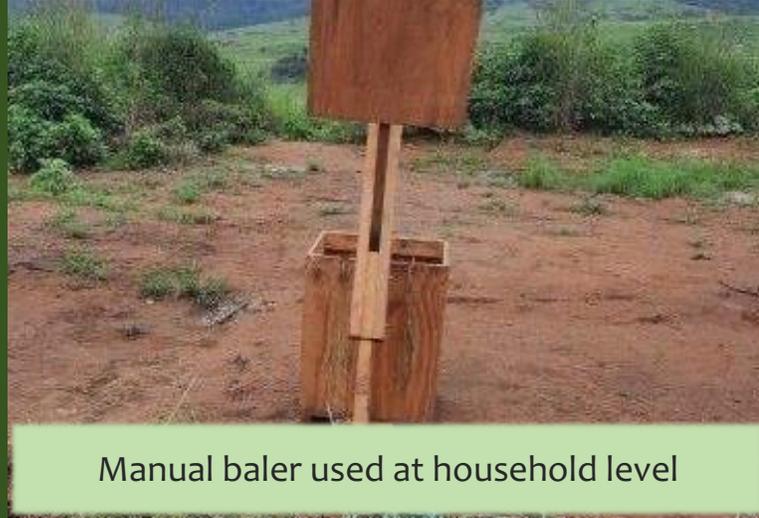
## Cover crop options:

- Blocks or strips of SCC mix (fodder sorghum, sun hemp, sunflower), Dolichos and WCC mix (Saia oats, fodder rye, and fodder radish)
- Strips of fodder species, annual (Teff, turnips) and perennial (Lespedeza, Tall Fescue)

# Livestock integration: Fodder management



Collection of stover and cutting of veld grass for baling and grazing,



Manual baler used at household level



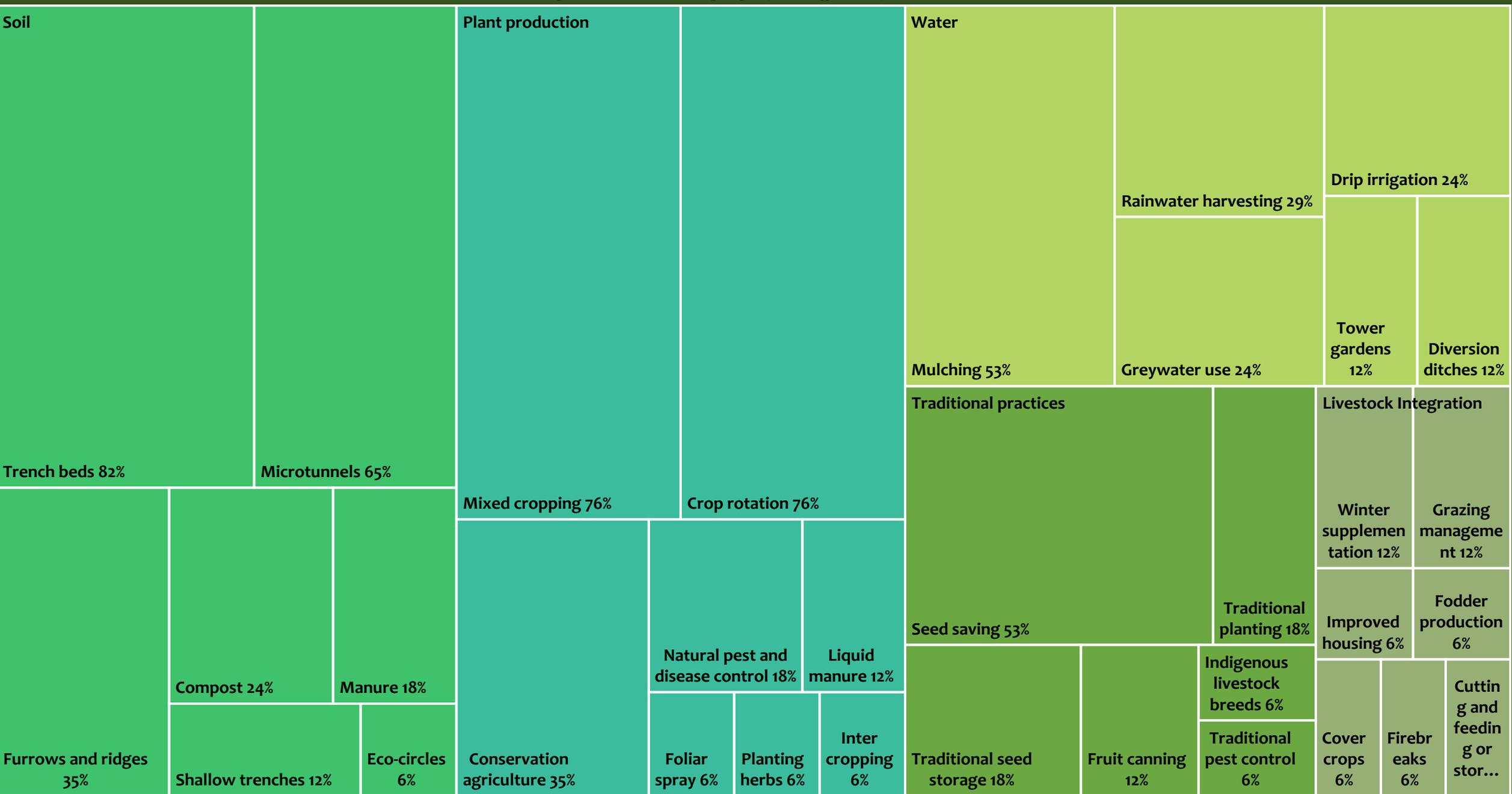
Use of bales with winter fodder supplements, e.g. LS 33, premix450, protein blocks



Grazing cover crops or stover in situ

Return of manure to the fields (carry or in situ)

# CRA practices: Limpopo, Bergville, Matatiele

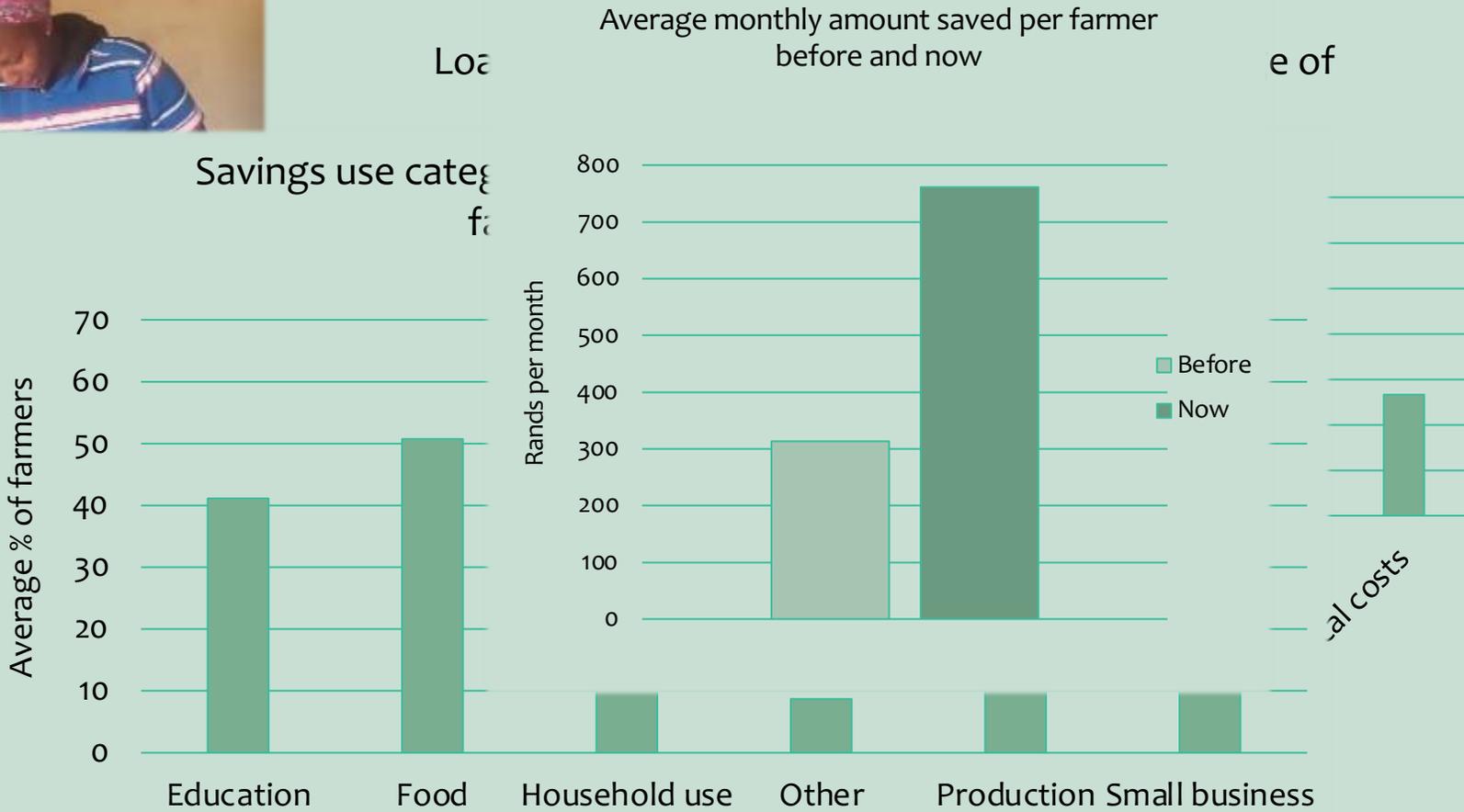


# Village Saving and Loan Associations (VSLAs)

- 29 VLSAs, 535 participants

~R255 / farmer / month saved

**New innovation: Bulk Loan Funds** - larger savings and longer term for greater loan potential – specifically for production



# Local marketing options (appropriate for smallholder farmers)



- **Food first**, income from surplus (80% of participants)
- **Expansion** of existing cropping areas and types and number of crops grown (10-15%)
- **Production** specifically for sale (1-5%)
- Development of **marketing** options for aggregating small quantities of a range of products
- **Farmgate** (within villages); small local potential with low-income ceilings

Presently the best option

• **Local market stalls** (combined across villages): much larger range of products and income potential, also now focus on labelling, branding, pricing, value adding and processing

- Bakkie traders, stores in local towns (individuals and groups within villages): generally commodity focused, and farmers are price takers – good for larger quantities but **no competitive advantage**
- Sale to local retailers and supermarkets (individuals): requires transport, intermittent, price takers, little stability, competitive – overall **low potential**



# Improvement of livelihoods and incomes

2022

Farming activity
Broilers
Layers (eggs)
Field crops:
Maize
Beans
Vegetables
All commodities
Estimate based on inter
Commodity for a selec
participants only
Green Maize
Stall fed calves
Total value of product
(the selection)

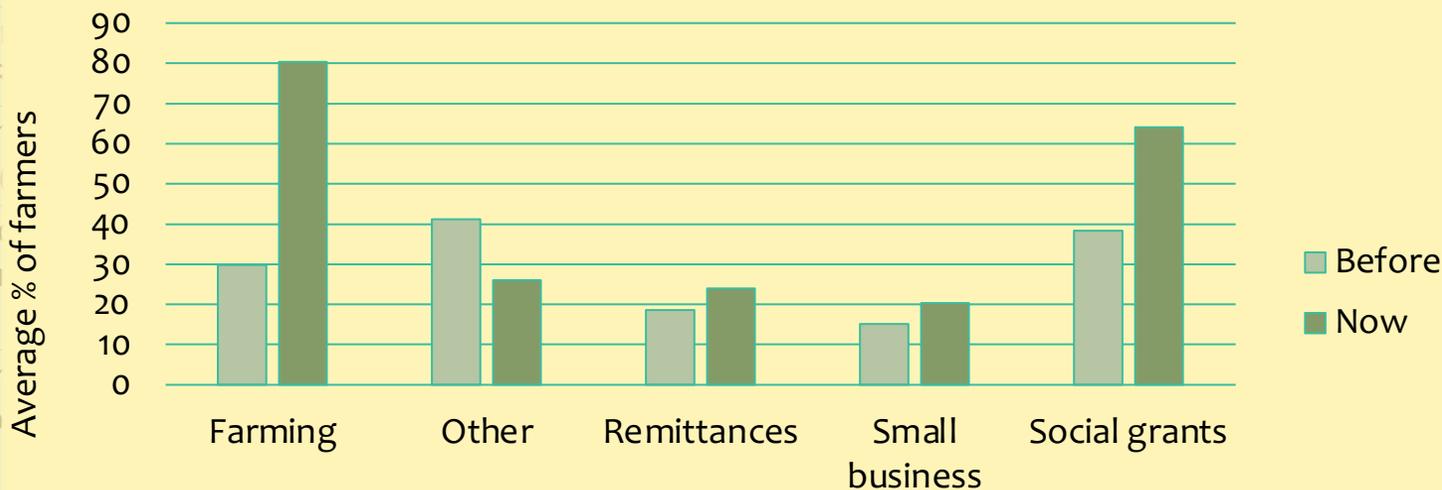
2024

## Changes in elements of farming productivity

- Average cur (P
- Average inc income
- Average am produce cu produced
- Average inc amount of p produced
- Average pro produce c consumed



Livelihood diversity options (income sources) and the average percentage of farmers deriving income from each before and now



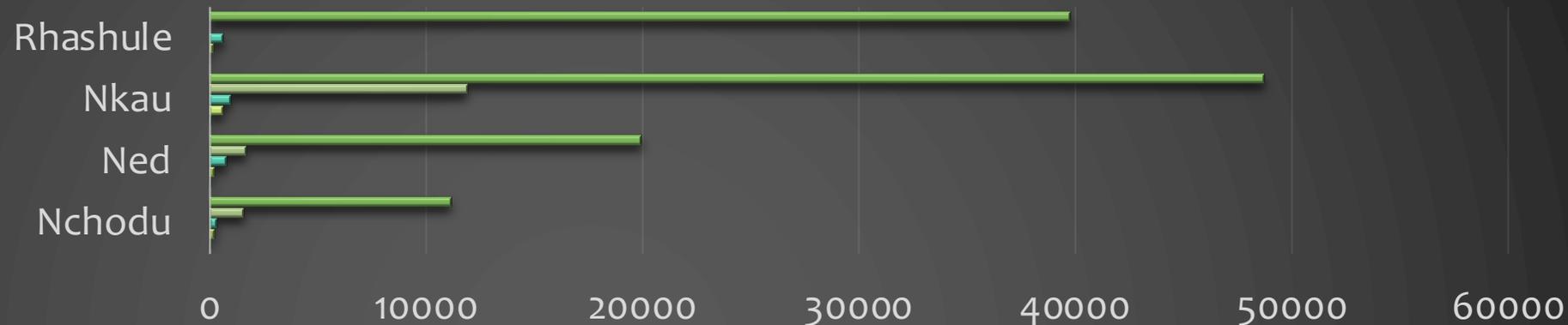
Averaged from production records. From further individual interviews actual averages Between R1 000- R3 300.

More than doubled production and incomes over a 2-year period.

Shows what is possible but much broader support required (more people, more villages)

# Provincial production and income trends

## Matatiele



	Nchodu	Ned	Nkau	Rhashule
Average current income (R)	R11 142	R19 951	R48 729	R39 749
Average increase in income (R)	1552	1664	11891	0
Average amount of produce currently produced (kg)	314	740	947	634
Average increase in amount of produce produced (kg)	222	215	608	172
Average proportion of produce currently consumed	38	51	61	28

## ACTIVITY: Water and Natural Resource Management for sustainable and productive use of land and water

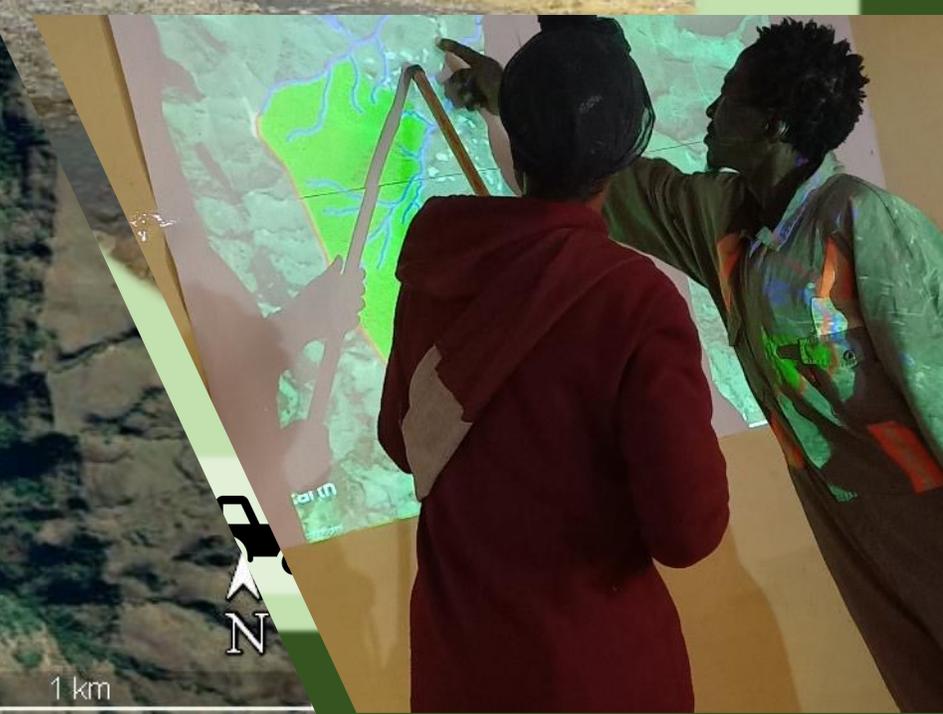
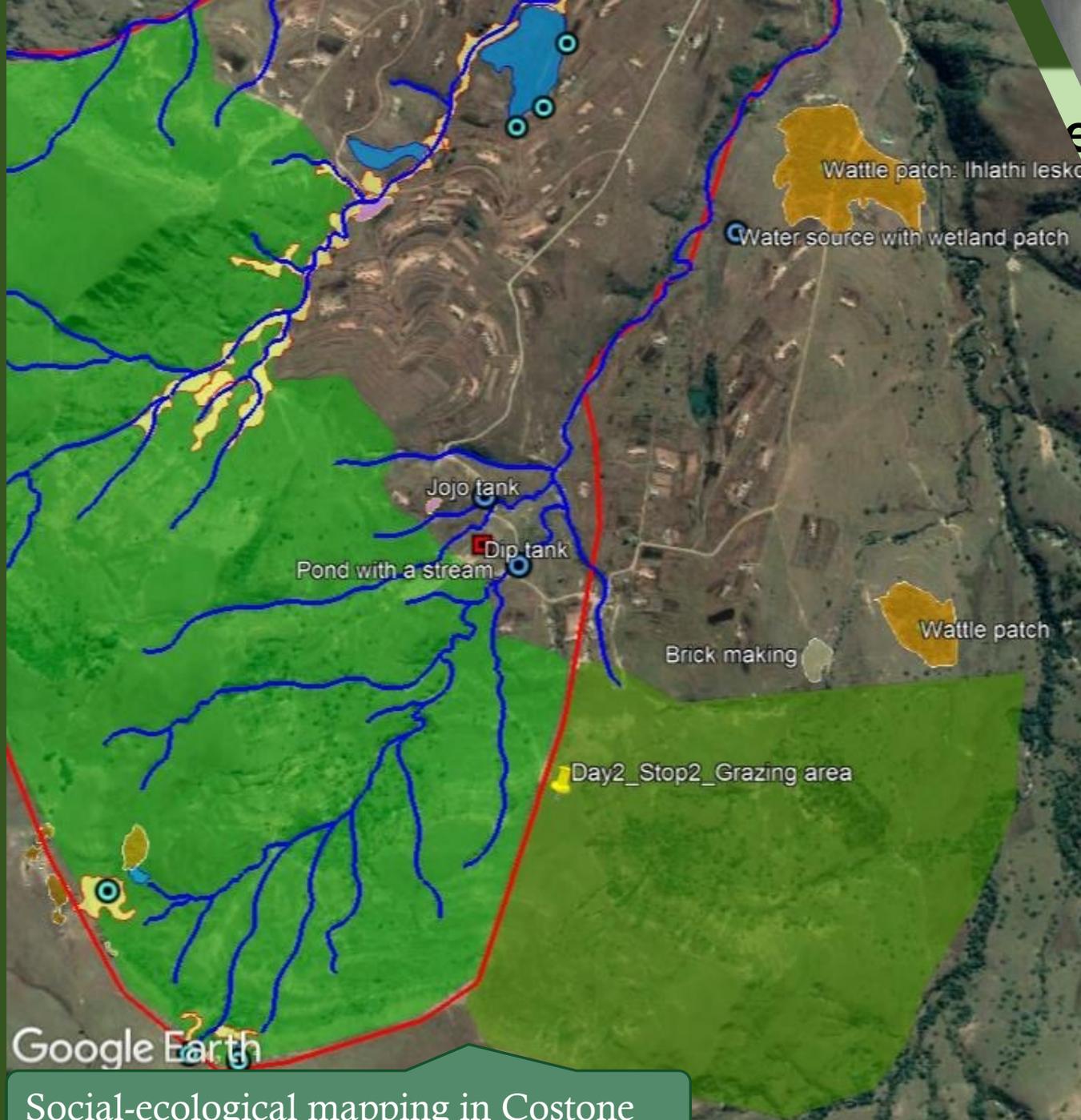
- **Community owned local water access:** Water committees, spring protection, water reticulation, pipes and tanks at homestead level
- **Soil and water conservation:** village-based learning groups in Climate Change Adaptation undertake resource conservation activities



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Social-ecological mapping in Costone

# Local water access: Spring protection and boreholes



## Appropriate tech and low-cost options

- Springs secured and protected.  
Reticulated header tanks with either communal or household taps and tanks
- Water committees develop out of CRA learning groups and include traditional leadership
- These groups fully involved in assessing options, planning and designing the intervention, collection of monies , implementation, and maintenance
- Development of a water committee constitution with rules of operation, membership criteria, required contributions, etc
- Presently no legal option for providing such small schemes with any recognition and support (outside of a decree by the minister)
- Water Service Authorities slow and unwilling to recognize such options – but also not supporting communities



V-box



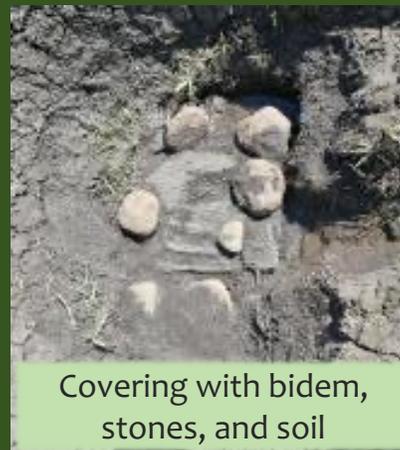
Header tanks



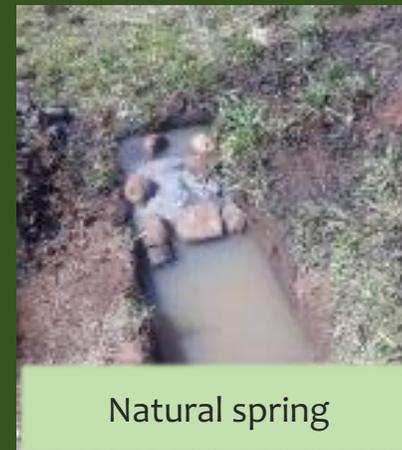
Digging offtake for slotted pipe



Slotted pipe



Covering with bidem, stones, and soil



Natural spring



Communal tap

# Stewardship: Alien clearing, erosion control, grazing management

