

# ATTACHMENT 1 : WRCK5-2719-4; Deliverable 7

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## Team planning; January 2019

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### Programme

Activity	Description	Timing
DAY 1		
Review of deliverables	To date, Del for 2019 (PP); tease out action items and broad discussion on how this can be achieved (pairs)	45min - 9:30am
Progress	-CoPs and demo sites (PP) - Assessment of process design (CCA w/s 1-5); two small groups... what works, what doesn't suggested changes	1hr – 11:00am
CSA practices	- CSA practices being explored; add to PP - Summary of introduction in the three provinces, including some indicators (PP) - Update Community level prioritization of practices excel sheet – in small groups	45 min – 12:00am
Experimentation	Finalised, in progress, planned – small group work for all provinces (using template)	1hr – 1:00pm
-Indicators;	-SOIL: Conservation and health (including fertility) -WATER: Conservation, use efficiency, availability -LIVELIHOODS: Improvement (production, incomes, savings) and social agency (group actions for change) Go through different frameworks- finalise indicators	1hr- 3:00pm
The DSS		1hr – 4:00pm
DAY 2		
The DSS cont		1hr -9:30am
Action plan finalisation	Pick up on broad action plans and fill in more detail	2hr- 12:00pm

## Aims

1. To evaluate and identify best practice options for CSA and Soil and Water Conservation (SWC) in smallholder farming systems, in two bioclimatic regions in South Africa. (Output 1)
2. To amplify collaborative knowledge creation of CSA practices with smallholder farmers in South Africa (Output 2)
3. To test and adapt existing CSA decision support systems (DSS) for the South African smallholder context (Outputs 2,3)
4. To evaluate the impact of CSA interventions identified through the DSS by piloting interventions in smallholder farmer systems, considering water productivity, social acceptability and farm-scale resilience (Outputs 3,4)
5. Visual and proxy indicators appropriate for a Payment for Ecosystems based model are tested at community level for local assessment of progress and tested against field and laboratory analysis of soil physical and chemical properties, and water productivity (Output 5)

## OUTPUTS

1. A locally relevant DSS for CSA and WSC in smallholder farming systems in South Africa
2. A choice of appropriate, tested practices and technologies for implementation at homestead and field level across a range of bioclimatic regions
3. Baskets of options for use at community based level for introduction of concepts, awareness raising and implementation, across a range of bioclimatic regions
4. Recommendations for appropriate knowledge mediation, learning and dissemination strategies for CSA in smallholder farming systems
5. A model for community based monitoring of CSA indicators

## EXPECTED IMPACTS

1. Smallholder farmers across a range of bioclimatic regions have increased knowledge and awareness of climate change and are able to adapt to these stresses by implementing appropriate agricultural and water management practices.
2. Smallholder farmers are able to make informed decisions about and are able to implement a range of climate smart agricultural practices that are best bet options for their specific socio-economic and agro-ecological situations
3. Implementation of practices that include but are not limited to soil and water conservation practices (including conservation agriculture), rainwater harvesting and storage for productive activities, increased diversity in food production and inclusion of indigenous crops and plants in their farming systems, micro climate management strategies (such as drip irrigation and small greenhouses), integration of small livestock and agroforestry.
4. Smallholder farmers link with and are supported by local stakeholders and use the CSA decision support frameworks for implementation and increased awareness through scaling out of practices to other communities in and between localities
5. Smallholder farmers work together and build local platforms for joint activities related to their improved farming systems (including savings, local value chain development and joint resource management options)
6. Scaling out and scaling up of the CSA frameworks and implementation strategies lead to greater resilience and food security for smallholder farmers in their locality.

# Summary report; WRC team planning 22-23 January 2019

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## Progress : Feb

\_ Met with four people with tunnels ( Phumelele, Zodwa, Ntombakhe, Nombono), decided learning group should meet once a month and the farmer with tunnel will show and tell and share what is happening. And discussed ownership of tunnels. The four are aware that everyone was meant to work together to share work and harvest. ....Thombakhe said it did not work out farmers felt they were assisting her. In Ezibomvini the farmers are still expecting their own tunnels...The four were also not clear about the experimentation and what is expected of them... Ntombakhe, Nombono and Zodwa- don't fill in their own monitoring forms – someone else in the homestead does that... so they need to do it themselves -we will need to provide them with kokis, so that they can colour in what the chameleon says... and for them assess ... now they are irrigating regardless, Even if you can't write, they do tallying, maybe make 1's .....

When they ask someone else to do it, they sometimes don't do it... they do not feel involved ..... harvesting chineeses cabbage, green pepper, onions..... none have

They just record the one bucket per day, even if they're not actually using it... next cycle 1-2 months....

We are not sure we trust what the farmers are recording, it does not look reliable.... Maybe we can do one reading per week, the readings are not

Someone needs to be there to help with looking at the data (also runoff, and raingauge)

Problem is mainly with Ntombakhe... as her daughter wants to be paid, she is ok with doing the tallying so she doesn't have to rely on her daughter....

Mhlwazini – Phumzile Zimba – rain gauge- no=one is taking responsible.... Again issue with the lady being illiterate and the children not assisting.... ACTION: Let's remove it.... either grannies or young people, none are reliable...

Farmers do not see enough value in the importance of the records.... They need to see how they can help them..... we try and explain to farmers they are part of the research and they own the experimentation and that the input are a part of reducing the risk....

One missing point is that the data does not go back to the people ---- WE NEED To FIND WAYS TO DO THAT – PUT MORE EMPHASIS on taking the information back to farmers.

ACTION: sharing INFORMATION ON VIA AND SHARING BETWEEN FARMERS...

ACTION: tunnels in Madzikane, Gobizembe by April

Water Issues -11 households, each contribute R1 000. .... They complained the pricing for the process was too costly, to make it cheaper Get the TLB from the councillor to dig the ditches. (R1 000 only for 6 households). They then came up with an idea to borrow that money from their savings groups.... 1- Jo-jo tank.... Will be ready by end of March....

Swayimane:

- 1<sup>st</sup> experiment – eco-circle – now mostly just herbs left. Can assess
- 2<sup>nd</sup> experiment- deep trenches shallow trenches (5x1m); bed of herbs on the side. Form for filling in watering and harvesting, last column says chameleon reading- maybe change to make notes about things like pests etc... (since she doesn't) have a chameleon We may have put too many different ( mustard spinach, leeks, lettuce, green peppers, turnips,
- 3<sup>rd</sup> experiment -tunnel - Mam Mncanyana – so far only one trench ,should be finalised at the end of the month...
- 4<sup>th</sup> exp; tower gardens (4 still need to). Rather than buying stuff and giving it to them; prepare everything first, then we can assist with materials  
Last year we gave people seed, and then it was very hard to track how to do it...

## Overall Action Items

1. Need **baselines** for Swayimane (10), Madzikane (????), and a few more in Bergville; **Samkhe, Tema, Mazwi**
2. Give attention to knowledge meditation indicators: Use the two new monitoring forms; **resilience snapshot interview form and WRC\_CCA\_Individual monitoring forms**, for monitoring of progress in the learning groups in all areas: **Tema, Samkhe, Phumzile, Mazwi, Lawrence**
3. Set up learning group workshops in Bergville around the chameleons and irrigation management and scheduling; **Phumzile, Samkhe**
4. Continue to gather information on measurement for **Water Productivity** in Bergville (Chameleons, runoff, rainfall, soil fertility, soil health, bulk density, gravimetric soil water, amount of watering, amount harvested); **Samkhe, Phumzile, Nonka, Lulama**
5. Write and start to compile manuals
  - a. **CCA methodology (DSS)**
  - b. **Practices; finalise summaries and visual aids and do more detailed description And translate these summaries into Zulu, Pedi????**
  - c. **Learning materials/ farmers handouts – gardening, field cropping, livestock, natural resources**
  - d. **Guidelines for how to set up learning networks; Lawrence**  
**Set up a planning meeting to outline and start: Erna by 15 Feb**
6. Finalise 1st draft of online DSS and design the survey. Include a land use assessment section: **Erna, Catherine van den Hoof, Matthew Evans**
7. **Community processes;** After the first round of experimentation, go back to understanding of CC, impacts, of practices tried out thus far and choose the next basket of practices for 2<sup>nd</sup> round of implementation: **Phumzile, Samkhe, Lulalama, Betty, Erna, (Tema, Mazwi- continue with first round in SKZN), Lawrence – monitor 2<sup>nd</sup> round in EC**
8. **Review sessions;** For community based indicator development and assessment of impact of practices tried thus far, including learnings – making the link between research and visual indicators
9. **Community process and ownership case studies;**
  - a. Ntabamhlope and Ezibomvini – tunnels – one is a group activity one individual – compare and contrast pro’s and cons - **Samkhe**
  - b. Sedawa and Turkey – the different styles of the LFs- in turkey nothing happens at the homestead of the LF, always other venues and he carefully manages distribution of things and in Sedawa most of the practices have been demonstrated at the LF’s home and most meetings occur there. – compare and contrast pro’s and cons - **Betty**
10. **Cost-benefit analysis;** of low and high value crops in tunnels... **Erna, Betty, Samkhe**
11. **CSA has a weather station in Acornhoek: Erna to follow up and get data form there...**
12. **Natural Pest and disease control:** Design and implement and “advanced” learning workshop, that also includes disease control and starts on looking at specific pest and disease problems – e.g. blight on tomatoes, downey mildew etc. **Erna, Betty and ???**
13. **DSS:** The following action are required
  - a. **Some form a land assessment by the farmer needs to be included e.g. erosion, lack of water, overgrazing etc..)**
  - b. **Test this DSS with farmers in a workshop setting and**
  - c. **Work this DSS process into the WRC-CCA workshops**
  - d. **Work with farmers on a “default list of choices” for Farmer practices (similar to the one for facilitators**
  - e. **Think through a way to link this DSS with the Amanzi for Food platform**
- 14.

## Progress in each area

AREA and resp person	IN PROCESS	NEXT

<p>LIMPOPO Sedawa, Turkey, Lepelle, Botshabelo, Fenale</p> <p>BETTY</p>	<p>Tunnel experimentation – coherent records (<i>NOT BEING DONE – but try again</i>) Organic marketing of herbs and veg - <i>Continue</i> Water issues- Sedawa group collected R12500- want to start on one borehole- <i>set up with water committee.</i> Lepelle- <i>Meeting with trad authority to get some movement; Turkey – Find out how far with coll of R600/45members for 3 boreholes</i> Poultry production training and experimentation – <i>set up and monitor</i> Organic mango production experimentation – <i>set up and monitor</i> CA demo and experimentation – <i>set up and monitor</i></p>	<p>-Fenale: Shallow trenches, raised beds, experimentation -Lepelle; organic fruit marketing, more training on fruit quality Turkey: How to make and seal small dams Botshabelo: next round of experimentation, CA, bucket drip kits Sedawa: Monthly progress and planning meetings, set up new markets directly with farmers, experimentation review and planning next round, Agroecology network meeting in March FINLIASE WATER ISSUES VIDEOS</p>
<p>KZN Eqeleni, Ezibomvini, Swayimane, Madzikane</p> <p>PHUMZILE SAMKHE LULAMA TEMA MAZWI</p>	<p>Tunnel experimentation (3 people ) – <i>coherent records, incl chameleon readings</i> Water Issues; follow up meeting CA-Ongoing in CA SFIP project (runoff, gauges weather station, bulk density, gravimetric soil samples, soil fertility and soil health (including OC and aggregates, VSAs) Swayimane – Monitoring of 1<sup>st</sup> round of gardening implementation (Tunnel, tower gardens, trenches, eco-circles continue with CA Madzikane: Prioritization of practices, Run-off plots in CA  -SBS-All areas: Modules 4-8; list of ideas (potatoes, poultry, farer centres), resources etc  Tabamphlophe: Seedling production, pest and disease control, herbs CA monitoring – 20 participants</p>	<p>-Review of experimentation and planning for next cycle – include whole learning group -Water issues- next steps; collection, design, implementation -Bglv_Monitor fodder experimentation -Build tunnel in Swayimane and Madzikane -Do exp comparing trenches, raised beds, shallow trenches- Swayimane Report on impact of practices- e.g. tower gardens (x4), etc... -Madzikane Start first round of experimentation in gardens, fodder in CA -Tabamhlophe: more formal experiments, monitoring, impact assessment of practices</p>
<p>EC Mxhumbu, Berlin, Dimbaza, Xhuzini</p> <p>LAWRENCE MAZWI ERNA</p>	<p>Review of 1<sup>st</sup> round of experimentation, demos, planning for next round Xolise: Ca, furrow (Xhumbu) Aviwe: trenches, eco-circles (Dimbaza) Phindiwe : tower garden, (Xhuzini)</p>	<p>Tunnel experiment and coherent monitoring to be set up (either w Eddie or move the tunnel somewhere else) Monitoring of round 2, experimentation per participant – what they want to do next...additional practices ot introduce</p>

## Knowledge mediation

Sometimes people do not work well together in learning groups. We need to give attention to how people share or learn to share. Again, there is the case study of Amanzi for Food network in EC- where people are enthusiastic about sharing. Why is this different to KZN and Limpopo?

We need more coherence in implementation of ideas and linking Conservation Agriculture to CSA. We need a better understanding of farmers' concepts of what they are doing and why they are doing it... For example farmers understanding and terms for different soil properties, and we need to work with the Visual Soil Assessments with farmers

Questions:

- What have we learnt about how to introduce ideas?
- About doing things in groups vs individually
- About demonstrations and farmer level experimentation

## Indicators

This is to assess the overall impact of CSA practices

Already in place on project level, but now have to work on indicators for this process specifically.

Couple of different ways to look at indicators

- Innovation system indicators
- Logical framework indicators

Amanzi for Food have been using the "Value Creation Framework" for developing indicators. This was presented by Lawrence. **See attachment**

## Farmers' indicators

There are some issues in our implementation model. We provide some inputs to the participants for specific experimentation; including a few tunnels, some seed and some seedlings – the latter of crops and varieties that are new and can assist in increasing diversity and continuity of production. Participants however may not understand this as they see some getting inputs for free and other not... there has been some conflict related to those who have received some assistance and those who have not. Farmers may overplay the advantages of the tunnels as they have identified these as a practice with good income potential and many farmers want them, but cannot pay.

Also, mostly the tunnels have been used for low value crops, such as spinach, even maize, cowpeas, etc. It would work better if high value crops were promoted here – **Cost benefit analysis is important, and a coherent experiment with something of high value e.g. strawberries, herbs,**

OPTIONS

- Experiment only with things that don't cost money as farmers cannot afford.... Here we could lose out on some of the interesting things coming out of some of the ideas (tunnels, drip kits, small dams, new varieties, tower gardens, chicken tractors, natural pest and disease control brews...)
- Spend more time on reviewing the experimentation process and clear explanation of inputs provided. Work with learning groups to create the criteria of who gets and who does not and confirm with them that this is acceptable to them
- Any risks for the farmers need to be articulated more clearly
- Talk through financing options for some of the new ideas; working this into the VSLAs and the SBS trainings
- Write up the different models and outcomes;
  - o In Ntabampholphe the tunnel experimentation is done in a group rather than individual setting – these two processes can be compared and contrasted
  - o In turkey, the LF does not do anything at his own homestead, unlike Sedawa for example, and brings the group together in other venues. These two processes can be compared

## The Computer based DSS

The first draft of the model was presented and discussed (**DSS PP model presentation**).

## COMMENTS

- ***Some form a land assessment by the farmer needs to be included e.g. erosion, lack of water, overgrazing etc..)***
- ***Test this DSS with farmers in a workshop setting and***
- ***Work this DSS process into the WRC-CCA workshops***
- ***Work with farmers on a “default list of choices” for Farmer practices (similar to the one for facilitators***

It is considered an important outcome that this model can survive the end of the project and that individual farmers can use this model by themselves.

It is also a good support process for facilitators decide on/choose a basket of options for any particular situation where they are interacting with a farmer.

On the Web based platforms these baskets of options of practices are to link to the **practice summaries** (1 pagers with a brief description and photographs) and these in turn are linked to more **detailed information** on each practice (manuals, farmer handouts...)

Lawrence introduced **the Amanzi for Food navigation tool**

There are many similarities in these two processes; some of the criteria for the Amanzi for food tool such as size of land (gardens small fields, large fields), labour, skill, cost are the same across the two processes and many of the practices overlap – As they have already been described (info cards) and refer to the manuals for more detailed information, a combination of these processes is a good idea

***ACTION: Think through a way to link this DSS with the Amanzi for Food platform***

## Indicators

Indicators and monitoring forms used to date have been those developed for the two “sister “ programmes that feed into this research process; namely the Maize trust CA programme and the AWARD Climate change adaptation programme.

We discussed potential monitoring frameworks; including the logical framework process that is presently a part of the proposal (with output, outcome/impact and process indicators).

Indicators are on three levels that link to each other

1. Farmer based indicators
2. Visual indicators and processes (e.g. such the visual Soil Assessment process)
3. Quantitative measurement of certain indicators, including benchmarks (e.g. soil fertility, soil health, runoff, evapotranspiration...)

Lawrence gave a brief presentation the Value Creation framework:

- Immediate value (e.g access to information , group formation, collaborative activities)
- Potential value (e.g. enhanced understanding, increased agency, using new knowledge in own context, establishing connections, outcomes of activities, increased ability to learn
- Applied value (e.g. Information used to inform changes....
- Realized value (e.g. productivity, productive collaborations, adaptation of elements)
- Reframing value (e.g. Previous definitions of success, changes in definitions and reasons for changes)
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An assessment of indicators for this programme was done, using the outcomes/impacts from the proposal as a starting point.

The team were asked to go point by point and consider what needs to be monitored and to suggest possible indicators for each point. Below is a summary

Outcome/Impact	What to monitor	Indicator
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<p>1. Smallholder farmers across a range of bioclimatic regions have increased knowledge and awareness of climate change and are able to adapt to these stresses by implementing appropriate agricultural and water management practices</p>	<p>Knowledge Awareness Adaptation Implementation</p>	<p><b>Increased knowledge:</b> Increased understanding of climate change and impacts <b>Adaptation:</b> 1.Reasons for choosing practices (justification) 2. Increased water productivity, water saving, irrigation efficiency <b>Implementation:</b> No of practices implemented using five finger principles</p>
<p>2. Smallholder farmers are able to make informed decisions about and are able to implement a range of climate smart agricultural practices that are best bet options for their specific socio-economic and agro-ecological situations</p>	<p>Decision making Implementation</p>	<p><b>Decision making:</b> Community level indicators for choice of adaptation strategies across five fingers <b>Implementation:</b> as above plus 3. Local best bet options, traditional practices</p>
<p>3. Implementation of practices that include but are not limited to soil and water conservation practices (including conservation agriculture), rainwater harvesting and storage for productive activities, increased diversity in food production and inclusion of indigenous crops and plants in their farming systems, micro climate management strategies (such as drip irrigation and small greenhouses), integration of small livestock and agroforestry.</p>	<p>Range of practices</p>	<p>1.Qualitative and quantitative indicators for increased soil fertility, soil health, water infiltration, water holding capacity, water productivity, increased food production, increased income, increased diversity (no of crops, trees, - incl indigenous) 2. increased RWH practices and storage for productive purposes (no of people, different types) 3.Diversity across five fingers (how many people implement how many practices ea) 4. Quality of implementation; how many, how well – assessment of ea practices for how well it works to build <b>resilience*</b>. 5. Social responsiveness; which practices favoured locally with reasons</p>
<p>4. Smallholder farmers link with and are supported by local stakeholders and use the CSA decision support frameworks for implementation and increased awareness through scaling out of practices to other communities in and between localities</p>	<p>Networks, CoPs, groups, platforms Awareness and use of DSS</p>	<p>1.No of groups, networks, CoPs 2. Stakeholder involvement; meetings, workshops conferences, collaboration 3. Sharing of learning... ?? 4. No of people that know about and use DSS...? 5. Involvement of more people, local expansion, (neighbours)</p>
<p>5. Smallholder farmers work together and build local platforms for joint activities related to their improved farming systems (including savings, local value chain development and joint resource management options)</p>	<p>Local platforms</p>	<p>1. Membership 2. Joint activities undertaken in local platforms (incl VSLAs (money used for productive activities etc), SBS, farmer centres, joint work, planning and action for communal resource management) – variety of activities engaged in</p>



6. Scaling out and scaling up of the CSA frameworks and implementation strategies lead to greater resilience and food security for smallholder farmers in their locality.		Same as 4
RESILIENCE	Resistance to shocks and stresses and Recovering from shocks and stresses	Increased diversity in farming Increased productivity Increased diversity Increased water use efficiency (incl RWH, water holding, water access, water productivity) Increased livelihood security (food, income) Increased livelihood diversity/options Savings (safety, security, achievement) Increased growing season Collaborative actions/social agency Informed decision making Positive mindsets

Indicator	Questions to ask (group discussions, dialogue, individual interviews)
<b>PROCESS INDICATORS</b>	
<b>Knowledge mediation:</b> Working with information and ideas so that people can understand in their own context (understanding, use and adaptation of information)	<b>What, why how questions</b> What have you learnt and how have you learnt it What information has been useful – (training, sharing verbally, showing, pictures, written information) Information sources... Put is in your own words How can you use it or change it
<b>Resilience</b> Increased diversity in farming Increased productivity Increased diversity Increased water use efficiency (incl RWH, water holding, water access, water productivity) Increased livelihood security (food, income) Increased livelihood diversity/options Savings (safety, security, achievement) Increased growing season Collaborative actions/social agency Informed decision making Positive mindsets <b>Adaptation capacity ?</b> <b>Social responsiveness?</b>	<b>FOR THIS WE NEED A BEFORE AND AFTER SNAPSHOT</b>  <b>SEE THE NEW SNAPSHOT FORM ATTACHED</b>
<b>OUTCOME INDICATORS</b>	
<b>Increased knowledge:</b> Increased understanding of climate change and impacts <b>Adaptation:</b> Reasons for choosing practices (justification) <b>Implementation:</b>	Do you know what CC is. (W/S 1) What is your understanding of CC (W/S 1) Describe impacts of CC (W/S1) How has your understanding changed? What adaptation strategies will help? Within which resource categories (five fingers) (W/S2)+....

<p>-No of practices implemented using five finger principles -Local best bet options, traditional practices</p>	<p>Local/traditional practices in CCA; what are they, do you implement these, why or why not (W/s/ 2 + ..... Choice of practices; group and individual, using five fingers (W/S 3, garden monitoring forms, CA crop growth monitoring +..... Reasons for each choice (W/s/3-matrix +.....</p>
<p><b>Decision making:</b> Community level indicators for choice of adaptation strategies across five fingers</p>	<p>What would success look like? What criteria would you use (from adaptive strategies, through to individual practices using five fingers) How would you observe or measure each criteria/indicator?. Are there changes in how we define success Short medium and long term indications</p>
<p>1. Qualitative and quantitative indicators for increased soil fertility, soil health, water infiltration, water holding capacity, water productivity, increased food production, increased income, increased diversity (no of crops, trees, - incl indigenous) 2. increased RWH practices and storage for productive purposes (no of people, different types) 3. Increased water productivity, water saving, irrigation efficiency 3. Diversity across five fingers (how many people implement how many practices ea) 4. Quality of implementation; how many, how well – assessment of ea practices for how well it works to build <b>resilience*</b>. 5. Social responsiveness; which practices favoured locally with reasons</p>	
<p>1. No of groups, networks, CoPs 2. Stakeholder involvement; meetings, workshops conferences, collaboration 3. Sharing of learning... ?? 4. No of people that know about and use DSS...? 5. Involvement of more people, local expansion, (neighbours)</p>	
<p>1. Membership 2. Joint activities undertaken in local platforms (incl VSLAs (money used for productive activities etc), SBS, farmer centres, joint work, planning and action for communal resource management) – variety of activities engaged in</p>	

	Gardening	Field cropping (Conservation Agriculture)	Livestock management
Finalised and in progress: Measurements?	<p><b>-Tunnels;</b> water productivity, water holding capacity, trench beds, bucket drip kits, cost-benefit (qual and quant)</p> <p><b>-Bed design options;</b> deep and shallow trenches, raised beds, ridges and furrow, eco-circles (qual)</p> <p><b>-Mulching;</b> in different circumstances (qual)</p> <p><b>-Greywater management;</b> tower gardens, ash, bucket filters, (qual)</p>	<p><b>-Diversified cropping;</b> Intercropping, crop rotation, cover crops, crop varieties, drought tolerance (quan, qual)</p> <p><b>-Planting systems;</b> planters, spacing, tramlines, early and late planting, (quan, qual)</p> <p><b>-Weeding;</b> chemical, mechanical</p> <p><b>-Soil and water conservation;</b> fertility (incl liming), health, run-off, infiltration, compaction, water holding, soil cover (quan, qual)</p> <p><b>-Productivity;</b> Yields, biomass, (quan, qual)</p> <p><b>-Livelihoods impact;</b> Food, sales, fodder, financial management, group actions, business development (quan, qual)</p> <p><b>-Value chain;</b> inputs subsidies, cost-benefit, milling, farmer centres, LED (qual)</p>	<p><b>-Fodder crop options;</b> WCC, SCC in CA system – cut and carry, in situ, hay....(qual)</p> <p><b>-Poultry;</b> Chicken tractors, growing feed for poultry, multipurpose breeds</p>