Climate Smart Agriculture: The Challenge

- To address simultaneously three intertwined challenges:
  - Ensure food security through increased productivity & income
  - Adapt to climate change
  - Contribute to climate change mitigation

Climate Smart Agriculture: Defining the Concept

- CSA is defined by its intended outcomes, rather than specific farming practices
  - The agricultural technologies and practices that constitute a CSA approach are, in most cases, not new, and largely coincide with those of sustainable agriculture and sustainable intensification.
  - Under a CSA approach, these are evaluated for their capacity:
    - To generate increases in productivity, resilience and mitigation for specific locations, given the expected impacts of climate change.
Climate Smart Agriculture: Defining the Concept

- It integrates the three dimensions of sustainable development
  - Economic
  - Social
  - Environmental
  - by jointly addressing food security and climate challenges.

- It is composed of three main pillars:
  - Sustainable increase in agric productivity & incomes
  - Adapting and building resilience to climate change
  - Reducing and/or removing GHG emissions, where possible.

Climate Smart Agriculture - Ambition

- Although CSA aims for all three objectives, that does not mean all three can be achieved in every case.
  - In every CSA intervention, it is necessary to consider each of the three objectives
    - at both the local scale and the global scale
    - in both the long term and the short term.
  - But in each location and situation, you will need to weigh up the relative importance of each objective.

Climate Smart Agriculture: Approach

- CSA is an approach to developing the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change.

- The CSA approach is designed to identify and operationalize sustainable agricultural development within the explicit parameters of climate change.

Climate Smart Agriculture – the Approach

- CSA is not a single specific agricultural technology or practice that can be universally applied
  - It is an approach that requires site-specific assessments to identify suitable agricultural production technologies and practices.

Towards Climate Smart Agriculture – The Transition

- Transitioning to climate-smart agriculture requires a transformational architecture of a systematic shift away from business as usual and a comprehensive program for building the adaptive capacity of physical, socio-economic, human and institutional dimensions of farming systems.

- The threat of extreme climatic events devastating farms and destroying productive potential is a wake-up call for Lesotho to look at agriculture through a new lens.
## Climate Smart Agriculture – New Messages

- Agriculture is long overdue for a radical transformation to increase productivity sustainably.
  - Although new approaches are now needed, productivity should remain the overachieving objective for Climate-Smart Agriculture.

- Fundamental changes and investments are required to build adaptive capacity of physical, socio-economic, human and institutional dimensions of farming systems.

- Driving the transition to CSA requires coordinated, large-scale and long-term efforts by multiple stakeholders.

- Farmers urgently need access to productivity-enhancing technologies and practices such as improved soil, water and rangeland management, high yielding and adaptable crop varieties and livestock breeds, nutrient-enhancing inputs, and appropriate mechanization.

- Key areas for investment include innovative finance, partnership-focused research and extension services, timely information services, early warning and other risk-mitigation measures, and a new generation of service-oriented farmer organizations.

## Key CSA Priorities for Farmers: Improving access to productivity-enhancing Technologies and practices

- CSA Issues
  - Improved soil, water and rangeland management
  - Use of high-yielding and adaptable crop varieties and livestock breeds
  - Nutrient enhancement
  - Appropriate mechanization
  - Improved crop and animal husbandry
Key CSA Priorities for Farmers:
Improving access to productivity-enhancing technologies

- Key CSA Issues
  - Moisture stress is a key constraint on crop performance, and climate change is worsening this hazard.
  - Farmers urgently need high-yielding varieties that are tolerant to drought and retain important nutritional, taste, and storage qualities despite elevated carbon dioxide and temperature levels.
  - Practices that improve soil health and water management to conserve available moisture are also crucial responses to the climate challenge.

Climate Smart Agriculture in Practice

- Responding to climate change does not mean throwing out everything we have learned about agriculture and rural development, or having to re-invent entirely new solutions.
  - In fact, CSA shares the objectives and guiding principles of well-known approaches to agriculture such as:
    - Sustainable intensification
    - Ecosystem management
    - Landscape management
    - Conservation agriculture
    - Agro-ecology, eco-efficiency, and green economy
  - However, CSA builds on these approaches by addressing wider challenges with a clearer focus on climate risks and food security.

Climate Smart Agriculture in Practice

- Climate-smart approaches entail a greater investment in:
  - Managing climate risks e.g. by investing in land management that decreases flood and erosion risks, or in financial services that help farmers recover from weather shocks.
  - Understanding and planning for adaptive change e.g. by providing extension services to support smallholders change from one farming system or livelihood to another.
  - Reducing or removing GHG emissions wherever possible – e.g. by raising finance to support and reward low-emission agricultural development strategies.

Climate Smart Agriculture in Practice

- So we can think of CSA as a process:
  - We know that we must do something different from what we have done in the past.
  - While we have some insights and good examples of success,
    - new scientific approaches and insights are needed to provide further guidance to policy makers and farmers.
  - So CSA informs decisions and practices both on-farm and beyond the farm – in research, technology, policy making and finance.

Climate Smart Agriculture in Practice

- CSA is a holistic concept that brings together a number of agricultural development objectives, as well as other global development objectives, covering environmental, social and economic issues.
  - CSA talks to a particular set of farming practices, an approach to doing agriculture differently, but it is not just about those practices – it is about much more: in particular and very importantly, it is about the process of transforming the support environment for farmers.
  - CSA is those practices, technologies, tools, policies, partnerships and support services required by farmers to sustainably increase productivity, improve the resilience of their production systems, and reduce emissions.

Climate Smart Agriculture in Practice

- CSA highlights the need to coordinate activities between stakeholders and institutions that might not have a history of working together.
  - Successful interventions require a unified collaborative effort with strong links and information flows between:
    - The private sector (farmers adapting to new practices)
    - The financial sector (credit for investment in new practices)
    - Government (policies on rural credit, subsidies and incentives, input and output pricing, tenure, extension and safety-net programs)
    - Research and extension (locally-relevant information on climate change, new technologies and adaptation options)
  - Thus, CSA involves bringing farmers, scientists, policy makers and others together in a sustained process to identify and refine fruitful actions, with confidence that these integrated efforts will be productive over time.
Climate Smart Agriculture: Technologies and Practices

- The most valuable CSA approaches are those that can demonstrate multiple benefits among the three main CSA objectives.
- These projects are likely to attract the most development assistance and international public finance for scaling up.

The Impacts and Benefits of these approaches

<table>
<thead>
<tr>
<th>Approach</th>
<th>Primary Impact</th>
<th>Multiple Benefits</th>
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</thead>
<tbody>
<tr>
<td>Maximum use of natural Processes and ecosystems</td>
<td>Maintained and enhanced groundcover</td>
<td>Yields, Profit, Climate resilience, Emissions reduction, Local pollution reduction</td>
</tr>
<tr>
<td>Less external inorganic Inputs and waste</td>
<td>Healthy soil that can retain nutrients and moisture</td>
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<tr>
<td>Diversity and proportionality of production</td>
<td>Enhanced biodiversity</td>
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<tr>
<td>Mixture of traditional &amp; new technologies</td>
<td>Multi-seasonal In-situ water storage</td>
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The Tried & Tested Practices

- Terracing: prevents soil loss through erosion and water flooding, and thereby loss of soluble nutrients, while allowing water retention.
- Minimum or zero tillage, coupled with crop rotation and the application of manure, compost or mulching, and the fallow system can improve soil structure and fertility and build up organic matter in the soil and its water-holding capacity.
- Adding manure to the soil supports a mixed system of livestock/crop production that diversifies risk across different products.
- This also requires a system of crop rotation—production of both food crops and fodder crops—which reduces risk at the farm level and often improves family nutrition.

The Tried & Tested Practices

- Agroforestry is another integrated system that combines trees with agricultural crops and/or livestock.
  - The trees can be a source of income, timber, firewood or fodder depending on the species.
  - They can also serve to improve soil quality through nitrogen fixation (if they are legumes) and capture nutrients from deep in the soil (making them available through leaf litter), in addition to creating a more favourable microclimate.
- Better management of grazing land can increase soil carbon content and productivity.
  - Rotational grazing, or a combination of grazing and stall feeding with fodder crops, can result in increased productivity in the livestock sector, combined with a buildup of carbon stock in the rangelands.

Key CSA Priorities for Farmers:

- Improving access to productivity-enhancing technologies
- Appropriate mechanization of production systems to improve efficiency and reduce drudgery has been a pipe dream for the majority of farmers.
- The hand-hoe remains the most dominant tool across despite rapid technological advances almost every other sector.
- The intense manual labour associated with farming and its limited commercial orientation have no doubt earned the sector negative perceptions, especially among youth.
Prospects of a transition to climate-smart agriculture are bleak without significant improvements in access to labour-saving and productivity-enhancing innovations in agricultural production systems.

Although raising productivity alone is not sufficient to support CSA in the long term, it is low-hanging fruit and will go a long way in delivering immediate and substantial socio-economic and environmental benefits that are necessary for building a resilient agricultural system.

A series of complementary support systems are required, however, to build and sustain CSA.

### Key CSA Priorities for Farmers: Transforming farmer support services

#### Reorienting research services
- The gap between research priorities and farmers’ needs will have to be narrowed considerably if CSA is to take off on the continent.
- Action research and farmer managed research trials must become the norm rather than the exception in agricultural research.
- Co-creation of knowledge with farmers should be a top priority, moving away from traditional top-down models of disseminating information that farmers had no role in generating.

#### Reorienting Extension /Advisory Services
- State-led extension approaches have largely failed across the continent, with catastrophic consequences for farmers.
  - Inadequate budgets,
  - A lack of sufficiently motivated personnel in required numbers
  - A lack of depth in technical practical matters
- The scale of challenges brought by climate change requires that these shortcomings be confronted head-on.
  - Innovative and more cost-effective extension models
  - These new models should facilitate greater involvement of the private sector, farmers’ organizations and farmer-to-farmer exchanges.
Key CSA Priorities for Farmers:
Transforming farmer support services
- Information systems, early warning & other risk mitigation measures
  - Geographical and infrastructural limitations present major challenges in the development of efficient and cost-effective information systems for supporting farmers
  - However, the explosion of cellular technology into rural communities a game changer in recent efforts to develop next-generation platforms for connecting farmers with information and financial services.
  - The full potential brought ICTs need to be fully exploited to improve access to a range of information services, including weather-related data and warnings.

Issues in Community Based Adaptation Planning

<table>
<thead>
<tr>
<th>Planning Parameters</th>
<th>Aspects of the Issues</th>
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</thead>
<tbody>
<tr>
<td>Local Capacity</td>
<td>Participation&lt;br&gt;Nature of Resource Base&lt;br&gt;Local Governance</td>
</tr>
<tr>
<td>Economic Factors</td>
<td>Nature of Resource Base&lt;br&gt;Markets</td>
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<tr>
<td>Management</td>
<td>Local Governance&lt;br&gt;Adaptive Management&lt;br&gt;Planning and Planning Process&lt;br&gt;Vertical and Horizontal Integration&lt;br&gt;Learning and Diffusion</td>
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Issues in Community Based Adaptation Planning

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<th>Aspects of the Issues</th>
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</thead>
<tbody>
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<td>Politics and Policy</td>
<td>Tenure (Rights of access, Degrees of rights)&lt;br&gt;Framework (Policy, Legislation, Institutions)</td>
</tr>
<tr>
<td>Resource base</td>
<td>Nature of Resource Base&lt;br&gt;Competing Land Uses&lt;br&gt;Conservation&lt;br&gt;Adaptive Management</td>
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Issues in Community Based Adaptation Planning

<table>
<thead>
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<th>Planning Issues</th>
<th>Aspects of the Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outsiders</td>
<td>External Inputs (Funding, Technical Support, Training)&lt;br&gt;Planning and Planning Process</td>
</tr>
<tr>
<td>Cross cutting issues</td>
<td>Participation&lt;br&gt;Incentives</td>
</tr>
<tr>
<td>Stand alone issues</td>
<td>Community Conservation&lt;br&gt;Protected Areas</td>
</tr>
</tbody>
</table>

Resources Affecting Adaptive Capacity

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<thead>
<tr>
<th>Human Resources</th>
<th>Knowledge of climate risks, conservation agriculture skills, good health to enable labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Resources</td>
<td>Women's savings and loans groups, farmer-based organizations, traditional welfare and social support institutions</td>
</tr>
<tr>
<td>Physical Resources</td>
<td>Irrigation infrastructure, seed and grain storage facilities</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>Reliable water sources, productive land, vegetation and trees</td>
</tr>
<tr>
<td>Financial Resources</td>
<td>Micro-insurance, possible diversified income sources</td>
</tr>
</tbody>
</table>
Planning Factors that influence vulnerability to climate change

Institutional Factors
- Informal skills, local knowledge, informal education
- Skills and technology
- Informal networks
- Formal security networks
- Strength of local institutions

Economic Factors
- Labour
- Health
- Access to natural resources
- Access to communal natural resources, in particular biodiversity
- Access to alternative economic opportunities

Environmental Factors
- Risky environments
- Degraded environments
- High dependence on climate-sensitive sectors
- Natural resources
- Communal lands and resources

Adaptive Capacity Indicators

Asset Base
- The various financial, physical, natural, social, political and human capitals necessary to best prepare a system to respond to a changing climate.
- This category incorporates the importance of various capitals, often informal, non-monetary and reliant on various social networks.

Institutions and Entitlements
- The ability of system to ensure equitable access and entitlement to key resources and assets is a fundamental characteristic of adaptive capacity.
- Given that entitlements to key resources needed to adapt can be differentiated along age, ethnicity, class, religion and gender (to name but a few), an institutional environment that allows equitable opportunities to all groups, particularly the marginal, and most vulnerable to the impacts of climate change is essential to building the capacity to adapt.
- Representation and participation in key institutions is also emphasized to enable equitable distribution of resources
- Access to key resources, participation in the decision-making process, and empowerment are key elements of the characteristic.

Knowledge and information
- Successful adaptation requires information and understanding of future change, knowledge around adaptation options, the ability to assess them, and the capacity to implement the most suitable interventions.
- In the context of climate change it is important to ensure that systems are in place to distribute relevant information at both community and scales.
- In addition, forums for dialogue and discussion amongst all stakeholders must be made available.

Innovation
- A key characteristic of adaptive capacity relates to the system's ability to support innovation and risk taking.
- Innovation can be
  - Planned, high-tech orientated, and geared towards large scale innovations;
  - Autonomous, local-level initiatives that help innovate or adapt to changes to the local climate.
- An enabling environment that promotes and allows for experimentation and the exploitation of niche solutions is required to take advantage of new opportunities and to confront challenges presented by climate change.
- The environment also needs to protect against risks of failure associated with innovation

Governance
- Informed decision-making, transparency, and prioritization each form key elements of adaptive capacity.
- Ensuring that local organizations are informed on future climate impacts and take appropriate measures to plan for the future.
- Similarly, flexibility to allow for systems, and the institutions that govern them, to evolve and adapt to a changing environment is a crucial characteristic of adaptive capacity.
Community Based Adaptation –
Context of Your Project

- Test the efficacy of the Local Options for Communities to Adapt and Technologies to Enhance Capacity (LOCATE) methodology
- Develop a tried and tested methodology for setting baselines, monitoring and evaluating changes in climate adaptation capacity
- Reduce the vulnerability and enhance the capacity to adapt to climate change of particularly vulnerable communities in the three districts

Concluding Points

- Create space for a direct and practical involvement of communities in conservation and rural development initiatives
- The devolution of power from central government to communities recognized by policy and law
- The establishment of mechanisms to ensure the provision of tangible benefits for communities from conservation initiatives
- Capability of replication and diversification to other sectors beyond wildlife

Ha u ea koti u sielemao: Banana ba koti ba tla u qhoaela
Appendix 2
Department of Agricultural Research
Best CSA Practices

Best CSA practices

- Conservation Agriculture
- Use of improved germplasm
- Water harvesting technologies
- Keyhole gardens
- Use of legumes to improve soil fertility
- Planting dates and spacing
- Improving the effectiveness of pest, disease, and weed management practices through wider use of integrated pest and management
- Intercropping
- Fodder production and high density grazing

Conservation Agriculture

Conservation agriculture (CA) is underpinned by three basic principles:

- Soil disturbance is minimized by reduced or zero-tillage;
- The soil is kept covered with organic materials (crop harvest residues or cover crops) – at least 30% soil cover; and
- Crop rotations/associations are used.

Conservation Agriculture (Machobane farming system)

- Farmers’ resource base (land, livestock, labour, household by-products) used to establish intensive inter-cropping by growing several crops simultaneously or in relay in the same field
- The household “waste” produced by a typical family (mostly ash, up to 2 tons per annum) and FYM (1 - 2 tons per annum) is sufficient for 1 acre of land using localised placement techniques
- Intensive cropping of one acre of land is sufficient to grow enough, for home consumption and sale, to ensure sufficient food for the family (grown or purchased with the earnings of surplus crops, sold so as to meet consumers’ preferences)

Conservation Agriculture (Machobane farming system)

- Continuous intensive cropping, with appropriate incorporation of organic matter and ash in the soil, offers a further, synergistic, means of enhancing soil and moisture conservation
- Pest control is best carried out by traditional methods, including local concoctions, local practices, and understanding of pest biology
- Multiple cropping will substantially reduce farm income fluctuations, through a combination of lowering yield fluctuations of individual crops, and spreading risk of fluctuations in yields and prices by planting a range of crops simultaneously
Use of improved germplasm

Yield = G (genotype) X E (environment) X M (management)

It is important that the farmer uses the crop planting materials best adapted to the particular farm in terms of adaptation to the local environment (soils, climate); and resistance to pests and diseases

Drought tolerant or short maturing to adapt to late onset of rainfall

Water harvesting technologies

- Ex-field water harvesting
- In-field rain water harvesting (Basin tillage)

Keyhole gardens

All year round cultivation of leafy vegetables
Easy to manage

Use of legumes/green manure to improve soil fertility

- Legume plants convert atmospheric N\textsubscript{2} into mineral N by biological fixation
- Green manure legumes must yield at least 2 t/ha dry matter or roughly 50–60 kg N/ha – which is likely to give an extra 1 t/ha of grain in the following cereal crop, to take into account the potential loss of land productivity.
- The greater the biomass produced, the larger the inputs from N\textsubscript{2}-fixation – so the soyabean varieties, or the creeping varieties of beans and cowpea leave behind the most N.

Planting dates and spacing

- **Planting date:** A delay in planting date usually affects yields negatively, particularly where the growing season is short. Planting date should be selected based on knowledge of the onset of the rainy season. We need short maturing varieties.
- **Spacing:** When crops are planted together, they compete with each other for nutrients, light, and water. Appropriate planting densities, expressed as number of plants per hectare need to be adjusted for different environments and these are often reduced when rainfall and soil fertility conditions are suboptimal.
Pest and disease management

Pests and diseases must be controlled at specific crop growth stages. Treated seed should be used where there is a risk of pest attack in the seed bed. In many crops, pest and disease control will be required, usually between flowering and pod or grain filling. Failing to do so will result in an unhealthy crop that will use nutrients and water inefficiently.

Intercropping

- Intercropping arrangements need to take into account the specific growth features and needs of the individual crops to minimize intercrop competition. Sometimes the planting of one of the intercrops is delayed to minimize competition.
- Whilst beans can be intercropped with maize effectively at normal maize spacing, the maize spacing should be increased (i.e., fewer plants per ha) when intercropped with cowpeas or soybeans, which requires relatively more space compared with beans.
- Specific crop management practices in intercrops need to be adapted to the needs of each crop in terms of spacing, nutrient management, relative planting dates, or pest and diseases control practices.

Fodder production

- Very important for nutrient recycling and restoration of degraded land
- Enhance complementary or stall feeding

High density rotational grazing (Oa senkhome)

- Paddock rotational grazing in concentration camps
- Groups of livestock are limited to a clearly defined area using fencing to prevent them from preventing selective grazing.
- They trample on plant residues, breaking down dead plants mixing it into soil with urine and faeces to facilitate decomposition and fertility of the soil. New growth becomes vigorous and dense

Conclusion

- Policy environment
- CSA investment plan available and needs workplans that can be financed by GoL and NGOs
- Proper extension manuals

Thank you
Appendix 3
CSA SADP Experiences

Table of Contents
- Background information on LASAP/SADP
- CSA Component 1 & 2 LASAP
- CSA SADP 11
- Menu for CSA Technologies

LASAP PROJECT SUMMARY
Project Objective: To increase the resilience of small-scale agriculture to climate change impacts by promoting climate-proofed investments for agriculture-based development, as well as by enhancing the resilience of agricultural productivity under increased climate variability.

Start Date: 2019
End Date: 2021
Project Cost (in USD): 4,330,000.00
Grants Total: 121
Coverage: Seven districts

Component 1: Reduced Vulnerability of Agric Production
DAR in collaboration with PFD/DCSO conducted on farm Demonstrations & Trials by districts with the intention of evaluating new varieties with particular focus on climate adaptability and drought resilience.

2018/19 cropping season
- Butha Buthe: Maize
- Leribe: Beans
- Berea: Sunflower
- Mafeteng: Sorghum
Field days were conducted with 150 farmers attending, Butha Buthe and Berea

2019/20 cropping season
- Leribe, Berea: Beans
- Leribe, Berea: Sunflower
- Mafeteng, Quthing: Sorghum
- Mafeteng, Quthing: Wheat
- Butha Bothe, Quthing: Potatoes
- 7 Old Districts: Tomatoes
- 7 Old Districts: Green Peppers
Component 2: Enhanced adaptive capacity to support Agric production in the context of climate change

a) Provision of reliable water

b) Farming under protected land

c) Drip irrigation (both tunnels and shade nets)

d) Climate adaptive varieties and improved breeding stock

Component 1: Scaling up CSA Practices and Advisory Services

- Capacity Building for adoption of CSA practices
- Support for investments in CSA Technologies
- Support for establishment of Lesotho Soil Information System
- Establishment of State-of-the-art laboratory
- Construction of fertilizer blending facility
- Support to irrigation sector
- Irrigation schemes (old vs new)
- National Irrigation Master Plan
- Support development of Irrigation Policy (Draft)
- Integrated Climate, Weather and Market Advisory Services

Menu for CSA Technologies

<table>
<thead>
<tr>
<th>Technologies</th>
<th>Productivity</th>
<th>Resilience</th>
<th>Mitigation</th>
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<tr>
<td>Improved and stress tolerant varieties</td>
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<tr>
<td>Nutrient dense crops</td>
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<td>Drought resistant varieties</td>
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<td>Heat resistant</td>
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<td>Pest and disease resistant varieties</td>
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<td>Germplasm collection, characterization</td>
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<tr>
<td>Technologies</td>
<td>Productivity</td>
<td>Resilience</td>
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<tr>
<td>Conservation Agriculture (CA) and Integrated Soil Fertility Management</td>
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<tr>
<td>CA (basin, cover crops and minimum tillage)</td>
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<td>Crop rotations</td>
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<td>Mulching and green manure</td>
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<td>Intercropping</td>
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<td>Contour ploughing</td>
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<td>Soil testing and fertility management services</td>
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<td>Soil testing based inorganic fertilizer application</td>
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<td>Drip irrigation</td>
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<td>Infiltration wells to improve recharge while reducing erosion</td>
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<td>Implementation of protective ditches, irrigated sites and production against floods</td>
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<tbody>
<tr>
<td>Agroforestry</td>
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<td>Promoting sustainable tree species</td>
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<td>Fruit tree cultivation</td>
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<td>Tree nursery or individual</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Windbreaks, hedgerows, enhanced clearing, live hedges</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Kea leboha!
Appendix 4

CCARDESA Mobile Application

Aim of Presentation
- Overview of CCARDESA and ICKM
- Objectives of the Mobile App
- Overview of app development process
- Progress to date
- Next steps

BACKGROUND
- CCARDESA established in 2010 by SADC Member States by Ministers of Agriculture
- It was launched in 2011
- Offices are based in Gaborone, Botswana
- Is governed by a board of Director
- The Current Executive Director is Dr Cliff Dlamini

CCARDESA Regional Mandate
- Coordinate implementation of R&D progs.
- Facilitate collaboration & partnerships among NARs & CG, PPP in agriculture Research &Development
- Training and capacity building
- Empower and strengthen farmers and their organisations or groups
- Facilitate development of sustainable education, training and learning systems
- Consultation and exchange of scientific and technical info. on best practices in agric.
CCARDESA ICKM System

Lesotho ICKM National Focal Point Person

Objectives of the App

- Provide off-line access to knowledge products and technical briefs
- Learning about climate change and agriculture
- Connect stakeholders
- Expand reach to extension officers

Development Process

- Initial discussions with CCARDESA, ICKM regional community of practice and beyond
- Idea for a mobile app to complement new website and knowledge hub

Concept

- Mobile application
- Android/iOS
- App download & installation
- Content managed from website
- Simple interface
- Faceted search to access KPs/TBs
- Quiz – modules, so new quizzes can be added
- Directory (updated when online)
- Discussion forum (updated when online)
Functions

- Home page
- KP/TB search/filter system
- Quizzes
- Member Directory
- Discussion forum
- Registration
- Content management

FUNCTIONS

- Quiz
  - Thematic quiz access
  - Add new quizzes
- People
  - Directory of stakeholders, with contact information
- Discuss
  - Access to online discussion forum
- Learn
  - Access to knowledge resources

Main Screen

Main Screens

Knowledge Product Access
Directory

Available on Google store

Apple App Store
https://apps.apple.com/bw/app/ccardesa-mobile-learning-app/id1496134876

Next steps
• Include more quizzes
• Expand directory through registrations
• Seek feedback
• Updates in Version 2.0
Thanks:

CCARDESA

german cooperation

mindq
your vision, simplified
GENDER ACTION LEARNING SYSTEM WORKSHOP
DEFINITION

• GALS (Gender Action Learning System) is a community-led empowerment methodology that uses principles of inclusion to improve income, food and nutrition security of people in a gender-equitable way.

• It positions women and men as drivers of their own development rather than victims, identifying and dismantling obstacles in their environment, challenging service providers and private actors. It has proven to be effective for changing gender inequalities that have existed for generations, strengthening negotiation power of marginalized stakeholders and promoting collaboration, equity and respect between value chain actors.
METHODOLOGIES IN GALS

1. Vision Journey
2. Challenge Action Tree
3. Mother Diamond
4. Gender balance Tree
5. Social Empowerment Map
6. Multilane Highway
VISION JOURNEY

STEP 1: Vision

Personal and household visioning, situation analysis and action plan

STEP 2: Current situation

Step 4: targets... and actions

STEP 3: Challenges

STEP 3: Opportunities

STEP 4: Implementing the behaviour changes and actions

STEP 1: Monitoring progress towards achieving the vision

Attaining targets and visions, reviewing and re-visioning, sustaining the use of GALS
Challenge Action Tree

Step 1 Trunk: symbol for win-win or for a collective challenge that multiple stakeholders face

Step 2 Main roots: challenges affecting multiple stakeholders. One root for issues related to Production, one for Gender, one for Marketing

Step 2 Lateral roots: challenges specific for one stakeholder

Step 3 Main branches: solutions that require collaboration or partnerships between actors

Step 3 Lateral branches: solutions that require one specific stakeholder group

Step 4 Fruits: SMART action commitment by stakeholder groups
MOTHER DIAMOND

In plenary the men and women then build together a ‘Mother Diamond’ with discussions of the different perceptions as they merge the men’s and women’s diamonds. The analysis of the mother diamond reveals the deeply held gender beliefs rooted in religion and culture through socialization. Thus heated debates usually ensue highlighting the gender gaps. Through role plays and role reversals and discussions the issues of property ownership, division of labour/workload, poverty, domestic violence, polygamy and promiscuity and alcoholism usually emerge.
The Gender Balance Tree therefore used to analyze who contributes most of the household work and who benefits most from the income generated by the household. The tool is intended to increase participant awareness of who benefits most from the household income and the inherent gender inequalities in workload in relation to ownership and control of assets as well as decision making and authority. And based on that identify what they want to change.
The Social Empowerment Map is a tool that seeks to empower farmers by analyzing their relationships with other stakeholders that they interact with at the community level and within the Livestock or whatever value chain they are working in. In this exercise the farmers put themselves in the middle and identify all those around them and the nature of their relationship in terms of power, social/emotional (love) and economic (money).

These three factors determine how close and strong the relationships are (shown by different coloured arrows where thick arrows depict strong relationships and thin or even dotted ones weak relationships, while double arrows depict mutuality and single ones the direction of benefit or lack thereof) This process begins to identify relationships that are strong and must be kept or weak relations that affect one’s business and needs nurturing.
MULTILANE HIGHWAY

The Multilane highway combine the business plan as the top lane, the household gender issues as the middle lane and the social empowerment issues as the bottom lane. The top business lane links with the value chains as vision holders identify what livelihood systems they have comparative advantage and make more business sense to their circumstances. The 3rd lane naturally links the household to the collective as there are certain things that need a critical mass to achieve such as taming a market. A farmer acting singularly will fail to make an impact in the market where economies of scale are the way to go. Issues like labelling are a case in point where the power of the collective is paramount.
THE GALS ROLL-OUT

1. The Master catalyst Training: people are introduced to GALS methodology, it challenges them to confront practical gender issues.

2. Selection and training of peer trainers: Peer trainers are selected from the community and are expected to implement what they have learnt in their communities using action learning.

3. Action Learning: The peer trainers coach fellow community about the methodology and the steps.
THANK YOU!!!!