

Report on the Sustainable Intensification of Maize-  
Legume Based Cropping Systems for Food  
Security in Eastern and Southern Africa  
(SIMLESA) 5<sup>th</sup> Annual Review and Planning  
Meeting

16-19 March 2015

Rainbows Tours, Harare, Zimbabwe

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## **Executive Summary**

From 16-19 March 2015, the Sustainable Intensification of Maize-Legume Based Cropping Systems for Food Security in Eastern Africa (SIMLESA) organized a review and planning meeting in Harare, Zimbabwe, with the objective of utilizing and building upon the results of the project's phase (2010-2013), to produce a work plan, and to get feedback about the plans formulated from partners.

About 120 SIMLESA partners, stakeholders and invited guests met to review activities to date and to plan for the 2015/2016 season. The second phase of the project (2014–2018) started in July 2014. Like Phase I, it is funded by the Australian Centre for International Agricultural Research (ACIAR) and managed by CIMMYT.

National Research Systems (NARS) project partners from SIMLESA's core countries (Ethiopia, Kenya, Malawi, Mozambique and Tanzania) and spillover countries (Botswana, Rwanda and Uganda), attended this 5th Annual Review and Planning Meeting. Representatives from the Queensland Alliance for Agricultural and Food Innovation, the International Center for Tropical Agriculture, the International Livestock Research Institute (ILRI), International Crops Research Institute for the Semi-Arid Tropics and CIMMYT scientists from Africa and Mexico also attended the event-filled meeting.

Other participants included SIMLESA's Project Management Committee, Project Steering Committee, donor representatives and senior Zimbabwe government officials.

The meeting was officially opened by Mr. Ringson Chitsiko, Permanent Secretary, Ministry of Agriculture, Mechanisation and Irrigation Development, Zimbabwe. He said the project had targeted increasing farm-level food security and productivity in response to the effects of climate risk and change. In addition, SIMLESA served as a model to many regional and subregional collaborative projects on agricultural intensification.

"In this respect, the challenge to NARS to develop agricultural technologies, information and knowledge that sustainably increase agricultural productivity, is very high," said Chitsiko, adding that as government institutions, NARS from the different SIMLESA countries should play a critical role in integrated agricultural

research and development. Chitsiko cited food production, economic growth and sustainable intensification as major avenues to unlocking Africa's agricultural development opportunities. "Sustainable intensification of maize and legumes will increase resources productivity as well as reduce production risk," he said.

Through the SIMLESA Project, smallholder farmers practice sustainable intensification principles, such as zero or minimum tillage, maize-legume intercropping, maize-legume rotations, growing new maize and legume varieties and appropriate fertilizer use.

The project has tested promising smallholder maize-legume cropping systems, attempted to increase the range of maize and legume varieties available for smallholders and facilitated strong capacity building for agricultural research partners, among other achievements.

Dr. Mulugetta Mekuria, SIMLESA Project Leader, said the second phase of SIMLESA would complement the achievements of the first phase (2010-2014), especially by scaling out good agricultural practices. Mekuria shared the objectives of the project's second phase, including the continuation of the original 10-year vision with ambitions to sustainably improve maize and legume productivity of selected maize-based farming systems in each target country by 30 percent from the 2009 average, and reduce the expected downside yield risk by 30 percent for approximately 650,000 farm households. "We will also strengthen innovation platforms where farmers and agribusinesses have a platform to share market information, agronomic practices and other technologies," Mekuria said.

At the four-day meeting, national coordinators from the five countries gave an overview of SIMLESA I products. Leaders of each of the four thematic areas highlighted the major changes to each area in SIMLESA II. Cross-cutting areas such as gender mainstreaming and communications were also highlighted as crucial to the success and impact for SIMLESA II. Participants streamlined their work plans and aligned them to country priorities, which were linked to country financial budgets.

# Meeting Sessions

## Day One: 16 March 2015

### Setting the Scene

In the first session of the meeting, there were a number of activities to help set the stage. The meeting kicked off with an overview of SIMLESA and expected outputs of the 5<sup>th</sup> Annual Review and Planning Meeting (ARPM) and the Project Steering Committee.

Dr Mulugetta Mekuria, SIMLESA Project Leader, centered on “What is Good-Difficult and Different? In SIMLESA 2 work. He gave a brief profile of the program. The ACIAR-funded SIMLESA program launch and planning was convened to plan for the implementation of SIMLESA II in Ethiopia, together with other partners such as CIMMYT and CIAT.

He said the SIMLESA program implementation was being implemented by CIMMYT jointly NARS partners, with a financial grant from ACIAR (Phase 1 -2010 to 2014) and phase 2 (2014 to 2018).

The program’s regional and international partners include ICRISAT, QAAFI, ARC, ASARECA, and MU. The second phase includes CCARDESA, ILRI, and CIAT.

SIMLESA I had gathered collective experience, produced the 2012 mid- term review report, held the third and fourth annual review planning meetings as well as a project steering committee meeting to inform the planning of SIMLESA II.

Phase I of the program has empowered the National Agricultural Research Stations (NARS) in making important decisions regarding the program, build the capacity of the NARS to execute programs (programming, scientifically and financially).

As a result of its achievements, SIMLESA is being considered as a model project among government and the donor community. The4 program has also participated in various regional and international conferences to advance its agricultural for development objectives.

Dr Mekuria said SIMLESA is being institutionalized into NARS strategies especially the adoption of SIMLESA approaches into their operational models such as the agricultural value chain analysis, innovations platforms, gender mainstreaming and M&E institutionalization.

In SIMLESA 2 the program was banking on its successes in conservation agriculture-based cropping systems which had raised productivity increasing technologies, NARS ownership of program work and capacity building.

Challenges in implementation were highlighted as CA-based sustainable intensification in integrating other disciplines; risk reducing innovations and research designs, scaling out and business engagement (except maize seed), and M&E which supports management.

The overall objective of SIMLESA II is the continuation of the original 10-year vision by the year 2023: to sustainably improve maize and legume productivity of selected maize-based farming systems in each target country by 30 percent from the 2009 average and to reduce the expected downside yield risk by 30 percent on approximately an additional 650,000 farms in the SIMLESA countries.

## **SIMLESA II has the following elements:**

The combination of innovations with the aim to increasing productivity and profitability, reduce downside production risks, enhance sustainability and strengthen innovation platforms/systems.

SIMLESA II implementation period is 2014 to 2018 with the following implication: continuation with adjustment to 1<sup>st</sup> phase (2010-13) to build on SIMLESA-I achievements and lessons/feedback with the aim of strengthening multi-disciplinary field teams, targeting, and scaling-out; refocus some research and capacity building and phase down on completed research.

SIMLESA 2 would be different from SIMLESA I and changes would include the following:

Broader technological focus with the core thrust on Conservation Agriculture (CA)-based sustainable intensification, system orientation- from plot to farm, impact orientation-adoption, impact pathways, value chain linkages; partnership and scaling up/out and the management of competitive and commissioned grants.

There are several capacity building opportunities in SIMLESA II, such as:

- Training of at least 100 professionals on CA-based sustainable intensification, provided to build and enhance capacity of national and regional programs,
- Train 50 trained professionals on gender mainstreaming,
- Train 25 professionals on seed systems,
- Train 10 research managers,
- Train 50 extension and scaling out professionals,
- Opportunities to access competitive Australian PhD scholarships and ARC supported MSc. and PhD scholarships.

SIMLESA II will use lessons learned from SIMLESA I. These are the following:

- Integrating value chains activities with technologies,
- capacity building and local policy analysis,
- Use of innovation platforms;
- Consult women during project design and implementation and understand the incentives of all chain members and value chain dynamics within the broader market and trade context.

In SIMLESA II there some new activities that would be implemented differently, such as:

### **Objective I:**

The objective will make use of the rich and comprehensive data set available. The objective will no longer be a socioeconomics "silo" but will be multidisciplinary. Typologies to be used for targeting purposes will also be introduced to evaluate developed SIMLESA options. The objective will implement the value chain analysis and market studies for farmer- market linkages and agribusiness development. In addition, objective I will adopt and monitor results to influence technology development and feed back to objective 2 and 3.

## **Objective 2:**

Fine tuning of current options and new areas of research by all and not just agronomists. The program is expected to:

- revisit on station and on farm exploratory trials- numbers and sites;
- package options for scaling out – objectives 1, 3 and 4;
- Produce case farms studies;
- going from plot to farm scale; and
- Facilitate CIAT and QAAFI to collaborate on country specific soil science research

## **Objective 3:**

Making available more new and resilient varieties of maize and legumes. There will be no more breeding as both legumes and maize breeding has a heavy investment by BMGF. The objective will help the program:

- refine the seed road maps per country;
- strengthen seed companies;
- to have more emphasis on legumes by strengthening the informal seed sector and capacity building

## **Objective 4:**

This is now a new standalone objective. It is no longer a refugee under objective 2. There is a competitive grant for scaling out with current and new scaling out partners. The objective will strengthen and use agricultural innovative platforms (AIPs) for scaling out, and work with agribusinesses to facilitate scaling out. Another area of focus for the objective would be measuring and documenting scaling out experiences and lessons. At the conclusion of ACIAR funding in 2018, the program would have reached 650,000 households in the five core SIMLESA countries and the three spillover countries.

## **Objective 5:**

Strengthened capacity building on specific country needs. This includes:

- on the job training, including online training by QAAFI;
- the development and production of a gender strategy for SIMLESA II;
- communications office on board from 1<sup>st</sup> September 2014;
- M and E officer under recruitment;
- Two QAAFI scientists based in Harare (Zimbabwe) and Addis Ababa (Ethiopia);
- improved program management and governance in place for SIMLESA II ; and
- strict and regular reporting by all partners.

However, Dr Mekuria said the road to SIMLESA success would not be smooth. Therefore, there was a great need to sustain the achievements of SIMLESA I. But this would be more difficult as SIMLESA 2 had fewer resources than SIMLESA I although more activities were to be implemented in the new phase. SIMLESA 2 will coordinate a multi stakeholder program facing challenges in the area of limited capacity by partners to implement new areas of research and managing competitive grants and commissioned research. In addition, the program would be expected to get trust based data access, share policy issues and reach out to 650, 000 households.

## Plenary Session 1: Sustainable Intensification- Benefits to farmers and scaling out through impact pathways: The Bigger Picture

**Presentation 1:** Sustainable Intensification Practices (SIPs) agronomic performance: Evidence from SIMLSA 1: Presented by George Ayaga

### 1.1.1 Objective 2: log frame and outcomes- Presented by Dr Ayaga

Dr Ayaga asked the participants on what they perceived as changing in objective 2 (From SIMLESA 1 to SIMLESA 2).

He added that the program was planning on ways to build on Phase 1 achievements to support Phase 2 research objectives.

Dr Ayaga made comparisons of the two phases, as:

PHASE 1	PHASE 2
To test and develop productive, resilient and sustainable smallholder maize-legume cropping systems and innovation systems for local scaling out	To test and adapt productive, CA-based intensification options for sustainable smallholder maize-legume production systems

The innovation systems and local scaling out component was shifted to objective 4.

In phase 1, objective 2 had the following outputs:

1. Options for systems intensification
2. Develop functional local innovation systems
3. Evaluations of exploratory trials and characterization
4. Adjustments to the maize-legume systems
5. CA systems incorporated into farmers own fields
6. Farmer learning facilitated through exchange/study visits

Phase 1 strategy focused on a number of activities, including farmer consultations and agreement on treatments; farmer field days; on –station trials and community awareness of agricultural interventions.

The following were the key issues emerging from the implementation of the first phase:

- Difficulties experienced in implementing all three principles: components, stepwise adoption.
- Labor savings from CA were generally the key benefit especially in herbicide assisted systems.
- Yield benefits were the most apparent from rotation systems.

- Yield increases were not apparent in some situations especially waterlogged soils.
- There were diseases in some maize varieties and environments under CA.
- No significant improvement in soil properties in the short term (currently, 3-4 years).
- Advantages of CA in soil moisture improvement was established
- Residue availability is one of the main concerns in mixed crop-livestock farming systems and termite prone environments.
- Weeding: labor cost, Nitrogen fertilizer availability, water conservation, herbicides, and farm mechanization challenges.

Phase 2, has, therefore, the following outputs:

- Annually evaluate 150 on-farm trials of sequenced and refined CA-based intensification options for different types of farms across 15 maize-legume-forage/fodder production systems
- Understanding productivity and soil health dynamics of CA based intensification practices
- Lessons from CA-based intensification experiments shared and linked to targeting strategies

The future of objective 2 is to address variety issues (intercropping, diseases, Nitrogen stress tolerance) through testing released materials e.g. Drought Tolerant Maize for Africa (DTMA) project. The program will develop alternative soil cover options and promote crop-livestock interactions as well as carefully design farm scale studies.

There is also a need to strengthen the science outputs in phase 2. Partnerships with those organizations with a comparative advantage for quality enhancement would also be established. The program will develop strategies to work with the other SIMLESA objectives to achieve maximum results. Above, all the objective deliverables would also need to be aligned with the budget.

What good activities were carried out during SIMLESA 1?

- created ground for CA concepts for practices
- supported scientific data generation and analysis
- capacity building opportunities
- better organized data collection (after 2<sup>nd</sup> year)
- flexibility for improvement of project outcomes (need for better definition of outcomes?)
- preliminary recommendations from success stories
- encouraging documents and information for future efforts
- increased adoption of legume varieties

However, the objective had its fair share of challenges, such as:

- on-farm/on-station trials not site and context dependent
- The extension system and mindset of people needed to be changed to accept CA
- lack of site and socioeconomic specific recommendations that could convince policy change
- reporting without well documented background information
- insufficient incentive/credit for documentation and reporting
- insect, pest and disease damage (integrated pest management strategy needed?)
- lack of communication products for reporting results for wider use
- working with the extension staff due to staff turnover and discontinuity (this challenge extends to research, NGOs and other partners)
- NARS overburdened with many activities
- poor early establishment of CA plots (requirement of breeding under CA?)

The objective, would need to be aligned with the other objectives.

## **Presentation 2: Economic and Environmental benefits of SIPs: Evidence from SIMLESA 1- Presented by Sarah Tione**

Tione outlined objective 1 achievements as follows:

- About 508 research villages/communities were identified and characterized for demonstrating and evaluating technologies during SIMLESA-1 and 2.
- Comprehensive household, plot and village level survey data from 3,613 farm households [3020 male and 563 female] and 28 districts were collected in the five SIMLESA countries.
- Survey reports which characterized target areas for each country were prepared. These reports were shared with all our partners.
- At the level of markets, we produced value chain reports on input-output market constraints, opportunities and interventions.
- Training on value chain, constructing farm household typology and adoption and impact analysis training was provided for about 15 national partners and CIMMYT staff.
- Results have been presented at international conferences and SIMLESA annual meetings.

### **Achievements: Capacity Building**

1. Several training courses conducted
  - January 2013: Regional Trainings on Value Chains on Constraints, Opportunities, Tools and Interventions
  - January 2013: Regional Training on Gender disaggregated survey, data and analysis and Integration
  - October 2013: Regional Training on household survey design, adoption and impact analysis
  - Ethiopia Partners Training on Value Chains and Impact Analysis
  - Regional Training on household typology analysis
2. Two MSc Students, 5 PhDs recruited (3 PhDs completed): Theses and Dissertation based SIMLESA baseline and Value chain surveys data.

### **Achievements: Publications and Outreach**

- A number of policy and academic relevant peer reviewed papers on adoption and impacts, gender food security gap were produced and shared widely
- Adoption monitoring surveys were carried out in each country for 2011 crop calendar and about 16,860 farm households (male-10910 and Female-5950) were identified as adopters of SIMLESA technologies.
- Five Baseline Survey Reports completed and distributed across multidisciplinary teams
- Fifteen publications: peer reviewed, conference proceedings and discussion papers
- Six policy briefs produced in 2014

- Market and Value Chain assessment reports
- Results presented in various international - including annual meetings

Tione also gave an example on empirical lessons (Adoption):

**Group Membership:** Those farmers belonging to groups had higher chance to adopt:

- In Ethiopia: Crop diversification and minimum tillage
- In Kenya: Improved varieties and fertilizer
- In Malawi: Soil and water conservation

### **Proximity to Markets**

When close to markets farmers had a higher chance to adopt:

- In Ethiopia: Crop diversification and manure use
- In Malawi: Improved varieties
- In Tanzania: Crop diversification and minimum tillage

### **Household Assets**

With more assets in the household farmers had a higher chance to adopt:

- In Ethiopia: Soil and water conservation
- In Kenya and Tanzania: Manure

Tione added that objective 1 had five outputs and 16 activities which were to be achieved in 15 quarters.

He outlined the outputs, as follows:

- Refined understanding of CA-based intensification and feed options in selected farming systems
- Understanding maize, legume and fodder/forage value chains, focusing on institutional/agribusiness constraints and opportunities, costs and pricing patterns (gender specific)
- Understanding farm risks (perception, attitude, exposure, sensitivity, interactions) and management responses/-innovations under different biophysical, socioeconomic and institutional settings.
- Functional farm-household typologies matched to CA-based intensification options
- Identified and refined recommendation domains and adoption and impact pathways for 15 maize-legume-forage/fodder production systems

In SIMLESA 2, the focus would be on impact pathways to demonstrate milestones in agricultural research and development. Another focus would be on adoption pathways and feedback mechanisms on participatory farmer research extension and the development of the agribusiness model. This would pave way for modalities for diffusion of projects and provide opportunities for scaling up. The program would also work with agribusiness focusing on public investments as a way of supporting technology adoption among partners.

The program will use a business model approach to modernize market linkages for value chains. Communication and information dissemination came out strongly as an approach that would enable the program to achieve greater impact, and influence relevant stakeholders at various stages of the agriculture and research process in Ethiopia. In this regard, communication materials should be simple and user-friendly.

**Presentation 3:** Seed Supply System and Seed Road Maps: Are farmers getting the latest maize and legume varieties- Presented by Pedro Fato (on Behalf of Team Members – Ethiopia, Kenya, Malawi, Mozambique, Tanzania and CIMMYT).

Fato said objective three had the following focus: Increase range of maize, legume and fodder/forage varieties available for smallholders through accelerated breeding, regional testing and release and provision of quality seed.

The main activities were:

- Short-listing new and best-bet maize, legume and forage varieties with potential adaptation to the conditions and farmer's needs in targeted maize-legume systems
- Varieties mostly from ongoing breeding programs such as DTMA, TL-II
- Evaluation of identified varieties in PVS and Mother-Baby Trials in target communities
- Production and supply of different classes of maize and legume seeds of selected varieties

Accelerated breeding

- Regional nurseries composed of best-bet maize and legume varieties
- Maize, inbred lines characterized per se and in testcrosses for priority traits (intercropping compatibility drought, N stress, pests, diseases)
- G x E analysis and modeling in scaling out best varieties to promote into similar growing environments within and across countries

Multilocation leading to:

- Availability of performance data
- DUS and VCU testing of selected maize OPVs and hybrids
- Seed production characteristics of elite maize hybrids and OPVs established

**Achievements were listed as follows:**

**Graph 1: Number of varieties evaluated in PVS trials during 2010-2013**

**Graph 2: Number of PVS trials conducted during 2010-2013**

**What is New in SIMLESA-II for Objective 3?**

- Linkage with objective 2 to identify varieties suitable for CA based systems

- Introduction of legume/fodder species in targeted farming systems
- Identify key seed systems bottlenecks (strong linkage with obj. 1 & 4)
- More focus on scaling-out and seed supply
- Small grants for SMEs and CBOs for seed production

### **SIMLESA-II Objective 3**

Stress tolerant maize varieties, higher yielding legume varieties and fodder/forage varieties available to farmers in the selected farming systems

Fato listed the challenges facing the objective as follows:

- Stimulating seed companies to actively produce and promote SIMLESA-identified varieties in the target geographies
- Standards in varietal promotion and field demos (management, plot size, site selection)
- Feedback loops and linkages (esp. with Objective 2) for selection and use of right varieties for seed scale-up and demonstrations under CA.  
High staff turnover and limited capacity

**Presentation 4:** Taking Promising SIPs to farmers and development partners: AIPS status and Operationalizing Opportunities and Challenges in the TRaget Areas- Economic and Environmental benefits of SIPs: Evidence from SIMLESA 1- Presented by Michael Misiko

The Objective 4 Team is concerned with the following issues in SIMLESA:

- 1 Policy Options, organizational Models
- 2 Scaling multi-stakeholder interaction mechanization
- 3 Scaling CA-based intensification options
- 4 Knowledge sharing

Objective 4 will prioritize the following:

- Build on SIMLESA 1- Lessons on AIP for the improvement of phase 2 and one of the strategies is to identify one national leadership per country to champion objective 4 activities.
- Prioritize and integration of several innovations as developed by SIMLESA activities.
- Aligning approaches to take into consideration gender and youth. It has been observed in SIMLESA that 40 percent of the adopters are women hence the need for such consideration as most technologies are not gender sensitive.
- There are gains and lessons that have been learned from SIMLESA 1, such as facilitation of PVA, seed bulking, on-farm CA-based technology testing that are important and should be included in phase 2 of SIMLESA. Scaling out strategies need to be intensified as well as looking at the sustainability of the interventions and technologies being introduced.

## **Presentation 4: Gender Equity and Sustainable Intensification- Presented by Rehima Mussema**

In Eastern and Southern Africa where CIMMYT's Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA) program works, women hold the key to improving the quality of life and increasing the food security of rural families. While men may have greater access to land, credit, and market networks, women have the potential to be the drivers of agricultural productivity.

SIMLESA strives to provide men, women and youth with equitable access to inputs, credit, markets, and training opportunities. We integrate gender sensitivity into all program activities, facilitate people's access to basic services, and continually evaluate results to maximize our impact on both men and women.

As part of our agricultural research and development work, SIMLESA's commitment to integrating gender strives to bring time- and labor-saving technologies to women farmers in the region, for example. That's why SIMLESA, a program that aims to increase food security and incomes for smallholder farmers in five core countries in Eastern and Southern Africa (Ethiopia, Kenya, Malawi, Mozambique, and Tanzania) is ensuring women are among those receiving the technical assistance that can help them reach their full potential in the agriculture sector.

As SIMLESA begins its second phase, with all the excitement and energy, it is good to take stock of where we are on fostering gender equality and where we go from here. After all, our funding partners, ACIAR, the CGIAR system, CIMMYT, and national governments in all SIMLESA countries are committed to social inclusion broadly, and to gender equity in particular. Specifically, these institutions' gender policy positions challenge us to be vigilant about inclusiveness.

Do our approaches reach all *individuals* in the communities we serve? In what ways may certain subgroups, such as women or men, be constrained in accessing and adopting improved technologies? What can we do differently to understand the various social contexts and develop ways to address them? If we pay attention to gender, what difference will it make in terms of ensuring food and income security and natural resource conservation?

In SIMLESA II, we aim to consolidate the gains made during SIMLESA I. Through the Association for Strengthening Agricultural Research in Eastern and Southern Africa (ASARECA)'s leadership, SIMLESA I strengthened the capacity of over 1, 000 individuals by providing gender- sensitive training at times and places that were convenient for men and women to ensure they received equal access to the skills and knowledge needed to succeed in agriculture.

Additionally, ASARECA documented in-depth case studies that improved our understanding of best practices for gender analysis and development practice. SIMLESA II is poised to build upon this solid foundation and effectively integrate gender. We are happy to report on four key pathways to integrate gender into agricultural value chains and ensure all household members benefit from expanded economic opportunities:

- a strong team of gender experts
- a gender strategy
- an gender Monitoring and Evaluation (M&E ) framework
- solid commitment from the project leadership and team

First, because SIMLESA operates in five core African countries, it is essential to have a strong coordination unit that helps to streamline and to an extent, standardize activities and tracking of progress. SIMLESA II engaged CIMMYT's gender specialist, Vongai Kandiwa, to lead and coordinate

the integration of gender. Since joining the SIMLESA family in July 2014 and with the help and input from country coordinators, Vongai identified a strong team of country gender focal persons: Dr. Rehima Mussema (Ethiopia); Charles Nkonge (Kenya); Kenneth Chaula (Malawi); Maria Luz (Mozambique); and Vidah Mahava (Tanzania). This team will ensure that gender is taken into account during priority setting fora, such as country planning and coordination meetings, provide technical backstopping in-country and provide leadership on monitoring and evaluation of gender equality outcomes and processes.

Second, SIMLESA produced and shared widely with SIMLESA team a draft gender strategy for the program. The strategy provides clear guidelines on where gender is relevant, delineates where action is feasible, what specifically needs to be done, by whom, at what level, at what cost, and how to track progress? The strategy is built upon three key principles:

*Understanding* – we seek to critically examine and understand how, and in what contexts gender impacts in conservation agriculture (CA-based) maize-legume systems especially for adoption and scaling out.

*Opportunity* – women are sometimes unable to influence the decisions that directly affect farm yields and household income. SIMLESA promotes agriculture as a family business, giving women the ability and autonomy to make decisions. We train women in leadership skills, negotiation, and group formation. We also endeavor to foster equal opportunities for men, women and youth to access information, markets, participate in demonstrations, trials and field days, receive training and provide leadership in local agricultural innovation platforms.

*Learning* – we strive for continued learning on gender through research and practice. Overall, in SIMLESA II, we hope to minimize the chances of creating gender gaps in access to improved technologies and opportunities, bridge gender gaps where they exist and avoid creating new ones. The strategy was presented and discussed at the Malawi and Mozambique Planning meetings in August this year. It was also presented again at the Ethiopia, Kenya, and Tanzania planning meetings before being finalized by end of November.

Third, the SIMLESA gender strategy outlines clear and measurable monitoring and evaluation (M&E) indicators which will be integrated into the overall SIMLESA M and E framework. Most importantly, we do not only track standard quantitative indicators, but also qualitative ones such as approaches and processes that are effective in ensuring equal participation and benefits sharing between men and women in communities where we work. The idea is to share ideas, learn from one another, and constantly improve on our strategies.

Looking ahead, what will it take to successfully integrate gender? Success on gender in SIMLESA will not entirely depend on what individual SIMLESA gender experts do. Rather, it is our collective commitments, responsibilities and efforts that matter. After all, many of the gender relevant activities will be led and carried out by other SIMLESA team members who are not necessarily gender specialists. In the most cases, project teams are never lacking commitment to gender. But, what is usually limiting is clarity on what needs to be done? With our SIMLESA gender team in place, a solid strategy and an M&E framework, we have no excuses.

## **Breakout session 1: The Road from Research to impact – Thematic areas insights**

### **Group 1: Markets, Value Chains, and Seed Systems for Sustainable Intensification – Research and scaling out**

#### **Presentation 1: Markets Role in Promoting Sustainable Intensification- Presented by Adam Bekele**

- Increasing production is a must to meet food demand
  - 9 billion people by 2050
  - Income growth (for low and middle income society)
  - More trade across the World
- Production increases either through area expansion or increasing productivity.
- Area expansion has a huge environmental consequences.
- Enhancing productivity is more sensible solution to the challenge, but with all its challenges.
  - Intensification
  - Intensifying in a sustainable way.

### **SI Practices**

- Techniques/technologies in SIPs
  - CA (zero/reduced tillage, soil cover, intercrop/rotate)
  - Improved seed and fertilizer use
  - Weed and disease management (herbi- /pesticide use)
  - Nutrient re-cycling (crop-livestock interactions)
  - Agroforestry, etc.

### **Experiment in Western Kenya (Kakamega)** *(Feeding maize residue to a dairy cow or to soil?)*

- 2012 production year
- 6 different diets (with different proportion of maize residue on the diet) fed to 7 dairy cows for 15 days targeting 20 lt/cow/day.

- Different tons/ha of maize residue experiment on maize grain productivity for short and long rainy seasons.
- Non-linear regression to get marginal effects of maize residue use on maize grain and milk production.

## Markets, HH Objectives and implications for SI

- Diversification vs. specialization
- Food vs. cash crops
- Labor vs. capital intensive production
- Choice in power source (human, animal, tractor)
- Short vs. long term benefits
- Complementary and/or substitution among inputs

## Why do markets matter?

- Economic value for resources depend on market prices.
- Markets give signals on the relative importance of resources, goods/services.
- Benefits from efforts or investments depend on what markets pay for the products/services.
- Markets distribute incentives created by policies.
- **But**, markets:
  - May not exist all the time, or every where, or for every inputs, goods/services
  - Couldn't give value to everything (ecosystem services, culture, equity, etc.)
- **Investment in SIPs has both short- and long term benefit and cost structure.**
- **Short and long term economic benefits from investments in SIPs depend on:**
  - **What the inputs cost in the market or to a farmer, and**
  - **What markets pay for the products.**
    - **Expected net returns**

## Which markets?

- **Inputs**

- Seed (improved/local)
- Fertilizer (organic and/or inorganic)
- Herbicides/pesticides
- Labor
- Fuel/lubricants
- livestock
- Land
- Storage materials, etc.
- Services
- Credit
- Insurance
- Transport
- Tillage
- Threshing
- Extension advisory services, etc

### **Output markets**

Food crops

Cash crops, Livestock/products,....

### **Market, Markets, and/or Value Chains?**

- **Single or multiple markets?**
  - Decision in one market affects/is affected by the other market.
- **Input or output markets?**
  - Production decisions depend on both inputs and outputs markets.
- **Markets or value chains?**
  - The first production-marketing interface or the whole chain?
  - Depends on the problem(s) to be analyzed.
  - Marketing problems in transitional periods of new products
- When new commodities are introduced, there is a period when the marketed surplus might be higher than local demand but less attractive to long distance traders.
  - Institutional innovations

- Collective actions
- Linking farmers with markets

### Summary

- SI = Right Technologies + Enabling Environments
- Proper policies and institutions need to be in place to guide markets that enhance agricultural intensification in a more sustainable way.
  - Markets alone couldn't guarantee SI.
  - Need for more comprehensive research to explain the role of markets and institutional arrangements in enhancing the adoption of SIPs.

## **Presentation 2: Private Public Partnership for Scaling out SIPs- Presented by the National Association of Farmers (NASFAM) in Malawi**

### Introduction

NASFAM is farmer owned organisation with membership of 150,000 and covering 19 districts in Malawi. SIMLESA project is Balaka, Ntcheu, Lilongwe and Kasungu covering 8 EPAs.

NASFAM got pigeon pea seed from the project, as an organisation bought additional seed for some members

Each farmer got 3kgs of seed.

### Role of NASFAM in SIMLESA

- Extension
- Seed multiplication
  - Provision of seed
  - Storage of seed
- Capacity building
  - Training of staff
  - Lead farmers

### **Aims**

Improve availability of quality legume seed among smallholder farmers.

Building capacity among smallholder farmers in seed production.

Promoting crop rotation and diversification

Providing market ready market

How

- 1) Awareness meetings with
  - key leaders
  - Staff
  - Farmers
- 2) Registration and verification of fields
- 3) Training
- 4) Seed distribution as revolving program
- 5) Monitoring
- 6) Seed collection
- 7) Marketing

How

Groundnuts farmers got 15kgs

Soya 12kgs

Pigeon peas 3kgs

Repayment is as 1:2, after 3 years it is expected that NASFAM will buy everything from farmers and replace with new seed.

Challenges

- Not many companies are aware of new varieties – grain marketing for pigeon is not as competitive
- Seed inspections services is quite challenging for inspectors due to size of land.
- To get good volume it takes time.
- Be a member owned organizations farmers have high expectation on price as compared to other buyers ,this creates conflict in business.
- NOTE: Our failures does not mean we are failures but did do it right .

Achievements.

- Introduced pigeon peas in non traditional growing areas.
- Farmers are able to produce the crops seed (2434 farmers involved)
- Seed is readily available for large groups.
- NASFAM has steady supply of seed for other members.
- Trained 57 extension staff ( 15f and 42m), 345 lead farmers (114 f and 231m)
- Rotation is made possible
- Increase income for smallholder farmers because the market is available at door step.

## Presentation 3: Role of Private Seed Companies Supporting Sustainable Intensification

DAY 2: Tuesday 17<sup>th</sup> March 2015

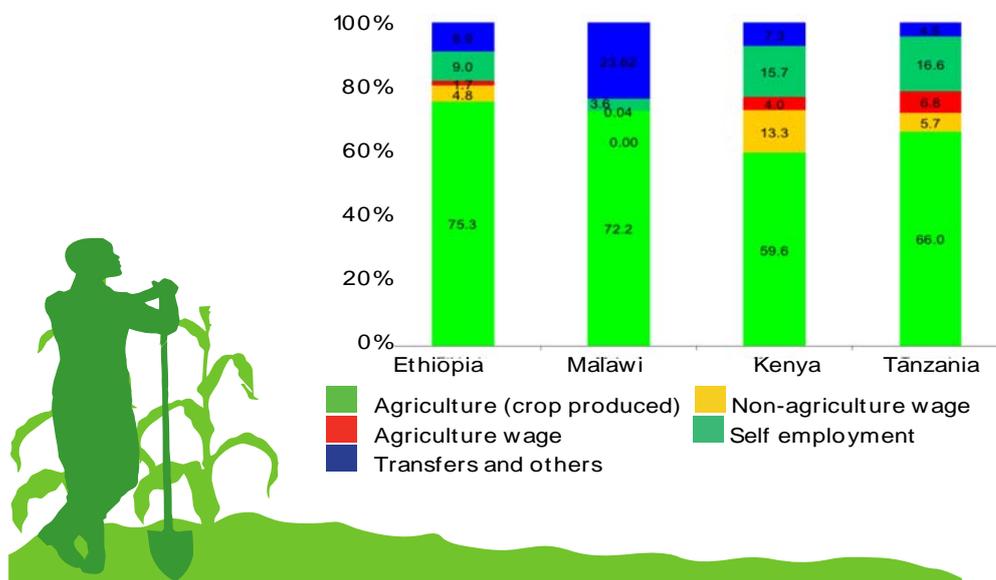
### Enhancing synergies and Linkages with SI projects: Lesson Sharing from other institutions and Projects

#### Adoption Pathways: Dr Menale Kassie

Adoption Pathways presentation was directly linked to food security for Africa. Adoption rates of Maize-Legume CA-base intensification technologies in Eastern and Southern Africa were presented. Worldwide food insecurity remains a problem although the severity levels are high in developing nations compared to industrialised countries. There is no alternative but to increase agricultural productivity (i.e. crop yield per unite area) and the associated total and individual input factor productivities (i.e. biological output per unit of total production input, and output per unit of individual input factors of production such as energy, nutrients, water, labour, land and capital) to meet the global demand for food, feed, biofuel and industrial raw material and to alleviate hunger and poverty.

In Africa agriculture sector contributes over 60% of the national GDP and is the main source of employment.

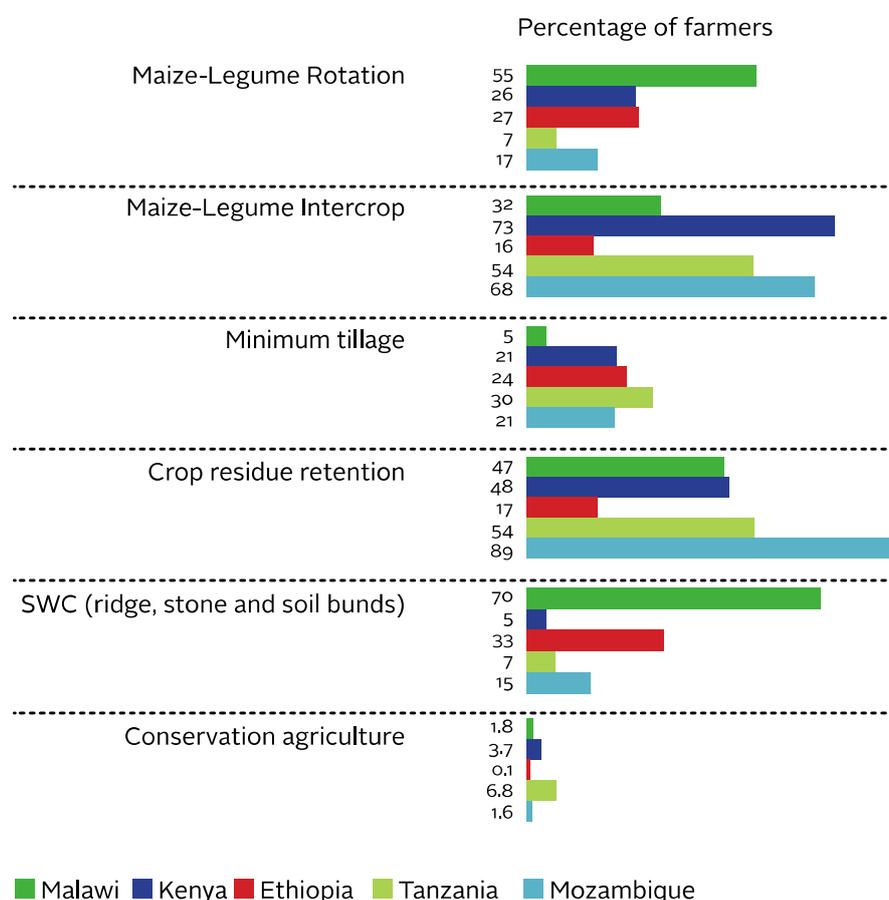
Income Diversification Strategies in Project Target Districts (%)



Agriculture contributes the largest share of income in all countries (no less than 60% in Kenya and 75% in Ethiopia). It follows that increasing its productivity is fundamental to improve household welfare. Non-agricultural wage employment rates are very low at a maximum of 13% in Kenya. Similarly, self-employment ranges between 4% in Malawi and 17% in Tanzania.

In SIMLESA countries it was discovered that majority of farmers are not adopting CA holistically – incorporating all three major aspects of CA for instance rotation, mulching and minimum tillage. Farmers are rational they always choose what is good to them. Adoption pathways studies revealed that different farmers were able to select some or a combination of CA components as detailed below:

### Proportion of farmers adopting improved agronomic practices in project target districts



Low adoption of conservation agriculture in all countries and of intercropping and residue retention practices in Ethiopia. Why?

In Africa, despite nearly twenty years of development and promotion by the national extension program and numerous other projects, adoption has been extremely low in the smallholder farming compared to in other continents such as South America, North America

and Europe due to various constraints. This is attributed to various constraints which include:

- a low degree of mechanization within the smallholder system;
- lack of appropriate implements; lack of appropriate soil fertility management options;
- problems of weed control under no-till systems;
- lack of access to credit; lack of appropriate technical information;
- blanket recommendations that ignore the resource status of rural households;
- Competition for crop residues in mixed crop livestock systems, and limited availability of household labour.

The major problem being faced by CA farmers is multi-purpose of crop residue which makes it difficult to return as mulch. This is mainly due to competitive use of crop residue.

### Crop-livestock competition and implication for CA based intensification in Project Target Districts

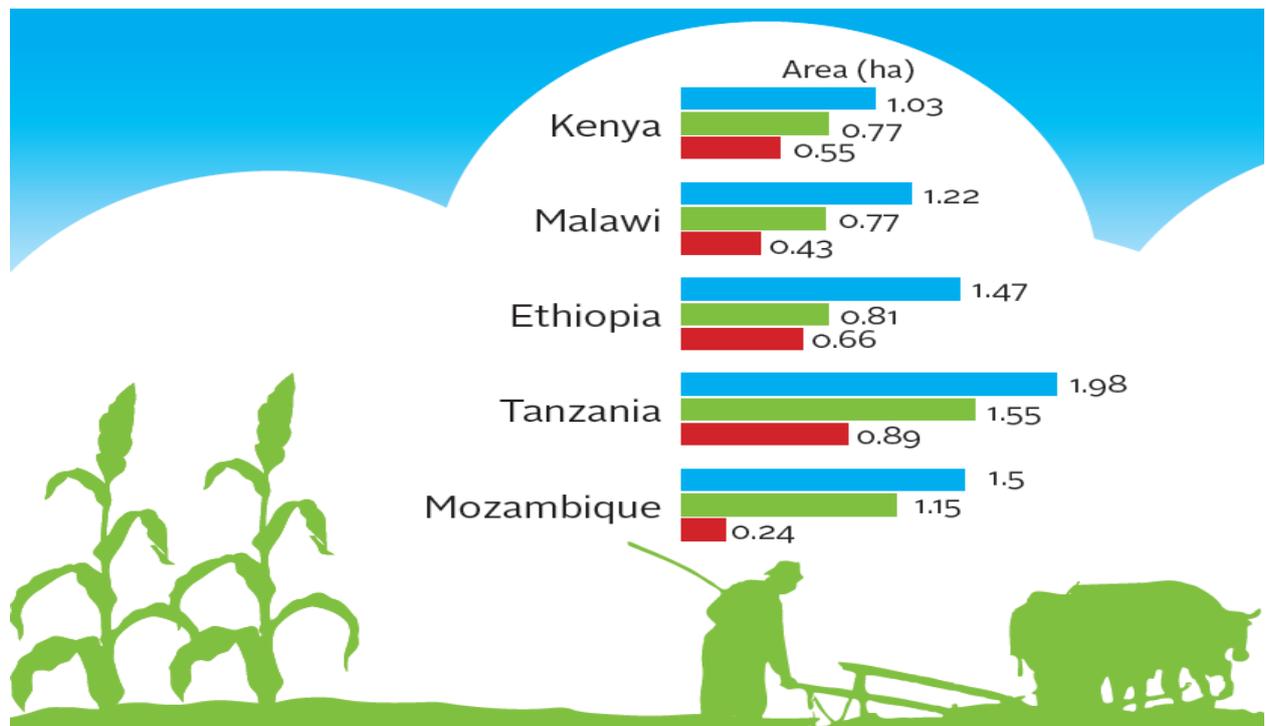


Country	Livestock (TLU)	Crop residue utilization (%)					
		Feed for livestock	Left in the field	Used as firewood	Burnt in the field	Sold	Used for construction
Ethiopia	4.4	62.9	8.7	16.9	6.7	1.3	3.0
Tanzania	3.5	44.0	45.0	4.3	6.2	2.0	0.1
Kenya	2.2	43.5	39.5	1.9	4.6	2.2	0.0
Malawi	0.7	4.2	65.2	10.3	13.0	0.1	0.3
Mozambique	0.6	13.0	71.4	16.9	11.1	0.0	0.0

Countries with high livestock ownership (Ethiopia, Tanzania and Kenya) use residues for livestock feed and those with low livestock ownership leave more residues on soil surface.

SIMLESA is promoting CA based sustainable intensification which apart from farming system include use of improved seed varieties. Currently SIMLESA is promoting both maize and legume improved seed varieties.

### Area under improved maize varieties in project target districts



### Discussion Points

- ✓ Why Malawi fertilizer use high and yet yields is are low?
- ✓ Dr Menale Kassie: Poor crop husbandry practices have contributed a lot to the low yields particularly late weeding. Late weeding reduces the efficient use of the fertilizer by crops. Use of manual weed control through hand hoes is still common thus it take s longer to finish weeding on all fields.
- ✓ Does the nutrient map show differences within the districts?
- ✓ This map has been borrowed from AGRA. They are still mapping and thus with time variations within districts will be shown as well.

### ZimCLIFS and SIMLEZA\_AR-Spill Over Lessons

ZimCLIFS project is being implemented in sub-humid and semi-arid regions of Zimbabwe, Mashonaland and Matabeleland provinces respectively. The goal of the project is increased agricultural production to improve food security, alleviate poverty and reduce food-aid

dependency, in rural Zimbabwe through better integration of crop and livestock production and market participation.

### **Objectives of the project**

**Objective 1:** Increase productivity of smallholder crop-livestock farming systems in four districts in two contrasting agro-ecological regions of Zimbabwe by identifying and adapting technologies and practices.

**Objective 2:** Improve farmers' access to resources, technologies, information and markets by characterising and strengthening crop (maize, sorghum, legume) and livestock (goats, cattle) value chains.

**Objective 3:** Increase knowledge and skills of research and extension services and agribusiness to target and scale out knowledge generated by the project elsewhere in Zimbabwe.

The project integrates crop and livestock components which are key factors in attaining sustainable food security in Africa. Improved crop & livestock integration with synchronized activities, can generate complementary relationships without competition for farm resources. With the high competition of crop residue which used as mulch under conservation agriculture and livestock feed are well integrated in this project. The project resolved crop residue challenges through inclusion of fodder and legume crops within crop production. Project impact includes:

### **Contributions from Crop technologies**

- Improved yield (15-45%)
- Cash income from the sale of fodder legume (seed and feed)
- saved labour – (1) ripping and direct seeding (45%), (2) use of non-palatable legumes such as tephrosia and mature sun hem as mulch,

### **Synergetic Effect**

- greater economic benefits
- better use of intermediate farm resources such as animal manure, draught power and crop residues.  
more efficient use of marginal and fallow land.
- also saves on the purchases of fertilizer inputs and labour.

**SIMLEZA**-Is promoting CA-based sustainable intensification in Zambia. The project include a number various partners particularly governments institutions, seed companies and farmers groups. Farmers are now accessing improved seed varieties at national level due to SIMLEZA project.

The sessions were done through 2 videos and powerpoint presentations on activities being promoted in Zambia and Zimbabwe under SIMLEZA\_AR and ZimCLIFS respectively.

- ✓ Dr Mulugetta: How does ZimCLIFS and SIMLEZA\_AR activities help SIMLESA?
- ✓ Dr Nyagumbo: SIMLESA can benefit by carrying out field visits to the ZimCLIFS sites in Zimbabwe in order to tap on the technologies on livestock i.e. fodder production and processing. These activities were not there in phase 1 and the livestock component has now been incorporated in the variation phase.
- ✓ Dr Sitimela: SIMLESA can benefit from technologies such as Soyabeans inoculation which has been promoted in Zambia in the eastern province. Inoculant has proved to be a very cheap, efficient and fertilizer substitute for smallholder farmers.
- ✓ Dr Olaf. The process is a 2 way in which projects mutually benefit from each other.
- ✓ Professor Sikhalazo Dube: SIMLESA can benefit a lot on forage technologies. The ZimCLIFS project will also benefit on how technologies have been up scaled in eastern and southern Africa under the SIMLESA project.

### **FACASI- Farm Mechanization & Conservation Agriculture for Sustainable Intensification: Dr Baudron**

The main objectives of the project are (1) to improve access to mechanization, (2) reduce labour drudgery, and (3) minimize biomass trade-offs in ESA, through accelerated delivery and adoption of 2WT-based technologies by smallholders

The project is being implemented in Ethiopia, Kenya, Tanzania, Zimbabwe and is a five year project ending February 2017 with total budget of Aus\$ 3.9 M

Major incentive in the less mechanized systems in developing countries: early planting (arising from the reduced number of operations required to prepare the land) (Hagblade and Tembo, 2003)

Primary purpose of CA is establishing a crop with as little energy (= power × time) as possible. The concept is being complemented by mechanized equipment. FACASI strategy is mainly based on five main steps:

1. Identifying tasks to be mechanized (low labor productivity and/or high labor drudgery, likely demand)
2. Identifying/manufacturing suitable machines
3. Creating demand (incentives for commercial actors)
4. Building capacity and skills for mechanization and business (machines owned by farmers at an early stage, entrepreneurs specialized in hiring services later)
5. Linking to finance



### Discussion Notes

- Any Cultural/Gender issues related to the machinery?  
The technology has labour saving benefits and thus women will have more time for other activities.  
Dr Vonga Kandiwa: There is a misperception that when there is free labour, women will not use it productively. A study done in Malawi indicated that women will use that time productively for activities like home gardening and groundnut production.
- How are the maintenance costs?  
They are reasonable. Analysis has shown that smaller machines with the same capacity as these tractors already exists in the communities and have been serviced cheaply and efficiently over years e.g. grinding mills
- Are they available on the local market?  
Not yet but they are also working with potential companies to see if they can be manufactured locally.
- Are they affordable?  
They currently cost between \$2000 and \$3000. The farmers who grow cash crops like tobacco can afford. There might be need however to link to loan providers so that farmers get them on a loan basis on agreed terms

## **Conservation Agriculture and Smallholder Farmers in Eastern and Southern Africa – Leveraging Institutional Innovations and Policies for Sustainable Intensification and Food Security (CASFESA) Project**

### **The main objectives of the project are:**

- Increasing food security and incomes of resource-poor smallholder farmers
- Through pro-poor technological and institutional innovations
- Enhancing the resilience and sustainability of cereal based mixed farming systems through CA-based technologies

### **Project Components**

- Conducting participatory on-farm evaluation and adaptation of CA-based technologies on selected farmer plots;
- Enhancing pro-poor and gender-sensitive targeting of CA-based interventions;
- Improving the delivery of information, including on technologies and market opportunities to smallholders,
- Developing policy options and recommendations that favor these technologies
- Enhancing the capacity of research, and development interventions, for project stakeholders.

### **Implementation Process**

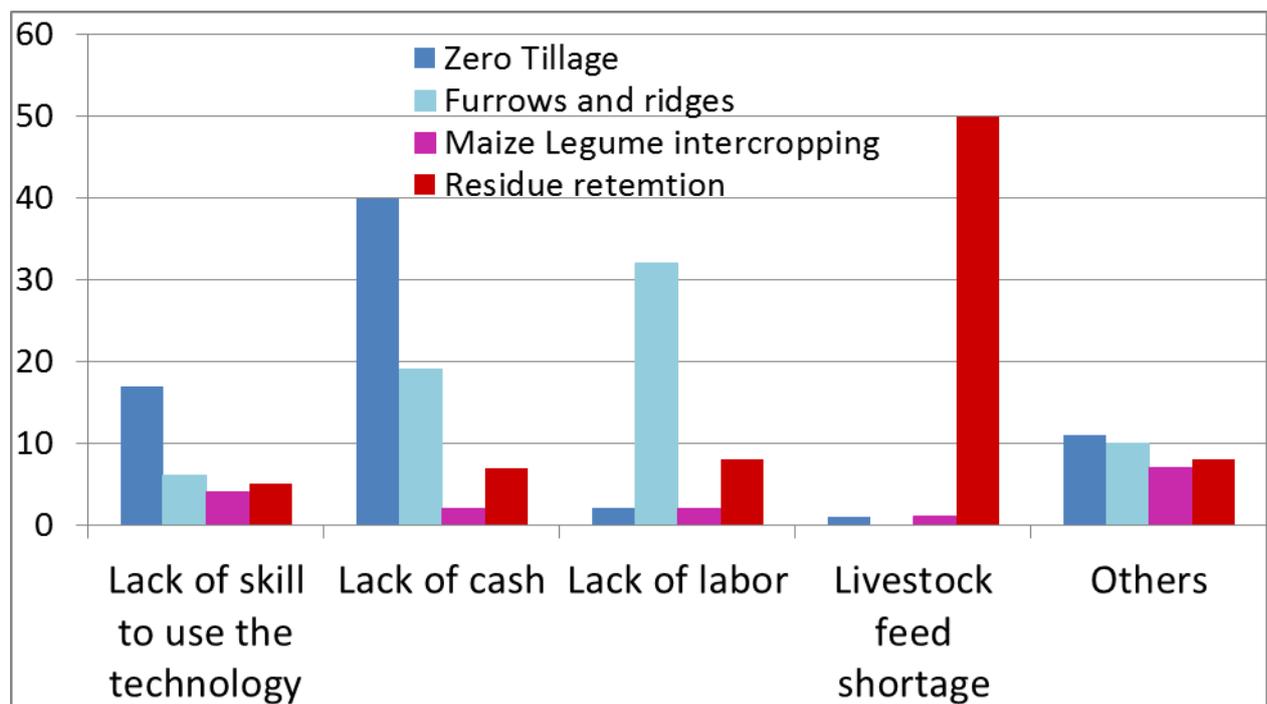
#### **Randomized Control Trial Approach**

- Randomly selected Treatment and Control Villages.
- Demonstrate CA on plots donated by two volunteer farmers in the treatment villages
- Seeds, fertilizer and herbicides provided to demo-hosting farmers
- Training on demonstration plot establishment and management

- Farmer-to-Farmer extension where demo-hosting farmers lead and explain the technologies during the field days
- Discussions and feedback during the field days
- Invite private sector and cooperative unions supplying inputs and services to the field days to demonstrate their products/services.

### Main reasons for not adopting CA practices

Monitoring reports revealed that there are various reasons why farmers are skeptical to adopt CA farming practices as summarized below:



### Discussion Notes

- Dr Olaf: Glad to notice that the Ethiopian government is enthusiastic in taking up these CA technologies to bigger scale
- Dr George Mburathi: The adoption process is worrying particularly on fertilizer. Why is the uptake slow? Given this status, it might indicate that demonstration plots are not fully convincing farmers, Moti what 2 issues would you advice to policy makers given an opportunity?
- Dr Moti Jaleta: I would advocate for auctioning intensive livestock production

## ASARECA

ASARECA was established in 1994, not for profit sub-regional organisation Member countries: Burundi, D.R. Congo, Eritrea, Ethiopia, Madagascar, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda. It covers 8.5 million km<sup>2</sup> with about 350 million people - to reach 692 million by 2050. Agriculture accounts for 43% of the sub-regional GDP particularly in East and central African countries. ASARECA shared its advocacy experience in Africa including work plan strategies

### **Country and Partners Highlight: Implementation operationalization challenges and opportunities in SIMLESA 2**

#### *a) Ethiopia*

*The main challenges faced in Ethiopia:*

- Climate variability concerns
- Frequency of staff turnover
- A concern of the policies on free grazing, residue management and forage

*The main issues for Phase II are:*

- Strengthening partnerships to ensure effective scaling out
- Education on the importance for CA: Soil
- Institutional innovations and diversification for managing risk in maize-legume systems
- Effective operationalization of seed roadmaps

**Questions: Is there flexibility of extension packages provided to farmers? Answer: Yes there is, Simplicity is very important.**

#### **b) Kenya**

**Achievement:**

##### **Objective 1**

- Constraints, opportunities and options for field testing were identified and were then documented
- Six farm typologies which would use similar technologies as likely pathways out of poverty identified and described

##### **Objective 2**

- Increased maize and legume yields
- Labour cost is reduced through time and this was associated with an opportunity to venture into other activities to enhance incomes

### Objective 3

- There are functional Local Innovation Platforms
- **8 different partners in 2010 and this increased to** about 40 different partners as members of the IPs
- Partners major interests is the benefits they get from being memberships

### Objective 4:

- Markets for increased produce and impersonal market information
- Inputs availability for the improved technologies
- Effective partnerships along the value chain including IPs

### Capacity Building

- Gender Mainstreaming
- Monitoring and Evaluation
- Two researchers trained in cropping systems research and one in farm typology modelling in Australia 5. Several researchers, extensionists and farmers trained in innovation platforms, crop management, conservation agriculture
- Two PhD and 1 MSc sponsored

### Challenges

- Declining fertility of soil affecting yields
- Access to improved seed varieties
- Linking farmers to seed companies

**Question: what sustainability mechanisms have been placed to ensure CA technologies are adopted long-term? Answer: If a technology is good it will be adopted and promoted by farmers as well**

**Comment: If farmers can adopt technologies then we are food secure and food insecurity is not a concern even if there is an increase in population and demand for maize**

### Uganda

#### Objective 1: There are three main issues

- a) **Pre-production constraints**
  - Poor quality seed
  - Lack of agro-input supplies
  - Failure to open land on time
  - Shifts in seasons – prolonged dry season
  - Shifts in season – prolonged rains

The major ones are failure to open land on time, shift in seasons and poor quality

**b) Production constraints**

- Weed infestation
- Declining soil fertility
- Crop damage by flooding
- Crop damage by pests
- Crop damage by disease

The major ones are failure to open land on time, shift in seasons and poor quality weed infestation, declining soil fertility and crop damage by pests

**c) Post-harvest constraints**

- Spoilage due to lack of storage facilities
- Low farm gate prices

The major ones is spoilage due to lack of storage facilities

**Key Achievements**

- increased crop yields
- Increased farm income
- Increased product diversification
- Reduced risk of production failure
- Improved food security/ self-sufficiency
- Main challenges
- Weed management
- Residue management
- Accessibility to inputs
- Mindset/ attitudes (CHNAGE)
- Unpredictable weather
- Pests and diseases, especially termites

**Rwanda**

**Achievements**

- Identification of agricultural constraints and opportunities
- Establishment of 4 IPs
- Establishment of CA demonstration fields (CA, intercropping)

**Challenges**

- Competition between crop residue
- Climate variability
- Weed management

## **Key issues raised from country presentations**

**Ethiopia team:** The team was advised to include ICRISAT for legume seed production. A forum for discussion has to be organised with ICRISAT

**Kenya team:** The team was also advised to discuss collaboration issues with CIAT, including Tanzania. The scaling up of CA technologies in Kenya should also be properly targeted because the technologies may not be suitable for certain areas

**Tanzania, Malawi, Mozambique, Uganda, Rwanda and Botswana.** Presentations were made in succession and no major comments arose apart from emphasizing on collaboration with ICRISAT on access to improved legume seed; CIAT for soil analysis and use of soil analysis equipment; ASARECA on policy issues and communication. Most importantly, countries should harmonise messages on CA practices for easy policy dialogue.

## **DAY THREE**

### **Technology Generation, Evaluation and Validation of Technologies On-Farm, Private Seed Company Partnerships**

On the third day of the meeting, SIMLESA participants attended the CIMMYT–Southern Africa’s 30th anniversary celebrations.

Participants visited CIMMYT–SARO research activities at its main research station outside Harare. CIMMYT–SARO showcased a wide range of breeding, physiology, agronomy and seed system activities. On-farm visits to the farming communities and partner seed research farm demonstrated CIMMYT’s involvement in technology development, testing and evaluation, and deployment to the ultimate beneficiaries.

The colourful commemorative event, held amid pomp and fanfare, was attended by more than 300 people representing donors, non-governmental organizations, research institutions, Zimbabwe government departments, seed companies and farmer associations. The celebration included an on-station tour, with CIMMYT–SARO showcasing its work.

CIMMYT–SARO has been operating in Zimbabwe since March 1985 with the support of the government of Zimbabwe, and other public and private-sector partners, including the University of Zimbabwe and the Department of Research and Specialist Services. In Zimbabwe, CIMMYT conducts experiments at its main station, as well as at Muzarabani and Chiredzi sub-stations. There are also on-farm trials across the country.

Officially commemorating CIMMYT–SARO’s 30-year anniversary (SARO@30), Zimbabwe’s Minister of Agriculture, Mechanisation and Irrigation Development, Dr. Joseph Made, said, “The regional office has been focusing on developing new maize varieties adapted to smallholder farmers in Zimbabwe and the mid-altitude agroecologies in sub-Saharan Africa. Since then, the office has expanded to include development of research technologies for conservation-agriculture systems, sustainable intensification of production of smallholder farms and postharvest research activities.”

In a speech read on his behalf by Mr. Ringson Chitsiko, the Ministry's Permanent Secretary, Made applauded CIMMYT's research work on developing a stock of maize since this was a major staple in the country, and beyond. Although CIMMYT and its partners had produced various technologies for improving maize production, the organization had to develop more technologies to mitigate the effects of climate change.

The minister advised: "CIMMYT needs to work harder and be alert, especially in the face of the ever-growing population, climate change and variability, and new threats through maize diseases and pests. I urge CIMMYT to continue pursuing its mandate for the benefit of the Southern African region."

In support of this goal and in recognition of CIMMYT's sustained presence and commitment to the SADC region and Zimbabwe, the Zimbabwe government in 2012 renewed the Host Country Agreement, according CIMMYT-SARO diplomatic status. "We are jointly working towards signing a new collaborative agreement to strengthen maize research to combat a new threat in the form of maize lethal necrosis [MLN] disease recently discovered in East Africa and which has a potential to wipe out an entire maize crop if it spreads to Southern Africa," Made said.

MLN caused 100 percent crop loss for some Kenyan farmers between 2011 and 2012, and cases were also reported in Uganda and Tanzania.

Speaking at the same occasion, Dr. Olaf Erenstein, Director of CIMMYT's Socioeconomics Program who represented Dr. Thomas Lumpkin, CIMMYT Director General, said CIMMYT, since its establishment in Mexico in 1966 currently has 13 representative offices around the world, and has the mandate and mission of sustainably increasing the productivity of maize and wheat systems to ensure global food security and reduce poverty. The regional office, he said, has served its purpose in contributing to increasing food security.

CIMMYT-SARO is part of the world's largest public drought and low nitrogen stress research network. Every year 500,000 envelopes of maize seeds are sent to over 70 institutions worldwide. The demand for CIMMYT-SARO maize germplasm extends from Zambia to Afghanistan.

During the past 10 years, sustainable intensification strategies based on the principles of conservation agriculture (CA) have been successfully promoted in Malawi, Mozambique, Zambia and Zimbabwe. Making use of the combined benefits of minimum soil disturbance, crop residue retention and crop rotation, CA increases yields when compared to conventional agricultural practices after two to five cropping seasons. Trials on farmers' fields in Malawi, for example, increased yields by 20 to 60 percent. In Zambia and Zimbabwe, yields were increased by almost 60 percent using animal traction CA technologies.

Major highlights during the 30 years existence of CIMMYT in Zimbabwe include the development and release of more than 50 maize hybrids and Open Pollinated Varieties (OPVs) adapted to drought-prone regions. These new varieties are expected to benefit

almost 12 million people, helping to enhance food security, increase livelihoods and reduce poverty in Southern Africa.

CIMMYT's seed system activities and support in training and technical assistance have led to the emergence of smaller domestic seed companies in the various Southern African countries. Farmers' access to seed has improved.

The organization also trained more than 200 technicians and graduate students through short- and long-term training in their various disciplines. These trainees included close to 30 percent women and were from SADC, the rest of Africa, and beyond.

#### **Day-4: Thursday, 19th March 2015**

Country partners presented national work plans which were later perfected after the contribution of conference participants, see attached country plans. PSC members presented project main issues and project recommendations

#### ***PSC Key Strategic Issues and Recommendations***

1. The PSC recommends that ACIAR support an extra PSC Meeting to coincide with site visits organized as part of the MTR to facilitate the PSC's input to the review process while giving members exposure to SIMLESA's work with farmers in the field
2. QAAFI visibility was questioned specifically on documentation. There was no specific stand-alone QAAFI report as compared to country progress reports. It was discussed that since SIMLESA is operating in five countries in Eastern and Southern Africa, QAAFI activities are integrated within progress reports. QAAFI submits reports to CIMMYT twice per year which are consolidated together with country progress updates into one report. The report is shared with the donors biannually.

The PSC recommends that reporting from the Australian program be made more widely available, especially at the ARPMs

3. The PSC recommends that project partners be alerted to the implication of changes in the currency exchange rate which need to be continually monitored
4. The PSC recommends that the project pursue and clarify an inclusive and broad approach to conservation agriculture-based sustainable intensification including a basket of appropriate targeted options for farmers
5. The project was urged to clarify conflicting messages on conservation agriculture and the extension services. SIMLESA is promoting sustainable intensification CA-based systems. These conflicts should be minimized by policy briefs-ASARECA to be tasked to work on this in each country by assigning someone.

The PSC recommends that ASARECA should be approached to work with SIMLESA to develop policy dialogues and prepare policy briefs

6. The PSC recommends that the allocation of competitive grant funds should recognise the vital importance of the area of legume seed production including making seed available and promoting it to farmers e.g. initially allocate 10-20% of funds
7. The PSC reiterates the importance of capacity building in SIMLESA to facilitate training of the next generation of scientists