SIMLESA: Celebrating two years of achievements, defining the future

During 19-23 March 2012, over 200 researchers, policy makers, donors, seed specialists, and NGO representatives from Africa and Australia gathered in Arusha, Tanzania, for the second SIMLESA Annual Regional Planning and Review Meeting (ARPRM). Representation from the Australian Centre for International Agriculture Research (ACIAR), which generously supports the work, included nine members of the organization’s Commission for International Agricultural Research.

Participants shared lessons from the last two years and discussed better ways to design and implement future activities. Ten sessions addressed issues including project implementation, Australian-African partnerships, project and partner progress and lessons, and communications and knowledge management.

The meeting also had a special dialogue session with donor partners present (International Livestock Research Institute, International Development Research Centre (IDRC), Bill and Melinda Gates Foundation, Association of Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), United States Agency for International Development (USAID) and ACIAR) on enhancing cooperation among different projects and new initiatives on sustainable intensification of small holder agriculture in Africa. Workshop participants were given an opportunity to ask questions related to sustainable livelihoods in Africa. The panelists were selected from these donor agencies. It was concluded that more needs to be done in as far as generating knowledge on the operational environment of smallholder farmers is concerned.
Participants also agreed that the issue of input markets needs to be addressed if at all smallholder productivity is to be addressed.

A key message was that SIMLESA had consolidated and strengthened activities across all objectives, maximizing gains from integration, innovation, information, and technology diffusion for greater impacts on livelihoods and agro-ecosystems. It was noted that the use of integrated systems can foster productive intensification of agriculture and, indeed, the Innovation Platform Framework, supported by science and partnerships, can contribute to productive, sustainable and resilient maize-legume systems. For even greater impact, the program should rely on stronger leadership from agribusiness, while supporting the public sector’s role, and ensure a farm-income focus to reduce poverty.

Another key message was to strengthen Australian-African partnerships through better delivery of research products, capacity building under any of ACIAR’s four thematic areas, bridging research and extension, strengthening policy and socioeconomic research, and building individual and institutional capacity.

Speaking at SIMLESA’s second “birthday party,” Joana Hewitt, chairperson of the ACIAR Commission for International Agricultural Research, reiterated the Australian government’s commitment to long-term partnerships with African governments.

Participants also heard of the new SIMLESA Program in Zimbabwe, focusing on crop-livestock interactions. During the dinner, Kenya and Mozambique were recognized for their efforts in promoting and strengthening local innovation platforms.

In addition to SIMLESA’s Project Steering Committee and the Mid-Term Review Teams, the event drew representatives from USAID’s Farmer-to-Farmer Program, from the International Development Research Centre (IDRC), the African Agriculture Technology Foundation (AATF), the International Livestock Research Institute (IITA), and the Agricultural Research Council (ARC) of South Africa. SIMLESA is implemented in five countries—Ethiopia, Kenya, Tanzania, Malawi, and Mozambique—with plans and potential spillovers benefiting Uganda, South Sudan, Rwanda and Botswana. Representatives from all those countries interacted at the meeting.

This was indeed a special ARPRM: it attracted the highest decision making board within the Australian Centre for International Agriculture Research (ACIAR) that was represented by nine commissioners. SIMLESA’s Project Steering Committee and the Mid-Term Review teams also actively participated in the ARPRM. The meeting also attracted participation from the United States Agency International Development’s Feed The Future Program, IDRC, AATF, ILRI and ARC. For the first time participants from SIMLESA spillover countries - Uganda, South Sudan, Botswana and Rwanda - had a chance to participate in the conference and interact with researchers from the five African SIMLESA implementing countries and Australian counterparts.

A SIMLESA “village” posters, seed company products, videos including those of farmers’ testimonies allowed partner representatives and researchers to showcase achievements. Visits to Karatu and Mbulu—Tanzanian sites where SIMLESA is present—demonstrated how the project is transforming agriculture.
SIMLESNA praised for innovativeness and immediate impact

“It is very clear that SIMLESNA has made very good progress and also shown some adoption on the ground from the technologies introduced despite the short period of implementation.”

This was the conclusion of Dr. Hussein Mansoor, Assistant Director, Crops Research, Ministry of Agriculture, Food Security and Cooperatives, Tanzania, when he officially closed the Second SIMLESNA Annual Regional Review and Planning Meeting, held during March 19-23, 2012, at Mount Meru Hotel Arusha, Tanzania.

He noted that the big interest shown by the private sector particularly the seed companies is a very big factor which will facilitate the implementation of SIMLESNA in the different countries. He called on the National Agricultural Research Systems (NARS) and other partners to link with the seed companies and agro-dealers to ensure that participating farmers get good quality seed, fertilizers and agro-chemicals on time and at affordable prices.

He reminded the participants that maize and legumes like beans and pigeon peas are both staple and commercial crops in most of the participating countries. “SIMLESNA can increase adoption and impact of the technologies if they make deliberate efforts to link the farmers with market outlets so that they can sell their produce and at the same time get good prices. This will stimulate internal production, consumption and income generation.”

He thanked ACIAR for funding SIMLESNA. He also appreciated the technical backstopping and execution of SIMLESNA by CIMMYT and other regional and international partners like ICRISAT, ASARECA, ARC, QAAFI, DEEDI, ARC and Murdoch University. “These partners have contributed very much in this short period to food security, income and improved livelihoods for our small holder farmers in the participating countries.”

SIMLESNA rekindles memories of bumper harvests in Tanzania

Susan Isaiah, 49, from Bargish-Uwa Village in Mbulu District remembers Junes of the late 1970s and early 1980s with nostalgia: they were the months for song and dance, feasts and drinks, joy for the bumper maize harvests. But that was then.

Poor production techniques, declining soil fertility, erratic and unreliable rainfall exacerbated by vagaries of climate change have lowered maize yields to a bare minimum - almost 1-2t/ha – and continue to drive this negative trend, creating despair among the millions of Tanzanians who depend on maize for food and cash.

While this worrying trend is still haunting many, a group of farmers in Mbulu and Karatu Districts in Tanzanian are beaming with hope and optimism of a possible return of the carnivals. Trials introduced in 2010 by the CIMMYT-led Sustainable Intensification of Maize-Legume cropping systems for food security in Eastern and Southern Africa (SIMLESNA) project hold promise of transforming agricultural fortunes in the regions.

SIMLESNA is a four year project that was launched in March 2010 and is funded by the Australian Centre for International Agriculture Research (ACIAR). In Tanzania, the project is implemented by Selian Agricultural Research Institute (SARI) and the Agricultural Research Institute (ARI) Ilonga both of the Ministry of Agriculture, Food Security and Cooperatives. It is also being implemented in Ethiopia, Kenya, Malawi and Mozambique.
The weather in Karatu and Mbulu over the last two years has not been favorable causing major yield losses. But these vagaries of weather had little impact on conservation agriculture (CA) and mother-baby trial plots. The purpose of the CA plots is to test and develop productive, resilient and sustainable smallholder maize-legume cropping systems and innovation systems for local scaling out. From the mother-baby trials, farmers choose varieties that interest them from a central “mother” trial and test them out on their own farms in “baby” trials, as a way of evaluating new drought tolerant maize and legume varieties under farmer-managed conditions.

Only in the second season of CA trials, excitement, hope and optimism have replaced the initial skepticism that Susan had for the entirely new technology. While the granny has been harvesting 3-5 bags of maize per acre under her traditional practice, she has been able to average 4 bags and 5 bags of 100 kg each from just 0.25 acres under CA and conventional practice respectively (using improved varieties and recommended agronomic practices).

Despite little difference between CA and conventional plots Susan however, was keen to adopt CA. She said it was cheaper and less labor intensive compared to both conventional and farmer’s practice.

Explaining the little difference in yields, Edward Duru, Agricultural Extension Officer from Bargish Uwa Village explained that, about five years of practicing no-tillage agriculture coupled with crop residues retention are required before soil properties improve.

Similar excitement is also being experienced in the neighboring Karatu District, where the weather has been even more disappointing than in Mbulu. With little options or dwindling farm fortunes, Isaac Sule, 29, from Rhotia Village was quick to try out CA. It was such belief in the system that he scaled to one acre just after one season of trials and was not disappointed. Despite poor rainfall, he managed to get 15 bags of maize (100kg each) from the one acre CA plot compared to 9 bags he got from 3 acres under traditional practice. It was such impressive performance of the CA plot that the Ministry of Agriculture hosted a farmers’ field day on his farm to showcase the benefits of CA.

Dahai Lawala from Kilima Tembo Village, Karatu, cherishes the day he accepted to participate in the CA trials. As usual, farmers planted in early March, at the first drop of rainfall hoping that it was the onset of the anticipated long rains.

“I planted the trial plots – CA, conventional and farmer’s practice –on the same day, March 6, 2012. However, it did not rain in the area until April 10, 2012,” states the 61-year old father of four. “But what I saw on the CA plot has reinforced my belief and resolve to convert to CA. In the other plots that germination was very poor, coupled with poor moisture retention, plants could not withstand the prolonged dry spell. On the other hand, germination on the CA plot was over 75 percent with plants remaining relatively healthy throughout the growing season.

“I now know that this impressive performance on the CA plot was due to improved moisture retention,” states Lahai. “And the advantages of CA go beyond just moisture retention: it reduces soil erosion, improves soil fertility and cost saving.” Lahai who has been getting an average of 30 bags from his 3 acres is now looking forward to getting at least 20 bags per acre.

Equally excited is another group of farmers in Mbulu who have been involved in mother-baby trials that are not only introducing improved maize and legume varieties, but also demonstrating best farming practices that they can choose from for adoption. There were six improved maize varieties under evaluation in the mother trials in Mbulu: SC 627, UH6303, LISHE2, SELIAN H308, SELIAN 208 and SAH636/638.

Leonard Lucas, from Masqaroda Village in Mbulu District could not afford to hide his happiness after finding the varieties he has been looking for. The varieties that impressed him were SC 627 and UH6303. For the third consecutive season, these varieties have outperformed others under evaluation in the mother trial. Both are high yielding, early maturing, and drought tolerant. He has already planted these varieties on 2 acres and hopes to expand to 4 acres next season.

Petro Bohay a young farmer in Masqaroda Village in Mbulu District chose UH6303 variety. The criteria for his choice were based on: yield, maturity, taste when roasted or boiled and more importantly, drought tolerance since Masqaroda receives less than 300mm of rainfall per annum. His neighbor, Nawe Noah, who planted a local variety, lost much of his crop due to drought. Although it was the first time Petro Bohay was participating in the mother trials, he was so impressed with UH6303 that he plans to plant it on his entire 3.5 acres next season.

Petro Bohay (in red), a young farmer in Masqaroda Village, Mbulu in his mother trial.
During 27-28 April 2012, CIMMYT’s Socioeconomics Program organized a formulation meeting in Addis Ababa, Ethiopia for its Technology Adoption and Intensification Pathways project. More than 35 participants from five African countries attended the meeting. The group included economists, agronomists, and breeders, drawn from CIMMYT; the Australian Center for International Agricultural Research (ACIAR); the International Food Policy Research Institute (IFPRI); the International Livestock Research Institute (ILRI); national agricultural research institutions; the University of Queensland, Australia; the Norwegian University of Life Sciences (UMB); and universities from member countries of the Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA) project.

The objectives of the meeting were to discuss the project proposal with stakeholders, reflect on the in-house review comments by ACIAR, and develop the full proposal by developing a clear impact pathway. The four-year project is expected to develop actionable strategies and policy options for technology targeting and facilitating the adoption of integrated interventions.

The director of the Australian International Food Security Centre (AIFSC), Mellissa Wood, gave a keynote address on “New opportunities for enhancing food security in Africa”. She noted that food security remains an ongoing challenge in Africa, to which Australia is well placed to contribute thanks to its agricultural research expertise. The Australian Government has therefore renewed its focus on food security through rural development initiatives and the establishment of AIFSC. She pointed out that AIFSC’s mission is to accelerate demand-driven research, delivery and adoption of innovations to improve food security, by bridging the gap through agricultural research; understanding the requirements of smallholder production systems; understanding constraints to adoption of research outputs; and devising new modalities to overcome such constraints.

The meeting also benefited from key presentations by CIMMYT, partner institutions, and universities on key topics; break-out group discussions; and a brainstorming session. The new project has four main objectives: (1) panel data collection in sentinel villages and understanding of barriers to technology adoption; (2) risk analysis and adaptation options to manage climate risk and variability; (3) impact assessment and analysis of household intensification pathways; and (4) capacity building in gender-disaggregated agricultural policy analysis and communication of results.
CIMMYT team wins CCAFS recognition

On 29 April, CIMMYT had a double reason to celebrate, picking up the award for “Best gender paper” and “Best science paper” (along with Bioversity), at the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) Science Conference in Copenhagen. The conference was part of a series of CCAFS meetings held from 29 April – 02 May, and was attended by various CIMMYT staff.

The best gender paper, titled ‘Adoption of Agricultural Technologies in Kenya: How Does Gender Matter?’ and co-authored by Simon Wagura Ndiritu, Menale Kassie and Bekele Shiferaw, highlighted the differences between technologies adopted on female- and male-managed farm plots in Kenya. They found that whilst there were gender differences in the adoption of technologies such as the use of animal manure, soil and water conservation, other differences in the use of chemical fertilizers and improved seed may stem from the varying levels of access to resources for men and women, rather than gender itself. “This recognition inspires me to put more effort to produce more quality research that will bring excellent distinction to CIMMYT and myself,” said Kassie, while Ndiritu said “it is an encouragement to a young scientist,” adding that he is looking forward to having the paper published. The paper was based on SIMLESA baseline survey conducted by CIMMYT and KARI scientists with financial support from ACIAR.

The winning science paper, ‘Assessing the vulnerability of traditional maize seed systems in Mexico to climate change’, was authored by David Hodson (FAO), and Mauricio Bellon (Bioversity) and Jonathan Hellin from CIMMYT. With climate change models predicting significant impacts in Mexico and Central America, particularly during the maize growing season (May – October), the paper assessed the capacity of traditional maize seed systems to provide farmers with appropriate genetic material, under the anticipated agro-ecological conditions. Their results indicated that whilst most farmers will have easy access to appropriate seed in the future, those in the highlands will be more vulnerable to climate change and are likely to have to source seed from outside their traditional supplies, entailing significant additional costs and changes to the traditional supply chain.

To share the good news, the Socioeconomics Program hosted a get-together with the team in Nairobi, Kenya.

SIMLESA Expansion Project launched in Ethiopia

Scientists from CIMMYT, Ethiopian Institute of Agricultural Research (EIAR), Regional Agricultural Research Institutes (RARIs), ILRI, and other partners and collaborators met in Addis Ababa, Ethiopia during 24-25th April 2012 for the SIMLESA Expansion Project Inception and Planning Workshop. SIMLESA Expansion Project in Ethiopia, in addition to maize-legume systems, will explicitly address issues related to fodder and forages in mixed crop-livestock systems in drought prone areas, in particular, the issues of reduced fodder availability due to the encroachment of crops on traditional pasture lands, the increasing reliance on crop residues for fodder, and the lack of appropriate forage/fodder species in the face of these constraints.
SIMLESA Expansion is a two-year A$ 2.2 million project that aims to improve rural livelihoods in drought prone areas of Ethiopia through productive and sustainable maize/legume/livestock systems and risk management strategies that conserve the natural resource base. The project activities will be implemented in three maize-legume-livestock based farming systems in the country: Pawe-Adet corridor (North-West Ethiopia), Jijiga area (Eastern Ethiopia) and drought prone areas of Southern Ethiopia.

The project, funded by ACIAR and led by CIMMYT, will be implemented in collaboration with EIAR, RARIs, public and private seed companies, and Regional Bureaus of Agriculture. The RARIs involved includes South Regional Research Institute (SARI), Amara Regional Research Institute (SARI) and Somali Regional Pastoral Agro-pastoral Research Institute (SORPARI).

The purpose of the meeting was to present the project activities, expected outputs and targets to partners; develop site specific work plan and budgets, share responsibilities among the partners. Accordingly, Dr. Dagne Wegary presented the background and overview of the expansion program, and its linkages with the main SIMLESA, which has been on-going since March 2010. Dagne pointed out that even though livestock are a common component of most farming systems in eastern and southern Africa, nowhere is the case more important than in Ethiopia where large number of livestock population are kept for a variety of purposes including draught power, milk production, transportation, manure (for fertilizer and fuel), asset building and cash generation. Apart from grazing on natural herbages, often on communal land, the most important livestock feed resources are crop residues produced on-farm. However, with increase in population pressure and land scarcity, grazing land is shrinking and livestock increasingly depend on residues. Therefore, fodder and forages issues should be critically addressed in mixed crop-livestock systems.

Dr. Adefris Teklewold, Crops Research Director of EIAR, in his official opening remarks, underlined that agriculture supports the direct livelihood strategies for people living in rural areas and equally contributes to the national economic development of Ethiopia. He mentioned that technologies, information and knowledge that sustainably increase agricultural productivity and at the same time reduce down-side risks are highly required for improving the livelihoods of rural community and national economic growth. Launching SIMLESA Expansion program is in line with the Ethiopian Government development strategy as maize, legumes and livestock are among the policy supported commodities and top the national food and income security agenda.

Dr. Bekele Shiferaw, Socioeconomic Program Director, CIMMYT, outlined implementation strategy, targets and impact pathways of the expansion program. He presented vision of success, objectives and main activities under each objective; and also indicated the number of households expected to be reached during the project period and technology scaling out through step-wise adoption strategy to reach as many farmers as possible beyond the set targets.

Dr. Mulugeta Mekuria, SIMLESA Project Leader, CIMMYT, highlighted progress of the program during 2010-2012 in terms of improving food security in ESA through science, partnerships and innovation systems. Mulugeta explained the approaches adapted by SIMLESA, which is based on six Is: integration (systems), innovation platforms, impact orientation, information (accessibility), inputs (availability/supply) and institutions (linkage/partnership). He also indicated that the expansion program can benefit from the main SIMLESA through sharing:

- Experiences in coordination and implementation
- Protocols for characterization of SIMLESA research communities, including results of baseline surveys
- Knowledge on CA technologies from SIMLESA communities
- Maize and legumes varieties identified and promoted for CA based systems evaluations under SIMLESA
- Initial experiences in innovation platforms
- SIMLESA’s monitoring and evaluation frameworks

The meeting developed specific work plans for each region that will be implemented mainly by SORPARI, ARARI and SARI in collaboration with other partners, under the national coordination of EIAR.
MELISA: Mechanization for SIMLESA

Farm mechanization increases agricultural productivity, profitability of farming and labour productivity. However, farm mechanization has progressed little if at all in sub-Saharan Africa, due to a lack of demand, promotion of unsuitable or unreliable machines, little support infrastructure, promotion of inappropriate machinery, an overriding development focus on seeds and fertilizer, and negative perceptions about the social and equity effects of mechanization.

During 10-13 April 2012, more than 50 participants from 12 countries in eastern and southern Africa took part in a workshop organized by the CIMMYT global conservation agriculture program to re-explore the issue and help develop a proposal for the project “Mechanization, entrepreneurship, and conservation agriculture to leverage sustainable intensification in eastern and southern Africa” (MELISA), which will build upon the ACIAR-funded project SIMLESA. The group included agronomists, socioeconomists, agricultural engineers, and private sector representatives. Re-opening the debate about mechanization was deemed timely because farming in the region relies on increasingly fewer draft animals, tractor hiring schemes have collapsed, field labor is in ever-shorter supply, and the extreme drudgery of many farm operations often falls to women and generally makes agriculture unattractive to the young.

The project is expected to build on experiences with small-scale, intensified farming systems in South Asia—for example, 80% of all operations in Bangladesh are mechanized and mostly done by service providers—and on SIMLESA networks and activities to test and promote conservation agriculture. Both small-scale mechanization and conservation agriculture promise to improve smallholders’ “power” budget: mechanization increases the supply, whereas conservation agriculture reduces the demand by about half; thus smaller, more affordable sources of power, such as two-wheel tractors, can be used. Similarly, shifting from draft animals to tractors would free up substantial biomass (a pair of oxen consumes about nine tons of forage per year) that can be left as residues on the soil.

For specific objectives, MELISA will (1) evaluate and demonstrate small-scale motorized conservation agriculture technologies in Ethiopia, Kenya, Mozambique, Malawi, Tanzania, and Zimbabwe, using expertise, knowledge, skills, and implements from Africa, South Asia, and Australia; (2) test site specific market systems to support mechanization in those countries; (3) identify improvements in national policies and markets for wide adoption; and (4) create awareness and share knowledge about mechanization. The project will be submitted to ACIAR Australia and, if approved, could start in late 2012.
Building capacity of young scientists to effectively implement SIMLESA in Ethiopia

During 7-12 May, 2012, young researchers, extension staff and field workers implementing SIMLESA in Ethiopia attended a capacity building workshop at Melkassa Research Center, Adama, Ethiopia. The course, organized and facilitated by the Agricultural Research Council of South Africa, was designed to empower the participants with technical skills in conservation agriculture and soft skills in Innovation Learning Platforms.

Topics covered included: extension skills, communications skills; action research; conservation agriculture and agronomic practices; participatory research; and the development of Innovation Platforms. Indeed, a key output of the training was the development of action plans for up scaling of conservation agriculture as well as strengthening of Innovation Platforms in Ethiopia. The participants recommended the following topics for inclusion in future courses: practical pest and disease management; seed resistance (basic concepts); practical and operational training of field crops and machinery; data management and analysis; gender mainstreaming; conflict management in existing Innovation Platforms; knowledge information management; conservation agriculture models and software; statistical software application; breeding techniques; value chain analysis; and extension methods.

The training was attended by 32 participants drawn from Bureau of Agriculture, NGOs, seed enterprise and unions, main SIMLESA implementing research centers namely Pawe, Melkasa, Hawasa and Bako, and SIMLESA Expansion regional research institutes - Somali Regional Pastoralist and Agro-Pastoralist, and South Agricultural Research Institute. Facilitators from ARC included Colletah Chitsike (Innovation Platforms & Extension), William Deale (Conservation Agriculture) and Annelie De Beer (Oil Seed Crops).
Local Innovative Platforms: a case of SIMLESA Kyeni trials site in eastern Kenya

Establishment and maintenance of innovative platforms is one of the operational approaches for technology transfer in the SIMLESA project. The Kyeni local innovative platform (LIP) was established in May 2010 with the aim of evaluating and scaling out maize-legume intensification technologies and knowledge for improved food security in eastern Kenya. The LIP covers four sites: Kyeni and Mweru in wetter eco-regions and Mariani and Mworoga in drier zones where 21 farmers are hosting the SIMLESA project exploratory trials to validate and scale up/out maize and legumes cropping systems on the basis of CA techniques in the region.

Members of the Kyeni LIP are drawn from diverse groups as indicated in the Figure below with their main roles summarized in the table (page 11).

Some of the achievements of the LIP that made it share top honors (with Mozambique) at this year’s SIMLESA Annual Review and Planning Meeting in Arusha, Tanzania include:

- Prepared “constitution document” to guide the members. The document has already been used to formally register the Kyeni LIP with the government’s registrar of local institutions for wider recognition in the country.
- Hosted over 30 local, regional and international parties on behalf of SIMLESA Kenya project. Hosted four field-days in wider Kyeni attracting 70 exhibitors and over 6500 attendants.
- Participated in 14 maize and 18 bean PVS events with the aim of identifying the most suitable and appropriate legumes and maize varieties for the region. The highly scored varieties have already been recommended for use in the agronomic trials and/or further seed production/distribution to the demanding groups. The exercise saw non-performing varieties being recommended for withdrawal from the region.
- Bulked and distributed over 250 kg of Embu synthetic maize variety and 2000 kg of Embean-14 bean varieties to farmers. This was achieved through employment of informal seed systems that entail multiplication and distribution of clean legumes and OPV maize varieties, without involvement of the seed certification institution(s) but with back stopping from local researchers and extension providers. The approach ensured timely availability of participatory endorsed technologies to Kyeni and the neighbouring communities.

Names and strength of Kyeni LIP members as at April 2012. The bigger the diagram, the bigger the input level that the member is providing to the initiative.
The team embraced the agricultural product value chain (APVC) concept where members are currently processing and marketing/consuming products from their exploratory plots.

A key lesson from Kyeni LIP is that LIP operations are different from those of a farmer groups. The fundamental processes of a LIP involve members identifying challenges and opportunities; reporting on these; generating new knowledge through feedback; monitoring and evaluating outcomes; and mapping the way forward.

**Roles of Kyeni LIP members**

<table>
<thead>
<tr>
<th>Member</th>
<th>Key Role(s)</th>
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<tbody>
<tr>
<td><strong>SIMLESA Project’s trial farmers</strong></td>
<td>Provide trial farms, labor and some inputs for demonstrations</td>
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<tr>
<td></td>
<td>Provide information on area challenges and opportunities</td>
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<tr>
<td></td>
<td>Participate in evaluations and promotion of technologies</td>
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<td></td>
<td>Participate in bulking and distribution of planting materials</td>
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<td></td>
<td>Advice on the farm inputs and outputs markets</td>
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<td></td>
<td>Train partners on specific crops, CA and cropping system topics</td>
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<tr>
<td></td>
<td>Link Kyeni community with researchers, extension and other partners</td>
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<tr>
<td><strong>Project’s new farmers</strong></td>
<td>Provide trial farms, labor and some inputs for demonstrations</td>
</tr>
<tr>
<td></td>
<td>Scale out appropriate crops, CA and cropping system techniques</td>
</tr>
<tr>
<td></td>
<td>Participate in bulking and distribution of planting materials</td>
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<tr>
<td></td>
<td>Train partners on specific crops, CA and cropping system topics</td>
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<tr>
<td><strong>Agricultural extension providers</strong></td>
<td>Conduct training on group dynamics and other topics as needed</td>
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<tr>
<td></td>
<td>Participate in packaging and promotion of technologies</td>
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<td></td>
<td>Link the community to more partners</td>
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<tr>
<td><strong>Klimo Salama</strong></td>
<td>Provide farmers with crop insurance against risk (bad weather)</td>
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<td></td>
<td>Participate in collection of weather and socio-economic data</td>
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<tr>
<td></td>
<td>Train farmers on group formation and dynamics</td>
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<td></td>
<td>Train farmers on “Farming as Business”</td>
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<tr>
<td><strong>Freshco Seeds</strong></td>
<td>Multiply, pack and distribute appropriate seed to farmers</td>
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<tr>
<td><strong>Kenya Farmers Association</strong></td>
<td>Sell farm tools and other inputs and also give advice on the use of various tools and inputs.</td>
</tr>
<tr>
<td><strong>Agricultural Finance Corporation &amp; Equity Bank</strong></td>
<td>Provide farming or farm development credits and advice on how to utilize the finances on profitable ways and general banking services.</td>
</tr>
<tr>
<td><strong>Local administration (chiefs and assistant chiefs)</strong></td>
<td>Popularize together with LIP members the community events and technologies.</td>
</tr>
<tr>
<td><strong>Schools and Churches</strong></td>
<td>Same as the local administration</td>
</tr>
<tr>
<td><strong>Embu East Agricultural Development Stakeholder’s Forum</strong></td>
<td>Popularize together with LIP members the community events and technologies. Also hosts the district agricultural events that provide the LIP members with ground to showcase the SIMLESA project technologies and innovations</td>
</tr>
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**Kyeni LIP members evaluating conservation agriculture on-farm trials through farm-to-farm visit approach**
Helping Ethiopian farmers cope with climate variability

Understanding opportunities and risks associated with climate variability is key to developing adaptation or coping mechanisms. It is for this reason that SIMLESA organized Climate Variability Risk Management workshops for farmers and extension officers from Bofa (May 15-19) and Adami Tulu (May 21-25) where climate variability is likely to exacerbate agricultural production that is already constrained with low soil fertility and erratic and low rainfall.

The objectives of workshops were to: train SIMLESA site researchers and extension officers, on how participatory approaches will be helpful to better understand and manage climate variability and related risks; and improve farmers’ and extension officers’ awareness on how to reduce climate variability associated risks and increase understanding of their area climate variation impacts on production and their decision making.

A pre-workshop survey and focus group discussion enabled the team to understand the socio-economic situations, farmers’ perceptions of climate variability and related risks; and improve farmers’ and extension officers’ awareness on how to reduce climate variability associated risks and increase understanding of their area climate variation impacts on production and their decision making.

The visiting team was impressed by the quality of the implemented activities. SIMLESA Project management expressed its appreciation to Joseph’s commitment, coordination and leadership qualities to get things moving in the Eastern Zone.

Dr Said Silim, ICRISAT ESA Regional Director and SIMLESA PSC member had many years of partnership with the late Dr Mligo noted: “His work in Ilonga and working with SARI team contributed to release of improved varieties, expansion of area under pigeonpea from about 65,000 ha to over 220,000 ha and improved productivity per unit area.”

We express our heartfelt condolences to the family, colleagues and friends of the late Dr Mligo. May he rest in peace.
On 27th April 2012, a delegation of 13 men and 15 women, drawn from conservation agriculture (CA) exploratory trials implementing farmers, members of the research committee, community leadership and two extension officers from Tembwe Extension Planning Area (EPA) of Salima District visited farmers practising CA in Nkotakota District.

The objective of the visit was to enable the visiting farmers to share and learn from their relatively more experienced farmers in Nkotakota who have been implementing CA over the last six years with support from Total Land Care (TLC) and CIMMYT through funding from the International Fund for Agricultural Development (IFAD).

The exchange visit was facilitated by Mr. Donwell Kamalongo and Miss Florence Kamwana both from Chitedze Research Station, Dr Isaiah Nyagumbo, the Regional Agronomist with CIMMYT, and two staff members from the Department of Agricultural Communications.

Mr Nelson Mataya has been practising CA for six years. His trial plot had three main treatments: conventional ridge and furrow system; conservation agriculture maize pure stand; and conservation agriculture maize-cowpea intercropped.

The visitors were impressed with Mataya’s CA plots that had good residue cover, good weed control, reduced striga weed incidence and lower termite damage unlike the conventional plots that were suffering heavy weed infestation and termite attacked. Mataya told the visitors that with zero tillage and herbicide application, he did not have to engage in the labour intensive, time consuming and costly ploughing and weeding.

Mrs Belita Mareko, a widow also in her 6th year of practising CA, moved the visiting farmers with how she had found dignity in practising CA. She told the visitors that CA is ‘umasiye umatha’ meaning that practicing CA reduces the burden of being a widow. In spite of being sick for a long time, she still managed to grow and get good harvests from CA plots as she avoided the burden of ploughing and weeding. She happily told her fellow farmers that without CA she was nobody. She has built an iron sheet roofed house and sent her children to school using earnings from CA. She is food secure as she still had maize from last year’s harvest. She plans to practice CA on all her fields.

During the discussions, the hosts noted various challenges in CA and how they had solved them. Free-range livestock and burning of residues by mice hunters can present challenges to residue management. This can be overcome by sensitizing the community about the value of residues. Community leadership can also help to control livestock in CA plots through enforcing local by-laws and control of fire breaks.

Factors behind the successful CA up scaling were: training farmers to look at farming as a business; involvement of traditional leaders in CA programs; and exchange visits within the community helped to improve farmer to farmer training.
A team of researchers from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and CIMMYT have applauded the progress made by SIMLESA project in Tanzania.

The team comprising of NVPR Ganga Rao, Breeder with ICRISAT, Mekuria Mulugetta, SIMLESA Project Coordinator, Fred Kanampiu, CIMMYT Agronomist and Dan Makumbi, CIMMYT Breeder visited various locations between 27-31st May, 2012, in Eastern and Northern zones of Tanzania to monitor the project progress.

“I am very happy with the progress of the project,” stated Ganga Rao, a statement echoed by other team members upon conclusion of the visits.

In Tanzania, the project is operating in two diverse agro-ecologies in five districts of Northern (Karatu and Mbulu) and Eastern (Kilosa, Gairo and Mvomero) zones. Maize-pigeonpea intercropping system is one of the common cropping systems in these target districts.

During 2011-12 cropping season, on-station and on-farm evaluation trials are being conducted for maize and legumes (pigeonpea and common beans) in solo and inter cropping systems. Conservation agriculture (CA) experiments with maize and/or legumes are also in progress.

On 27th May, the team visited demo-plots at Agricultural show grounds in Morogoro, planted by Tanseed International and Ilonga Agricultural Research Institute, for Nane-Nane (meaning the eighth day of eighth month in Swahili). Nane-Nane is an agricultural and livestock products and services show organized by the Tanzania Agricultural Society (TASO) for eight days annually, August 1-8, which coincides with Farmers’ Day - a national holiday in Tanzania.

On 28th May, the team visited the Ilonga Agricultural Research Institute based in Kilosa District. SIMLESA team from Eastern zone presented progress made under various objectives including pigeonpea breeding and seed systems. Later, they visited an on-station breeding, agronomic trials and seed increase plots. They also visited the on-farm experiments on participatory variety selection (PVS) of pigeonpea and maize-pigeonpea intercropping under CA in Vitonga community in Mvomero District. Farmers indicated that they are interested in the early maturing-drought escaping pigeonpea varieties that are suitable for maize-intercropping.

On 29th May, the team visited an on-farm PVS of pigeonpea in Misingisi in Gairo District, where farmers indicated their preference to both medium and long duration varieties based on the yield potential, and suitability to grow in cropping systems. The team later visited Mandela’s on-farm CA experiments.

On 30th May, the scientists visited on-station experiments at Selian Agricultural Research Institute, and then proceeded to visit on-farm sites in Karatu District on May 31 where they monitored progress made in CA experiments (maize-pigeonpea), Pigeonpea PVS and intercropping experiments of maize-with beans.

Farmers were equally impressed with SIMLESA. During discussions, the farmers expressed their satisfaction with the good performance of pigeonpea, particularly its ability to withstand drought and therefore willing to buy.
Field day brings out the best of CA in Tanzania

On 17th May 2012, Selian Agricultural Research Institute (SARI) and CIMMYT organized a farmers’ field day in Bargish-Uwa village, Mbulu District, to demonstrate the performance of conservation agriculture (CA) technologies.

The occasion, which was graced by Mbulu District Commissioner, attracted over 1000 participants - 45% being women – who included farming communities from Daudi, Bargish-Antsi, Tlawi and Masqaroda, alongside agriculture officers, developments agents, seed dealers and researchers.

Visitors and hosts were very impressed with the exploratory trials evaluation by farmers, particularly the CA trials that clearly outperformed other treatments. For farmers participating in exploratory trials evaluation and visitors alike, CA was the technology of choice, a choice driven by crop performance, time and cost. “What impressed me most was the least time and cost required for land preparation and crop tendering” a participating farmer told the multitude of people attending the field day.

Farmers were equally impressed with the performance of some of the varieties under evaluation. From participatory maize variety evaluation trials, Selian H308 and H208 are among the most popular maize hybrids in Mbulu District as farmers ranked them second and third respectively among six varieties evaluated for drought tolerance, early maturity and high yielding.

SIMLESA spills over into South Sudan

South Sudan, Africa’s newest country, is set to benefit from the project “Sustainable Intensification of Maize-Legume Cropping Systems in Eastern and Southern Africa” (SIMLESA), following fruitful discussions between project representatives and South Sudan’s Ministry of Agriculture and Forestry (MoAF). Project coordinator Mulugetta Mekuria and agronomist Fred Kanampiu met with George Leju, Director General of Research, Training, and Extension Services, Cirino Oketayot, Executive Director of Research, and Luka Atwok, maize breeder, in Juba on 6 June 2012. Mekuria gave an overview of the project’s vision, focus, and accomplishments to date and explained how SIMLESA’s experiences can reach and benefit South Sudan. The opportunity for collaboration was first discussed in Rwanda in October 2011 and since then Atwok has attended a series of SIMLESA-organized trainings and workshops.

Leju welcomed the proposal and thanked CIMMYT and the Australian Center for International Agricultural Research (ACIAR, which funds the project) for considering South Sudan as a beneficiary of the work. “SIMLESA resonates well with the MoAF strategic plan as it addresses the core challenges of the country, which has emerged from war,” said Leju. Oketayot highlighted South Sudan’s research structure, current
priorities, challenges, and areas that need support, including an urgent need for capacity building. He also emphasized the importance of maize and legumes in the country’s farming systems and the potential impact of SIMLESA on these systems.

“ACIAR has availed initial funding for spillover activities,” said Mekuria. “The idea is to ensure that SIMLESA research results are quickly scaled out to countries like South Sudan and improve food security there.”

South Sudan scientists will join SIMLESA capacity building activities, attending core country and regional training events. “The project will also facilitate their travel to target country sites for activities like field days, so they get first-hand experience,” said Kanampiu. The first such capacity building initiative is planned for August this year, when CIMMYT will hold a workshop on basic agricultural research design and implementation.

In addition to a very productive meeting, Leju and Oketayot were also delighted to receive an information pack full of background on SIMLESA, as well as shirts and baseball caps.

**About the Bulletin**

This bulletin is a quarterly publication of the Sustainable Intensification of Maize-Legume based Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA) project, funded by Australian Centre for International Agricultural Research (ACIAR), and managed by the International Maize and Wheat Improvement Centre (CIMMYT). It is implemented by the National Agricultural Research Systems (NARS) of Ethiopia, Kenya, Tanzania, Malawi and Mozambique in collaboration with the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), International Crops Research Institute for Semi-Arid Tropics (ICRISAT), the Agricultural Research Council of South Africa (ARC), the Queensland Alliance for Agriculture and Food Innovation (QAAFI) in association with Queensland Department of Employment, Economic Development and Innovation, (QDEEDI) Queensland, and Murdoch University in Western Australia. SIMLESA aims to improve the livelihoods of smallholder farmers in drought-prone areas of Eastern and Southern Africa, through intensification of maize-legume cropping systems.

SIMLESA focuses on five countries in Africa—Ethiopia, Kenya, Malawi, Mozambique, Tanzania—and Australia, with spillovers anticipated in neighboring countries. The sustainable intensification of maize-legume cropping systems, while reducing yield variability, requires an integrated approach to the complex production and marketing system for these crops. Through participatory research and development with farmers, extension agencies, non-governmental organizations, universities and agribusinesses along the value chains, the program aims to improve maize and legume productivity by 30% and to reduce the expected downside yield risk by 30% on approximately 500,000 farms within 10 years.