SARD-SC and IRAD collaborate to improve maize productivity in Cameroon

A collaborative research project on the introduction of improved maize varieties in Cameroon through the Institute of Agricultural Research for Development (IRAD) was initiated by the coordinator of the Maize Improvement Program (MIP) at the International Institute of Tropical Agriculture (IITA), Dr Abebe Menkir, with the assistance of Dr Silvestro Meseka, SARD-SC Project Maize Breeder in early March 2013 under the Maize CGIAR Research Program (CRP 3.2). The Maize CRP opened a window of opportunity for IITA not only to introduce new maize varieties/hybrids into five agroecologies of Cameroon, but also provided a platform for IITA and IRAD scientists to interact in many ways.

Based on this backdrop, Support to Agricultural Research for Development of Strategic Crops (SARD-SC) organized a two-day workshop that brought together maize scientists and farmers from different parts of Cameroon and IITA scientists. Staff of the Agricultural Investment and Markets Development Project (PIDEM) and the national staff of Humidtropics in Cameroon were also at the meeting. The purpose of the workshop was to lay a solid foundation for implementation of a maize commodity sub-project using the value chain Innovation Platform (IP) approach with the potential of increasing the income of smallholder farmers in Cameroon.

IITA’s maize improvement program in Ibadan under the coordination of the SARD-SC project Maize Commodity Specialist, Dr Sam Ajala and Dr Chrysantus Akem, Project Coordinator initiated the idea of organizing a meeting to lay the foundation for the expansion of maize improvement in Cameroon. This idea was sold to IITA-Cameroon country representative, Dr Rachid Hanna, and the coordinator for annual crops for the north-west Cameroon, Dr Christopher Suh, who also doubles as the contact person for IITA’s Maize CRP project in Cameroon.

The meeting was held from 19 to 20 March 2015 with opening remarks by the representative of the Director General of IRAD, Dr Achukwi Daniel (Director of Scientific Research, IRAD). Five presentations were made which mainly

AFDB organizes financial management training for projects’ accountants

As part of the African Development Bank’s initiative to improve the performance of Nigeria’s public sector portfolio, the bank held a workshop on Effective Financial Management and Improving the Quality of Project Audit in March 2015 at AfDB, Abuja Office, for 11 Projects it funds in Nigeria which include SARD-SC project. The workshop was organized for Project Accountants, Internal Auditors and External Auditors of the projects. It was facilitated by Mr. Abraham Olufemi Ojo-Fajuyi, the AFDB Financial Management Consultant and Mr. Usman Mohammed, AFDB Principal Disbursement Officer.

The main objectives of the workshop were to provide an understanding of the Bank’s requirements regarding Financial Management at each stage of the project’s cycle and enhancing the quality and timeliness of audited financial statement to the Bank. The workshop also provided:

- Insight into the Bank’s approach to financial management for bank financed projects.
- An understanding of the external audit requirement of the Bank.

Mr. Oluseyi Fashokun - Project Accountant, Mr. Martins Ogunniiyi - Internal Auditor and Mr. Patterson Ariemuduigho - External Auditor (Baker Tilly Nigeria) attended the workshop.
The Fon of Nsongwa, HRH Fonguh E. N. Fongwade III in a group discussion

focused on the past and present state of maize improvement programs in Cameroon, the structure of IITA’s implementation of regional maize project(s) in West and Central Africa since 1987 to date, and challenges of regional collaborative research programs. The PIDIMA project in Cameroon and highlights of the SARD-SC project using the innovation platform (IP) of the commodity value chain approach (business unusual) and opportunities for IRAD’s maize improvement program to get involved in the two projects (SARD-SC and PIDIMA) were also discussed.

After a thorough discussion of challenges to maize improvement and identifying the windows of opportunity through the five presentations, thematic focused groups composed of (i) Agronomy and plant protection; (ii) Extension and farmers; and (iii) Breeding, were formed and tasked with the responsibility of identifying the missing links and opportunities for maize improvement in Cameroon. It was interesting to note that the Fon of Nsongwa, His Royal Highness (HRH) Fonguh E.N. Fongwade III, was fully engaged in the discussion (extension and farmers group). Doctors Akem and Meseka gave the back-up for the thematic group discussion.

Outcome of IRAD/IITA meeting

The three thematic groups identified several gaps (missing links) and opportunities for collaborative research programs that would help IRAD to improve maize productivity and production in Cameroon. These factors were prioritized based on the importance and urgency of addressing them at project level. Across the board, capacity building was identified as an important aspect to push forward research on maize improvement in Cameroon.

It was noted that participants were fully committed to the workshop indicating their readiness to implement collaborative research project(s). The concept of the IP introduced to IRAD and IITA-Cameroon by other projects including the Humid Tropics CGIAR Research Program needs to be revisited and tailored towards a commodity value chain approach.

There was a demonstration of the DUSE planter prototype invented by a lecturer at the University of Bamenda, Mr Godwin Bongham. The planter was used for planting maize, groundnut, beans, and soybean. It was made in such a way that the person planting walks upright without bending, which was said to be one health benefit to guard against backache and arthritis.

A team of six participants headed by Dr Hanna met with the IRAD DG, Dr Joseph A.M. Bedima. The meeting discussed partnerships and collaborative research work and research networking between IITA and IRAD. Dr Akem advised the authorities at IRAD to be proactive and respond to calls from strategic partners like IITA whenever the need arises.
Three Innovation Platforms launched in Sierra Leone

Three regional cassava Innovation Platforms have been launched in Sierra Leone to serve as the umbrella IPs for all cassava value chain actors within the country. The IPs were commissioned by Mr B. J. Bangura, Director of Agricultural Extension Services of the Ministry of Agriculture, Forestry and Food Security.

The IPs were Rogbaneh, Sewa and Kambui. Rogbaneh cassava IP was launched for the Kambi district for all the cassava value chain actors within the five northern districts of Kambia, Port Loko, Bombali and Tonkolili; Sewa Cassava IP is for cassava value chain actors in the southern region districts of Bo, Moyamba, Bonthe and Pujehun. Kambui Cassava IP serves as umbrella IP for cassava value chain actors in the Eastern region districts of Kenema, Kailahun, and Kono. Over 100 people attended the launching of the three IPS. Participants were cassava farmers, processors, marketers and machinery fabricators. The IPs were officially commissioned by Mr B. J. Bangura, Director of Agricultural Extension Services of the Ministry of Agriculture, Forestry and Food Security.

Prior to the commissioning, Mr Lansana Sesay, SLARI Senior Extensionist and IITA Resource person made a presentation on the concept of Innovation Platform which was new in Sierra Leone. The presentations emphasized on the purpose and usefulness of IPs in bringing a common understating among actors in a value chain. Mr Syl Fannah, Natural Resources Manager in Kambia and Kenema also made a presentation while Dr J.A whyte, the Southern region, IITA Country Representative’s presentation focused on the impact of IITA on cassava production in Africa.

The SARD-SC project seeks to increase food security and improve the income and living standards of small-holder farmers in 20 African countries, including Tanzania, by increasing the production of four important staple crops – maize, wheat, cassava and rice. It is funded by the Africa Development Bank (AfDB).

The Support to Agricultural Research for Development of Strategic Crops in Africa (SARD-SC) project which is promoting the production of the crop is also working on diversifying the methods of cooking and consuming cassava, introducing more exciting recipes.

While cassava is among the most important crops in the isle of Zanzibar, Tanzania, where it is ranked second to rice, the residents consume it in very limited and not so exciting ways. It is boiled or fried with oil and eaten as a snack/breakfast or stewed in coconut milk for lunch or dinner. This in turn limits the demand and market for the crop.

The DR Congo cassava team held a press conference to publicize its achievements in the country. Organised by Dr Marie Yomeni, Cassava Commodity Specialist, the press conference was attended by over 20 electronic media in the country, but majorly supported by RTNK (Radio and Television Ngoma ya Kivu).

Both Drs Yomeni and Leon Nabahungu made presentations on IITA and SARD-SC project respectively. Several notable people in the region attended the press conference. Among them were South Kivu provincial Inspector of Agriculture, the acting director of the National Research Institute of Studies and Agronomic Research (INERA), Dr. Benjamin Dowiya, IITA Kalambo Administrator, Mr Delvaux Kabike, the Murhesa Innovation Center Manager, Mr Charles Bisimwa and other eminent people.

Recently, the project in collaboration with one of its partner in the isle, Zanzibar Agricultural Research Institute (ZARI), held training for farmers, processors and traders on preparing additional food recipes using cassava. These included making cakes, bans, spicy porridge and chin chin – a snack made of fried stringy cassava (sort of like fried cassava spaghetti). These were made from high quality cassava flour (HQCF) – on its own or mixed with wheat flour. They also made chicken cassava pilau in which peeled cassava that’s cut into little pieces substituted rice in this popular dish.

The SARD-SC project seeks to diversify cassava food recipes in Zanzibar

Dr Marie Yomeni speaking to Journalists during the Press conference

Peeling cassava in readiness to make cassava pilao

DRC cassava team publicizes achievements through press conference

IITA country representative, Dr Jim Whyte addressing the audience
SARD-SC demonstrates improved cassava farming practices to spur production in Kigoma

The Support to Agricultural Research for Development of Strategic Crops in Africa (SARD-SC) project led by the International Institute of Tropical Agriculture (IITA) held a successful one-day farmers field day to demonstrate the improved cassava production technologies it was piloting to increase the crop’s productivity while at the same time conserving and maintaining soil fertility.

The event also enabled the project to get feedback from the farmers on the technologies that they preferred and which they would readily adopt to enhance productivity of cassava in the region to improve food and nutritional security and contribute to poverty reduction.

The technologies demonstrated at the event, held on 27 February 2014 at Kakonko District, Kigoma Region, in Tanzania, included intercropping and the use of fertilizers and new improved varieties.

“The improved cassava farming technologies being piloted by the project have the potential to significantly boost cassava production in this region and at the same time conserve soil fertility. However, the farmers will also need further training in order to adopt the new technologies being piloted,” said Dr Mugendi.

He added: “There is need to create awareness among the farmers on the importance of testing their soils so they can know the deficient minerals and the best crops to grow and fertilizers to use. They also need support in the testing.”

Cassava Mosaic Disease (CMD) and Cassava Brown Streak Disease (CBSD) were identified as major challenges threatening production of cassava in the region. Dr Simon Jeremiah from LZARDI briefed the farmers on the two diseases, their symptoms, and the measures to take to stop their spread.

He also urged farmers to invest in the production of clean seeds and to change to the improved cassava varieties which are tolerant to the two diseases that the project will recommend from its trials.

Mr Christopher Briton Chugwa, Chairman of a farmers group in Kibondo District, said the farmers’ day was important as it exposed farmers to new technologies that had potential to increase yields to motivate them to improve their farming practices.

Miss Veronica Laurence, a farmer from Kiobela Village, said the improved varieties and farming practices being demonstrated by the project had better yields compared to the local varieties and local practices. However she added lack of financial resources was a major barrier to many farmers in adopting the new technologies.

Thanking the project on behalf of the Kakonko District Commissioner, Mrs Tausi Madebo, the Division Officer, said that the technologies demonstrated a lot of potential to boost cassava production. She encouraged farmers to form associations and work as a group to tap into the existing market opportunities for the crop in the area.

Participants at the event included farmers from Kakonko, Kiobela, and Kasanda villages, government officials, and staff from LZARD and IITA.

The SARD-SC is a multinational project led by several CGIAR centers whose objective is to enhance food and nutrition security and contribute to reducing poverty in selected Regional Membership Countries (RMCs) in Africa. Funded by the African Development Bank (AfDB), it focuses on raising the productivity and profitability of cassava, maize, rice, and wheat.

It is being implemented in Benin Republic, Côte d’Ivoire, DR Congo, Eritrea, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.
Four cassava processing centers built in Sierra Leone

The SARD-SC project has built four cassava processing factories in four communities of Bo, Kenema, and Kono districts of Sierra Leone. Each factory is equipped with a well and other facilities for processing cassava into many products. The factories are to produce, process, and sell a wide range of cassava products.

It is envisaged that the establishment of the factories at strategic locations in the country, among other things, will align with appropriate components of the Sierra Leone’s Smallholder Commercialization Programme (SCP) of the National Sustainable Agriculture Development Plan; close cassava yield gaps and increase domestic utilization of cassava products; enhance application of technologies to drive down costs of production, processing and marketing; strengthen stakeholders’ capacities and skills to produce quality cassava products in quantities that respond to market opportunities; and promote collective action on value addition and expand marketing opportunities and profitability of cassava products.

The establishment of the factories was to ensure that draft regulatory frameworks and policies enhance the capacity of smallholder farmers in cassava enterprise development activities to promote cassava businesses. Cassava is the second most important food crop in Sierra Leone after rice. It is grown mainly in the rain-fed upland ecology by subsistence smallholder farmers across the country to supplement their staple crop especially during the ‘hunger season’ (July–August).

In Sierra Leone, the SARD-SC Cassava Project is building on prior cassava R4D investments to address many challenges in crop cultivation and production within a framework of collaborative efforts to facilitate shifts from the traditional techniques associated with low value and poor quality products towards value addition in order to commercialize cassava.

Completed processing center

Stakeholders appreciating the new processing centers

Project supports partners with quality cassava cuttings for planting

The variety named Sawasawa, the most popular and the most common in the Ruzizi Plain appreciated by farmers, had been performing poorly (low resistance to diseases and pests and lower yields) and became very sensitive to cassava brown streak without leaving the slightest chance for farmers to harvest usable roots.

The situation is critical and rapid intervention has been indispensable in order to overcome this crisis which would lead to a food disaster.

Testimony of Ms Mado from Bwegera

“For over ten years now, cassava farmers from the Ruzizi Plain mainly used the variety Sawasawa and no one could complain about the yield and resistance to diseases and pests that this variety offered.

However, in 2012 this variety started to perform poorly and became very sensitive to cassava brown streak that made its roots unusable. Abandoned to their fate, farmers had no choice but to resort to the local varieties and those from everywhere which unfortunately were still more susceptible to diseases and pests than Sawasawa”.

Action taken: To solve this problem, a series of training of farmers on “management of pests and diseases and the rapid multiplication of healthy cassava cuttings” was organized before the distribution of healthy cuttings of the improved variety (Nabana) was done in December 2014 in the Ruzizi Plain (Kamanyola, Katogota, Luvungi, Bwegera, Kiringye, Luberiizi, Sange, Runingu, and Kiliba).

More than 850 farmers benefited from this new planting material, among them are those who participated in one of the trainings on management of cassava cultivation organized by IITA through the SARD-SC Project. Each beneficiary received 125 mL that can cover an area of 625 m² each.

Success story: Six months later, after visiting the fields of cuttings of the beneficiary farmers, we were impressed not only by the state of the fields but also the testimonies of farmers like Ms. Vumilia of Luvungi. She said, “We thank IITA through its project SARD-SC for assisting us with this new planting material. We were at the point of abandoning the cultivation of cassava due to lack of a variety that can resist the famous brown streak disease”.

Ms Zuwena of Runingu who sees the real business as the sale of cuttings also said: “With this new material that we call Nabana which means “the mother of children”, we hope again to resume life normally. The fact that I am among

Above ground symptoms of CBSD

100% tuber loss from CBSD
Partners laud project’s intercropping farming method

Mrs Badesire Mastaki is a farmer in the site of Miti and also a member of the association called APSKA, which was invited to attend a field day organized by the SARD-SC Project IITA in February 2015.

Attracted by the intercropping culture system, she applied the system at home. She says: “I had cultivated 1.2 hectares of cassava in pure culture with all that this includes as maintenance work in the first months. When I participated in the field day, I understood that it was possible to capitalize on the space between two rows of cassava. I had already planted with spacings of 1 m × 1 m. After weeding, I added two bean rows between two cassava lines”.

Ms Valère had already received training on good cassava cultural practices. Hence she was able to take care of the cassava in monocropping. She added by saying, «this association has significantly reduced the number of weedicings while the bean was cultivated. I just collected 846 kg of beans that I never had and which I will use to buy myself a motorcycle and give to my son (19 years) to earn some money during the holidays in order to pay enrollment fees for him and his four brothers.»

M. Mastaki exchanging her observation during the last field day of 30 May 2015.

Perspective for the future of the beneficiaries: The departure fields set up by farmers from the received cuttings were regarded as fields of cassava production and not as fields for the propagation of cuttings. Later on, they realized that they could have enough material for planting to cover their needs from their small fields as witnessed by Mzee Adji, the head of the Muslim community in Luberizi. He said, “As the needs are huge, I would do the coppicing (phased cut of cuttings) instead of permanently harvest the field to have roots, this will allow me to have more material to cultivate more space in less time”.

“IITA could take this first step with other farmers who had not benefited from this planting during the first distribution, because at 6 MAP there are already some people who envy my field and come to steal the cuttings”, he added in conclusion.

Cassava value chain team donates motorcycles to partners in DRC

The SARD-SC project cassava value chain team in DR Congo recently donated motorcycles to some of its partners in order to facilitate their field activities in the South Kivu area of DR Congo. The beneficiaries were ISANDA, ACOSYF, and 8ème CEPAC, the principal project partners. Dr Marie Yomeni, Commodity Specialist and the Station Administrator Mr Delvaux Balyhamwabo made the donation to the partners who advised them to ensure good use of the motorcycles. Dr Marie Yomeni lauded the relationship between SARD-SC and the partners and the positive results of their collaboration with the project. The beneficiaries also received helmets, jackets, gloves, knee and arm protectors, and maintenance tools for the motorcycles.

Mr Joseph, the ISANDA Agronomist, expressed his appreciation to the project: “The IITA/SARD-SC project has made a difference in our partnership with this donation. It will go a long way to solve some of the problems we encounter in conducting our various field activities, especially considering the state of the roads and the distances from the sites to the fields. These motorbikes will make our task easier. We thank you and promise to take good care of them. Long live IITA/SARD-SC.”

Some of the motorcycles donated by SARD-SC project

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In Tunisia, The SARD-SC Wheat Project held its 2015 annual review and planning meetings in Hammamet from 9 to 11 January 2015. There were 18 participants including 2 women, from the hub countries of Ethiopia, Nigeria, and Sudan of the SARD-SC Wheat Project, the ICARDA team from Jordan, Egypt, and headquarters, and the Project team from the Tunis office. The objectives of the meeting were to jointly review the achievements/progress made during 2014 by project components/hubs/countries; to finalize the plan of work and budget for 2015 project activities and the procurement plan; and to assess the overall project implementation and monitoring and evaluation of SARD-SC Wheat.

After analyzing the overall project performance/achievements in 2014, evaluated and assessed against the anticipated goals, the project team reviewed the 2015 plan of work and budget, and procurement plan. Then the discussions focused mainly on: (i) nursery preparation and shipment, field visits, and technical backstopping; (ii) the seed component of SARD-SC wheat; (iii) best practices of growing wheat under mechanized raised beds and approaches for technology transfer to SARD-SC wheat countries; (iv) value chain studies in the three hub countries; (v) Dryland Agrobiodiversity and promoting in situ conservation and sustainable use in West Africa; (vi) the budget by component; (vii) the procurement plan; and (viii) key monitoring and evaluation (M&E) activities with performance indicators for 2015.

Traveling Workshop in Sudan

The International Center for Agricultural Research in the Dry Areas (ICARDA) in partnership with the Agricultural Research Corporation (ARC) of Sudan organized a Regional Traveling Workshop in lowland irrigated areas of Sudan, as a typical African lowland country, to demonstrate how improved wheat technology can raise wheat production in African lowlands despite the yield-depressing heat stress that prevails in these areas.

The workshop was held for six days during the wheat maturing period (from 25 February to 2 March 2015) with 30 participants from 10 African countries (Eritrea, Ethiopia, Kenya, Mali, Mauritania, Niger, Nigeria, Tanzania, Zambia, and Zimbabwe) in addition to a similar number from the host country and 10 from ICARDA.

The main objective of the workshop was sharing knowledge, information, and experiences and discussing ideas and thoughts on how integrated research for development and the innovation systems approach could bring various stakeholders along the wheat value chain together to effectively diagnose challenges and come up with sustainable solutions to enhance wheat production in Sudan and Africa. It was noted that following the startup of the SARD-SC wheat project in 2012, six Innovation Platforms (IPs) have been established within the country; one each in Northern State and River Nile State and two each in New Halfa and Gezira State. The total number of directly participating beneficiaries along the wheat value chain for these IPs is over 6000.

Within the travel workshop a National field day ceremony was held at Darweesh (Wad Elnaeem). Several high-level policy makers from Sudan and ICARDA officials attended the event. Guests of Honor included HE the Vice-President, Hassabo Mohamed Abderraftan; HE the Federal Minister of Agriculture and Irrigation Eng, Ibrahim Mahmoud Hamid Wali; HE Mr Mohamed Youssif Ali, State Minister of Agriculture; Mr Azhari Khalafalla, Director General of the Gezira Scheme; Mr Osman Samsaa Mohamed Elsheikh; stakeholders, and ICARDA senior management including the Director General Dr Mahmoud Solh, the Assistant Director General for International Cooperation Dr Kamel Shideed, and other senior managers and scientists from Egypt, Jordan, Lebanon, and Tunisia.

More than 500 farmers attended the field day where several speeches were given starting with that of the DG of ARC Prof Ibrahim Adam Eldukheri, followed by the Representative of the Farmers Union, the Director of the Gezira Scheme, the ICARDA Director General, the Federal Minister of Agriculture, and the Gezira State Governor. In his closing speech, HE the
Vice-President promised to make available to farmers credit where necessary, production inputs, and extension services to further strengthen wheat production in the country. He also indicated that from what was seen, the country will move forward to produce its wheat needs and confirmed government support for research and production of food crops, especially wheat.

The event ended with the signing of the Thermo-tolerance Platform by the Vice President and the Federal Minister of Agriculture and Irrigation of Sudan from one side, and the ICARDA Director General from the other. This Platform will be a Center of Excellence to serve the needs of African countries and similar regions for heat-tolerant varieties and relevant wheat growing technology in hot environments.

Gender workshop held in Sudan

The SARD-SC Wheat Project organized a Planning Workshop for “Strengthening the Integration of Gender into SARD-SC Wheat Sub-Project” during 3-4 March 2015 in Sudan. A total of 47 participants (20 women and 27 men) from the 12 SARD-SC Wheat countries attended the workshop.

The main results were the development of a 2-year Gender Work Plan (2015–2016) for strengthening the integration of gender into the SARD-SC Wheat Project in: (i) agricultural technology and innovation generation; (ii) agricultural technology and innovation dissemination; and (iii) capacity building and the design of a robust structure (with clear tasks, leadership).

Dr Solomon Assefa, SARD-SC Wheat Project Coordinator from ICARDA-Tunis, welcomed all the participants from the twelve countries, and Dr Dina Najjar, Gender research specialist from ICARDA-Amman, for her commitment. During his opening speech, he explained that the purpose of the workshop was to strengthen gender-responsiveness of ongoing activities within the SARD-SC wheat project by elevating the current level of women’s involvement to 30% of the project beneficiaries. This will result in wider outcomes that are equitable, involving all groups of the society. After the introduction of the participants, Dr Chrys Akem, SARD-SC Project Coordinator welcomed everyone and highlighted the importance of gender in realizing the overall goals of the SARD-SC project as well as the donors. He suggested to recruit a gender consultant for the SARD-SC project (Wheat, Cassava, Rice, and Maize), and expressed his sincere wish that the workshop would succeed in integrating gender into ongoing activities. The workshop discussions then focused mainly on the contribution of gender in wheat farming systems, and the strategy for integrating gender into the project. Participants thereafter suggested some specific actions to empower women, such as working on plots that are managed jointly by men and women; encouraging micro-credit provision to women; improving the skills of women in cleaning and processing; increasing the sensitization for men and women on the importance of women’s participation in the project’s three components; increasing the education of women; increasing the number of women extension agents to disseminate agricultural information/knowledge at the village level; encouraging women to organize themselves in a cooperative/ association of producers; and focusing on strengthening the potential of women to fulfill the project goals.

About SARD-SC

Support to Agricultural Research for Development of Strategic Crops in Africa (SARD-SC), is a multi-national CGIAR-led project, which has the overall objective of enhancing food and nutrition security and contributing to poverty reduction in selected Regional Membership Countries (RMC) in Africa. The target RMCs are: Benin Republic, Cote d’Ivoire, DR Congo, Eritrea, Ethiopia, Ghana, Kenya, Lesotho, Madagascar, Mal, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Zambia and Zimbabwe. The project is funded by the African Development Bank and its focus is on raising the productivity and profitability of four commodities; Cassava, Maize, Rice and Wheat. These are four of the six commodities that African Heads of States have defined as strategic crops for Africa, through the Comprehensive African Agricultural Development Programme (CAADP). The overall objective of the project is to enhance food and nutrition security and contribute to poverty reduction in the Bank’s RMCs. The specific objective is to enhance the productivity of and income from the four CAADP priority value chains on a sustainable basis. In real terms, the plan is to reduce food importation from other continents and offer farmers better access to markets, improve livelihoods and tackle poverty through enhanced capacities of beneficiaries in order to achieve sustainable development for the region.
The SARD-SC project maize team visited Zambia to assist the country’s project maize staff to establish, among other things, an Innovation Platform, enhance their capacity to conduct community analysis, and improve their understanding of the IP set up and operation. Professor Johnson Onyibe, Country Coordinator, Nigeria, SARD-SC Maize and Dr Ndji Coulibaly, Maize Coordinator, Mali, tasked to undertake the training visited Zambia last March 2015. The duo met with Dr David Chikoye, the IITA Director for the Southern Africa hub and solicited his guidance for the task. Thereafter, they held a meeting with the three scientists of the Zambia Agricultural Research Institute (ZARI) involved in the implementation of the SARD-SC maize project in the country on project implementation and the work plan. The scientists were Dr Peter Hamazakaza, Dr Friday Sinkamba, and Dr Abraham Mujova, while Hamazakaza drew up the list of assigned staff to each project and IP and outlined what needed to be done to ensure smooth implementation.

In preparation for establishing an IP in Mkushi, a meeting of stakeholders was held under the chairmanship of Patrick Mutale of Mkushi Department of Agriculture (DOA). About 50 participants attended the meeting including farmers’ representatives from Lweo and Nambo, staff from ZARI and Mkushi DOA, input dealers, bank officials, and NGOs. Dr Hamazakaza presented an overview of the SARD-SC project, and requested from participants an expression of interest in the IP membership.

Members of an Innovation Platform on a site visit

Many stakeholders expressed a willingness to participate and indicated the areas of their respective interests. Participants identified themselves as grain producers, private seed companies, banks, agrodealers, NGOs, input suppliers, traders, decision makers, media, research, extension, etc. The IP consists of two farm camps–Lweo and Nambo.

Mkushi DOA was made the IP secretariat and it is operated like the ADPs in Nigeria providing IP leadership and core field staff for the execution of field activities, while ZARI provides technical backstopping in collaboration with the SARD-SC maize team at the hub level.

During the course of the visit, a community analysis was conducted in Lweo where the maize team had an interactive session with farmers and they were subsequently adopted as Focus Groups (FGs) for their mission.

However, at the end of the meeting, the following recommendations were made for the success of the SARD-SC maize component:

• Oversight guidance from IITA-Ibadan in collaboration with the Hub Director to be established.
• Technical backstopping should be provided by ZARI.
• Timely funding of activities in Zambia.

The team proposed a plan to tackle some of identified constraints such as weed control, poor grain yield, declining soil fertility, and marketing through forging linkages and partnerships with grain buyers.

Improving soil health for sustainable maize yield in Nigeria

Micronutrient deficiency in soils across Nigeria has increased contributing in part to a reduction of maize yields especially in medium to high maize production intensity savanna zones. This has stimulated enormous interest in seeking soil amendment options that can be applied to correct identified micronutrient deficiencies and improve soil health upon which to anchor increased productivity of crops. Maize is a heavy feeder requiring balanced fertilization for high yields. In Nigeria, the fertilizer trade is substantially deregulated and fertilizer prices are competitive, sometimes prohibitively beyond what many farmers can afford.

The SARD-SC Maize Innovation Platform in Nigeria is committed to exploring options that will not only boost maize yields but also contribute to sustainable improvement of soil health. This also includes the use of soil amendments such as micronutrient varieties that can efficiently tolerate low nutrient regimes and agronomic practices. Indeed, the SARDSC-Maize Innovation Platform (IP) has adopted Integrated Soil Fertility Management options across the sixty target communities in Nigeria.

The project has successfully persuaded Cybernetics Nigeria Limited to partner with it to demonstrate micronutrient fertilizer broth at the IP2- Kaduna–Nassarawa IP. The company donated two cartons containing 24 kg of Agrolyzer micronutrients for demonstration during one of the IP meetings held at Zango Katafa LGA. Eight demo plots were established on soil with micronutrient enrichment using the agrolyzers in Kaduna and Nassarawa states.

Grain yield of extra early/early maturing multi-stress tolerant maize varieties (2000SYNEE WSTR QPM and TZECOMP 3DT) demonstrated increases of between 16 and 29%—2860 kg/ ha and 3181 kg/ha, respectively, in plots treated with micronutrient fertilizer in addition to normal levels of macronutrients. Average grain yield of untreated plots was 2466 kg/ha during the 2014 growing season. Farmers in the locality saw for the first time and appreciated the value of a balanced nutrient regime. More elaborate demos of integrated soil fertility improvement options for enhanced productivity of maize are planned for the IP having established the potential for raising yields using high-yielding, input-responsive varieties of maize.

Staff of Cybernetics Nigeria Limited donate two cartons of Agrolyzer micronutrient fertilizer at Zonkwa during an IP meeting.
A new technology named “GEM” (Grain quality enhancer, Energy efficient, and durable Material) parboiling technology has been installed in the Glazoué Innovation Platform in Benin. The technology is suitable for medium-scale operations (400–800 kg paddy/day) and was installed on a 9 m × 24 m area of land. The equipment was covered by a shed that is supplied with electricity from the nearby UNRIZ-C building.

The women beneficiaries tested the entire system for cleaning, soaking, steaming, and drying 280 kg of paddy rice. Using the two stoves, steaming tanks, and four steaming baskets, the women parboiled 70 kg of rice per batch in four batches. With each batch lasting 20 minutes, it took 50 minutes to steam the 280 kg soaked paddy rice. The women said that the steaming operation was very easy and fast and that the quality of the product was much higher than what they produce using their existing parboiling system. The GEM parboiling technology produced quality parboiled rice similar to premium imported rice. The heat conservation and distribution in the GEM system, the quantity of paddy steamed per batch (20 kg), and the fire intensity of the stove (28187 watts) allows the paddy to be uniformly steamed within 20–25 minutes.

The technology is simple to build and out-scale and thus it provides an opportunity to improve the quality and competitiveness of locally produced rice.

One unit costs 100,000 FCFA with a life span of 10 years. It would take three cast iron drums, which cost 45,000 FCFA, to parboil the same quantity of rice—this is equivalent to a cost of 2.16 million FCFA for 10 years.

NARS partners trained in gender analysis and mainstreaming in rice research for development in sub-Saharan Africa

AfricaRice has trained 24 NARS partners (21 women and 3 men) on gender analysis and gender mainstreaming in rice research for development in sub-Saharan Africa. The countries represented were Benin, Burkina Faso, Cameroon, Chad, Democratic Republic of Congo (DRC), Madagascar, Mali, Niger, Nigeria, Senegal, Tanzania, Togo, and Uganda. The training took place in Porto Novo, Republic of Benin.

The main purpose of the training was to enhance the capacity of Gender Task Force focal persons to conduct gender analysis for gender-smart technology development in rice production systems in sub-Saharan Africa. In African countries, women are highly involved in rice production, but social restrictions limit their participation in experimentation, demonstrations, and field visits. There is a need to increase their participation in agricultural research, development, and extension. The trainees were exposed to methodologies and tools for improving their capacity in gender integration in rice research for development in their respective countries and to increase women’s participation in the implementation of the SARD-SC project.
Thirty-six persons (5 males and 31 females) were trained at Dassa-Savalou on rice quality standards and certification for better access to markets. The trainees represented women parboiling associations in Dassa and Savalou (10), rice producers’ unions in Dassa and Savalou (2), and CADER (Rural Development Support Center)(2).

The objectives of this training were to strengthen the capacity of actors along the rice value chain within the Glazoué rice hub to produce good quality rice and develop business relationships that will increase the availability of local rice in urban and regional markets.

The growing modernization of agricultural markets represents an important challenge to African smallholder farmers and for post-production actors. Today, smallholder farmers should not only produce more efficiently, but must also be able to compete favorably in logistically complex markets. Changes in consumer preferences and the requirements of emerging distribution systems to satisfy a growing urban demand impose increased demands on product standards.

Participants learned national, rice-specific standards and specifications, how to obtain certification for their products, the certification process, the principles of developing business links with an emphasis on major contractual clauses, and the importance of using good quality seeds (homogeneous, high germination rate, etc.).

Now, Glazoué IP Rice value chain actors have a sufficient knowledge of the challenges to bring out local rice in the urban market. Through this capacity building, processors and producers can develop more high-quality rice, and thereby increase their income.

Kazuki Saito awarded 2015 Louis Malassis International Scientific Prize for Young Promising Scientist

For his significant work on enhancing rice productivity and farmers’ livelihoods in Asia and sub-Saharan Africa, Dr Kazuki Saito of AfricaRice received the Louis Malassis International Scientific Prize for Young Promising Scientists (2015). He has been working as a rice agronomist/agro-physiologist at AfricaRice, Benin, since 2006 and led the Africa-wide Rice Agronomy Task Force from 2013.

In the task force, he works with agronomists from 21 sub-Saharan African countries, including all the 11 SARD-SC countries and colleagues from AfricaRice. Some of the areas of work include yield gap assessment, participatory testing and dissemination of good agricultural practices, small-scale machinery, and decision support tools such as a free android-based application “RiceAdvice”. Innovations introduced by this task force are already reaching smallholder farmers across the 11 SARD-SC countries and are beginning to make a positive difference in their lives.

In collaboration with the Catholic Relief Services (CRS), Nigeria, RiceAdvice was tested in 30 farmers’ fields in Kano State, Nigeria in 2014 and increased rice yield by 0.7 t/ha on average compared to yield from farmers’ practices (Table 1). The ring and straight-spike mechanical weeding hoes are well adapted for use by women rice farmers who have started to use them for weeding their rice fields. Furthermore, IITA has demonstrated the effectiveness of these hoes for weeding on maize plots and is testing them on cassava fields.

Table 1. The performance of RiceAdvice in Kano, Nigeria.

<table>
<thead>
<tr>
<th>Fertilizer application rate</th>
<th>N (kg/ha)</th>
<th>P2O5 (kg/ha)</th>
<th>K2O5 (kg/ha)</th>
<th>Yield (t/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers’ practice</td>
<td>103</td>
<td>34</td>
<td>34</td>
<td>7.0</td>
</tr>
<tr>
<td>RiceAdvice recommendation</td>
<td>135</td>
<td>21</td>
<td>21</td>
<td>7.7</td>
</tr>
<tr>
<td>Local recommendation</td>
<td>102</td>
<td>56</td>
<td>56</td>
<td>7.1</td>
</tr>
</tbody>
</table>
Can you please tell us what your experience has been working with SARD-SC project in Tanzania?

My experience working with the SARD-SC project in Tanzania has been good as the project involved partners and other stakeholders in all important stages, i.e., planning, implementation, and evaluation as this creates a sense of ownership of the project to partners and stakeholders.

What is the relationship between Mikocheni Agricultural Research Institute and the SARD-SC project?

The relationship is good as it was built on an established relationship between Mikocheni Agricultural Research Institute (MARI) and ITA which started many years ago. MARI as one of the implementing partners enjoys a good relationship with the SARD-SC project; on the other hand, MARI provides land for project activities and allows MARI workers and some facilities to be used for project activities.

How does the research Institute assist the project and vice versa in improving cassava cultivation in Tanzania?

The Institute and the project assist each other in improving cassava cultivation in Tanzania by sharing expertise (chemical weed management), information (baseline data), and experience in issues related to improving the cassava subsector in Tanzania. Furthermore, the Institute provides land and other facilities for project research at its two sub-stations Chambezi and Mikuranga where in turn the project assists in maintenance of some facilities that are used by the project.

How would you assess the result of the project baseline study conducted on the adoption of improved cassava varieties by surveyed households hovering around 45% while intensity of adoption is 24% of the area grown of improved cassava?

Based on my knowledge and experience on farmers in Tanzania towards improved technologies, I accept the data as adoption is a process whereby the duration or the incubation period of the process varies with places, communities/societies, and socioeconomic factors associated with cassava production in a particular society. It is possible to have 45% of household (HH) access/have improved varieties but changing the cassava cropping system to improved varieties is a slow process where farmers will have large plots with local varieties and small plots with improved varieties hence only 24% of the land is under improved varieties. But this data can change with time based on the confidence of the farmers on the improved varieties that will lead them to have large plots with improved varieties and small plots with local varieties.

Why is the adoption rate of improved varieties of cassava still low and how do we ensure that more households and farmers adopt the improved varieties of cassava?

The rate of adoption of improved varieties is still low probably due to lack of awareness, lack of associated technologies (production and value addition technologies), lack of knowledge on markets and marketing and other socioeconomic factors related to the cassava subsector, and lack of supportive policies. We can ensure more House Holds adopt improved varieties of cassava by creation of awareness of the improved varieties, development of associated technologies (production and value addition technologies), enhancing capacity of stakeholders’ knowledge of markets and marketing and work on the socioeconomic factors related to the cassava subsector, and influencing the development of supportive policies. On the other hand, facilitation of operationalization of the Innovation Platforms will play a great role in solving a number of issues in the cassava subsector hence improved adoption and improvement of the subsector.

Specific technologies are chemical weed management, the use of inorganic fertilizers, mechanization in planting and harvesting, and recommendation on intercropping and leaf harvesting.

Chemical weed management: This technology will improve cultivation by allowing farmers to increase the area under cultivation as weeding will be easy (reduced drudgery), efficient, and with a short time span. By using herbicides it is will be easy to observe the critical period of weed competition which in turn increases yield of cassava.

The use of inorganic fertilizers: Since most of the cassava growing areas are of low inherent soil fertility then application of inorganic fertilizer will definitely improve productivity of cassava. On the other hand, expanding the area under production to marginal areas will give good yield under the application of inorganic fertilizers.

Mechanization in planting and harvesting: Farmers cultivate small pieces of land for cassava because of lack of labor. Mechanization of farm operations for cultivation, planting, and harvesting will encourage farmers to increase the area under cultivation hence increased production and productivity.

Recommendation on intercropping and leaf harvesting: The intercropping technology will improve land productivity by having both cassava yield and a yield of intercropped crop; the recommendation on leaf harvesting will enable farmers to harvest leaves without affecting yield.

Can you mention any specific technological or agricultural innovation the project has introduced into cassava cultivation in Tanzania or beyond your country?

The project has produced/distributed improved planting materials, and facilitating the construction of processing plants and enhancing the capacity of the stakeholders in the production and value addition of the products have a direct impact on cassava subsector.

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