

# Feeding the Future

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## Twenty-fifth anniversary

### Transformation based on historic legacy

In Bamako, Mali, in 2006, the Sasakawa Africa Association (SAA) marked the 20th anniversary of the Sasakawa-Global 2000 (SG 2000) agricultural initiative in Africa. Nobel Peace Laureate Dr. Norman Borlaug, SAA President, speaking in Africa for the last time, exhorted his audience "not to wait for perfect conditions or the perfect seed variety. Use whatever is available – and get on with it." Borlaug died in September 2009.

Japanese philanthropist Ryoichi Sasakawa, Norman Borlaug, and former US President Jimmy Carter, founded the African Agricultural Initiative in 1986. Two organizations joined forces. The Sasakawa Africa Association and the Global 2000 program of The Carter Center. The SG 2000 program came in response to the devastating 1984 famine which killed more than one million people in the Horn of Africa and stretched all the way across Africa to the savannah and Sahelian areas of West Africa.

At a workshop convened in Geneva in July 1985, hosted by the Center for Applied Studies in International Negotiations (CASIN), recommendations were made which are still pertinent today. Essentially food aid was a short term unsustainable response. The research-based technologies needed to increase food production were already available. The challenge was to get the right technologies into the hands of Africa's smallholder farmers – and ensure that farmers knew how to use them.

As a start, Ryoichi Sasakawa pledged that the foundation he chaired – later to be called The Nippon Foundation – would fund two practical smallholder agricultural development projects, under the leadership of Dr Borlaug, to explore whether an African version of the Green Revolution in Asia could be achieved. Ryoichi Sasakawa and his son Yohei, now Chairman of The Nippon Foundation, Dr Borlaug and President Carter, visited five African countries in January 1986. By May that year, agricultural projects had



been established in Ghana and Sudan and, by September, in Zambia (with separate funding to Global 2000 from The Nippon Foundation).

#### Demonstrating technologies

Over the following two decades, driven by the indefatigable Norman Borlaug, the SG 2000 agricultural alliance operated country projects in 14 African countries. It was clearly and frequently demonstrated that the food crop technology existed in Africa to double and triple farm yields and that farmers were willing, able and eager to intensify production. SG 2000 worked with tens of thousands of frontline extension staff and several million farmers to test higher-yielding technology for maize, wheat, rice, grain legumes, and roots and tubers developed by African national research organizations, in collaboration with the international agricultural research centers. SG 2000's role was catalytic – working primarily with national ministries of agriculture to mount dynamic field demonstration programs, for farmers to be able to

judge for themselves the value of these improved technologies.

A key part of the expansion of SG 2000 activities was Norman Borlaug's hands-on approach and his philosophy of 'get on with it.' Never more happy than when he was in farmers' fields, he incentivised colleagues and farmers alike. But he was the first to admit that his green revolution for Africa was far from a complete success.

Progress has certainly been made in SG 2000's project countries in improving the productivity of smallholder African food production systems, but not anywhere similar to those achieved in Asia during the initial Green Revolution period of 1965-1990, which Norman Borlaug himself had inspired and which earned him the Nobel Peace Prize. Formidable obstacles stood – and still stand – in the way of broad-based adoption. Limited availability of inputs near the farm gate, unfavorable cost: price ratios between inputs and output, the inherently risky rain-fed production environments, few irrigated areas, limited access to credit sources, and weak

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Newsletter of the  
Sasakawa Africa Association

SAA Founders:  
Mr. Ryoichi Sasakawa,  
Dr. Norman E. Borlaug,  
President Jimmy Carter



## From the Chair

I am proud to be following in the footsteps of Dr Borlaug as SAA Board Chairperson – footsteps which, admittedly, are impossible to fill. He was a great figure of our time – perhaps the greatest in world agricultural history. It is a humbling position I find

myself in, but one which reaches to the core of what I would rather do in this world – make my own contribution towards eliminating hunger on the African continent. The sight of struggling women, carrying malnourished and starving children is one we must all work to eliminate.

Now at SAA, we mark the 25th anniversary of the organization he helped to found, with a major restructuring of its vision, mission and goals. Most of our staff members are now African by birth and nearly 40% are female. There is a new sense of purpose, direction and enthusiasm; there is passion in our work and one can feel it.

Our reconstruction reflects the changing face of African agriculture. Fundamentally, we are taking on a value chain approach, from production to markets and consumption. This means we have to help national agricultural extension systems transform themselves from

focusing primarily on crop productivity to providing farmers and rural communities with training and advisory services along the value chain. Further, we need to change the way agricultural extension is taught in Africa's colleges and universities. We must encourage the development of pluralistic systems of agricultural extension with the support of the private sector, the NGO community and farmer-based associations. Capacity building and collaboration with relevant and interested organizations will guide most of our work.

We also have a new task – to reach out to the 70 to 80% of smallholder farmers who are rarely touched by extension. And here I particularly mean women farmers who provide most of the work in the field, have to raise their families, sometimes in the most abject of circumstances, and have to play major roles in community development.

All this must be supported by greater investment in agricultural research, rural infrastructure and market-based institutions.

These are the new challenges for us – and ones that we are now better equipped to confront.

Hon. Prof. Ruth K. Oniang'o, PhD  
Founder, Rural Outreach Program (ROP)  
Editor-in-Chief, African Journal of Food, Agriculture, Nutrition and Development (AJFAND)  
Adjunct Professor of Nutrition, TUFTS University, USA

## Message from the MD



*"SAA is more strongly African, younger, more gender balanced, with around 90% of staff recruited nationally", says Managing Director, Juliana Rwelamira*

During 2010, SAA continued with the restructuring process, which has already yielded results. Slowly but surely, SAA is becoming a more structured, accountable, multi-donor organization with targets, plans and mechanisms in place to measure progress. The process of restructuring has encountered a number of challenges along the way, the major one being the turnover of newly recruited staff as well as retirement of old staff. Nevertheless, SAA is more strongly African, younger, more gender balanced, with around 90% of staff members recruited nationally.

On the program front, SAA is focusing on a value chain perspective for smallholder agriculture. It is striving to become an evidence-based organization focusing on market development, market access, with the emphasis on postharvest and value-added technologies. SAA needs a robust system to monitor, evaluate and learn from its activities, while using and sharing this information to guide decision-making and investments within the organization and beyond.

### Key staff changes

The recruitment drive that started in mid-2009 continued into 2010. By July 2010 all five Thematic Directors (TDs) and four Country Directors (CDs) were in place. A new Country Director from Uganda, Dr Roselline Nyamutale, was recruited and began work in February 2011. Roselline is a veterinarian by training with considerable field experience leading rural development projects, both for the government and for NGOs. She is expected to add to SAA's technical strength in livestock as we broaden our Thematic 1 (T1) area from crop productivity to agricultural productivity, where livestock improvement work is promoted. Below is a full list: Thematic Directors (TDs):

- Dr Andreas Oswald, Director, Crop Productivity Enhancement (TD-T1)
- Ms Leonides Halos-Kim, Director, Postharvest Handling and Agroprocessing (TD-T2)
- Public Private Partnerships and Market Access: vacant (TD-T3)
- Dr Deola Naibakelao, SAFE Managing Director, Human Resource Development (TD-T4)

- Mr. Justine Wangila, Director, Monitoring, Evaluation and Learning (TD-T5)

Country Directors (CDs):

- Dr Aberra Debelo, Ethiopia
  - Dr Abou Berthe, Mali
  - Dr Sani Miko, Nigeria
  - Dr Roselline Nyamutale, Uganda
- In May 2010, our Tokyo office recruited Ms Sayako Tokusue, who joined the Addis Ababa team as Program Officer; she currently runs the JICA funded Women Processing Cooperative Project. In November 2010, we recruited a Deputy Country Director (CDD) for Ethiopia, Dr Habtu Assefa, who also serves as the Bill and Melinda Gates (BMGF) funded "Strengthening agricultural extension project" coordinator. Mr Yosuke Sehata, from Japan, joined later in 2011 as an IT & MIS Manager. Recruitment of Thematic Coordinators and Program Officers at country level was undertaken by the TDs assisted by the CDs. In all cases a competitive and transparent approach was followed. Recently, a new category of staff, known as Regional Program Officers, was created – similar to national staff, but with multi-country responsibilities. Regional Program Officers report to a TD, but are also under the supervision of the CD in the country of assignment for normal office procedures and personnel requirements. Two people have already been recruited in this category - Ms Rose Wanzie, Regional Program Officer for Postharvest and Agroprocessing, who started in July 2011, and Mr Robert Anyang, Regional Program Officer for Public Private Partnerships and Market

Access, who started in September (see Theme 3, page 8-9).

### Departures

Two senior members of staff left SAA. In early February 2010, Dr Tareke Berhe (Regional Rice Program Director) retired and continued with us on a consulting basis for six months. Dr Marcel Galiba, who headed the Public Private Partnerships and Market Access Theme (October 2009 December 2010), resigned because of family reasons.

### Forging ahead with Matrix Management

SAA /SAFE continued to strengthen its Matrix Management system; a third training session was organized in September 2010, during the staff retreat in Ghana, and a fourth was held in May 2011. SAA traditionally vested almost all power in its country teams. But with more staff training, and better communication, the desired balance between the vertical (thematic) and horizontal (country implementation) dimensions of the matrix management model will be achieved. Ideally, TDs must demonstrate their technical competence and leadership capacity; they must be the teachers and mentors who help country thematic staff to grow and develop as professionals. TDs must be effective in ensuring that individual SG 2000 countries benefit from the lessons and best practices developed elsewhere. For their part, CDs have to remain on top of the management and administration processes as head of their country offices.

# SG 2000 rice promotion spans 15 years

Sub-saharan Africa has the climate to produce all the rice it consumes and, indeed, become an important exporter. Instead, rice is the second largest food import in Africa, after wheat, requiring large outlays of foreign exchange to finance a growing demand (Table 1).

**Table 1 Rice production characteristics in SG 2000 focus countries**

| 2009 <sup>1</sup>                      |                       |       |                    |        |       |
|--|-----------------------|-------|--------------------|--------|-------|
|  | Ethiopia <sup>2</sup> | Mali  | Nigeria            | Uganda | Total |
| Area, 000 ha                           | 48                    | 846   | 1,788              | 138    | 3,828 |
| Yield, t/ha                            | 2.1                   | 2.3   | 2.1                | 1.3    | 2.1   |
| Production, 000 t                      | 101                   | 1,950 | 3,298              | 181    | 6,621 |
| Imports, rice and rice products, 000 t | 25                    | 68    | 1,410 <sup>3</sup> | 22     | 1,704 |

Source: FAOSTAT

<sup>1</sup> Trade data is an average of 2006-08

<sup>2</sup> FAOSTAT and Ethiopia Statistical Authority have wide discrepancies in rice figures. We have used ESA numbers.

<sup>3</sup> Nearly 200,000 tons of rice imports whose final destination is Nigeria come in through the Republic of Benin. These imports are also included.

## SG 2000 Guinea established in 1996

The growing rice deficit in Africa and increasing imports annoyed Norman Borlaug. In principle, sub-Saharan Africa should be surplus in rice, not deficit. SAA and Global 2000 wanted to see what could be done to accelerate rice production and productivity. The rice belt in West Africa was the place to find out. In 1996, Borlaug sent Dr Tareke Berhe, a senior agronomist with SG 2000 in Ghana, to Guinea to establish a SG 2000-Guinea program there. Right from its inception, the program promoted a "value chain" approach to rice development.

At the Africa Rice Center (WARDA), a team led by Dr Monty Jones, launched a project to improve indigenous rice varieties well-suited to African

conditions by crossing them with the high-yielding Asian types – a difficult research challenge. After years of painstaking work, fertile offspring were finally obtained. These interspecific African x Asian crosses – dubbed New Rices for Africa (NERICA) – combine the superior features of both types. WARDA had just released its first NERICA varieties and had made considerable foundation seed available to Guinea for rapid seed multiplication programs. The country was facing increasing deficits of rice, a primary staple, and growing imports.

SG 2000-Guinea established close links with the National Agricultural Research System and WARDA to identify and test improved NERICA varieties and to support seed production. Working with the National Agricultural Extension System, about 20,000 demonstrations were established

with farmers, mostly with NERICA varieties.

Machinery for improved threshing and milling was purchased and demonstrated. Farmer-based organizations capable of producing surpluses were trained to improve product quality and meet market standards.

Rice production in Guinea has increased from 1.1 million tons in 2000 to 1.5 million tons in 2009 (FAOSTAT). Much of this production increase is due to area expansions. Yields have remained fairly steady at 1.7 t/ha. The problem on yield is soil fertility.

Considerable impact was achieved in popularizing the new NERICA varieties. In Guinea the NERICA area grew from essentially zero in 1996 to 85,000 ha in 2005. Some 14,800 tons of rice seed was exported, during 2001-2003, to Gambia, Mali, Sierra Leone and a handful of other countries.

## Rice goes regional

In 2005, SAA launched a regional rice production program to extend its experience in Guinea more broadly. Tareke Berhe became the Regional Rice Director. The program has been active in all SAA focus countries. The greatest impact has been achieved in Ethiopia, Mali, and Uganda. Between 2000 and 2009, production in these three countries increased from 866,600 tons to 2,233,090 tons – a 2.5-fold increase (FAOSTAT and Ethiopia Statistical Authority).

The SAA experience with rice underscores the importance of

going beyond high yielding, cost-effective crop management. It addresses postharvest and agroprocessing challenges to ensure good grain quality which can then be transformed into rice products desired by consumers, especially in urban markets.

In SG 2000, rice is viewed within a value chain perspective (see below). In rice productivity, SAA is focusing on introducing improved varieties and improving soil fertility management. In postharvest handling, mechanized threshing and milling, to produce quality grain that is clean and free of debris is a major activity. SG 2000 country programs are also working with farmers' groups, largely women, to develop parboiled rice enterprises. Our public-private partnerships group is linking rice-producing farmer organizations to large rice millers and buyers such as the World Food Program.

Rice is one of Ethiopia's more rapidly growing cereals. Recently, SAA was awarded a grant from the Japan International Cooperation Agency (JICA) to serve as an NGO partnership working with the regional government of Tigray, Ethiopia, to apply a fuller value chain approach to rice development.

The urban consumer in Africa wants to buy rice of the quality imported from southeast Asia. African rice producers will have to meet this standard to capture this important and growing market. It can be done.

**Chris Dowsell**  
SAA Executive Director, Programs

## The Rice Value Chain

Improved:

- Seed varieties
- Fertilizer use
- Weed, insect & pest control

= \$30/ 100 kg

**PRODUCTION**

Yields can be increased 2-3 times



Improved postharvest handling:

- Timely collection of crops
- Reduce labor, especially for women and children
- Minimize storage insects and pest losses

+ \$10/ 100 kg

**POSTHARVEST**

- Rice harvester/reaper
- Mechanical thresher
- Grain cleaner



+ \$20 / 100 kg

**CLEANING AND STORAGE**

- Improved silos
- Grain bags



+ \$30/ 100 kg

**PROCESSING**

- Milling
- Grading



+ \$35/ 100 kg

**MARKET**  
= \$125/ 100 kg

- Grading
- Packaging
- Group formation and sensitization



# Crop Productivity Enhancement

In 2009 SAA decided to modify its approach to agricultural extension and productivity enhancement, from demonstrating production plots with recommended input packages (fertilizer, seed, pesticides), to Farmer Learning Platforms (FLPs) consisting of field demonstrations of more adaptable, low-cost technologies and capacity building with farmers. The reasons for this change were to show technologies which were in reach of farmers' limited resources and to involve farmers intensively, and in a more participatory way, in these activities. Hence, the technologies demonstrated on-farm are based on farmers' needs and their respective demands, while the training sessions with Extension Agents (EAs) help to develop their skills and knowledge, provide solutions to constraints in agricultural production and inform about options and opportunities to improve farm enterprises. Thus the role of farmers is changing from being recipients of improved technologies, selected by SAA and EAs, to being drivers of agricultural innovation, voicing their needs and demands. Involving farmers in the entire extension delivery process and surrendering more control and responsibility to them, will improve their attitude towards ownership - increasing adoption and the sustainability and scalability of the process.

Certainly the FLP approach has had far-reaching consequences on how SAA staff and EAs were supposed to work and what goals and results were to be achieved. In this respect 2010 and 2011 have been challenging years for the Crop Productivity Enhancement group in trying to accomplish the transition from the old to the new extension model.

In 2010, the main emphasis was still on field demonstrations. Training was limited to one session between SAA staff and EAs and the implementation training of EAs with farmers. However, during the growing season, EAs gave continuous back-up to farmers when required and supported the groups in evaluating the technologies,

while SAA officers monitored and supervised these activities. In 2010, 30% more Technology Option Plots (TOPs) were planted in the four countries with the highest increases in Ethiopia and Nigeria (70%) and lowest in Uganda (2%) as compared to 2009. Likewise, overall 11% more Woman Assisted Demonstrations (WADs) were implemented but, while in Ethiopia, Mali and Nigeria the number of WADs were raised between 12 and 70%, in Uganda the team reduced them by 25% to have a one to one ratio with TOPs.

TOPs and WADs are usually implemented by farmers' groups. For WADs it is a requirement that the plots are managed by a women's group. Some 30,000

**Theme Director:**  
**Dr. Andreas Oswald**



*"Involving farmers in the entire extension delivery process, and surrendering more control and responsibility to them, will improve their attitude towards ownership – increasing adoption and the sustainability and scalability of the process."*

farmers participated directly in SAA initiated activities. Sixteen thousand eight hundred farmers had registered as owners of Production Test Plots (PTPs) and several thousand other farmers participated, either in training activities with EAs, or received instructions by host-farmers when they inquired about the demonstrated technologies.

## Improving interactions

The number of farmers who registered, or were observed to have implemented part or the entire technology package demonstrated in the TOPs, also increased by about 18% in 2010. However, following up these Production Test Plot Farmers (PTP farmers) and capturing their experience and opinion of the new technologies has remained a challenge for the SAA team and has been handled differently in the four countries. Based on the 2010 experiences, the team tried to improve interactions with PTP farmers in 2011, giving more emphasis to this group during their field visits because they represent the

more innovative farmers and early adopters – important for technology dissemination and for demonstrating the success of our extension work.

In field demonstrations 16 different crops were planted:

- 6 cereals: maize, wheat, teff, rice, sorghum and millet
- 3 tuber crops: potato, sweetpotato and cassava
- 4 pulses: bean, peanut, cowpea and soybean
- 2 vegetable crops: tomato and green pepper
- 1 oil crop: sesame

Although the majority of TOPs and WADs showed how to use inorganic fertilizer appropriately in the different crops or demonstrated new crop varieties to the farmers, other technologies such as Striga control, intercropping, planting density, pesticide use etc. were applied according to demand from farmers.

The results obtained from the TOPs and WADs confirmed again (as in 2009) that relatively low applications of inorganic fertilizer in combination with improved agronomic practices such as row planting, timely planting and weeding or application of organic manure, could increase yields by 30 to more than 100% irrespective of the crop planted. Furthermore, the results showed that women farmers' were as efficient as men farmers in raising yields if they use adequate inputs and attend training sessions.

In Nigeria and Mali the productivity enhancement team was also involved in projects funded by different donors with the overall goal of raising farm productivity by employing specific



Women's group explain their field demonstration plot in Uganda.



SAA Program officer for Crop Productivity Improvement clarifies questions with farmers' group in Sikasso region, Mali.

technologies and/or crops. These projects complemented the other activities and opened possibilities for extending and intensifying our work with more farming communities.

### Concepts and procedures

In the second half of 2010, a new set of concepts and procedures for SAA extension activities, and a new mid-term log-frame, were developed by Theme 1. Additions and modifications to the previous FLP approach have been put in place and implemented for the first time during the field season of 2011. The more significant changes and complements are:

- reaching more women farmers with each FLP consisting of one TOP and two to three WADs, thereby increasing the number of woman managed demonstrations considerably, compared to the TOP, mainly given to men;
- adding a new type of FLP demonstration plot, the Community Variety Plot (CVP), where different varieties of several crops are shown to

farmers in order to introduce new genetic material and compare varieties grown under similar conditions; in 2011 the CVP is being implemented on a pilot basis in the four countries;

- giving more emphasis and resources to training activities with EAs and farmers: for example increasing the training intensity (from one day to two days) and the number of training sessions (for EA training from one to three sessions), including new training contents;
- selecting criteria for farming communities and farmers, for SAA initiated activities, to ensure that we address smallholder farmers and groups so far under-served by the extension services. These criteria comprise for example: farm size, willingness to learn, being a member of a farmer's group, being an innovator etc.
- giving more emphasis to PTP farmers, to register them, evaluate their activities, include them in training sessions and monitor their success with the newly acquired knowledge and

| Number of field demonstrations implemented in four African countries in 2010 |                                |     |     |      |
|--|--------------------------------|-----|-----|------|
| Country  | Regional distribution          | TOP | WAD | PTP  |
| Ethiopia   | 22 Woredas in 4 regions        | 348 | 522 | 7800 |
| Mali   | 12 circles in 4 regions        | 300 | 300 | 2800 |
| Nigeria  | 24 zones in 6 states           | 340 | 675 | 3800 |
| Uganda   | 19 sub-counties in 8 districts | 504 | 504 | 1680 |

| Number of field demonstrations planned for implementation in four African countries in 2011 |                                |     |     |     |      |
|---|--------------------------------|-----|-----|-----|------|
| Country   | Regional distribution          | TOP | WAD | CVP | PTP  |
| Ethiopia  | 39 Woredas in 10 regions       | 177 | 412 | 4   | 2000 |
| Mali  | 12 circles in 4 regions        | 103 | 309 | 2   | 5050 |
| Nigeria   | 24 zones in 6 states           | 278 | 743 | 4   | 5000 |
| Uganda  | 20 sub-counties in 9 districts | 288 | 576 | 15  | 2040 |

technologies (in collaboration with the Monitoring, Evaluation and Learning (ME&L) team;

- supporting and developing further the evidence-based standard of SAA: the team will collect field data in a more timely and efficient manner and provide results to research, extension and farmers.

In this respect a second workshop was conducted in May 2011, the main topics being data collection, analysis and presentation and the implementation of the new Concepts & Procedures.

The FLP approach together with capacity development of the National Agricultural Extension Service and collaboration with other SAA-teams will help us to achieve our goals of improving farm productivity and providing opportunities to the farmers for income generation. Inevitably, there are constraints and issues which have an effect on our work and performance. These include:

- a high turn-over rate of EAs
- inadequate input provision for agricultural activities – for example in less accessible areas

the price of fertilizer is high and is not often available at the right time. Product quality can also be substandard

- more incentives and opportunities for farmers if they are to invest their limited resources in agricultural production and use improved technologies
- creating greater awareness of our activities among farmers to further increase participation and adoption.

Some of these concerns will be directly tackled by the crop enhancement team, while others might need the intervention of other SAA teams or external stakeholders.

Although we are progressing with the implementation of the new SAA approach on agricultural extension, this year – 2011 – is a year of consolidation and learning (by doing). The country teams have to adapt to the new standards either partly changing what they have been doing before and/or setting new priorities for their future work. For that reason field demonstrations have been reduced in some countries as resources were realigned to other activities (training). Additionally, we have to foster internal integration of, and collaboration with, postharvest and storage, the private partnership and the monitoring, evaluation and learning teams to increase our efficiency and provide more holistic opportunities and solutions to small-scale farmers in the shortest possible time.

| Projects implemented in Mali and Nigeria funded by various donors in 2010 |   |  |   |
|---|---|--|---|
| Country   | Regional distribution                   | Activity   | Donor   |
| Nigeria   | Kaduna State                            | training and supervising 3000 farmers producing maize on 1 ha plots for commercial purposes  | USAID   |
|   | Kano State                              | 1032 TOPs on-farm plots with legume crops established  | University of Wageningen and IITA (International Institute of Tropical Agriculture) |
|   | Jigawa state                            | 100 demonstration plots implemented for dry season irrigated vegetable production  | Jigawa State  |
| Mali  | Koulikoro, Sikasso Ségou, Mopti regions | 953 TOPs micro-dose fertilization demonstration plots were implemented, 13 inputs shops built and several thousand farmers trained | AGRA  |

# Postharvest and Agroprocessing

The reassessment of the crop postharvest handling programs carried out in the four SAA focus countries in 2009 and 2010, focused on the main pillars of the Theme 2 operation. Also revealed was a serious lack of information on postharvest handling technologies. Nor were improved technologies readily available to users. Postharvest operations were still run on a traditional basis with limited capacity and high losses, often resulting in poor quality products.



**Theme Director:**  
**Mrs Leonides Halos-Kim**

*"The introduction of appropriate postharvest handling, storage and agroprocessing technologies can result in better appreciation and sustained adoption of yield-increasing technologies."*

| The Pillars of the T2 Operation   |   |  |
|---|---|--|
| <b>Postharvest Handling Improved Methods</b> <ul style="list-style-type: none"> <li>• Threshing/Shelling</li> <li>• Drying/Storage</li> <li>• Grain protection</li> <li>• Transportation</li> </ul> | <b>Value Adding Enterprise Beneficiaries</b> <ul style="list-style-type: none"> <li>• Agro-processing groups</li> <li>• Individual service providers</li> </ul> | <b>Manufacturing/Construction</b> <ul style="list-style-type: none"> <li>• Postharvest handling equipment</li> <li>• Agro-processing equipment</li> <li>• Drying and storage structures</li> </ul> |

Based on these findings, a highly focused postharvest and agroprocessing extension program was developed and is now being implemented by each SAA focus country. The country programs aim to promote sustainable value-adding technologies that will enhance smallholder farmers' food security and income through rigorous demonstrations and training, and by establishing postharvest extension and learning platforms in selected key areas. The programs will also work with private service providers to sustain the adoption of technologies. In 2011, Theme 2 activities are now concentrated on these areas to enable more efficient and profitable handling of the additional production achieved through activities associated with Theme 1 – crop productivity enhancement.

### Viable technologies

Despite recorded developments of postharvest technologies in the last three decades, appropriate technologies are still difficult to find. SAA has continued to collaborate with research and development (R&D) institutions for technology adaptation specifically with SDRTVC (Selam David Röschli Technical and Vocational College) in Ethiopia. This partnership, including the International Institute of Tropical Agriculture (IITA) in Nigeria, has provided the R&D platform for locally manufactured, technically efficient and economically viable technologies that are locally

available and easy to operate and maintain by smallholder farmers and processors. In 2010, SAA & SDRTVC developed a maize sheller with a capacity of up to 2.5 t per hour, and also a multi-grain cleaner/sorter. These machines are key tools in maintaining the quality of the crop before being stored or further processed. They are now part of the technology package being promoted in grain-producing regions of the focus countries.

The same type of partnership with UIRI (Uganda Industrial Research Institute) in Uganda, and BUK (Bayero University Kano) in Nigeria is being pursued – as are links with local private service providers – in the search for potential technologies.

Theme 2 teams also collaborated with the World Food Program-Purchase for Progress (WFP-P4P) programs in Ethiopia and Uganda to improve the delivery

of good quality grains (maize) and beans to enable farmers to compete for better prices of their produce in the market. In Ethiopia, WFP provided a set of maize shellers and grain cleaners to 17 Farmers' Cooperative Unions (CU); while in Uganda, WFP funded the establishment of Marketing Centers also equipped with grain threshers, cleaners, drying patios and tarpaulins through SAA. In both programs, SAA Theme 2 teams provided technical backstopping in terms of technology selection and training on the operation, maintenance and management of postharvest handling technologies.

While farmers were quick to appreciate the new machinery, their lack of capital to buy the machines hindered full adoption. SAA is contemplating linking farmers to institutions which can provide soft loans or arrange for a revolving fund to make these technologies available to users.

### Strengthening extension

Training of the trainers, who are primarily the extension staff of the Ministry of Agriculture in all participating countries, is critical for SAA operations. Field demonstrations and capacity

building among trainers, farmers and entrepreneurs, will help provide for a lack of professional postharvest extension staff in the focus countries.

Establishing farmer learning platforms to provide training and demonstration programs for such technologies requires strategically deployed permanent sites where equipment is housed, demonstrated and maintained, and where farmers can come together to learn how to use and benefit from them. These staging areas will include well-established farmer associations, such as the One Stop Center Associations (OSCAs) in Uganda, the Niet@Kene farmer association centers in Mali, and Women in Agricultural Development (WIAD) associated with the Ministry of Agriculture in Nigeria. In Ethiopia, primary cooperative society centers are being involved.

The establishment of the Postharvest Extension and Learning Platform (PHELP) for various enterprises, identified through the re-assessment surveys, started in the last quarter of 2010. The different platforms are now being equipped with the necessary technology packages (see Table). The use, maintenance and management of the technologies



Threshing service provider in southern Ethiopia with traditional transport



Training of technicians from all four focus countries on the manufacture, operation and maintenance of grain cleaner in Ethiopia

are demonstrated – with a basic management course given to those interested in taking up the processes as a business enterprise.

One of the criteria for selection of sites was the existence of Women Processing Groups. This was purposely done in order not to miss addressing the concerns of women who do most of the postharvest and agroprocessing jobs.

An example of a fully operational PHELP is the Cassava Processing Platform in Ganye LGA, Adamawa State, Nigeria. The platform is being managed by the *Tikamen* Women Group. The group started processing a few quantities of cassava into gari – roasted, fermented and grated cassava – and starch for consumption using the traditional methods. The processors noted a major demand for gari in the area and decided to go into commercial production. With the facilities they have acquired, their processing capacity is up to one ton of cassava per hour. The source of raw materials is the local market and the interest of farmers to grow more cassava on their farms has been created.

The group invites other processors to observe their operation and give training as requested.

Supervision of the PHELP is provided by the extension agent from the Ministry of Agriculture and the representative of WIAD in the State. They also provide training to the processors on record keeping and business management.

### Good quality products

Most women, representing individual or family units, require technologies that will enable them to produce more and better food for the family – but with less labor. In addition to improving the quality of traditional food products, new products that have high potential for the market are being promoted.

SAA has also been working with individual farmers and groups to introduce technologies to improve several specific value chains in maize, rice, cassava, groundnuts, and soybean processing. In Ethiopia, SAA has been working with selected Women Agroprocessing Groups in value-addition enterprises (SAA

Newsletter Issue 26) which has encouraged them to enter into the market with increased confidence because of the better quality products they can offer. However, none of the seven groups had reached sustainable levels of production, even after two to three years of SAA intervention. Issues of group management topped the lists of constraints, followed by lack of access to facilities to increase their capacity and supply the demand for their products. From June 2010 Japan International Cooperation Agency (JICA) has provided a three year project funding to SAA to further assist the groups in order to establish a more viable enterprise.

### Private service providers

Involving the private sector, and individual entrepreneurs as service providers, has proved to be effective. For example, the threshing service for teff farmers has worked well in Ethiopia, with over 350 units (as of December 2010) purchased by farmers and private entrepreneurs who market their in-field threshing services all over the country.

The warrantage system introduced by SAA in Mali is also working well and providing farmers with access to warehouse services while waiting for a favorable market price. This will be scaled-up through a recently secured US\$1m project grant from AGRA (Alliance for a Green Revolution in Africa) and will include other services for threshing/shelling, cleaning and drying. The overall objective of the project is to develop postharvest handling and storage capacity, and improve farmers' access to the market.

SAA is now developing a delivery model, including credit strategies, built around the establishment

of private service providers to serve smallholder farmers with too small a landholding or too poor to afford such equipment. In many cases, these entrepreneurs could be the farmers, or local rural businessmen and women.

Fifteen technicians from the four SAA countries were trained in Addis Ababa for two weeks on the production, operation and maintenance of the maize sheller and grain cleaner. These technicians supported Theme 2 country teams in training more technicians to be part of the network of service providers.

While SAA hopes to see local manufacturing capacity develop for such machinery, SAA also recognizes the urgency of bringing mechanized post-production services to smallholder farmers. SAA is exploring importing equipment from Asia and Latin America designed to serve smallholder farmers. In particular, China, India and Brazil can be potential sources of machines for shelling/threshing, cleaning, milling, and for other agroprocessing activities.

The PHAP program is managed from the Regional Office by the Theme Director. Each country program has a Program Coordinator and one or more Program Officers. At least one Program Officer is assigned for additional extra core-funded projects.

The Program staff have backgrounds in food science, agricultural engineering, value chain development, rural development and agricultural extension. The Theme addresses agricultural activities, which are often handled by women. As a result more than 50% of Theme 2 staff are female.

### Type and location of two postharvest extension and learning platforms (PHELPS) in Ethiopia and Nigeria

| COUNTRY/PHELP SITE                                 | TYPE OF PHELP  | TECHNOLOGY PACKAGE  | BENEFICIARIES/GROUPS   |
|--|--|---|--|
| <b>ETHIOPIA</b>                                    |  |   |  |
| Semen Bellesa Kebele, Hadiya Zone, Southern Region | Milk Processing into Cheese and Butter<br>Another potential enterprise: Processing Enset (a false banana grown only in Ethiopia; Its pseudostem (leaf sheaths) and corm contain edible pulp and quality fiber are processed into specialty food called 'kocho' which reaches high market price in urban areas. | Cream Separator; Butter Churner; Grater, Press, Others                            | Women Groups in Hadiya Zone<br>Contact Group: Bereket Saving and Credit Cooperative, Hamame Milk Processing Unit |
| <b>NIGERIA</b>                                     |  |   |  |
| Fufore LGA & Mayo Belwa LGA, Adamawa State         | Groundnut Oil Processing   | Decorticator, Roaster, De-skinning & Winnowing Machine, Wet-type Grinder, Kneader | Residents of Fufore LGA<br>Contact Groups: Unity Farmers & Rikon Amana Women Groups                              |

# Promoting Public-Private Partnerships

Within the restructured Sasakawa Africa Association (SAA), the overall objective of Theme 3 is to promote public-private partnerships and improve market access in support of extension delivery and smallholder agricultural development. In 2010 the T3 team was reinforced to enable it to perform its mandate in the four focus countries - and thematic coordinators are now in place in Nigeria and Mali, as well as Ethiopia and Uganda.

In 2010/11, Theme 3 increased its efforts to develop more formal partnerships. Emphasis was, and will, continue to be placed on: (1) strengthening capacity of private agribusinesses (input supply and agro-enterprise) so they can offer agricultural advisory services to smallholder farmers, (2) strengthening smallholder seed supply systems (formal and community-based) in order to support food crop productivity enhancement, (3) improving institutional linkages through development of strong partnerships with local government authorities, farmers' research organizations, academic institutions and the private sector, (4) fostering market linkages between farmer associations and commercial contractors in well-established niche markets such as the Purchase for Progress (P4P) with the World Food Program (WFP), (5) facilitating commercial credit services for partnering with farmer associations and entrepreneurs, and (6) leading SG 2000 new business development activities for extra core projects within SAA.

In 2010/11, Theme 3 continued to partner with input dealers to offer extension support to smallholder farmers through SAA farmer learning platforms (FLPs).

In Nigeria, five agro-input and seed companies supported FLP activities by providing demonstration kits - worth US\$5,000 - to lead farmers. To complement SG 2000 Nigeria activities, SAA signed memoranda of understanding (MoU) for a new partnership with four state governments (Adamawa, Bauchi, Jigawa and Zamfara) covering extension delivery to smallholder farmers and human resource development for mid-career extension workers.

Two states, Jigawa and Adamawa, have already disbursed their

contributions of \$400,000 for 2011 activities. An MoU has been signed with the state commercial agricultural development office, Kano, for the training and supervision of 500 commercial farmers on maize and rice value chains.

In Ethiopia, SG 2000 is implementing a major project, "Improving Smallholder Farmers Extension Service Delivery in Ethiopia," with the support of the Bill and Melinda Gates Foundation (BMGF). A total of ten regional states, 18 woredas (districts) and 30 Farmers' Training Centers (FTCs) have been selected and a needs assessment has been conducted to identify activities for 2011. FTC management committees have been organized and will be trained on business planning and enterprise development at their localities. Also, ten private sector organizations, Pioneer Seed Ethiopia PLC, MAKOBU Enterprise PLC, Anno Agro Industry PLC, Agri-Ceft Ethiopia PLC (Ayehu farm) and Lume-Adama farmer's Union, have indicated interest in partnering with SG 2000 to assist smallholder farmers.

SG 2000 has supported the formation of two extension forums in the region of Umera in Tigray to extend rice production and in West Arsi zone in Oromia to control the outbreak of wheat yellow rust disease through effective extension messages and training. Seventy-two participants from various federal and regional government officials, research institutes, NGOs and senior technical staff including representatives from FBOs (Farmer Based Organizations), Duro-Langno, Buta Wayu farmer's Union and Asela Malting Factory attended. The Malting Factory, covered more than Birr 62,000.00 (US \$3,600) for Oromia's program. The forum acknowledged SG 2000 for its

Regional Program officer:  
**Robert Anyang**



*"The attitude of farmer groups to change must be analyzed and defined before marketing activities can be encouraged. Smallholder farmers whose average cropped land is not less than two acres and are commercially oriented - the PTP farmers and other value chain actors in the market - are Theme 3 prime target groups."*

concern in regional development matters and in sponsoring the forums.

## Production technology

In Mali, SG 2000 partnered with, INTSORMIL, IICEM, IER and AMEDD to introduce 3,500 farmers (including 500 women), who are cultivating 3,700 ha, to improve production technology, marketing strategies and the development of farmers' cooperatives. SAA also partnered with the Syngenta Foundation on the PRECAD (*Projet de Renforcement des Capacités pour une Agriculture Durable*) program in the southern region on FBO capacity building through training and bulk marketing. Within the ongoing partnership with the WFP-P4P - several training sessions were undertaken on storage, marketing, access to credit and group marketing. FBOs from the four regions of SG 2000's intervention area participated in these sessions.

In Uganda SG 2000 worked with WFP-P4P to support farmers' access to better grain markets. The major activities, through this partnership, are mobilization of farmers to scale-up production of maize and beans using improved technologies; strengthening farmer organizations to provide an institutional framework; to access inputs, advisory and financial services and improving postharvest handling, agroprocessing and marketing activities through training and improving infrastructure - such as marketing sites and roads while encouraging collective marketing.

## Seed supply systems

Poor seed delivery and lack of knowledge among seed growers on better seed production techniques are among major constraints affecting farmers' access to improved seeds. To address these constraints, SAA supported activities across the four focus countries on strengthening through training,



A woman farmer with SG 2000 support package for community-based seed development in Kano state

extension workers and seed growers' knowledge of seed production techniques. SAA partnered with various seed companies, research stations, government institutions, universities, seed input networks and donor projects.

In Ethiopia, 20 community seed enterprises were trained in better seed production techniques and linked to larger seed operations, like Ethiopia Seed Enterprise, Oromia Seed Enterprise and Amahara Seed Enterprise. The associations signed an agreement with producer communities to pay fair prices and provide timely collection. This achievement was a result of SG 2000 support to 180 technicians and 200 farmers trained in community-based seed multiplication methodologies in 2009. A total of 3,172 farmers benefited from this arrangement, among them 244 women. The farmers earned a total of Birr 2,266,875 (US \$133,000). The joint efforts of Themes 1, 2 and 3 contributed to a timely and clean quantity of seed supplied to the project. Support is continuing to expand to more areas under smallholder seed supply systems in Ethiopia; SAA/SG 2000 collaborated with government seed regional experts to train another 179 trainers on certified seed production and to assist seed farmers on a cost sharing basis. As a result, hybrid and OPV seed production have been established on 2,457 ha of within the country.

In five states of Northern Nigeria, 30 government extension workers were trained on community-based seed production, certification, quality control and packaging to reach out to community-based seed farmers. As a result of this intervention, 35 mt of seed were produced in the 2010/11 season, and 12 mt of seed were sold in Kano State. To improve the quality of seed supplied in the market in Jigawa State, SG 2000 purchased a total of 1.7t of improved foundation seed to support the community-based seed multiplication program.

SG 2000 in Uganda supported the vibrant growing private sector seed industry through capacity building for 27 extension officers (including three women) from 16 districts. The officers were trained under a training of

trainers (TOT) arrangement to assist rural stockists in better agronomy information and marketing. Through the collaboration with Uganda National Agro-input Dealers Association (UNADA), SG 2000 hired a consultant to train 85 agro-dealers in agronomy and extension delivery systems. Two training manuals were developed – one to guide agro-dealers on training farmers – and a manual for conducting demonstrations. SG 2000 also supported 68 women farmers by linking them to Pearl Seeds to grow NABE 12 foundation bean seed on 50 acres. The seed company provided technical guidance through training in correct bean seed production practices.

SG 2000 in Ethiopia worked with the Ministry of Agriculture and Rural Development to promote a better policy enabling environment to encourage private sector intervention in agricultural extension delivery. To strengthen farmers' access to seeds, SG 2000 partnered with Alemaya University, Institute of Agricultural Research, Ethiopia Seed Enterprise, Oromia Seed Enterprise and Amahara Seed Enterprise on technology transfer, better access to financial resources and markets for seed production. In Uganda, four financial institutions, Centenary, Equity, Stanbic and Postbank, provided financial services to SG 2000 linked P4P farmers. A total of 5,601 farmers including 3,286 women benefitted from this arrangement.

### Improving skills

Strengthening and developing competitive marketing strategies by improving the organizational, managerial and business skills of farmers' groups is a key objective. In Mali, group marketing started and continued with P4P. This program enables farmers to



SAA officials conducting leadership training for a women association in the region of Ségou, Mali

improve the quality of their products and also gain access to credit. Six FOBs supplied WFP with 489t of millet and 480t of sorghum. The new partnership with Alliance for a Green Revolution in Africa (AGRA), 'Post-harvest capacity development for small-scale farmers' market access in Southern Mali,' is to strengthen the value chain approach of SAA. The main goal of the project is to engage participating rural farmers' groups in the six circles of the region of Sikasso, who are able to harvest high quality produce, which is then safely stored for collective marketing – leading to improved rural agribusiness enterprises.

In Nigeria, SAA partnered with USAID-MARKETS, linking 3,000 maize out-growers in Kaduna State, to supply quality maize to Grand Cereals and Oil Mills, in Jos. Theme 3, in collaboration with T1 and T2, provided technical support to farmers to produce high quality maize. A rice group, Butalawa, was linked to UMZA rice mill in Kano State to supply paddy. SG 2000 strengthened the capacity of 3,000 farmers and three farmer cooperatives to provide bulk purchases of inputs in Adamawa and Kaduna States.

Similar partnerships and activities were carried out in

Uganda, with WFP - P4P, in supporting the establishment of sustainable market infrastructure for smallholder grain produce – to give farmers better access to markets. A total of 4,128 smallholder farmers from six large associations were identified to take part in this program.

The attitude of farmer groups to change must be analyzed and defined before marketing activities can be encouraged. Smallholder farmers whose average cropped land is not less than two-acres and are commercially-oriented – the PTP farmers and other value chain actors in the market – are Theme 3 prime target groups. These groups are expected to benefit from a well-developed network of service providers, input companies, and business development service providers, and have access to financial services. In some instances SAA will conduct business audits, using the value chain approach, to assess present and future interventions for sustainability. By leveraging SAA resources with partners in key intervention areas, SAA /SG 2000 countries will continue to target opportunities for strategic interventions that will lead to better enterprise efficiency and create income generating opportunities for smallholder farmers for the next five years.

| Seed production activities across SAA focus countries |         |           |          |           |           |           |
|---|---------|-----------|----------|-----------|-----------|-----------|
| Year  | Nigeria |           | Uganda   |           | Ethiopia  |           |
|   | 2009    | 2010/2011 | 2009     | 2010/2011 | 2009      | 2010/2011 |
| Seed produced   | NA      | 35tons    | 19 tons  | 24.9 tons | 302 ton   | 4914 ton  |
| Amount of seed sold                                   | NA      | 20 tons   | 10 tons  | 16.8 tons | 302 ton   | 3900 ton  |
| Seed Value \$   | NA      | \$13,000  | \$12,345 | \$20,740  | \$206,079 | \$450,000 |
| Value in dollars                                      |         |           |          |           |           | \$704,160 |

# Human Resource Development

Despite the human resource development efforts made through the Sasakawa Africa Fund for Extension Education (SAFE), and its work with 16 universities and colleges across Africa, there are still challenges ahead in addressing the needs and demands from the field. Our current full-time residential programs have weaknesses: limited accessibility, low use of ICT, insufficient value chain content and a low level of female intake. All programs are now making concerted efforts to address these problems. Thus the new curricula, as well as the existing ones, were developed and revised along the agricultural value chain concept. Alternative modes of delivery (distance education and sandwich courses) are currently underway. Universities, participating in the program, in collaboration with SG 2000 staff, will develop field level short courses and modules on relevant topics to enhance SG 2000 field work.

## Ethiopia

A value chain-oriented curriculum for Ethiopia is now ready for implementation to start this year at Bahir Dar and Hawassa universities. The revised curriculum is a result of a long process that involved a three-day national workshop, with 37 stakeholder representatives, and a national survey with teams from Bahir Dar, Haramaya and Hawassa universities. The survey covered 69 employer representatives, 229 frontline extension workers and 300 farmers. This led to a draft curriculum proposal; a review of the proposed curriculum by an independent reviewer; a three-day national stakeholder validation workshop, attended by 76 stakeholder representatives; and, the finalization of the curriculum proposal by an inter-university panel of experts.

In developing the courses and course content, the panel was guided by two major considerations. First, the choices were made strictly with the target group – the smallholder farmers and pastoralists – in mind. Critical consideration was given to scaling down sophisticated theories and concepts that were marginally useful for practical extension work. The second major consideration was the value chain orientation, where opportunities, constraints and challenges are often commodity specific.

## Value chain training

Seventy-two participants at the national stakeholder validation workshop received one day orientation training on the 'agricultural value chain concept' led by two colleagues from the University of Cape Coast (UCC) in Ghana. The seminar had a considerable impact in raising awareness. There was even a request for creating 'champions' of the concept at each of the universities in Ethiopia.

## Haramaya University

The performance of the 25 graduated students in July 2011 was encouraging. Two of them graduated with Great Distinction while eight graduated with Distinction. The program has completed 13 full cycles – and is still going strong.

The level of enrolment continues to be encouraging - and the enrolment of women students picked up significantly for the 15th intake group (23 men and 10 women). This was due to a concerted effort by both SAFE and the university to persuade more women to come into the program.

The Haramaya alumni association was officially launched as a legal entity following its official registration with the Ministry of Justice. The launch took place at a workshop held in Addis Ababa on 22 February this year. The workshop was opened by the Minister of Tourism and Culture, Honorable Amin Abdulkadir,

Theme Director:  
**Dr Deola Naibakelao**



*"For courses and course content for our new value chain curriculum, the choices were made strictly with the target groups in mind – smallholder farmers and pastoralists. Critical consideration was given to scaling down sophisticated theories and concepts that were only marginally useful for practical extension work."*



New taro variety introduced by Dadiso Finta (left) and a mid-career student at Haramaya University in Ethiopia

himself a graduate of the mid-career program at Haramaya.

The same workshop saw the establishment of a long awaited professional society – thanks to the leadership of the president of the university, Prof Belay Kassa. The society - the Ethiopian Society of Rural Development and Agricultural Extension - has already been registered as a legal body. It has since been represented at a symposium of the Pan-African Forum for Agricultural Advisory Services (AFAAS), held in Accra, Ghana.

## Hawassa University

Enrolment reached a new peak of 38 students including two women – reflecting the continued demand for the program in Ethiopia. The ideal intake for this staff-intensive program is 30.

A successful SEPs (Supervised Enterprise Projects) workshop

was held in January 2011 where students received combined feedback from the lecturers and SG 2000 representatives. Several of the students' projects were directly linked to SG 2000 work as a result of guest lectures given by SG 2000 staff during the year. The general observation was that the projects tended to focus more on crops with little work done on livestock and value addition.

## Uganda

At long last, the proposal for the distance version of the mid-career program has been approved by Makerere University. The approval process took a long time because of the need to involve the Department of Distance Education at the university. The program will be run jointly by the Department of Extension and Innovation Studies at the College of Agriculture and Environmental Sciences and the Department

of Distance Education at the Institute of Continuing Education. The program is known as the Bachelor of Agricultural and Rural Innovation (BARI).

The staff have resumed the development/writing of modules that had stalled due to the slow process of approving the BARI-External proposal. Two training workshops were held for the second group of module writers during the first half of 2011.

## Nigeria and Mali

In the 2010/2011 academic session, SAFE programs embarked on the curriculum review process to meet the emerging needs of farmers and extension professionals in the sub-region. Following the stakeholders' needs assessment workshops, conducted in Nigeria and Mali in 2009, and a similar survey conducted in Nigeria in the same year, a technical workshop was organized at the University of Cape Coast (UCC) in 2010 with a focus on the value chain and its mainstreaming into the curricula

of SAFE programs. This was coupled with a similar workshop organized for SAFE Francophone West African countries in Mali.

## New Programs

- Ilorin University, Nigeria: a draft curriculum of the BSc "Agricultural Extension and Community Development" was validated at the workshop organized at stakeholder level and approved by the university.
- Adamawa State University, Nigeria: the curriculum for the BSc "Agricultural Extension and Innovations" is ready with approval at Faculty and Senate levels; a mini validation workshop at stakeholder level was organized and advertisements for admission were sent out in August.
- The two curricula are specialized programs, full time (three years), value chain oriented, with options for specialization.



Mid-career students working on class assignments in the computer laboratory at Samanko College, Mali

- Formula:
  - three semesters for general courses
  - two semesters for specialization
  - one semester for (SEPs)

## New partnership model "Cost sharing model in Nigeria":

In 2010, the government of Adamawa State released its counter-part contribution for the implementation of the SAFE program at Adamawa State University in Mubi. The program began in September – with SAFE also releasing its contribution for program activities in 2011. A committee was set up to manage the activities of the program with representatives from the Ministry of Higher Education, the Ministry of Agriculture at state level, the Faculty of Agriculture at the university, and the SAFE program.

The SAFE program at Adamawa State University is expected to improve the intake of mid-career extension professionals in Adamawa, Gombe, Bornou, Jigawa states - and other states in its catchment area in the North Eastern part of Nigeria. The start of the program at the University of Ilorin will improve intake in the middle belt, South East and South Western parts of Nigeria.

## Use of SEPs as a field level problem solving tool

In Nigeria, the module development is undertaken at two levels - field level and university mid-career level. At field level, Bayero University Kano (BUK) is currently collaborating with SG 2000 staff to identify thematic areas for field level module development for the Jigawa State ADP (Agricultural Development Project). Adamawa state University is doing the same for Adamawa state ADP.

Through the state counterpart fund, SG 2000 will finance SEPs projects of the final year students at BUK and ABU from Adamawa and Jigawa states.

Subsequently, SG 2000 plans to involve mid-career students in their various demonstrations and needs assessments through SEPs.

## Active alumni groups

SAFE alumni groups are developing and maturing in West Africa. The alumni groups and associations have increased the promotion of the program through their publications and annual meetings. Members of the association have also helped to supervise SEPs projects of students in the various regions thereby making supervision less strenuous for lecturers and employers. At country level, the following activities were implemented:

- Mali – two conferences were organized on:
  - Experience in Agricultural Extension (146 participants)
  - Food security through improvement of agricultural productivity and diffusion of innovations (216 participants). A paper was presented by participants from Burkina Faso on pollution and the importance of organic foods.
- Training of members on the value chain approach.
- Newsletters: Three editions were published by SAFE alumni (Benin, Burkina Faso, and Mali) on:
  - Gender and Leadership
  - Extension, and
  - Association Management

| SAFE Statistics, as of September 2011    |           |         |       |
|--|-----------|---------|-------|
| Mid-career BSc and Diploma Courses       | Graduated | Current | Total |
| University of Cape Coast, Ghana (B.Sc.)  | 397       | 52      | 449   |
| Kawadaso Agric. College, Ghana (Diploma) | 462       | 51      | 513   |
| Haramaya, Ethiopia (B.Sc.)               | 364       | 63      | 427   |
| Hawassa, Ethiopia (B.Sc.)                | 81        | 73      | 154   |
| Makerere, Uganda (B.Sc.)                 | 184       | 111     | 295   |
| Sokoine, Tanzania (B.Sc.)                | 500       | 339     | 839   |
| IPR/IFRA, Mali (Maîtrise)                | 109       | 75      | 184   |
| Samanko Centre, Mali (Diploma)           | 77        | 53      | 130   |
| Ahmadu Bello, Nigeria (B.Sc.)            | 88        | 49      | 137   |
| Bayero University-Kano, Nigeria          | 32        | 95      | 127   |
| Abomey-Calavi, Benin (Licence)           | 67        | 34      | 101   |
| Bobo-Dioulasso, Burkina Faso (Licence )  | 37        | 36      | 73    |
| Bunda College, Malawi (B.Sc.)            | 39        | 23      | 62    |
| Sub-Total                                | 2,437     | 1,054   | 3,491 |
| Scholarships                             | Graduated | Current | Total |
| Diploma                                  | 6         | 0       | 6     |
| B.Sc.                                    | 32        | 0       | 32    |
| M.Sc.                                    | 59        | 2       | 61    |
| PhD                                      | 5         | 4       | 9     |
| Sub Total                                | 102       | 6       | 108   |
| Grand Total                              | 2,539     | 1,060   | 3,599 |

# Monitoring, Evaluation and Learning and Sharing

The importance of ME&L is well articulated in its main objective, to "establish information and knowledge management information systems that enable adaptation, modification and change of technologies and approaches, improvement of efficiency and impacts; and timely communication of lessons and best practices for evidence-based decision-making."

In short, SAA increasingly must become an evidence-based organization.

This requirement was given added impetus by the need to monitor and evaluate the impacts of SAA's work by The Nippon Foundation, SAA's donor, which contracted with the International Maize and Wheat Improvement Centre (CIMMYT) in 2006 to design and implement a five year project aimed at gauging the outcomes and impacts of its investments in two SAA focus countries – Ethiopia and Uganda.

There was a limited use of ME&L outputs from this project – partly explained by the lack of institutionalizing ME&L systems within SAA.

Theme 5 was meant to build on the CIMMYT project to develop a system monitoring inputs, activities and outputs. Thus the main activities at the inception stage were the design of assessment tools and methods, the selection and recruitment of country-level teams, and training and building capacity for the new

teams. Thematic coordinators and Program officers have now been hired for the four focus countries – with a total of 12 fulltime staff members.

## Building capacity

At the start of this exercise, SAA had no thematic and country log-frames in place – and while the new staff had diverse and varied skills, there were obvious gaps in their ability to take ME&L activities forward. Also, the base year for assessing SAA and partners' impacts was not defined because of the different length and presence in the four focus countries. Ethiopia and Uganda, for example, had a head start with their experience of the CIMMYT project. Finally, simply having good monitoring and impact assessment reports were not enough – they must be systematically utilised by SAA/SG 2000 teams, and the results applied practically in all programs.

The above concerns were addressed at Concepts and Procedures Workshops, involving Themes 2 and 3, in Addis Ababa last year. These workshops proved to be a turning point for SAA and Theme 5 in particular – not least in identifying a need for

*Theme Director:*  
**Mr Justine Wangila**



*"Building ME&L systems is resource intensive requiring time and appropriate human capital – which has led to a slower take-off than expected, particularly in the field. However, needs assessments have been undertaken, baseline surveys are underway, and staff are now in place to produce a stream of valuable data, information and evidence by the end of the year."*

training on log-frames for all SAA-SAFE country and thematic management and staff.

Central to ME&L activities are instruments and tools for different surveys and assessments - with adaptation for use in Ethiopia, Mali, Nigeria and Uganda. These cover subjects such as farmer technology needs and constraints, the training of extension agents and the feasibility of FTC (Farmer Training Centers) enterprises. ME&L is also participating in non-Nippon funded activities such as the World Food Program's Purchase for Progress (WFP-P4P) in Ethiopia, Mali and Uganda; USAID Markets Project, and N2FIXAFRICA in Nigeria. There are other programs such as AGRA postharvest and INTSORMIL CRSP (International Sorghum and Millet Collaborative Research Support Program) in Mali; and the Japan International Cooperation Agency's (JICA's) project involving women's cooperatives and rice in Ethiopia. Farmers and pastoralists' needs-based interventions are also a vital part of the Bill and Melinda Gates Foundation (BMGF) project in Ethiopia.

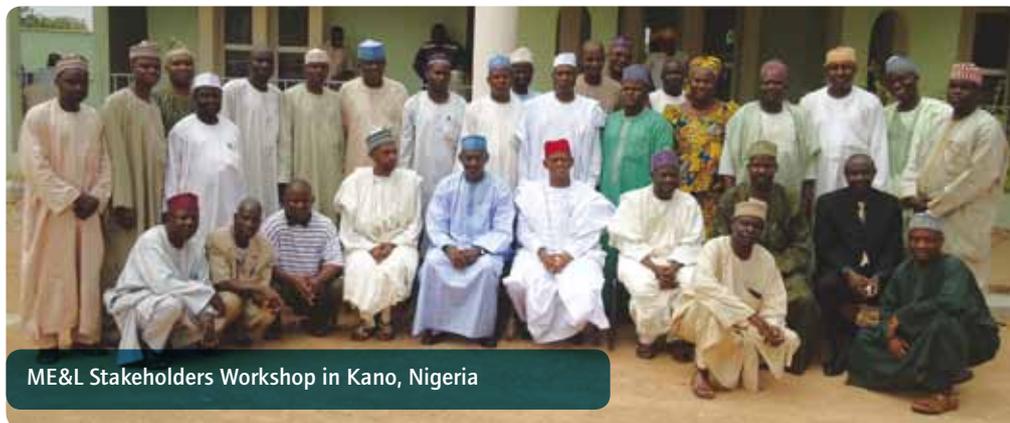
A recent study was commissioned by SAA on the 'Emergence and growth of rice in Africa: the case of Guinea, Mali and Uganda.' Managed by ME&L, preliminary results show the substantial contribution made by SAA towards rice production in Uganda. These included varietal release and seed multiplication, particularly with NERICA's input delivery systems, the strengthening of extension service delivery, technology transfer through rice production demonstrations, and the improvement of postharvest handling and processing. The result has been an impressive strengthening of the food chain, through to market linkages and linkages with credit institutions.

## Country activities

In Ethiopia, ME&L activities have been mainly focused on the "Strengthening Extension Service Delivery in Ethiopia" project funded by BMGF – as well as JICA and Nippon Foundation activities. For the BMGF funded activities, a starting point was the status of the FTCs – with the design of appraisal tools and analysis of data and information to present to the main partners, the Ministry of Agriculture, Oxfam America and SAA. A key outcome was the need for financial sustainability of the FTCs in addition to their importance as training and knowledge centers for farmers. To identify the needs of farmers and pastoralists, a needs assessment was undertaken in 52 FTCs in 18 woredas (districts). Indeed ME&L has spearheaded the BMGF project – a highly complex multi-partner operation – with the further development of needs assessment instruments and

Training of enumerators and development agents on data collection in Aleta Wendo Woreda, at Homecho Waieno Farmer Training Center (FTC), Ethiopia





ME&L Stakeholders Workshop in Kano, Nigeria

tools this year, covering areas such as the general agricultural profile of the woreda, agriculture in kebeles (administrative units) – constraints and needs for crops, livestock, postharvest, agroprocessing and marketing; and questionnaires for DAs (development agents) and potential enterprises that would be established at FTC level, as well as questionnaires for the farmers themselves. Supervisors, after the necessary training, proceeded to the regions where they recruited and trained enumerators to undertake the needs assessments in 52 kebeles, 52 FTCs, and 18 woredas in the ten regions of Ethiopia – involving 936 farmers. In total, 166 DAs and 100 enumerators collected the data.

Information was produced for each FTC before the long, meher rains. Further needs assessment reports were produced for FTCs in each woreda and are now being fine-tuned for wide circulation and publication.

ME&L has also undertaken rapid field surveys of Nippon Foundation funded Themes 1 and 2 activities in six selected sites covering the SG 2000 program in the Southern Nations, Nationalities and Peoples (SNNP) region and Oromia, in Ethiopia. Technical support has been given to the baseline surveys of the JICA-funded women's cooperatives.

ME&L began hands-on operations in Mali last year with the collection and processing of baseline data on Technology Option Plots (TOPs) and Women Assisted Demonstrations (WADs). Data was collected under the Initiative *Intégrées pour la Croissance Economique* (IICEM),

4,000 ha millet, sorghum and maize support program, and FLEPs (Farmer Learning and Extension Platforms) – while the training of CBEAs (Community-Based Extension Agents) and CBFs (Community Based Facilitators) was undertaken in support of the FLEPs. Needs assessment for postharvest handling and agroprocessing in selected villages was also done. A SAA/Mali facts document was produced covering the years 1996-2010.

In conjunction with Theme 2, ME&L has developed proposals for groundnut and fonio value chain assessment in Selingué and Kondogola. With the focus on field activities with WFP-P4P, ME&L was involved in the recruitment and supervision of P4P monitoring agents and participated in the mid-term evaluation of WFP-P4P activities in SAA intervention regions in the country. A range of seminars and training sessions have strengthened the monitoring and evaluation base in Mali.

ME&L started later in Nigeria – but significant amounts of information and data that had been collected in 2009 are available. ME&L has participated in a stakeholder identification and analysis survey among academia, Department of Agriculture, the International Institute of Tropical Agriculture (IITA), Agricultural Development Projects (ADPs) in Kano, Jigawa, Bauchi, Gombe, Adamawa and Zamfara, the USAID Markets Project and other collaborators. The results will be used for technical capacity building when needed. ME&L also organized a one day stakeholders' workshop across a range of actors, including SAA, SG 2000 state coordinators

and ADPs' ME&L Directors for six states. The focus was creating awareness of the SAA ME&L approaches, with SAA also learning about the states' M&E activities.

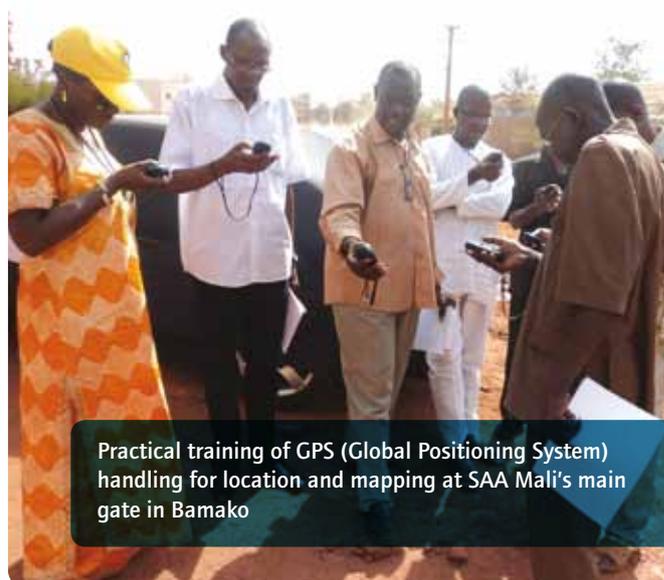
ME&L visited the six states to plan the collection of baseline data. Working with stakeholders, ME&L recruited and trained supervisors and enumerators on baseline data collection – with the surveys initially being conducted in Adamawa and Jigawa states.

### Uganda

In Uganda, a one-day 'baseline tools harmonization workshop' was held and data collection progressed – the results being available before the end of the year. Needs assessment was undertaken on the agroprocessing and postharvest side to assist in the establishment of a PHELP (Postharvest Extension Learning Platform) in Ntungamo district. This entailed pre-testing the generic needs assessment tools, collecting data from two sub-

counties, Ntungamo and Itojo, and from parishes within the two sub-counties, eight extension agents and 216 farmers. With the assistance of a questionnaire, the study provided information on the major crops grown; the technologies used, and market access and constraints. ME&L also supported Theme 3 (Promoting Private/Public Partnerships) on the development of inventories of partner associations, entrepreneurs, financial institutions and public-private organizations involved in seed, crops and agro-inputs. ME&L also assisted in the organization of the SAA Uganda Planning Meeting 2011, from major stakeholders such as the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), to smallholder farmers. Progress has also been made in engaging the National Agricultural Research Organization (NARO), the National Agricultural Advisory Services (NAADS), the Uganda Bureau of Statistics, IITA, Innovation for Poverty Action (IPA) and WFP. The result was a ME&L Theme Stakeholders' Workshop in June. Issues such as standardizing and improving reporting by SG 2000 district coordinators were discussed.

At crop production pre-season training, ME&L focused on data collection, reporting and management skills, particularly basic record keeping. Some 4,864 farmers in Lira, Mukono, Luwero, Jinja, Tororo and Wakiso districts were involved – with half being women farmers.



Practical training of GPS (Global Positioning System) handling for location and mapping at SAA Mali's main gate in Bamako

Agriculture is a key driver of Ethiopia's long-term growth and food security. It directly supports 85% of the population and constitutes 43% of Gross Domestic Product (GDP) of US \$25.6 billion. Nearly 16% of the government's public expenditure is committed to the sector.

Weather in most parts of the country was favorable between January and February last year. However, in some areas under wheat, continuous rainfall caused wheat yellow rust infestation. This situation triggered the emergency import of fungicides which helped to reduce the severity of the damage to overall production.

The results of the 2010/11 main season crop production survey – including smallholder farmers – indicated that a total land area of 11.8 million ha was cultivated with grain crops (cereals, pulses and oilseed) producing 20.3 million mt of grain. For the short rainy season, crop coverage was 1.2 million ha with a total production of 1.3 million mt. The total area under commercial farming during the year was 415,502 ha with a total grain production of 852,216 mt. These increased production figures might look encouraging but productivity in tons per hectare of major cereals was 1.3, 2.5, 2.1, 1.8 and 1.6 for teff, maize, sorghum, wheat and barley, respectively. The low productivity of these crops can be attributed to poor extension service delivery leading to low levels of improved agricultural technology utilization, poor postharvest handling of crops; and the lack of access to input-output markets by farmers.

These are the diversified challenges posed by Ethiopia's agricultural development – and why the value chain approach, involving different thematic areas, was adopted by SAA in 2009.

## Working with Gates

The complexities of this approach, and the additional resources required, led to the forging, by SAA, of a tri-partite partnership with the Ministry of Agriculture (MoA), Oxfam America (OA) and SAA to implement a project known as "Strengthening Extension Service Delivery in Ethiopia." Funded by the Bill and Melinda Gates Foundation (BMGF), the objective is to improve extension service delivery to smallholder farmers for increased food security and income at household level. The MoA oversees project implementation while OA strengthens the infrastructure of the Farmer Training Centers (FTCs), with three development agents (DAs) being placed at each FTC to educate farmers on improved agricultural technology. In order to create greater efficiency, OA also supports the mobility and communication skills of the DAs.

For its part, SG 2000 introduces diversified and innovative agricultural technologies and approaches to the FTCs, builds DA capacity – by filling the knowledge gap identified through their participation in the project – and introduces revenue generation activities through a loan guarantee fund, so that FTCs can eventually cover their operational costs. SAA also encourages the participation of the private sector by persuading input dealers and farmers' cooperatives to participate in extension service

## Country Director: Dr Abera Debelo



*"The low productivity of many crops can be attributed to poor extension service delivery leading to low levels of improved agricultural technology utilization, poor postharvest handling of crops and the lack of access to input-output markets by farmers. These are the challenges to which we are responding through our different but coordinated thematic approaches."*



Line planted and disease resistant wheat variety (left) and wheat affected by yellow rust disease (right)



delivery and improve market access for smallholder farmers. The project is monitored and evaluated periodically – and the lessons learned will improve implementation and eventually lead to the scaling up of best practices. The project is being implemented in all of Ethiopia's regional states – at 215 FTCs – and is strengthening the capacity needs of 645 DAs, 180 Subject Matter Specialists (SMSs) and some 215,000 farm families. The best practices from the pilot projects, involving SAA and OA, will be scaled up by the government, to be used in other agricultural development areas of the country.

## JICA collaboration

SAA has also forged a partnership with the Japan International Cooperation Agency (JICA) with two projects 1) supporting women's agroprocessing groups, which is now being implemented for the second season. The aim is to organize resource poor rural women into agroprocessing groups, add value to their

produce, and create market access to increase their income and food security. 2) based on SAA's rice promotion efforts in the Tigray Regional State of Ethiopia, JICA is supporting the promotion of improved technologies of rice and other crops in a value chain approach in that region. The project has been developed and approved by JICA. Implementation of the project started in July this year and will run for a period of four years.

## Crop productivity

Last year, in order to expose farmers to improved crop production technologies, improved varieties of five cereals - teff, maize, wheat, sorghum and rice, one legume (haricot bean) and one root-crop (potato) - were demonstrated. In most areas of Ethiopia, farmers who use fertilizer for crop production apply a blanket recommendation which is 100/100kg/ha of DAP/UREA regardless of soil and crop type. In an effort to increase fertilizer use efficiency, three fertilizer options (150/150,



Rice parboiling training with women's agroprocessing group

## Crop Production Technology plots implemented in 2010

| Region       | No. of Woredas | No. of FTCs | Number of plots |            |             | Total       |
|--------------|----------------|-------------|-----------------|------------|-------------|-------------|
|              |                |             | TOPs            | WADs       | PTPs        |             |
| Tigray       | 1              | 3           | 18              | 27         | 450         | 495         |
| Amhara       | 1              | 3           | 18              | 27         | 450         | 495         |
| Oromia       | 12             | 30          | 180             | 270        | 4500        | 4950        |
| SNNPR        | 3              | 9           | 54              | 81         | 1350        | 1485        |
| <b>Total</b> | <b>22</b>      | <b>58</b>   | <b>348</b>      | <b>522</b> | <b>8700</b> | <b>9570</b> |

100/100, 50/50 Kg/ha DAP/UREA, respectively) were demonstrated on 58 FTCs in 22 districts of four regional states. A total of 348 technology option plots (TOPs), that included the improved varieties and the different fertilizer options, were demonstrated on a plot size of 1,500m<sup>2</sup> (500m<sup>2</sup> x3). In addition, 522 women assisted demonstrations (WADs) for groups of 5-10 women each, were conducted on a plot size of 1,000m<sup>2</sup> to introduce women farmers to improved agricultural technologies. The farmers' groups which participated in TOPs and WADs were provided with inputs by SG 2000. Some 8,700 farmers also participated in production test plots. There is no plot size limitation with these groups of farmers. They work with their own inputs and receive technical advice from the DAs on their efficient use of improved technologies.

The Crop Productivity Enhancement team provided training of trainers for 238 extensionists (64 SMSs and 174 DAs), who then trained 970 farmers on the use of improved agricultural technologies.

A total of 56 field days, 11 at regional or woreda (district) level and 45 at FTC level, were organized as well as 1,160 with

SMSs and government officials. These involved a total of 4,102 farmers - 82% men and 18% women.

In 2011, in addition to the SAA funded work in 22 districts and 58 FTCs, the team has implemented the BMGF project in up to 18 districts and 30 FTCs. There is the possibility, too, that a second project will be implemented in Tigray region.

### Postharvest and Agroprocessing

Based on a needs assessment study conducted in Enebi Chifar, Denkaka and the Semen Bellesa kebeles (farmer associations) of Amhara, Oromia & SNNP Regions, Postharvest Extension Learning Platforms (PHELPs) were established at the FTCs of the various kebeles. Four field days were organized to demonstrate improved postharvest technologies (multi-crop thresher, grain cleaner and harvester) in the three PHELP kebeles. Three women agroprocessing (AP) groups were organized in these kebeles to add value to their produce and create market access for income generation. The 154 members of the women's group and 16 experts from government offices were trained in basic business skills.

Training in areas such as basic business skills, cooperative management, rice parboiling, grain postharvest handling and agrobusiness enterprise management and development, including warehouse management, were organized for a total of 624 newly identified and existing women's AP groups, extension workers and farmers.

As a result of the demonstrations and awareness creation at PHELPs, FTCs and on farmers' fields, demand for threshing services by farmers is increasing. Some entrepreneurial farmers have purchased multi-crop threshers and are providing threshing services to local farmers. As a result of this, farmers are saving time, labor, and getting quality products at premium prices into the marketplace.

### Public-Private Partnerships

The purpose of this thematic area (see Theme 3) is to strengthen partnerships between the public and private sectors – and improve extension service delivery to smallholder farmers. With better market access, their productivity should increase. Six forums were therefore organized where partners such as the Ministry of Agriculture, agricultural research institutes, public and private seed producers, farmers' cooperative unions, public and private agrochemical dealers and NGOs met to discuss issues designed to improve agricultural linkages along the entire value chain.

Availability and accessibility of inputs, such as seed, are the limiting factors in increasing production. To address this problem, training of trainers was provided for formal (public and private) and informal (community) seed producers where 461 trainers participated from the public and private sectors. In addition, 176 farmers were trained in community-based seed production. As a result, some 302 mt of hybrid maize was produced by farmers and the seeds sold to public seed enterprises for eventual distribution at cost to smallholder farmers.

While involvement of the private sector in extension service



**Deputy Country Director:  
Dr Habtu Assefa**

Dr Habtu Assefa was appointed Deputy Country Director for Ethiopia and Project Coordination for the BMGF project in February. He was previously agriculture and NRM advisor, for eight years, to the SIDA – Amhara Rural Development Program.

delivery in Ethiopia is slow at the present time, SG 2000 has initiated discussions with some private sector organizations such as Pioneer Seed Ethiopia PLC, MAKOBU Enterprise PLC, Anno Agro Industry PLC, Agri-Ceft Ethiopia PLC (Ayeahu farm) and Lume-Adama Farmers' Cooperative Union.

### Monitoring, Evaluation, Learning and Sharing

The Monitoring, Evaluation and Learning (ME&L) team (see Theme 5) concentrated initially on the BMGF-funded project – Strengthening Extension Service Delivery in Ethiopia. Key activities included designing the ME&L implementation plan, preparing instruments for baseline surveys and needs assessments and the finalization of thematic and country log-frames for Ethiopia. There was also significant support to the JICA-funded project – Enhancing Self-Sustainability of Women's Agroprocessing Cooperatives in Rural Ethiopia. Baseline survey instruments and tools were designed.

A rapid survey was undertaken in selected SG 2000 project sites to assess the implementation of SG 2000 demonstration plots (TOPs, WADs and Production Test Plots) and to investigate efficient and effective ways of data collection for future ME&L work. Lessons/feedback on the implementation of FLPs (Farmer Learning Platforms) were communicated to the Crop Productivity Enhancement team.



**Women Assisted Demonstration (WAD) plot of sorghum at maturity in Chewaka Woreda of Oromiya**

The development of agriculture is considered as the key for poverty reduction and sustainable social and economic growth in the development of Mali. The Government Program for Social and Economic Development (PSED) aims to give impetus to agriculture as a major platform of the economy with a production target of 10 mt of cereals by 2012. This certainly seems to be achievable. Public funding for agriculture has increased from 12.6% in 2006 to 13.3% in 2010 which is well above the 10% recommended by the Comprehensive Africa Agricultural Development Program (CAADP). Many African countries have not yet reached this target.

The enabling policy environment for agriculture, allied to favorable rainfall conditions, has contributed to sustained production growth for most crops, including cereals and cotton, since 2006. The amount of rainfall recorded during the 2010-2011 cropping season was higher than the five year average rainfall in all agricultural regions except one.

Cereal production for the 2010-2011 cropping season reached 6.4 million mt. This is an increase of 8.6% over the 2009-2010 season. The available cereal surplus was 3.1 million mt with national cereal needs estimated at 3.4 million mt. Although the food security situation in the country was judged satisfactory, 37 communes from the northern arid region were estimated to be at risk of food insecurity last year.

Agriculture in Mali is underdeveloped with only 7% of the country cropland cultivated. Some 14% of potentially irrigated land is also utilized, with a serious

underuse of mineral fertilizers and improved variety seed.

Through the value chain approach and the resources of SAA's five thematic areas, the SG 2000 Mali program is working to develop smallholder family food security as well as commercial agricultural opportunities in maize, millet, sorghum, irrigated and upland rice, peanut and cowpea.

The program involves 13 circles, 55 communes and 136 villages representing the main rural livelihood zones in the main agricultural areas of the country. This involves partnership with the National Directorate of Agriculture to introduce new technologies while working with agro-dealers to provide farmers with access to inputs as well as financial opportunities. Participating organizations and associations include AGRA (Alliance for a Green Revolution in Africa), and INTSORMIL CRSP (International Sorghum and Millet Collaborative Research Support Program) as well as village development committees and individual farmers, both men and women.

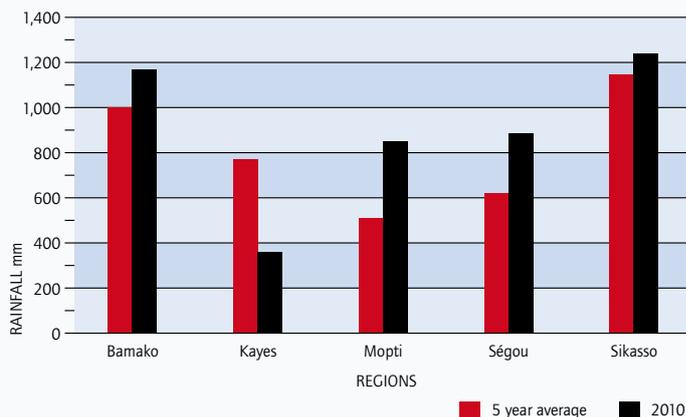
For 2010-2011, ten improved technologies have been made available to individual farmers and village-based communities through 1,263 TOPs (Technology Option Plots) and demonstration plots, 300 WADs (Women Assisted Demonstrations), 20 farmers' field schools and 10,625 PTPs/PPs (Production Test Plots/Production Plots). This will drive growth in agricultural productivity in 136 villages with an emphasis on appropriate benefits and costs. Improved technologies introduced include high yielding varieties of millet, sorghum, rice, peanut and cowpea, striga control, microdosing and fertilizer levels, and plant population density. Microdosing mineral fertilizer technology has the potential

## Country Director: Dr Abou Berthe



*"Through the value chain approach and the resources of the five thematic areas, SG 2000 in Mali is working to develop smallholder family food security as well as commercial agricultural opportunities in maize, millet, sorghum, irrigated and upland rice, peanuts and cowpea."*

## Mali rainfall patterns by region



of improving rainwater use and nutrient efficiency for increased rural household food productivity and security, incomes and livelihoods.

## Postharvest activities

Financial losses in Mali, due to postharvest losses, are estimated at 60 million FCFA (US \$125.3 million) a year. This must be addressed. Theme 2 postharvest activities have involved the training of ten local agricultural equipment manufacturers in the production of a multifunctional thresher and cleaner introduced from Selam in Ethiopia. Thirty women farmers and three extension agents were also trained in postharvest and agroprocessing technologies with peanuts, rice, sorghum, millet and fonio.

The SG 2000 Mali program partners with various stakeholders including financial partners (World Food Program – WFP, INTSORMIL), agro-dealers, micro-financial institutions, rural banks and FBOs (Farmer-Based Organizations) in joint initiatives for improved agricultural input procurement (mineral fertilizers, improved variety seed and pesticides) and the collective marketing of smallholder farmers' products. The program has

continued to facilitate the supply of locally produced commodities to the World Food Program's Purchase for Progress (WFP-P4P) initiative. The FBOs in the program delivered 853.5 tons of cereals to WFP-P4P which benefited 1,996 smallholder farmers, 26% of whom were women.

Women were also trained in leadership to strengthen their capacity in the P4P program cereal procurement process. FBOs from the joint crop production and marketing initiative of SAA Mali/INTSORMIL, involving 500 farmers from eight villages, produced and sold 153 mt and 47 mt of quality millet to WFP-P4P and cereal traders.

The AGRA/SAA partnership microdosing fertilizer project invested in the establishment of 13 cereal warehouses and input shops, with the support of agro-dealers, including ARC EN CIEL, FASO KABA and YARA. The warranty backup of SAA in this project contributed to the procurement of 3,110 kg of improved seeds and 76,170 kg of DAP and Urea by 369 and 179 producers respectively from the established input shops. Three hundred and three tons of cereal grains were stored



SAA staff visit a women farmers' community variety plot in Medina village

by 249 producers as well as producers from six village-based farmers' cooperatives. Women participation in the warrantage storage was nearly 30%. The ratio benefit cost of 1.14 for the warrantage indicated that it is a profitable activity.

The scaling up of intensive production and marketing processes, in collaboration with INTSORMIL, allowed the production of 605,462 kg of millet by 434 farmers on 498 ha. Two hundred tons of millet was sold to WFP-P4P and cereal traders. The additional price benefit, with the premium, was 13% higher than without the premium price.

Human resource development activities (Theme 4) in 2010-2011, involved the training of 47 SAFE graduates, 20 students of MVA (*Maitrise Vulgarisation Agricole* – Bachelor in Extension), 22 students of BTVA (*Brevet de Technicien de Vulgarisation Agricole* – High School Diploma in Extension) and 18 teachers on agricultural value chain concepts. Forty-six SEPs (Supervised Enterprise Projects) were also developed by students, contributing to the facilitation of women leadership training sessions, organized by Theme 3.

## Productivity enhancement

For 2011/2012, agricultural enhancement activities will involve 293 TOPs, 309 WADs, 27 Farmer Field Schools, two Community Varieties Plots (CVPs), 5,550 PTP/PPs, 24 input shops and 10 ha of seed production in 152 villages located in 12 circles and four regions. It is also planned to establish 190 Microdosing Demonstration Plots (MDPs), on 9,360 ha as part of the microdosing fertilizer project. There will be a further 12 ha for selected seed production of millet, sorghum and cowpea and the establishment of seven input shops and seven warrantage stores. Planned activities for intensive millet production and marketing involve the production of 1,200 mt of millet from 1,000 ha involving 1,000 farmers in the circle of Baraouéli in Ségou region.

Activities for postharvest and agroprocessing involve

| WADs and TOPs performance analyses   |                             |                             |                                       |                  |
|--------------------------------------|-----------------------------|-----------------------------|---------------------------------------|------------------|
| Technologies                         | Average yield (kg/ ha) TOPs | Average yield (kg/ ha) WADs | Average RBC (Ratio Benefit Cost) TOPs | Average RBC WADs |
| <b>Sahelian agroecological zone</b>  |                             |                             |                                       |                  |
| Millet microdose DAP                 | 1302                        | 1288                        | 6,2                                   | 6,12             |
| Sorghum microdose DAP                | 1435                        | 1390                        | 6,06                                  | 5,84             |
| Millet population density            | 1620                        | 1544                        | 3,41                                  | 3,23             |
| Sorghum population density           | 1584                        | 1401                        | 3,06                                  | 2,59             |
| Millet types of fertilizers          | 1405                        | 1580                        | 2,82                                  | 3,3              |
| Millet variety comparison            | 1653                        | 1933                        | 2,96                                  | 3,63             |
| Sorghum variety comparison           | 1640                        | 1508                        | 2,73                                  | 2,43             |
| Irrigated Nerica Variety comparison  | 5550                        | 4390                        | 3,8                                   | 2,79             |
| Peanut variety comparison            | 840                         | 655                         | 0,71                                  | 0,34             |
| <b>Soudanian agroecological zone</b> |                             |                             |                                       |                  |
| Maize variety comparison             | 3038                        | 2187                        | 1,6                                   | 0,88             |
| Irrigated Nerica variety comparison  | 2314                        | 2226                        | 1,59                                  | 1,49             |
| Peanut variety comparison            | 1525                        | 2450                        | 2,11                                  | 1,4              |
| Maize microdose DAP fertilizer       | 1537                        | 1928                        | 1,34                                  | 1,93             |
| Maize No till                        | 2945                        | 3543                        | 1,76                                  | 2,31             |
| Maize population density             | 4480                        | 3307                        | 3,87                                  | 2,59             |
| Sorghum population density           | 1132                        | 1240                        | 1,9                                   | 2,18             |
| Millet population density            | 1300                        | 1613                        | 2,54                                  | 3,39             |
| Sorghum levels of fertilizers        | 1480                        | 1380                        | 2,36                                  | 3,85             |
| Upland Nerica levels of fertilizers  | 2793                        | 1270                        | 2,13                                  | 0,42             |

10 postharvest technology demonstrations to reduce postharvest losses and rehabilitate 30 staple grain storage facilities to foster collective marketing – as well as training FBOs and extension agents in business management.

Public Private Partnership plans for 2011 include motivating

private agribusinesses to provide financial support to public smallholder agricultural extension services. Partners have been identified and capacity building training has been organized in areas such as access to credit, rules for a good functioning FBO and experience sharing with the collaboration of PRECAD (*Projet de Renforcement des Capacités*

*pour une Agriculture Durable*) and WFP. In addition, to help broker new business opportunities and commercial credit services for partner FBOs, producers will be linked to the WFP for group marketing and other local buyers and processors, banks and microfinance institutions such as Kondo Jigima and BNDA.



SAA Managing Director, Juliana Rwelamira, visits a millet field in Tigui village, Ségou region

Last year was not an easy year for agriculture. The rains came early across the whole country – with the highest amount of rainfall in July in all SAA's participating states. In 2010, the highest amount of rain was recorded in August. As a result, floods occurred in many states, devastating farms and fish ponds. Climate change, pollution and deforestation helped to create an unsettling environment for Nigeria's farmers.

## Crop Productivity and Extension

SAA works in the Northern Guinea Savannah and the Sudan-Sahelian zones, cutting across six states (Adamawa, Bauchi, Gombe, Jigawa, Kano and Zamfara). Visits were made by staff to farmers' communities in order to assess the agricultural production systems and farmers' needs prior to the start of the 2010 rainy season. A total of 1,700 farmers were contacted during this exercise. Three hundred and thirty-three Technology Option Plots (TOPs) were established (mainly for fertilizer and variety demonstrations), with 662 Women Assisted Demonstrations (WADs) and 2,200 Production Test Plots (PTPs) on maize, rice, sorghum, groundnut, millet, cowpea and sesame. There were significant differences between farmers using traditional practices and improved practices. Field days were conducted in the six states with attendance of around 6,400 participants.

In Jigawa state, a dry season program was established for improved vegetable production technologies to address the perennial problem of pest and disease during irrigation, in which a total of 46 Extension Agents (EAs) were trained in December. They, in turn, trained 100 farmers

in tomato, pepper and wheat production. In 2011, 278 TOPs, 743 WADs and 2,790 PTPs are being established.

## Postharvest and Agroprocessing

Agroprocessing needs were assessed in Adamawa, Bauchi, Gombe, Kano, Jigawa and Zamfara, with 21 local government areas, 31 villages and 761 agroprocessors (APs) representing 32 groups, identified. A total of 475 processors were engaged, consisting of 460 women processors and 15 male farmers. Based on the outcome of the needs assessment, two training sessions on group formation/dynamics and capacity building for fabricators were conducted. A total of 20 groups were represented with 147 APs trained. Also 32 groups were identified with a total of 641 members. The training of fabricators was carried out in Bayero University Kano (BUK) where SAA is in the process of establishing a base for research and development of AP machines. Six fabricators from Adamawa and Jigawa and the staff of BUK attended the training session. A maize sheller was put together during the training.

In 2011, AP groups are working

## Country Director: Dr Sani Miko



*"The new SAA strategy of strengthening extension delivery to smallholder farmers with a value chain approach, from sourcing inputs to production, postharvest and processing, and market and credit access, is now moving forward in SAA's main areas of operation in Nigeria."*

to improve the quality of crops produced and reduce postharvest losses to the bare minimum. More simple equipment will be placed in the Postharvest Extension and Learning Platform (PHELPS) and service providers will help to source this equipment.

## Public-Private Partnerships

SG 2000 has worked with private sector agribusinesses over many years. In March 2010, a stakeholders' meeting was held with 67 participants. Serious questions were raised about the ability of extension agents, from the public sector, to take on new challenges – and access to finance and inputs for enhanced production were discussed. Quality seed was the key issue, it was agreed, for effective extension intervention. The meeting ended with 13 private companies pledging to support SG 2000 in raising the level of extension delivery. Also last year, SG 2000 in Nigeria conducted training sessions for 13 farmers, 13 extension agents, three zonal coordinators and one state university on community seed multiplication. A total of 25.5mt

of assorted improved seeds was produced through community-based seed schemes in Kano, Jigawa and Zamfara states, totalling 18 ha.

Meanwhile, community-based seed producers were linked to three seed companies where 3.2 mt of associated seed have been sold. Training was also conducted with nine partner farmer groups from Kano, Jigawa and Bauchi and Adamawa states, on farmer business management.

## Monitoring, Evaluation, Learning and Sharing

SAA's ME&L has partnered with Agricultural Development Projects (ADPs), research institutes, universities, farmers' groups and associations, the private sector (seed and fertilizer companies), the Federal Office of Statistics, the Central Bank of Nigeria, States Agricultural Monitoring and Evaluation Units and other government record keeping offices. Theme 5 has provided a leadership role in training other thematic areas on log-frame development at country level. Theme 5 also developed a baseline survey plan (sampling techniques and tools design) for implementation in 2011. Two visits were made to Adamawa, Bauchi, Gombe, Jigawa, Kano and Zamfara to facilitate collation of Theme 1 yield data and assure the quality of data collected.

## New Partnerships

SG 2000 Nigeria was able to advance the positive reaction of seven states (Adamawa, Bauchi, Gombe, Jigawa, Kaduna,

**Demonstration of PHAP (Postharvest and Agroprocessing Program) machines and number of attendees**

| Location      | Technology Demonstrated                                  | Attendance |         |            |
|---------------|--|------------|---------|------------|
|               |  | Males      | Females | Total      |
| Adamawa       | Gari processing, multi-crop thresher (Field day in Yola) | 50         | 20      | 70         |
|               | Gari processing, multi-crop thresher (Ganye)             | 70         | 30      | 100        |
| Jigawa        | Groundnut kneader, maize sheller, wet grinder            | 170        | 30      | 200        |
| USAID/MARKETS | Maize sheller, manual maize sheller                      | 100        | 25      | 125        |
| <b>Total</b>  |  |            |         | <b>495</b> |

Kano and Zamfara) to a proposal for cost sharing in the implementation of SAA/SAFE activities for an initial period of five years.

Both Adamawa and Jigawa states pledged N30 million (US \$200,000) each to SAA with Bauchi and Zamfara due to disburse their funds soon. Thus far, the following equipment has been purchased for Adamawa and Jigawa. A total of four sets of cassava processing machines, two sets of multi-crop threshers and a maize sheller, one motorised oil kneader, one motorized groundnut decorticator, four manual groundnut oil kneaders, three sets of rice parboiling kits, 200 pieces of hand maize shellers, two sets of rice mills (250kg/hr capacity), one rice mill of 1,100 kg/hr capacity and one wet grinder. Six enterprise centers have been established in Jigawa (three centers on rice and groundnuts) and Adamawa states (three centers for cassava, rice and groundnuts).

SG 2000 was awarded a sub-contract to work with 3,000 maize out-growers in Kaduna State. Pre-season training of trainers (TOT) on maize production technology, group management and record keeping was conducted for 150 lead farmers (103 men and 47 women), who trained 2,850 farmers in their communities. The major objective of this program was to link these producers to the Grand Cereals and Oil Mill Company based in Jos, Plateau State. Yield and sales surveys from 60 randomly selected farmers were conducted in November and January. From the sampled farmers, total land area was 81.15 hectares, the total yield obtained, 361.53 mt, with an average yield of 4.45t/ha. The individual farm size of the 60 sample farmers ranged from one hectare to 2.91 ha. The yield from farmers' fields ranged from 2.43 to 6.44 t/ha. For 2011, the project has increased the participating

| Yield Data of Community Based Seed Multiplication Plots |         |           |           |           |                    |
|---|---------|-----------|-----------|-----------|--------------------|
| S/N   | STATE   | CROP      | VARIETY   | AREA (Ha) | ACTUAL YIELD (TON) |
| 1   | Kano    | Rice      | SIPPI     | 2         | 3                  |
| 2   | Kano    | Rice      | NERICA 2  | 2         | 1.2                |
| 3   | Kano    | Sorghum   | KSV-8     | 1         | 1.7                |
| 4   | Kano    | Maize     | ACR 97    | 1         | 2.8                |
| 5   | Kano    | Soyabean  | TGX 1448  | 1         | 1.3                |
| 6   | Kano    | Groundnut | SAMNUT 23 | 1         | 1                  |
| 7   | Jigawa  | Cowpea    | IT277     | 1         | 0                  |
| 8   | Jigawa  | Cowpea    | IT499     | 1         | 0.2                |
| 9   | Jigawa  | Millet    | SOSAT     | 2         | 3.2                |
| 10  | Zamfara | Sorghum   | KSV-8     | 1         | 1.5                |
| 11  | Zamfara | Millet    | SOSAT     | 2         | 3                  |
| 12  | Zamfara | Maize     | SWAN-1    | 1         | 3.5                |
| 13  | Zamfara | Soyabean  | TGX 1448  | 1         | 2.2                |
| 14  | Zamfara | Groundnut | SAMNUT 23 | 1         | 0.9                |
|   |         |           |           | <b>18</b> | <b>25.5</b>        |

farmers to 5,000. In addition, Chemonics, an international development consultancy, has indicated an interest in teaming up with SAA in the future activities of USAID-MARKETS in Nigeria.

SAA has also partnered with principal investigators, the International Institute of Tropical Agriculture (IITA) and Wageningen University on N2FIXAFRICA, which has so far carried out 6,783 demonstrations, and is funded by the Bill and Melinda Gates Foundation (BMGF). The objective is to improve soil fertility and farm productivity by using nitrogen fixing crops (legumes) such as soybean, cowpea and peanut, using rhizobia as inoculants. About 1,000 demonstration plots were established in Kano state. For 2011, the number of farmers has been increased to 6,783. Notore, Premier Seed, Maslaha Seed, Manoma Seed and Dizengoff companies sponsored field demonstrations (60 TOPs and 20 WADs) and provided 380kg of foundation seeds for community seed production activities.



Women Assisted Demonstration (WAD) women cowpea farmers from Jigawa State



Training women processors on entrepreneurship

The first growing season of 2010 started well with most of the significant production areas experiencing slightly above normal rainfall in March and April. This led to bumper harvests – but the inevitable fall in the prices of maize, beans and rice. However, the second season began later than usual – with poor distribution of rainfall in most areas. It reflected again the vagaries of Africa's rainfall patterns. At the end of 2009, torrential rainfall – particularly around Mount Elgon – washed away harvests and caused loss of lives.

## Crop productivity

During the 2010 season, SG 2000 Uganda provided technical support through the extension services to farmers in 19 sub-counties in eight districts. The 2,500 participating farmers, 504 of whom are WADs (Women Assisted Demonstrations), were given advice on growing maize, beans, upland rice, soybeans, groundnuts, cassava, sweet potatoes and millet.

In the same season, the program organized 504 TOPs (Technology Option Plots), benefitting 10,080 farmers. The crops selected were based on the farmers' own selection criteria with market and food security as major considerations. The FLP (Farmer Learning Platform) concept was used for training and field demonstrations. In addition to the TOPs and WADs demonstrated, there were 1,680 PTPs (Production Technology Plots), where farmers adopted different technologies for rice, maize, groundnuts and soya beans. These technologies ranged from timely planting, weeding, pest and disease control, and fertilizer application. Field days were held in which 1,498 (633 women, 865 males) farmers, 47 extension agents and other 564 stakeholders – politicians, agro-input dealers, seed companies, district and sub-county local government staff and representatives of the National Agricultural Research Organizations (NARO) participated.

Other activities included participation in local radio talk shows – an innovative way of promoting good practice on farmers' fields in Uganda – and partnerships with research organizations such as NARO, as well as agro-input suppliers. Theme 1 – Crop Productivity

Enhancement – took the lead in developing a curriculum for training in seed production, crop management and extension methods for the Uganda National Agro-input Dealers Association (UNADA). Input dealers from 14 districts were trained in extension and communication.

A promising development has been the emergence of local grass root facilitators or Community Based Facilitators (CBFs) in the sub-counties covered by SG 2000. Collectively and democratically chosen by their farming communities, they are responsive to local needs. Their impact on farmers has been an increased use of inputs with the repackaging of the inputs and agrochemicals into smaller affordable quantities – and the impetus of training and farmer field days. The end result, hopefully, will be the development of small and medium sized enterprises – and the rise of a new class of smallholder commercial farmers. Other NGOs, working with farmers, are beginning to appreciate the role of the CBFs.

## Postharvest and Agroprocessing

Numerous challenges face smallholder farmers in the postharvest production value chain – and Theme 2 is working with other stakeholders to promote technologies that aim to reduce postharvest losses, improve product quality, add value to the produce and improve market access. Overall objectives include improving food security, nutrition and income for rural communities.

Theme 2 in Uganda has therefore concentrated on capacity building through stakeholder training, the transfer of technology,

### Country Director:

### Dr Roselline Nyamutale



*"A promising development has been the emergence of local grass roots Community Based Facilitators (CBFs). Collectively and democratically chosen by their farming communities, they are responsive to local needs. Their impact on farmers has been on increased use of inputs with the repackaging of the inputs and agrochemicals into smaller, affordable quantities."*



Demonstration of maize value adding technologies at Lira marketing center

new collaborative ventures and demonstrations of the technology in many parts of the country.

Over 4,000 farmers in SG 2000 operating districts were trained on quality control while 148 extension workers, lead farmers and CBFs were trained to train other farmers. As part of the development of the Postharvest and Agroprocessing Program (PHAP), 14 local fabricators were trained to provide appropriate fabricated equipment to local farmers at affordable prices, while 12 masons and artisans were similarly instructed on crib construction for postharvest storage.

Various technologies for ensuring quality produce and value addition to crops such as maize, groundnuts and cassava, have been demonstrated to farmers. For example, 970 tarpaulins were provided to farmers to demonstrate quality drying of their products. Six weighing scales were distributed to marketing centers for measuring and weighing produce during storage; and 21 maize cribs were set up at various demonstration

sites in P4P districts. Two marketing centers and two drying yards were constructed in these districts to support collective bulk storage and marketing.

There were demonstrations, too, of PHAP technology in a number of districts and also at the annual agricultural trade show, which was attended by over 2,300 farmers and entrepreneurs. The PHELP (Postharvest Extension Learning Platform) concept is also being introduced – where farmers and entrepreneurs manage PHAP unit operations as commercial enterprises. Services are provided to farmers at a cost – with the end result of improving income for both parties and strengthening and expanding market access.

## Private sector collaboration

A key element has been to identify private agribusiness involved in input and agro-industrial chemical supply – and encourage them to provide financial and other practical support to public extension

services. In Uganda, this led to the development of a strategic plan – integrated into the overall goal of increasing food, nutrition and income security for smallholder farmers.

As a result, by December 2010 meetings had been arranged at district and national levels to bring together stakeholders and review plans, programs and activities. A Memorandum of Understanding was signed with the WFP to increase farmers' access to grain markets under the WFP-P4P Project and with UNADA to build the capacity of private agri-businesses offering agricultural advisory services to smallholder farmers.

In 2010, the program trained three women and 24 men technical agricultural officers from 16 districts as trainers of trainers for stockists. Sixty-eight women farmers were also mobilized and linked with a seed company to grow bean seeds on 50 acres of land.

For the major season last year 1,386 farmers, of whom 26% were women, were mobilized to produce and market their produce. A total of 3,408 acres of maize and 135.5 acres of beans were planted.

Some 683 farmers – 50% women – were linked up with the agriculture and advisory services. Six financial institutions were identified to partner with farmer organizations and individual farmers. The capacity of 661 farmers, through farmer associations, was built in various subject areas – such as governance and leadership, record keeping, warehouse receipt systems, agricultural marketing, savings and credit and gender issues.

Two new marketing centers, with drying yards in the districts of Bugiri and Lira, were constructed – and an additional two drying yards upgraded in Buikwe and Luwero to improve quality and farmer access to local markets.



**Farmer Learning Platform – demonstration site for promotion of improved crop and natural resource management**

Under P4P, a fund of US \$8,750 was dispersed to five associations to facilitate start-up bulk marketing. Over 150 mt of grain was bulked.

### Monitoring, Evaluation, and Learning

Integration of ME&L systems in SG 2000 country activities has also been an important objective for the Uganda Country program

and for the main thematic areas. The development of a logical framework approach was preceded by an assessment of planned activities on the ground. These included visits to Farmer Learning Platforms (FLPs) where positive progress was indicated in Mukono, Wakiso and Buikwe districts as a result of the farmer demonstrations initiated by Theme 1. The development of the necessary tools for ME&L – including strategies, concepts and procedures – were drafted in consultation with other thematic areas. Tools for data collection were also drafted to include needs assessment and baselines.

To give direction to any development intervention, the needs of the beneficiaries need to be established. On the postharvest and agroprocessing side, this was achieved in Luwero district. Farmers' attitudes were positive – with the realisation that quality would be improved and access to markets obtained.

During the year, participating farmers (PHELPs and FLPs) were trained on data collecting and monitoring. This included CBFs and Extension Agents (EAs). Subsequently training materials were developed – and again farmers were appreciative of the knowledge gained and its impact on their own efforts.

An important result of establishing an ME&L system with this strong participatory approach is that it leads to ownership of the system at all levels – and more accurate and systematic reporting as a result.



**Field day demonstration of Rice Technology Option Plot (TOP) in Kamwenge**

| Demonstrations conducted in 2010 –WADS (Women Assisted Demonstrations) |               |  |                |                                |
|--|---------------|--|----------------|--------------------------------|
| No. Districts  | Crops         | Total number of technologies demonstrated per crop | Total no/ WADS | Total numbers farmers involved |
| 6  | soybeans      | 5  | 48             | 240                            |
| 8  | maize         | 6  | 202            | 1010                           |
| 7  | ground nuts   | 5  | 85             | 425                            |
| 4  | rice          | 6  | 37             | 185                            |
| 6  | cassava       | 5  | 66             | 330                            |
| 2  | beans         | 5  | 62             | 310                            |
| 1  | millet        | 5  | 4              | 20                             |
|  | <b>Totals</b> |  | <b>504</b>     | <b>2520</b>                    |

## Capacity building for extension



In the field: a Supervised Enterprise Project (SEP) at Haramaya University, Ethiopia

The SAFE (Sasakawa Africa Fund for Extension Education) initiative is perhaps SAA's most significant contribution to institutional capacity building. Approximately 3,500 extension officers have benefitted from this program and many today are in key leadership positions in their national agricultural extension systems.

Handicapped by inadequate funding and outdated curricula, extension education in many African countries is a highly neglected area. Indeed, no more than 10% hold a BSc university degree or higher, another 15 to 20% have a higher diploma, and the rest hold a certificate or lower. The average age is over 40 (with the exception of Ethiopia) and most extension agents in SAA focus countries are men. Due to social and cultural barriers, this limits their effectiveness in working with women farmers.

From the early years of SG 2000, Dr. Borlaug was interested in establishing a scholarship program in Ghana for outstanding young extension officers. In 1992, the SAA Board approved a scholarship program for outstanding national extension collaborators in the SG 2000 project countries, which was to be administered by Winrock International. The proposal called for 32 scholarships at BSc level at local universities and 16 MSc and 4 PhD scholarships at foreign universities. Three PhD candidates were soon identified and dispatched to the USA and Europe.

But in late 1993, Dr. Deola Naibakelao, the SAFE Coordinator and his counterparts at Winrock International, Dr. Roger Steele and Dr. David Mattocks, came up with a proposal to drastically reorient

the program. The foreign study was expensive – and there was a growing conviction that the focus should be on BSc and diploma studies, which fit better with the academic credentials of the great majority of extension officers. Perhaps even more important, they recommended that the SAFE program should concentrate on capacity building in African colleges and universities.

Visionary leaders and faculty at the University of Cape Coast in Ghana agreed, in 1993, to establish the first BSc course in agricultural extension to open doors for mid-career professionals through advanced training. The course featured new curricula more closely linked to the real world of African farmers.

With help from SAFE, comparable precedent-breaking revisions of extension curricula began at other universities across Africa – and there has since been a steady increase in the number of participating colleges and universities. During 2011-12, four new university programs – two in Nigeria and two in Ethiopia – are being added. Over the 2012-16 period, SAFE expects members to increase to 3,676 graduates, with 15% being female, with another 5,130 enrolled, with (again) 15% being women (see Theme 4, pages 10 and 11).

Concerted efforts are now needed to broaden the skills of national extension staff and increase the ranks of qualified women extension professionals. Enhancing the 'value chain perspective' in extension should help in the recruitment of more women extension agents, since recruitment can also come from the areas of food technology,

## New partnerships

Throughout its 25-year history, SAA has enjoyed the strong and constant support of the Nippon Foundation, Japan's largest private philanthropic organization. To date this support – for both SAA and SAFE – has exceeded US \$210 million.

In 2008, SAA launched a drive to diversify its funding sources and increase annual budgets by at least 50% by 2012 and 100% by 2014. It is on track to meet these targets.

Recent new donors include the Bill and Melinda Gates Foundation – an amended grant of US \$7.2 million over four years to strengthen Ethiopia's extension services. The grant provides support for groups that have not been well-served by government extension services in the past – including women, very poor farmers and pastoralists.

### JICA collaboration

Two agreements have also been signed with the Japan International Cooperation Agency (JICA), the Government of Japan's Official Development Assistance (ODA) organization. The first, for 50 million yen (US \$650,160) over three years from October 2010, is being used to improve agroprocessing skills in nine cooperatives in three Ethiopian provinces, enabling more women to acquire the necessary skills to run their organizations successfully.

The second project for 100 million yen (US \$ 1.29 million) – signed in July this year – concentrates on rice production and processing over four years in Tigray province, one of the poorest regions of Ethiopia.

These projects are part of the JICA Partnership Program, through which JICA encourages cooperation activities for local people with Japanese development partners in developing countries.

Other partners include AGRA (Alliance for a Green Revolution in Africa). In the first project, SAA is a sub-contractor to the Institut d'Economie Rural (IER) of Mali to encourage the uptake of micro-dosing fertilizer technology in sorghum and millet and to assist farmer organizations to link with commercial markets for their surplus production. In the second AGRA project, this time directly granted to SAA, addresses post-harvest losses and prevention in the Sikasso region of Mali.

A further partnership venture in Mali, with USAID-supported INTSORMIL CRSP (International Sorghum and Millet Collaborative Research Support Program), involves the scaling up of millet production and market intensification in Ségou region.

In Nigeria, SAA has been working with USAID-MARKETS in Kaduna State to organize and train outgrower farmers in a scheme designed to produce raw material (maize) for a major oil mill involved in food and feeds processing. In addition, four northern Nigerian states – led by Adamawa and Jigawa – have signed memoranda of understanding to support local SG 2000 projects with approximately US\$ 200,000 per year per state. Other states have pledged to follow suit in 2011.

In Ethiopia, Mali and Uganda, the innovative World Food Program – Purchase for Progress (WFP-P4P) collaborates with SAA to use WFP's purchasing power to offer commercially-oriented smallholder farmers opportunities to access agricultural markets, starting with the WFP local and regional purchase program.

home economics, nutrition, and business development.

Private service provider companies and NGOs are likely to play bigger roles in providing extension advice to farmers in the future. This calls

for innovations in training by universities – such as distance, sandwich and on-line modes of instruction and education with agricultural value chain driven content.

## Twenty-fifth anniversary

### Transformation based on historic legacy

commercial market demand all conspired to keep as many as 75 percent of the smallholder farmers, who participated in the SG 2000-supported field programs, from adopting the recommended packages of technologies.

#### Lessons learned

It is therefore not surprising that the significant yield gains achieved by smallholder farmers who participated in the crop demonstration programs were seldom transformed into ongoing productivity changes.

Over the years many lessons have been learned. Today, there is a better understanding that productivity-enhancing technology will not be adopted by most smallholder farmers, even if inputs are available, unless farmers capture more of the value addition that exists higher up the value chain. To capture this added value, farmers need viable farmer-based organizations that can address postharvest and marketing issues and can engage a broader range of service providers and organizations, often from the private sector.

But to bring a value chain perspective to smallholder agriculture, a major capacity building effort is needed to broaden and upgrade the skill sets of extension specialists and frontline agents. Moreover, because budgets have been inadequate, extension organizations in Africa have rationed advisory services, with preference given to larger, better endowed, and more innovative smallholder farmers. This has resulted in only 20-30% of smallholder farmers, and 5-10% of women farmers receiving training and technical backstopping.

Very poor farmers – often women – have insufficient physical assets to generate a reasonable livelihood and generally have been excluded from mainstream extension programs.

These are some of the fundamental problems being faced by SAA and which were

addressed by Norman Borlaug a few months before he died when he wrote:

“If a vibrant, smallholder commercial agricultural sector is going to emerge in Africa, food supply chains must become more integrated. Local, national and regional markets must be more fully developed. The production and post-production quality standards of smallholders must rise to meet consumer expectations. And smallholder producers must become more attuned to market demands.”

#### Strategic goals

A different SAA has emerged today. Five strategic goals have been adopted and activities to advance these goals initiated in its four focus countries, Ethiopia, Mali, Nigeria and Uganda. These are to:

- Establish cost-effective farmer learning platforms that improve productivity in smallholder food systems, especially for resource-poor women farmers and those with low levels of technical efficiency, and increase food security and livelihood.
- Enable smallholder farmers to capture a larger proportion of the economic benefits inherent in agricultural food value chains.
- Create public-private partnerships that financially support delivery of extension services for enhanced smallholder agricultural development and enhance profitable market access.
- Strengthen agricultural extension systems by building the capacity of extension professionals and smallholder farmers to accelerate agricultural productivity and credit more competitive value chains.
- Establish information knowledge management information systems that enable adaptation, modification and change of technologies and approaches, improve efficiency and impacts, and communicate



The late Dr Norman Borlaug with former US President Jimmy Carter and Yohei Sasakawa, Chairman of The Nippon Foundation, which has given strong and constant support to SAA over 25 years.

lessons and best practices for timely, evidence-based decision-making.

Over the next five years, SAA expects to impact on some 400,000 farmers in its focus countries, 35-30 percent of them being women. These direct contact farmers represent households with around 2.4 million members.

SAA has segmented its target participants into three sub-groups. The first group comprises 280,000 farmers, half of whom are women with low technical efficiency and who have not benefited from extension advisory services. The aim is to increase crop yields among those farmers by 50%. The second group comprises more commercially oriented smallholders willing to increase yields and adopt improved postharvest handling and storage facilities. Roughly 120,000 farmers fall into this category, with hopefully 20 percent women farmers. The third group are very resource-poor farmers who lack sufficient resources for farming to ensure food security. Hence, SAA will assist 5,000 poor rural people, largely women, to establish off-farm agroprocessing and agriculture service provider enterprises.

#### Matrix management

SAA's reformed management structure – a matrix management system – has now been in place for nearly two years. Five SAA Thematic Directors lead planning, programming and capacity building for their respective areas while four SG 2000 Country Directors drive implementation

of the SAA strategic plan. The matrix structure provides for far better coordination – a weakness in the past – in areas such as technical quality assurance and best practice. At its heart lies the need to become an evidence-based organization, using baseline data and information on SAA interventions to assess performance, relevance, efficiency, impact and sustainability to guide decision-making.

In short the organization has been transformed with nearly 40% of professional staff now female – a change from the last Bamako symposium when only 5% were female. Today, SAA has one of the highest proportions of professional women staff in the NGO community in Africa – ensuring a better, deeper and wider reach to women farmers along the value chain.

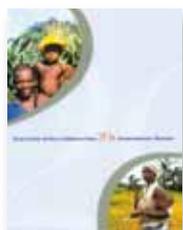
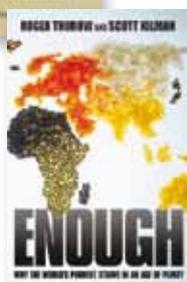
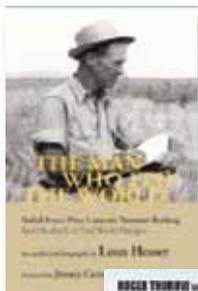
SAA has a vision of a more food-secure rural Africa with increasing numbers of prospering smallholder commercial farmers. Its mission is to transform African extension advisory services to assure family food security, and more profitable participation along the value chain, while respecting natural resources.

As delegates gather in Bamako for the twenty-fifth anniversary symposium, they may reflect on the famine conditions which have once again struck the Horn of Africa and the difficulties caused, across the continent, by Africa's changing weather patterns. The challenges remain – but perhaps Africa's farmers are now better placed to confront them than when SAA first embarked on its long journey.

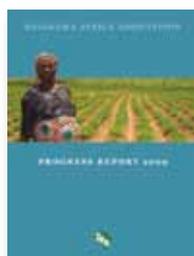
## Public Information

A number of publications are available from SAA, including the Sasakawa Africa Association 20th Anniversary Report; the SAA newsletter, Feeding the Future, various Theme-related publications, and the SAA Annual Calendar. For a complete list, contact [info@raittorr.co.uk](mailto:info@raittorr.co.uk)

In addition, recommended reading includes: the authorized biography of Dr. Norman Borlaug: *The Man Who Fed the World*. Leon Hesser. *Durban House Publishing Company, Inc. 2006.*; and *Enough: Why the World's Poorest Starve in an Age of Plenty*. Roger Thurow and Scott Kilman. *Public Affairs Publishing. 2009.*



SAA 20th Anniversary Report



SAA Progress Report 2009



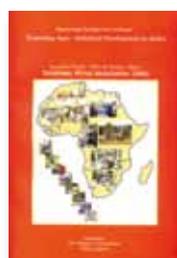
Number 25



Number 26



SAA Progress Report 2010



Improving Postharvest Systems - Promoting Agro-Industrial Development in Africa  
*Leonides Halos - Kim & Toshiro Mado*



Value Chain Analysis for the Development of Food Systems and Innovative Agro-based Industry in Africa  
*Toshiro Mado & Kyoko Saio*

### Writing/Editing:

Raith Orr & Associates, London, UK +44 (0)20 7836 4644

### Designed and print-managed:

B-Creative, Horsham, UK +44 (0)1403 274 742 [www.b-creative.co.uk](http://www.b-creative.co.uk)

## For further information, Contact:

### SAA Managing Director's Office

Dr Juliana Rwelamira  
Managing Director, SAA  
Gurd Sholla  
Daminarof Building, 4th Floor  
Bole Sub-City, Kebele 13  
PO Box 24135, Code 1000  
Addis Ababa, Ethiopia  
Tel 251 11 647 7667  
Fax 251 11 647 7666  
Email [JRwelamira@saa-safe.org](mailto:JRwelamira@saa-safe.org)

Shushan Negussie  
Administrative Manager  
Email [shushan@saa-safe.org](mailto:shushan@saa-safe.org)

### Japan

Masaaki Miyamoto,  
SAA Executive Director (management),  
SAA, 4th Floor, The Nippon Foundation  
Building 1-2-2, Akasaka, Minato-ku  
Tokyo 107-0052  
Tel 81 3 6229 5460  
Fax 81 3 6229 5464  
Email [miyamoto@saa-safe.org](mailto:miyamoto@saa-safe.org)  
[yokoyama@saa-safe.org](mailto:yokoyama@saa-safe.org)  
[seki@saa-safe.org](mailto:seki@saa-safe.org)

### Mexico

Chris Dowswell,  
SAA Executive Director (programs)  
CIMMYT, Apdo.  
Postal 6-641, Delegacion Cuauhtemoc  
CP 06600 Mexico DF  
Tel 52 55 5 804 2004  
Fax 52 55 5 804 7558/9  
Email [cdowswell@cgjar.org](mailto:cdowswell@cgjar.org)

### Switzerland

Jean F. Freymond  
Director, D@G - Geneva Dialogues  
President, Network for Governance,  
Entrepreneurship & Development (GE&D)  
c/o BHF, International Environment House  
7-9 Chemin de Balaxert  
1219 Châtelaine (Geneva)  
Tel 41 79 256 5360  
Fax 41 22 776 0142  
Email [jeanfreymond@gmail.com](mailto:jeanfreymond@gmail.com)

### SAFE

#### Ethiopia

Dr Deola Naibakelao,  
Managing Director, SAFE  
Gurd Sholla,  
Daminarof Building, 4th Floor  
Bole Sub-City, Kebele 13  
PO Box 24135, Code 1000  
Addis Ababa, Ethiopia  
Tel 251 11 6477665  
Fax 251 11 6477666  
E-mail [n.deola@saa-safe.org](mailto:n.deola@saa-safe.org)

Dr Jeff Mutimba,  
Program Co-ordinator  
Eastern and Southern Africa  
E-mail [jmutimba@field.winrock.org](mailto:jmutimba@field.winrock.org)

### United Kingdom

Patrick Orr  
Information Consultant  
Raith Orr & Associates Ltd  
38 King Street, Covent Garden  
London WC2E 8JT  
Tel 44 (0)20 7836 4644  
Fax 44 (0)20 7240 2981  
Email [patrick@raittorr.co.uk](mailto:patrick@raittorr.co.uk)

### USA

P. Craig Withers, Jr  
Director of Program Support  
Global 2000 of The Carter Center  
One Copenhill, 453 Freedom Parkway  
Atlanta, Georgia 30307  
Tel 1 404 420 3830  
Fax 1 404 874 5515  
Email [cwithers@emory.edu](mailto:cwithers@emory.edu)

### SAA Country Programs

#### Ethiopia

Dr Aberra Debelo,  
Country Director,  
Sasakawa-Global 2000  
PO Box 12771  
Addis Ababa, Ethiopia  
Tel 251 11 5528509/10  
Fax 251 11 5528507  
Email [aberrad@saa-safe.org](mailto:aberrad@saa-safe.org)

#### Mali

Dr Abou Berthe,  
Country Director  
Sasakawa-Global 2000  
Kanu-Magnambougou  
Rue 6885, BP E3541, Bamako  
Tel/Fax 223 220 5834  
Email [bertheab@saa-safe.org](mailto:bertheab@saa-safe.org)

#### Nigeria

Dr. Sani Miko  
Sasakawa Global 2000  
No. 8, Kura Road  
Off Magajin Rumfa Road  
Nassarawa GRA  
PMB 5190  
Kano, Kano State  
NIGERIA  
Tel 234 080 6648 2663  
Email [sanimiko@saa-safe.org](mailto:sanimiko@saa-safe.org)

#### Uganda

Dr Roselline Nyamutale,  
Country Director  
Sasakawa-Global 2000  
Plot 15A Clement Hill Road  
Ruth Towers, Nakasero  
PO Box 6987, Kampala  
Tel 256 41 434549  
256 31 2261180  
Fax 256 31 2264180  
Email [rnyamutale@saa-safe.org](mailto:rnyamutale@saa-safe.org)

Visit the  
SAA website at:  
[www.saa-safe.org](http://www.saa-safe.org)