

Feeding the Future

ETHIOPIA newsletter

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Supporting an agricultural revolution

Those seeking evidence that African countries can successfully undergo an agricultural revolution need look no further than Ethiopia. By 2013, the people of this fertile state had raised agricultural production more than threefold from 1995 levels to a total of some 23 million metric tons, or 2 tons per hectare. This is an outstanding achievement for a country ravaged by severe famine in the 1980s and where agriculture still forms the bedrock of the economy.

Sasakawa Africa Association (SAA) has played its part in this revival, developing a unique partnership with the Ethiopian government to develop the skills of the country's network of extension agents, charged with ensuring farming communities have access to the latest and most fruitful agricultural techniques and technologies.

Originally known as SG 2000, SAA introduced pioneering methods in the early 1990s to improve the reach and quality of agricultural extension, which formed the basis for the government's National Extension Intervention Program (NEIP), launched in 1995.

The task has been a complex one. Ethiopia is a hugely diverse country with 32 different agro-environmental zones.

"You have to work out which technologies are appropriate for each zone. The growing cycles are short in lowland areas, but a long period is required in the high regions. SAA has therefore developed different demonstration models for these different agro-ecologies," says Aberro Debelo, SAA's Country Director for Ethiopia.

By working with the existing extension network of Development Agents employed by the Ministry of Agriculture, SAA has been able to reach far more farmers than would otherwise have been possible, while the government has benefitted from SAA's expertise.

The organization's early activities were focused on training related to boosting crop yields, building on local technologies and practices through the use of techniques such as line planting, better access to inputs and the judicious use of fertilizer.



Pooling resources improves farmers' income: grain is brought to a central point by Commodity Association members for bulk sale.

However, the realization that farmers' livelihoods could be improved still further by developing skills and structures across the agricultural value chain prompted SAA to broaden the scope of its extension activities to include areas such as crop processing, cooperative marketing and improved market access, in addition to yield improvement.

In Ethiopia, SAA is working to achieve these new objectives through greater uptake of the Farmer Training Center (FTC), Farmer Learning Platform (FLP) and Commodity Association Trainer (CAT) models. The association's reach is also being extended through partnerships with other actors in Ethiopia, such as the donor community (*see partnerships panel p3*).

The broader approach is also reflected in a restructuring of SAA's activities. The association is now organized under five key themes: 1) Crop Productivity Enhancement (CPE); 2) Postharvest Handling and Agro-processing (PHAP); 3) Public-Private Partnerships for Extension Delivery and Market Access (PPPMA); 4) Human Resource Development (HRD); and

5) Monitoring, Evaluation, Learning and Sharing (MELS).

Working alongside the themes, the long-established Sasakawa Africa Fund for Extension Education (SAFE) promotes and arranges mid-career higher education for extension professionals, enhancing the scientific and technical knowledge of the country's own specialist advisers and managers. SAFE functions as a sister organization to SAA's Theme 4 human resources activities and shares the same Director, Deola Naibakelao.

This structure is applied across the four countries on which the organization now focuses: Ethiopia, Uganda, Mali and Nigeria. Each theme and country has its own director, who works together closely to coordinate activities.

By adapting its approach and structure to help Ethiopian farmers access the entire agricultural value chain, SAA is well positioned to address the new challenges emerging in farming and agricultural extension and to help build further on Ethiopia's green revolution.

A message from the Managing Director

Agriculture is the mainstay of the Ethiopian economy, as it is for many African countries. However, Ethiopia is different from many of its neighbors on the continent, because a long-term government commitment to the sector has enabled spectacular development of agriculture to take place over the last two decades.

Ethiopia was among the first African countries to meet resolutions included in the Comprehensive Africa Agriculture Development Program (CAADP), the agricultural program of the New Partnership for Africa's Development (NEPAD).

CAADP's overall goal is to eliminate hunger and reduce poverty through improved agriculture, in line with the UN's first Millennium Development Goal. To achieve that objective, African governments agreed to increase public investment in agriculture by a minimum 10% of their national budgets and to raise agricultural productivity by at least 6%.

Ethiopia has achieved a genuine agricultural revolution, making the sector a key driver of wider economic growth through the proliferation of modern commercial farms, as well as a rapid increase in the productivity of smallholder agriculture.

Massive public infrastructure investments – delivering roads, railways and power plants – have helped provide an enabling environment for sustainable agricultural development.

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Newsletter of the
Sasakawa Africa Association

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

MD message
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The role of SAA in supporting this transformation started in 1993, when the SG2000 Ethiopia project began, facilitated by the strong relationship between Ethiopia's then head of state Meles Zenawi and former US president Jimmy Carter, one of SAA's founders.

Since then, SAA has been promoting crop productivity enhancement technologies to ensure food security among smallholder farmers.

The program started with the introduction of improved technology packages for maize and wheat, followed over the years by the introduction of numerous research-proven technologies such as vertisol management, NERICA rice varieties, conservation agriculture and improved potato production. Recently, wheat, barley and teff line planting practices have been introduced and promoted by SAA.

Today, the organization continues to promote innovative technologies to the wider farming community and remains fully engaged in the identification and demonstration of new research-proven technologies.

Central to SAA's approach to enhancing crop production and productivity are community participation through demand-driven extension and the establishment of Farmer Learning Platforms (FLPs).

During the recent restructuring of SAA's activities, the Ethiopia program has expanded tremendously, aided by deepening collaborations with national and international partners, covering activities ranging from extension delivery strengthening and the introduction of improved maize to women's empowerment programs.

SAA is actively searching for new funding and partners in Ethiopia, as well as seeking to extend current projects, because, while so much has been achieved by the people of this country, plenty more work remains to be done.

Dr Juliana Rwelamira
SAA Managing Director

A shared history: Ethiopian agricultural development and SAA

Ethiopia has been central to the history and rationale of the Sasakawa Africa Association right from the start. It was the dramatic images of drought and famine in Ethiopia and the Sahel in the 1980s that first inspired Ryoichi Sasakawa to approach Norman Borlaug and suggest the launch of an initiative to bolster agricultural productivity in sub-Saharan Africa.

SAA's involvement in Ethiopia itself became possible when, in 1991, the new government recognized the critical importance of achieving national food security and the need to work with outside partners to achieve this.

After a group of Ethiopian extension specialists and officials were shown fledgling SAA projects in Tanzania and reported back favorably, the Ethiopian government invited the association, then known as SG 2000, to start a program in early 1993. Activities were launched with 161 field demonstrations in Oromia and the Southern region.

Although some extension workers were initially skeptical that farmers could be persuaded to plant in rows or use hybrid seed, this early intervention had a big impact, boosting maize yields from an average 1.5 tonnes/hectare to 4 t/ha. In the following year, demonstration plots were also set up in Tigray and Amhara regions.

The average size of farm plot was just 0.25-0.5 hectares, with seed and fertilizer advanced on credit to farmers, who then repaid after the harvest. The government established a technical center and a revolving fund to support the program.

Encouraged by the early results, Meles Zenawi, then Ethiopia's prime minister, asked Sasakawa to massively expand the program, to cover much of the country.

Famously, Meles toured farmers' fields incognito with former US president Jimmy Carter – who founded



An SAA field day in Bambessi woreda, Benshangul Gumuz region.

SAA/SG2000 with Norman Borlaug and Ryoichi Sasakawa – and became convinced that a green revolution was possible in Ethiopia.

SAA agreed to set up 32,000 demonstration plots, rising to 320,000 the following year. Initially, the emphasis was on maize, wheat, teff and sorghum.

Such a massive operation could not be managed directly by SAA staff alone. So the association worked with the government and Ethiopian academic institutions to develop an official national program for implementing extension using Sasakawa-developed techniques. Subsequently, postharvest activities such as crop processing and marketing, were added to the program.

By 2001, this huge national program was reaching 3.6 million households – a substantial proportion of all rural Ethiopians.

Ethiopia's strong state structure has enabled the development of a genuinely nationwide service for farmers delivered through the National Extension Intervention Program (NEIP). The scheme uses the teaching strategies developed by SAA and spreads ideas and technical approaches largely devised by the association, but they are delivered by Ethiopian national and regional institutions. Since the late 1990s, some 70,000 Development Agents have been trained to operate under the program.

Building partnerships

SAA has enjoyed sustained financial support from The Nippon Foundation and has collaborated extensively and successfully with Ethiopian government ministries and agencies since its establishment in 1993. But more recently, the organization has been forging new partnerships and diversifying its funding sources, as it intensifies its drive to collaborate with new partners to provide improved results for farmers.

SAA Ethiopia's partners in its current activities include, among others:

- The Bill and Melinda Gates Foundation (BMGF) and Oxfam America, which collaborates with SAA on the Strengthening the Agricultural Extension Delivery in Ethiopia (SAEDE) project.
- The Japan International Cooperation Agency (JICA), which supports SAA's Promoting Crop Diversification and Advanced Technologies in Tigray (PCDAT) project.
- The Canadian International Development Agency (CIDA) and the CIMMYT International Maize and Wheat Improvement Center, which collaborate with SAA on a project to popularize quality protein maize.
- The World Food Program's Purchase for Progress (P4P) initiative, which has partnered SAA in a project to increase smallholder farmers' incomes through strengthening the capacity of farmers' organizations to supply grains and to increase farmers' access to markets.
- Digital Green, an Indian information and communications technology NGO, which works with SAA in Ethiopia to disseminate expertise on technologies through digital presentations and information technology.
- Ethiopia's Agricultural Transformation Agency, which partners SAA in its Women's Economic Leadership (WEL) project.

Empowering women farmers

In many parts of rural Ethiopia, gender inequality is pervasive. Women have limited land ownership and access rights and their access to productive resources is usually via the mediation of men.

SAA is helping to empower rural women in Ethiopia, socially and economically, by giving them an expanded role in the local economy and a bigger say in how decisions over resources use and outputs are made.

SAA's Postharvest and Agro-processing teams have established 25 agro-processing enterprises in the country, benefiting over 3,400 members of rural women's groups. Their success led to the signing of an MoU between SAA and the Ethiopian Transformation Agency, to scale up agro-processing centers in four states.

SAA facilitates the introduction of new technologies and training, as well as helping to arrange crop-processing facilities. The informal women's groups involved are then formalized as government-registered cooperatives, which process, pack and sell crops such as cereals, legumes, peppers, spices, groundnuts, Kocho – a local food extracted from the Enset or false banana – tomatoes, animal feed and milk.

To counter the patriarchal nature of society, gender awareness workshops are organized for the women, their spouses and community leaders. Husbands can then support their wives in constructing processing facilities and developing a business plan, as well as sharing household roles and responsibilities with the women.

Better livestock rearing skills

SAA has also been supporting women to improve their knowledge and skills for rearing small ruminants, such as sheep and goats. Over the last three years, backed by the Bill and Melinda Gates Foundation, some 40 Small Ruminant Rearing Women's Groups with a total of 365 members have been established.

The women have started to obtain income from livestock sales, helping to raise living standards. Reports from Tigray region indicate some women have made up to 6,720 birr (\$325) a year from livestock sales.

Collaboration through Commodity Associations

Individual farmers face numerous challenges when it comes to selling their produce, such as lack of market information, restricted access to markets, limited bargaining power, poor storage facilities and inadequate financial services.

SAA-supported Commodity Associations (CAs) help to address these issues by enabling farmers to coordinate their activities to improve market access and higher prices for their produce from reputable buyers – currently illegal intermediaries often take advantage of individual farmers with little knowledge or market clout.

Commodity Association Trainers (CATs) mobilize farmers into CA groups, providing training and building capacity. CATs advise on agronomic practices and inputs, provide appropriate seeds and help market produce.

In Oromia, Amhara, SNNPR, and Tigray regions, six CA producer groups per woreda, with 30-50 members per CA, have been organized around one commodity each. By pooling resources and aggregating their produce, resource-poor farmers benefit from collective marketing and improved sales opportunities.



Teff processing women group on training, established in Becho, Oromia region.

Training in basic business skills, cooperative management, financial management and record keeping, as well as processing and packaging techniques, are making the women involved increasingly business oriented.

There has been an encouraging improvement in the income of the 900 women involved in the program and their families. Some cooperatives have also expanded their activities to start side businesses, such as small cafeterias. The cooperatives also create jobs in the wider community by hiring shopkeepers, accountants, machine operators, guards and so on. An estimated 24,000 households have also benefited either through selling raw materials to the cooperatives or as consumers of the improved products sold by the cooperatives.

Innovative approaches reap results

SAA has played a significant role in the popularization of improved agricultural technologies among Ethiopia's smallholder farmers. Farmers' incomes, awareness and response to innovative agricultural production technologies have greatly improved. Productivity has increased for the major food crops, including maize, wheat, teff, barley and sorghum.

Meanwhile, extension field staff have become more confident in their technology transfer skills, as a result of the continuous training they receive and their improved success in the field.

In 2013, SAA implemented projects in 60 woredas (districts), scattered across 10 regional states and covering over 310 kebeles. Each kebele has a farmer training center (FTC), which provides a hub for SAA-related activities.

To support farming productivity, in 2013, SAA set up 800 technology option plots (TOPs), almost 2,400 women assisted demonstrations (WADs), more than 220 community variety plots (CVPs), 212 seed priming demonstration plots and 216 plots of quality protein maize (QPM). More than 143,000 people attended farmer field days.

Using this strategy, the program has conducted field demonstrations over the last three years for over 224,577 participants, of which 24% were women. These field days have brought together farmers, extension workers, researchers and policymakers to discuss the merits of new technology and the nature of support required by farmers.

PHAP advances

Farmers often use inefficient, traditional postharvest handling and agroprocessing (PHAP) methods, resulting in an estimated 20-30% of potential products being lost. SAA promotes improvements in crop handling in the field, during storage and in processing that can be readily adopted by Ethiopian smallholders.

For more on these and SAA's other PHAP activities, see Theme 2 newsletter, December 2014.

Project monitoring highlights successes

Monitoring and evaluation of SAA projects is carried out by its recently created Monitoring, Evaluation, Learning and Sharing (MELS) teams, which gather results from the field and provide evidence-based feedback to SAA staff and partners.

The MELS system has two components: implementation monitoring, which is addressed through a web-based system, and outcome monitoring, which is carried out using field level surveys.

MELS teams in Ethiopia have conducted needs assessments at 202 project sites and produced 40 reports. Based on their outcomes, interventions have been prioritized and implemented at the project sites. MELS has also conducted baseline surveys, monitoring surveys, evaluations and in-depth studies.

Recent findings of MELS studies indicate a general improvement in project implementation. For example, adoption of some technologies, such as improved teff varieties and line planting practices, has risen sharply. There has also been high demand for postharvest equipment.



Since 2010, SAA has promoted more than 20 types of improved postharvest and agro-processing technologies in Ethiopia.

IMPROVING ACCESS TO FINANCE

Farmer Training Centers (FTCs) are the foundations of extension provision in the communities where SAA works, providing a hub where farmers can be introduced to new agricultural technologies and techniques, and develop a cooperative approach to processing and selling their produce.

However financing FTCs, especially during the set-up period, is expensive for poor local farmers and credit is often in short supply. So, In 2011, SAA commissioned a study on how financial service provision for FTCs could be improved. Its findings led SAA to conclude that a Loan Guarantee Fund (LGF) should be established as part of an extension service delivery project, backed by the Bill and Melinda Gates Foundation.

Under a pilot scheme, FTCs accessed credit from microfinance institutions supported by the LGF. This financed their business activities, which then provided revenues to service loans and finance future operations.

The scheme required coordination between SAA, Ethiopia's Bureau of Agriculture and financial service providers. Its success required the promotion of an enterprise culture among all participants from Development Agents (government extension officers) to those running the FTCs. All key extension workers had to pass courses covering management, business planning, marketing, savings and other relevant skills. Concrete business plans were then drawn up at the FTCs before loan applications were submitted.

The table shows how 154 FTCs have already benefitted from 10.78 million birr (\$527,000) in loans.

This finance was channeled through eight Micro-Finance Institutions and two Savings and Credit Cooperatives (SACCOs).

Reservations over using the LGF in the strongly Islamic regions of Somali and Dire Dawa have held back adoption of the scheme there, due to the prohibition on charging interest on loans within Islamic culture. However, FTCs in Tigray, Benishangul Gumez, Gambella and Harari regions fully used their allocated LGF financing – and many FTCs that set up enterprises, such as animal fattening or honey production, managed to pay back their loans within only two seasons. The success of the pilot has persuaded the agriculture ministry and regional state bureaus of agriculture to allocate more funding for the development of FTC businesses.

FTC uses loan guarantee as springboard for growth

The Loan Guarantee Fund established by SAA has enabled Wakene FTC in Oromia region to raise finance that enabled it to generate income and disseminate agricultural technology. The FTC spread risk among its income-generating activities by diversifying, so that, alongside livestock fattening and crop production, its members started producing vegetables (shallot and onion), reared poultry and built a fishpond. The center also promoted proper cattle feeding practices, furrow irrigation, intercropping and raw planting.

The FTC's revenue increased steadily, so that by mid-2014, the loan had been entirely repaid and the center was in profit, no longer dependent on credit and able to use its own income to invest in teff and fishing as major enterprises.

LGF Allocation for established Enterprises at FTCs by Region				
Region	Partner / Financial Service Provider	Established Enterprises	TCs	LGF (Birr)
Oromia	Oromia Credit – Savings & Share Company (OCSSCo)	Fattening, poultry, honey, vegetable and cereals	47	3,290,000
Amhara	Amhara Savings and Credit Institution (ACSI)	Fattening, Cereals, Spices, poultry, honey	42	2,940,000
SNNP	Omo Microfinance Institution (OMFI)	Crops, vegetable, seedlings, fattening, honey	37	2,590,000
Gambella	Gambela Microfinance Institution (GMFI)	Crops, shoat rearing / fattening	2	140,000
Benishangul	Beneshangul Gumez MFI (BMFI)	Seeds, seedlings, honey and fattening	4	280,000
Somali	Somali Microfinance Institution (SMFI)	Mixed livestock: poultry, dairy, fattening	6	420,000
Harari	Harari Microfinance Institution (HMFI)	Fattening, vegetable, poultry, honey	3	280,000
Dire Daw	Dire Microfinance Institution (DMFI)	Poultry production, fattening, vegetable	3	140,000
Tigray	Savings and Credit Cooperatives	Milk production, fattening, poultry	10	700,000
			154	10,780,000.00

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