

Feeding *the* Future

Special TICAD IV edition

Hope and opportunity through agriculture

'Towards a vibrant Africa – continent of hope and opportunity' is the theme of the Fourth Tokyo Conference on African Development (TICAD IV), to be held in Yokohama, Tokyo (28-30 May). The conference, which takes place every five years, brings together African leaders and international aid agencies to mobilise support and resources for Africa's development.



Conference priorities include trade and investment, infrastructural development and agriculture – and the need to strengthen Asia-Africa co-operation.

In addition to TICAD, held in collaboration with the United Nations Development Programme (UNDP) and the World Bank, Japan will be hosting the G8 Summit in Toyako (Lake Toya) in Hokkaido in July – which will also have major implications for African development.

In Japan, Overseas Development Assistance (ODA) reforms, designed to streamline the delivery of Japan's ODA, have accelerated since 2006 with the formation of the Overseas Economic Cooperation Council (OECC),

chaired by the Prime Minister. At implementation level the establishment of "new JICA", incorporating ODA loan operations (currently administered by the Japan Bank for International Cooperation) and part of Japan's grant aid programme, will create, in October, the world's largest bilateral development agency.

"I am pleased to see an emphasis on African agriculture at TICAD," comments Yohei Sasakawa, Chairman of The Nippon Foundation, who will be addressing the conference. "For over 20 years our programme, Sasakawa-Global 2000, under the inspired leadership of Dr Norman Borlaug, has been working with small-scale farmers across Africa to increase and diversify food crops and improve

rural livelihoods. We have invested US\$180 million in this programme.

"We have also continued to emphasise to African leaders and decision-makers that, without policies that support and strengthen agriculture, sustainable economic growth will not be realised.

"It is therefore gratifying to note that organisations such as the World Bank are now placing agriculture at the heart of the development agenda, while new initiatives, such as the Alliance for a Green Revolution in Africa (AGRA), are similarly working to lift millions of Africa's farmers out of poverty.

Working together we can achieve these important goals. We believe that TICAD can help drive the process forward."



Green revolution in action: rice in Nigeria

"There is a growing recognition among governments and donors that agriculture must be a prominent part of the development agenda, whether for delivering growth in the agriculture-based countries or by reducing rural poverty and addressing the environmental agenda everywhere. Today's improved opportunities and greater willingness to invest in agriculture provide optimism that agriculture-for-development agendas can move forward." World Development Report 2008.

Green Revolution for Africa

"We are focused on developing locally-driven and adapted solutions that address the full range of reforms required to ensure dramatically increased productivity on Africa's small-scale farms. Our farmers want better seeds, soils, and prices for what they sell. They want access to water, markets and credit. They need to see national policies put in place that accelerate rural economic growth, investment, and job creation."

Kofi Annan, launching the Alliance for a Green Revolution in Africa (AGRA) at the World Economic Forum, Cape Town, June 2007

"The African Green Revolution identifies a scenario of potentially explosive growth in Africa's internal and sub-regional markets, supplemented by increased flexibility and responsiveness of small-scale farmers. African governments have made agriculture a top priority, with the African Union adopting the Comprehensive African Agriculture Development Programme (CAADP) as its strategy."

Oslo Declaration on the African Green Revolution, September 2007.

"Despite the formidable challenges in Africa, the elements that worked in Latin America and Asia will also work there. With more effective seed, fertiliser supply and marketing systems, hundreds of millions of smallholder farmers in Africa can make great strides in improving the nutritional and economic well-being of their populations."

Dr Norman Borlaug on the occasion of the presentation to him of the Congressional Gold Medal, America's highest civilian honour, by Nancy Pelosi, Speaker of the House of Representatives, and President George W Bush, July 2007.

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May 2008



Newsletter of the Sasakawa Africa Association

Milestone reached in ending Guinea worm disease

Eradicating a disease that impacts on the productivity of farmers

The global Guinea worm eradication campaign, led by The Carter Center, celebrated a major milestone when four new countries announced the end of transmission of Guinea worm disease in 2007, leaving only five endemic countries to contain their last Guinea worm cases before complete global elimination. Ethiopia, Côte d'Ivoire, Burkina Faso, and Togo join 11 others in reporting an end to the parasitic infection. These successes crown a triumphant year for the international eradication campaign as experts recorded fewer than 10,000 cases – the lowest number ever reported for the 22-year effort.

Guinea worm disease is an ancient parasitic infection that affects people living in remote, poverty-stricken communities. The disease is contracted when people

consume water contaminated with infective larvae. After a year, a one metre-long worm slowly emerges from the body through an agonisingly painful blister it creates in the skin. Children suffering from the disease cannot attend school because they, and other victims, are incapacitated for an average of two months after a worm has begun to emerge. Communities suffer food shortages when their residents are unable to farm.

The disease once plagued millions of people in Africa and Asia but today is on the brink of extinction. Since 1986, the global campaign to eradicate Guinea worm disease has reduced the number of cases worldwide by more than 99 percent: from an estimated 3.5 million in 20 countries to 9,838* cases in five countries reported in 2007 (*provisional). Guinea worm disease is set to be the second disease in human history to be eradicated and the first without a vaccine or medicine.



Guinea worm: educating for eradication

Working with Japan

Such success would not be possible without the Center's many partners, including the support of foreign governments. Since 1992, the government of Japan, the Japan International Cooperation Agency (JICA), and Japanese embassies have provided grants of more than \$20 million to the Guinea Worm Eradication Programme, making the country the largest foreign

government donor to The Carter Center for support of the Guinea Worm Eradication Programme. "The generous contributions of Japan have enabled the Center to accelerate Guinea worm disease eradication efforts in countries such as Sudan and Ghana, the two most endemic Guinea worm countries, accounting for 96 percent of cases reported in 2007," comments the Carter Center.



A special commemorative gold medal, issued for the celebrations of the Ethiopian Millennium, was given to Marco Quiñones (left) by Prime Minister Meles Zenawi in February. The Prime Minister paid tribute to Quiñones' "outstanding contribution to Ethiopia's agricultural development over 15 years."

Marco Quiñones retires

Dr Marco Quiñones has retired from SAA after 22 years of dedicated service, the past six years as the overall programme leader. "Marco has been a key architect of our programme since its inception," commented SAA President, Dr Norman Borlaug, "introducing new crop technologies and opening new country projects.

Marco Quiñones joined the Global 2000 project in Sudan in 1986 as a senior agronomist. He initiated the wheat demonstration work in the irrigated Gezira region, which led to a quadrupling in production by

1992. In late 1988, he assumed responsibility for the newly established SG 2000 project in Tanzania, which eventually spread to seven regions of the country. In 1993 he was assigned to Ethiopia to set up the SG 2000 project there. Great success has been achieved by Ethiopian farmers in food production, with cereal and legume production more than doubling over the past 15 years.

In 2001 he was appointed Regional Director for Africa, and in 2007, SAA Director General. During this period, he has been especially interested in promoting the adoption and diffusion of small-scale irrigation technology in drought-prone areas.

Quiñones served on the Technical Committee of the Africa Fertiliser Summit held in Abuja, Nigeria, in June 2006. He is also a Board Member of the Yara Foundation, which awards the Yara Prize to honour outstanding contributions towards an African Green Revolution.

Quiñones has returned to his native Mexico. He has an irrigated farm in the Yaqui Valley, Sonora, near Ciudad Obregon. He plans to pursue his interests in international agriculture, especially water resource development and conservation technologies for the 21st century. He also plans to spend more time with his family—wife Cristina, daughter Claudia and son-in-law Roberto, and grandson, Roberto Jr.

Expensive food, expensive fertiliser

Green Revolution technologies helped to triple global food harvests over the past 40 years, progressively lowering food costs. This trend has almost certainly ended. The world has entered a period of rising food prices. In urban areas in some African countries there has been social unrest as a result. The problem has not been a shortage of food but its price. Yet the demand for cereals – the basis of our food supply – is likely to outstrip supply for at least the next decade, if not longer, says Norman Borlaug.

Cereal demand is increasing because the world continues to grow by 75 million people per year. Rising incomes, notably in China and India, are also leading to an increased appetite for meat and, hence, greater demand for cereals to feed animals. Finally, bio-fuel demand is eating up large quantities of cereal. In the USA alone, 85 million tons – one-third of the maize crop – is now turned into ethanol. As a result, prices for maize, wheat and rice in international markets are at their highest levels in half a century.

In the face of unprecedented demand, global supplies of cereals are falling behind. The Australian wheat crop, for example, has been hit with serious droughts repeatedly over the past few years and many climate experts are predicting increasing droughts in Africa and elsewhere. There are dire warnings of climate change. Plant diseases pose another threat. New strains of stem rust from Africa are capable of taking out most of the world's commercial wheat varieties and could cause pandemic grain losses if susceptible varieties are not replaced with new resistant ones. Increasing energy costs, shortages of fertiliser minerals such as phosphate, and rapidly increasing fertiliser demand in crops destined for bio-fuel production, have provoked skyrocketing prices that are triple what they were three years ago.

Higher grain prices in international markets give African farmers strong incentives to increase food crop production to substitute imports with local production, and potentially to become bio-fuel producers. However, African harvests can only rise if yields go up or new land is brought into cultivation. Africa has good prospects to do both, although the scale of financing needed to transform African agriculture poses a formidable challenge.

Special fund needed

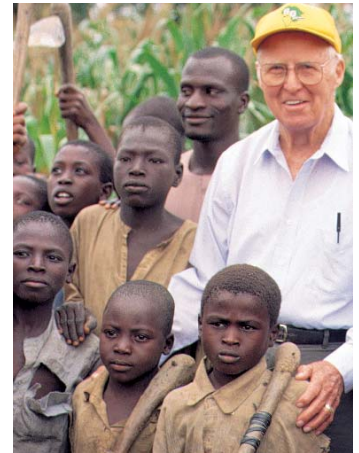
The African Fertiliser Summit in June 1996 called for an increase in fertiliser use - from 12 kg/ha to 50 kg/ha of arable land – by 2020. With current prices, this target is not remotely possible without a major intervention by governments to lower costs. The G8 countries should fund a special fertiliser compensation fund to provide short-term, Africa-wide subsidies until global prices return to historic trend lines.

International and regional financial institutions must also fund the African Fertiliser Financing Facility to provide the hard currency needed to secure imported fertilisers and develop Africa's own fertiliser nutrient mining and manufacturing capacity.

Improving the efficiency of supply and use of fertilisers in Africa

must be given the highest priority by African governments, since this is the best way to keep food prices at accessible levels for consumers. Most of the fertiliser needed in Africa will have to be imported over the next decade, and frequently into land-locked countries. Thus, efficient fertiliser supply chains are needed, and ones that squeeze out unnecessary costs.

Priority must also be given to building the capacity of research organisations to develop integrated soil fertility management practices tailored to the complex agro-ecologies and cropping systems found in Africa. Finally, major efforts are also needed to strengthen African agricultural extension capacity to train smallholder farmers in how to obtain maximum benefits from each kilogramme of fertiliser used to nourish crops.



**Dr Norman E Borlaug,
SAA President**

Infrastructure development needed

A large portion of the globe's remaining undeveloped agricultural land is found in Africa. Some of this land is suitable for plantation agriculture – for grasses and other crops suitable to produce liquid fuel, but which do not compete with crops destined to feed people. Bringing these vast remote areas into production, as well as providing current agricultural lands with an efficient market infrastructure to lower food costs, will require coherent and right-minded policies and major investments in roads, power and other market-related infrastructure. Ensuring that these investments are made is critical to future food security not only for Africa but for the world.

About Sasakawa-Global 2000

Agricultural projects of Sasakawa-Global 2000 are operated as joint ventures of two organisations – Sasakawa Africa Association (SAA) and the Global 2000 programme of the Carter Center in Atlanta. SAA, whose president is Dr Norman E Borlaug, serves as the lead management organisation for SG 2000 projects and regional programmes in Africa. Working through the Carter Center's Global 2000 programme, former US President Jimmy Carter and his advisers provide policy advice to national political leaders in support of programme objectives. Funding for SG 2000 projects and SAA regional programmes come from The Nippon Foundation of Japan whose Chairperson is Yohei Sasakawa and President Takeju Ogata.

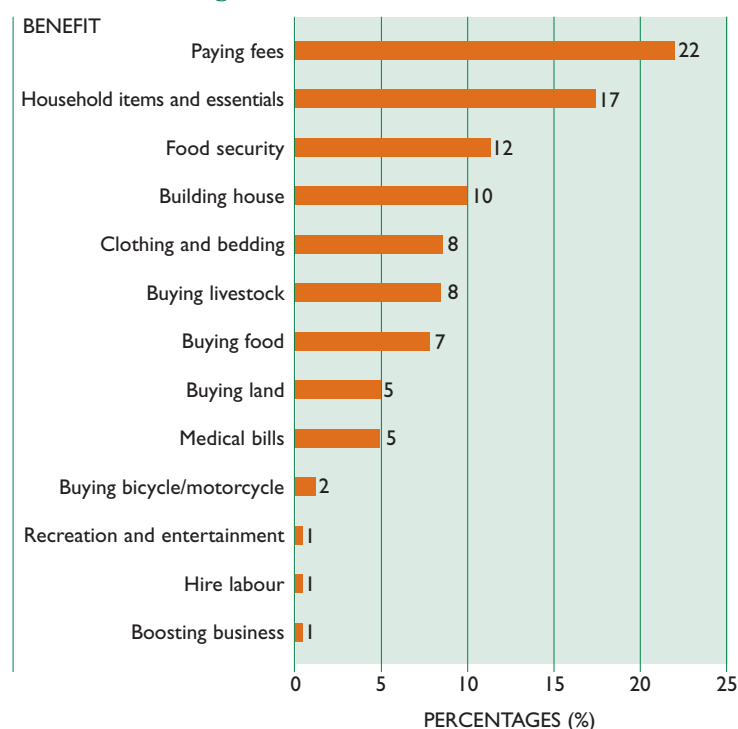
Regional Rice Programme

One of the main reasons for establishing the SAA Regional Rice Programme in 2005 was to meet the growing demand for rice, which was becoming increasingly expensive for African countries to import, and for the majority of African consumers, whose income is less than US\$2 a day, to buy. This situation is not improving. In the last few months, rice prices have soared to a 20-year high as the latest sign of global food inflation. Indeed, leading rice suppliers, including Vietnam, India and Egypt, are now restricting exports in an attempt to keep local markets well-supplied and domestic prices under control. But this does not help sub-Saharan African countries which are not self-sufficient in rice production.



Processed quality local rice in Kano, north-western Nigeria

Benefits from rice farming as reported by farmers in six districts in Uganda



“Imported rice tends to be purchased by the elite,” says Dr Tareke Berhe, Director of the SAA Regional Rice Programme (RRP), “and not by the poor and disadvantaged in society. But even locally produced rice is expensive for the general public to buy. In most cases it is double the price of other staple crops”.

He points out, too, that the price also makes it beneficial to produce for small-scale farmers – an opportunity which increasing numbers are beginning to exploit in the SAA focus countries, Ethiopia, Mali, Nigeria and Uganda.

“Considering that rice is more productive per unit area, except for maize, small-scale farmers have much to gain by growing and selling rice. It provides a good source of income for them,” he says.

He stresses, too, that “it is not only productivity which is important to us, but also quality. In collaboration with our many partners, we are working hard to promote the production of good quality rice, comparable and competitive to imported rice.”

Berhe notes that the SAA focus countries “have some way to go” before they can fulfil local demand. Nigeria imports over 1.2 million mt of rice, Uganda over 67,000 mt and Mali over 60,000 mt. In Nigeria and Mali rice has been a staple food crop for centuries, while in Ethiopia and Uganda it has been recently introduced, but is rapidly becoming adopted as a food and cash crop.

Ethiopian expansion

One focus country where rice is receiving top attention is Ethiopia. The country does not have a tradition of rice production, but the area of rice under cultivation has increased from 6,000 ha in 2005, to 18,000 ha in 2006, expanding to 50,000 in 2007 and aiming to reach at least 100,000 ha in 2008. Apart from various

NGOs and development agencies involved in the promotion of rice among farming communities, the Ethiopian government has taken a series of steps in 2007 to put the crop at the heart of its agricultural development agenda. This includes the formation of a National Rice Promotion Committee, the holding of a National Rice Workshop and the inclusion of rice as a food security crop for the new millennium. SG 2000 was recognised for its contribution to the agricultural development of Oromia Region, particularly for promoting rice.

Rice is the most expensive food cereal, with the exception of tef, in Ethiopia, but the income farmers are obtaining from the crop “enables them to be food secure as well as having the extra cash to purchase other needs,” says Berhe.

Quality emphasis

In Nigeria, the emphasis is on improving rice quality, starting with production through to the market and sales to the consumer. “This is done through training and capacity-building for all stakeholders, starting with farmers and including traders and processors,” says Berhe. “This is producing dividends. Product quality is slowly improving in the four focus countries, particularly in Nigeria.”

Producing, processing and packaging are all showing encouraging signs of progress, while consumer demand for quality processed rice is encouraging investment in private processing plants.

These positive changes in Nigeria are coming from continued efforts in the testing and production of genetically improved varieties, the use of improved, uniform, quality seed – and the training of farmers, extension field staff and processors.

In 2007, SG 2000 trained over 210 extension field staff and farmers in seed and grain quality; 365 in postharvest machinery operations;



Trainees visit a private rice mill in Kano

and 350 in rice food utilisation. Some 1,000 mt of improved seed was distributed, field days for over 1,000 farmers held, and eight improved varieties were evaluated and released with SG 2000 support.

Also in 2007, SAA signed a memorandum of understanding with IRRI (International Rice Research Institute) for closer collaboration on the promotion of rice in Africa. One positive outcome of this new partnership has been the employment of Dr Negussie Zenna, an IRRI post-doctorate Fellow, to work on a cold tolerance evaluation of rice germplasm in Ethiopia. IRRI also supplied RRP with 130 entries to be tested for cold tolerance at altitudes of 1,800 to 2,400 metres above sea level. Furthermore, six cold-tolerant varieties were imported from Madagascar to Ethiopia and 30 promising lowland NERICAs (New Rice for Africa) to Northern Nigeria.

Strengthening partnerships with national and international development agencies and institutions remains one of the pillars of the programme. Joint SAA/WARDA (African Rice Centre) NERICA activity evaluation missions were

undertaken in Nigeria and Uganda in 2007. Along with WARDA and IRRI, other important collaborators in Ethiopia and Uganda are the Japan International Co-operation Agency (JICA) and the Embassy of Japan, which have worked with SAA on several joint projects and activities in the areas of supporting rice research and extension, rapid rice seed multiplication, organisation and sponsorship of rice workshops, human capacity building – training of rice scientists and

technicians in Ethiopia and the sub-region – and postharvest and agroprocessing for rice.

On the dissemination of information on rice, the RRP, working with the Africa Rice Centre’s Rice Postharvest Unit has translated and distributed rice seed health videos in four local languages in Uganda, in Amharic in Ethiopia, and in Bambara in Mali.

Policy support

In Uganda, the office of the Vice-President, Professor Gilbert Bukenya, has continued to provide policy support and direction for the promotion of rice growing as a strategic poverty alleviation intervention. The National Agricultural Advisory Services (NAADS), JICA, the Food and Agricultural Organisation of the United Nations (FAO) and a number of NGOs are among the key partners in the promotion of the rice sector.

Presently five private seed companies, FICA, NASECO, East African Seed Ltd, Victoria Seeds company and Harvest Farm Seeds, are trading in certified NERICA seed. So far, nine private sector medium-scale compound rice mills have been established at

various locations, with cleaning, grading and de-stoner facilities valued at over US\$8 million.

However, most rice is still milled by small private rice mills from China and India, scattered around the country.

In addition, confectionary products from rice are becoming common in Uganda’s supermarkets. Such products include brands of rice flour or rice-blended packages with ingredients like soybean and millet.

A study conducted by JICA and SG 2000 in March 2006, in six study districts, revealed that 22 percent of the 1,463 farmers growing upland rain-fed NERICA rice used their proceeds from rice to pay for school fees and basic educational requirements.

Seventeen per cent used their proceeds to acquire household items, while 12 percent put their money towards the essentials for enhancing household food security. Other benefits included improvements in shelter and clothing and bedding, as well as buying food and boosting off-farm income generating business.

“This is another indication of the benefits of growing rice,” says Berhe, “and the lessons are not being lost on local farmers”.

Rice prices in US\$/100kg

Country	City	Local rice		Imported	
		Local mkt	Supermkt	Local mkt	Supermkt
Ethiopia	Addis Ababa	55 - 60	70	60	86 - 370
Mali	Bamako	66	-	58 - 83	107- 411
Nigeria	Kano	88	-	95 -142	78 - 130
Uganda	Kampala	78 - 84	84 -168	78	198 -323

Price of other cereal staples in US\$/100kg

Country	City	Crop		
		Maize	Sorghum	P.Millet*
Ethiopia	Addis Ababa	25	43	55/42**
Mali	Bamako	35	44	45
Nigeria	Kano	74	66	74
Uganda	Kampala	30-36	27-33	42-48

* Pearl Millet (Mali & Nigeria); Tef (Ethiopia); Finger Millet (Uganda)

** White tef/Red tef

Regional QPM/Seed Programme

Demonstrating the clear nutritional advantages of Quality Protein Maize (QPM) over common maize must be supported by the development of functional “seed chains” to multiply and distribute the high yielding QPM OPVs (Open Pollinated Varieties) and hybrids which are now leaving the research laboratories for farmers’ fields.

“There are encouraging signs that, at least in SG 2000 focus countries, the three main components of a seed programme – breeder seed (BS), foundation seed (FS) and certified, or commercial seed (CS) – are being strengthened, especially in production terms,” says Dr Wayne Haag, SAA Director of the QPM/Seed Programme. Haag notes, however, that none of the countries – Nigeria, Ethiopia, Mali and Uganda – have appropriate storage techniques and facilities in place to protect the longevity of the BS and FS. “This is a strategic gap which must be addressed with urgency,” he says.

Haag expects, too, that protein quality analysis will be transformed by the introduction of CIMMYT’s new glyoxilic acid protocol into QPM laboratories. “Glyoxilic acid is an easily transportable dry powder, and only small quantities are needed. It will take the place of the special type

of glacial acetic acid, required in the old protocol, which is virtually impossible to ship so could not be sourced directly from CIMMYT in Mexico. This had almost become our Achilles heel,” he adds. Seven laboratories in six countries have been targeted for the adoption of the new protocol.

The participation of an increased number of regional and international partners should add to the momentum for QPM adoption in 2008. One major project which will become functional this year is headed by FARA (Forum for Agricultural Research in Africa) through its ‘Dissemination of New Agricultural Technologies in Africa’ (DONATA) programme and funded by the African Development Bank. This has been developed by Dr Zubeda Mduruma, co-ordinator of ECAMAW (East and Central Africa Maize and Wheat Research Network) of ASARECA

(Association for Strengthening Agricultural Research in East and Central Africa).

The project aims to increase household income, food security and nutrition by supporting QPM grain and seed production as well as the use of QPM-based foods in school feeding programmes, and for animal feed. It will cover eight countries; Democratic Republic of Congo, Tanzania, Kenya, Uganda, Ethiopia, Sudan, Burundi and Rwanda.

A second project involving Dr Mduruma and ASARECA, and funded by the European Union, targets Kenya, Tanzania and Uganda. A major collaborator is Dr Godfrey Asea, head of Uganda’s National Maize Programme. This pursues a value chain approach, beginning with the provision of inputs through to production, postharvest, marketing, processing and utilisation.

Further collaboration on QPM is expected with the West and Central Africa Council for Agricultural Research and Development, a network of 21 National Agricultural Research Services (NARS), managed by Dr Ernest Asiedu, a long-time associate of SG 2000.

Meanwhile Haag expects that a two year extension of the CIMMYT QPM Development project, funded by Canadian CIDA, will be approved. This supports QPM promotion, production and utilisation in Ethiopia, Kenya, Uganda and Tanzania, co-ordinated by CIMMYT’s representative in Ethiopia, Dr Dennis Friesen.

Greater dissemination

Haag hopes that these and other collaborative efforts will “flush through the system a far greater number of QPM hybrids and OPVs for release and adoption”. He points to the wide distribution of Obatanpa, Africa’s pioneering

QPM. He gives the example of Nigeria where “the QPM Sammaz-14 is fast replacing normal maize in many of the traditional and non-traditional maize growing areas. QPM working groups have been formed in nine states, with a national QPM working group planned for 2008”. There are 13 established QPM villages, where women’s groups demonstrate the nutritional values of QPM – rising to 20 this year.

In Ethiopia, the Ethiopian Seed Enterprise production of the QPM hybrid BHQP-542 was around 260 mt last year, with sales of 130 mt – but it is susceptible to rust and therefore not suitable for certain areas of the country. In Tanzania, the first released QPM OPV Lishe-K-1 is now being produced by nine private seed production and marketing groups. The two hybrids, Lishe-H-1 and Lishe-H-2, also continue to be produced. In Ghana, sales during the major and minor seasons in 2007 reached 2,200 mt of Obatanpa and 150 mt of the QPM hybrid, Mamaba.

Obatanpa foundation seed was supplied by Ghana with the assistance of SG2000 Mali to Guinea, Burkina Faso and Senegal in 2007, kick-starting the production of QPM seed again in those three countries. SG 2000 Mali also arranged for the supply of 200 mt of local QPM Denbenyumen seed to Senegal. In Mali estimated sales of certified seed were low, at 200 mt, but production in 2007 should exceed 500 mt.

In Uganda, where sales of certified seed reached 1,530 mt in 2007, QPM activities are focused on 16 districts. These include QPM Voucher-Assisted Demonstrations (VADs), which help poor farmers and households to adopt the technology, improve their food security and nutrition, and increase their incomes.



Isaka Mashauri, Director and owner of Tanseed (left), and his assistant deliver QPM flour to a Catholic orphanage during the Nane-Nane Agricultural Fair in Morogoro, Tanzania



Children display QPM cobs at Layin Taki QPM Village in Nigeria

Agroprocessing

“The development of Farmer-Based Organisations (FBOs) such as the One-Stop Centre Associations (OSCs) in Uganda, the Niet@Kenes in Mali, and the QPM villages in Nigeria, offer excellent examples of the social and institutional framework required to support production, storage and processing – right up the value chain”, says Haag. “A major food company in Ethiopia called Seka Food Enterprises is testing QPM in maize food products, and is planning to grow the QPM BHQP-542 on 200 ha during 2008. If the volume of QPM required expands significantly, they plan to enter into contractual arrangements with FBOs for the supply of QPM grain”.

Seed associations

Haag stresses that “vibrant seed trade associations are vital for the development and sustainability of the seed sector”.

He highlights the example of USTA (Uganda Seed Trade Association) which “is now on a firm footing and receiving strong support from the seed industry.

Organisations like USTA are essential to ensure quality control at all levels. USTA, with its team of inspectors that do not owe allegiance to any one company, works closely with private companies and is subordinate to the National Certification Institutions. The system being developed in Uganda can serve as a model for other countries”.

Haag believes that there are ever increasing opportunities for the emergence and growth of private sector seed companies. SG 2000, along with several partners, is actively involved in this important effort. In Malawi, for example two new seed companies – Reweza Farms and Iroga Seeds – are currently producing and selling the QPM OPV Sussuma, which has now been officially registered and released. SG 2000 is in the process of supplying them with 2000kg of Sussuma FS, produced by USEBA/IIAM, Mozambique’s FS Unit.

In Mali, a new company called *Société Semencière du Mali* (SOSEM) began large-scale QPM seed production in 2007. SG 2000 Mali and the SG 2000 QPM/Seed

Programme sourced 5 mt of Obatanpa foundation seed from Ghana as well as the services of a Ghanaian seed specialist to train SOSEM staff.

SG 2000 Mali supported “start-up” of a new company in Mali – Faso Kaba – which plans to market 74 mt of maize seed, including Denbenyuman, as well as seed of several other crops during the upcoming 2008 season. During 2007, Faso-Kaba also qualified for, and began receiving support from the AGRA/PASS Programme.

Across the continent, in Ethiopia, Gadissa Gobena’s seed company is producing 600 mt of maize seed on his farms at Bako and Ambo, as well as with contract growers.

QPM improvement

Last year, tests were completed for Ethiopia’s yellow QPM hybrid (CML-161 x CML-165), which is scheduled for release in 2008. The trials indicated yields of 6 to 9.5 mt per ha. In Ghana, two new yellow QPM OPVs were released after several years of work in converting Obatanpa to yellow – Golden Jubilee and Aziga. A new hybrid, Etuba, which is related to Mamaba,

was also released, as was an extra early white QPM OPV, named Akposoe after the retired Crops Research Institute (CRI) maize breeder and former SG 2000 staff member.

In 2007, both Tanzania and Uganda released their first QPM hybrids. In Ethiopia, an early flint QPM called Pool-15 (OPV) was released, as was the QPM hybrid QS-7707 in Mozambique. In Mali and Nigeria, there was intensive testing of several hybrids. Advanced selections are expected to be made soon.

“CIMMYT-Kenya has continued extensive work with Pool-15, developing tolerance to drought and other stresses, and carrying forward 630 in-bred lines,” comments Haag. “In Zimbabwe, CIMMYT has six QPM hybrids tested and ready for use by NARS and private sector organisations”.

In tackling the major obstacles to progress, Haag returns to the problem of storage and the lack of dependable cold room facilities, accentuated by endemic power failures in many African countries. He believes that a technology known as “ambient temperate storage” might provide an answer and points out that the technology has been researched by CRI-Ghana, in collaboration with GTZ, and by CIAT-Colombia for the ambient storage of bean germplasm. It is now used by Uganda’s agricultural research organisation with its bean programme.

“The technology is based on drying the seed to very low moisture levels and sealing the dry seed in containers which do not allow the re-absorption of moisture. Vacuum sealing also prevents the growth of stored grain insects. Dried and packaged in this manner, seed and breeding material can be stored safely at ambient temperature”.

Haag points out that there are a number of options still to be explored, but “we plan to work aggressively this year to begin to take advantage of this technology”.

Agroprocessing

SAA's Agroprocessing Programme was launched in 1994, in consultation with the International Institute of Tropical Agriculture (IITA), with the aim of developing and introducing improved tools and basic machinery for agroprocessing and crop harvesting.

One of the original objectives of the programme was to diminish the traditional drudgery of these activities, which would especially benefit women, who do most of the harvesting, processing and marketing of food crops in Africa. Since then the programme has evolved to meet the changing needs of rural farmers. Currently it supports innovations in the following areas:

- Agroprocessing technology development
- Agroprocessing manufacturing training
- Co-ordination of value chains for food commodities
- Promotion of private service providers
- Agroprocessing-based rural enterprise development
- Training of development agents on agricultural market development

All these activities are aimed at linking rural farmers to the market, both through public agricultural extension systems and private rural agro-enterprise development. The programme

works through national agricultural extension systems to provide technical support to smallholder farmers, helping them become more competitive in the marketplace.

“The success of this effort depends on the support of many other stakeholders,” comments Toshiro Mado, Director of the Agroprocessing Programme. “We are continually seeking additional opportunities for collaboration with new and existing partners”.

Urban growth

Sub-Saharan Africa has seen rapid population growth in recent years, especially in urban areas, and the purchasing power of urban consumers is increasing. Yet rural agricultural producers have only a limited capacity to supply products to urban markets, while a substantial amount of produce is imported to satisfy urban consumers' needs.

“This ‘missing link’ could be the key to improved and more sustainable development,” says Mado. “The major challenge now is to make markets function for



Mobile rice mill doing business in Uganda – and helping to improve the quality of milled rice for better market access

resource-poor farmers, allowing them to improve their livelihoods by more effectively tapping into the wider economy. At present, the relative isolation of rural agricultural markets is a major constraint to farmers' accessing wider (national and regional) markets in sub-Saharan Africa.”

Mado believes that a Value Chain Approach (VCA) – in which products pass through a chain of activities, such as storage, processing, trading and retailing, and gain value at each stage – will help stimulate competition and increase the demand for farmers' products in the wider marketplace. “A key role for us”, adds Mado, “is to provide rural farmers and other stakeholders with technical support to be competitive, so that their products and services can reach and penetrate target markets.”

Mado notes, too, that the development of rural institutions is crucial to enhancing the innovation capacity of rural communities. Different types of rural institutionalisation have been implemented in SAA's four focus countries, and although each country programme takes a different approach, all of them share similar components. In broad

terms, rural institutionalisation in the focus countries is designed to follow the two major principles of market-orientation and value-addition for farm products – and the role of the Agroprocessing Programme is to support these objectives.

Mobile innovation

Innovation, too, can take different forms at different stages along the value chain. One example is the new mobile rice mill tested and run by the Japan International Cooperation Agency (JICA) and SG 2000's Uganda office. In Uganda, the number of rice milling service providers has expanded only gradually while rice production has increased significantly. Some new rice-growing areas do not have access to rice milling services, and this discourages farmers from increasing their production.

Under what is called the NERICA project, a rice mill was mounted on a truck in order to provide a mobile service to farmers. This way, the rice milling service has been able to reach a much wider area, and information about rice milling technology brought to potential service users. The trial



Ethiopian farmer Adebabay with one of his four thresher units: “the quality of our tef has improved”

also tested two forms of innovation: the economic viability of mobile rice milling services, and the role of the private sector in disseminating agricultural information.

A significant outcome of this project was that traders purchased milled rice straight from farmers after processing, thereby demonstrating to farmers the impact of value-adding activity and the economic potential of rice. It also became clear that there were already some private businessmen willing to enter the mobile rice milling service business.

Another example of the value chain approach is shown by Lume Adama Farmers Co-operative Union (LMFCU) in Ethiopia. The LMFCU was established in 1997 with 3,975 members and has expanded to 20,000 members by 2008. A 2007 profile of the LMFCU points out that the union “was the first privately owned, democratically controlled and professionally managed co-operative business operating under free market economic principles in the country”.

The Union recently embraced agroprocessing, and started baking bread using wheat produced by member farmers. It has used grant assistance from the Embassy of Japan in Ethiopia to build an agroprocessing centre. “This project aims to add value to members’ products through processing, to improve market access,” says the manager of the Union. Women’s group members of the Union have also pursued additional processing activities; they process and package pepper, and they grind wheat, barley and tef into flour and pack it for sale.

Each pack has a tag showing the price and, importantly, the name of producer – an innovative approach to marketing that will help keep product quality high.

Rural innovation

Tef threshing is conventionally done by oxen in Ethiopia. However, as the threshing and ploughing seasons often coincide, smallholders struggle to find enough available oxen to thresh their product on time. There are often also problems with sand and dirt contaminating the tef as the animals thresh it with their hooves. In 2000, the SAA Agroprocessing Programme introduced mechanical mobile threshers to farmers in Shashemeni, Ethiopia. Some farmers, who were able to access savings or sell cattle to generate cash, purchased these threshers, and in addition to using them for their own crops, they became ‘agroprocessing service providers’ for neighbouring farmers. Each thresher serves over 100 farmers, and those who purchased them broke even on their investment within one season.

“As a result of the new machinery, private threshing service providers have improved the grain quality in the area, and farmers have improved their market access,” says Mado.

“Tef in Shashemeni used to be considered of poor quality, because of sand contamination during threshing,” says local farmer Adebabay. “But with the introduction of mechanical threshers, the quality of our tef has improved and it is now accepted by traders and consumers – and it also fetches a higher price”.

Rural institutionalisation in focus countries

Country Programmes	Rural Institutionalisation
SG2000, Ethiopia	Farmers Co-op. Union Agroprocessing Centres
SG2000, Mali	Niet@Kene
SG2000, Nigeria	QPM/NERICA Villages
SG2000, Uganda	One-Stop Centre Associations (OSCA)

Tusa Desta’s success story

It is often said that rural farmers are risk-averse, and reluctant to adopt new technology. The reality is that rural farmers are eager to improve their methods. Ethiopia’s Tusa Desta, who has a 1.5 ha potato farm, purchased a thresher two years ago. This helped him increase his income, so he then bought a baler and a tricycle. Finally he was able to buy a seed potato store.

Tusa Desta has now adopted new seed storage technology and become a producer of improved varieties of seed potato which are resistant to late blight. He sells these new varieties to neighbouring farmers whose crops have suffered from the disease.

Tusa Desta’s case is a good example of rural enterprise development through agroprocessing technologies. “And extension agents have a major role to play in this by encouraging innovation and disseminating technology,” says Toshiro Mado.



Seed potato storage. Tusa Desta, right, his wife, and Solomon Tadesse, extension agent



Packed food items at a LMFCU kiosk in Ethiopia

With 2,292 mid-career extension staff currently benefiting from the Sasakawa Africa Fund for Extension Education (SAFE) – an increase of nearly 50 percent over the 2006 figure – the numbers are expected to rise still further this year with the opening of the doors at Bayero University, Kano, to a first intake of some 30 SAFE students. This will bring the number of participating institutions to 13 from nine countries.



SAFE students visit the hybrid trials at Sanankoroba, Mali

“All ongoing SAFE programmes are making steady progress,” comments Dr Deola Naibakelao, the Director of SAFE.

“Collaboration with our main stakeholders, particularly ministries of agriculture, has improved significantly. All appreciate the value of a programme which provides qualifications and opportunities for leadership in agricultural extension”.

The number of students at the Polytechnic Institute for Training and Applied Research (IPR/IFRA) in Katibougou (Mali) continues to increase every year, due primarily to the fact that officials in the various sectors – agriculture, rural development and environment – now have a better understanding and appreciation of the programme and send their staff along without hesitation. The second batch of 23 students completed their degrees in

December 2007. IPR/IFRA continues to back up the Diploma programme at Samanko College by providing most of the lecturers, as well as academic support.

The partnership between the Ministry of Agriculture and IPR/IFRA is strengthening, and the Ministry has made a substantial contribution towards the programme’s development. IPR/IFRA has increased its collaboration with SG 2000 Mali, the two having jointly planned and carried out several activities during 2007. An interesting collaboration is also developing between IPR/IFRA and CECI (*Centre d’Etudes et de Co-opération Internationale du Canada*): a Canadian volunteer specialising in audiovisuals has trained lecturers in the production of training materials for the SAFE programme in Katibougou.

SAFE statistics, January 2008

Mid-career BSc and Diploma Courses	Graduated	Current	Total
UCC, Ghana (BSc)	246	81	327
KAC, Ghana (Dip)	231	112	343
Haramaya, Ethiopia (BSc)	245	98	343
Hawassa, Ethiopia (BSc)	-	48	48
Makerere, Uganda (BSc)	152	32	184
Sokoine, Tanzania (BSc)	290	210	500
IPR/IFRA, Mali (Maîtrise)	38	55	93
Samanko, Mali (Dip)	-	50	50
Ahmadu Bello, Nigeria (BSc)	16	61	77
Abomey-Calavi, Benin (Licence)	9	150	159
Bobo-Dioulasso, Burkina Faso (Licence)	7	17	24
Bunda, Malawi (BSc)	-	39	39
Sub total	1,234	953	2,187

Scholarships	Graduated	Current	Total
Diploma	3	3	6
BSc	26	6	32
MSc	56	5	61
PhD	3	3	6
Sub total	88	17	105
TOTAL	1,322	970	2,292

The ninth batch of 30 students graduated in 2007 at Haramaya University in Ethiopia, of whom three graduated with “great distinction” and thirteen with “distinction”. The top student received a special award for outstanding achievement from the university. A tracer study on the graduates is currently being carried out in Ethiopia and the preliminary findings have revealed that most of them are working for government in various capacities; some hold key managerial and political positions with considerable decision-making power, and one graduate is now a Member of the Ethiopian Parliament and Vice Chairperson of the Parliament’s Rural Development Sector Standing Committee. A few graduates joined NGOs and development agencies in the country.

Woman graduates

A workshop was held to assess the impact made by women graduates at Haramaya. Twenty-nine women graduates attended this assessment workshop, which revealed that they had made positive impacts at many different levels and sectors, including farming, policy and family life. It was clear that the programme had transformed the lives of women graduates, giving them improved skills, competencies and confidence, which in turn have resulted in job promotion, better salaries and movement from local to federal level jobs.

Hawassa University in Ethiopia organised a one-day training workshop for lecturers who teach in the mid-career programme, which focused on interactive methods and techniques that enhance adult teaching and learning. Another

two-day SEPs (Supervised Enterprise Projects) workshop was also organised for students, university officials and representatives from the Ministry of Agriculture and SG 2000. Here, the first batch of 21 students presented their proposals for field work – the SEPs. The participants felt strongly that the SAFE program had introduced a new way of teaching and learning, and that SEPs were an excellent approach to action research. They recommended that this approach should be applied to other academic programmes.

A successful networking workshop was held between Bunda Agricultural College and the Ministry of Agriculture (MoA) in Malawi. The workshop explored ways of strengthening the programme at Bunda, generating suggestions like broadening access to the programme for all departments within MoA rather than focusing on the Extension Department. Strategies for enhancing the MoA's participation in field supervision of students' projects were also discussed and agreed, and the Ministry asked for Bunda College's help in developing a diploma-level programme for field staff that already achieved

certificate-level training. Two staff from Bunda and one from MoA visited the University of Cape Coast (UCC) and Kwadaso Agricultural College (KAC) in Ghana to learn about their programmes.

Unfortunately the launch of the new programme at Makerere University in Uganda has been delayed, but a Technology Village was officially launched in 2007, with a ceremony which included an exhibition of farming equipment. The Technology Village served as one of the focal points of experience-sharing part of the programme for delegates of the Commonwealth Heads of Government meeting held in Kampala in November 2007.

The British Council donated £100,000 to the Department of Agricultural Extension Education (DAEE) to develop teaching materials for the new programme at Makerere University. The development and writing of the modules are well advanced with technical support from Natural Resources Institute of the University of Greenwich in UK.

Positive impact

The SAFE programmes at the University of Cape Coast (UCC)

Alumni Associations

The Executive Committee of SAFE Alumni Association in Ghana held a series of informal consultations in 2007 with Heads of Departments of Agricultural Extension of the five major public universities, to discuss ways of evolving and broadening the alumni association into a Professional Agricultural Extension Association in Ghana. A formal brain-storming meeting was held in March 2008 to work out strategies for making this a reality.

The SAFE Alumni Association in Nigeria, including graduates from ABU and UCC, held several organisational meetings in 2007 to put together a sustainable structure for the association. They are planning to have their first alumni association congress in the middle of 2008.

Graduates of the SAFE programme in Mali have organised themselves into an alumni group. They collaborated with the SAFE alumni group in Burkina Faso to produce the first issue of an alumni news bulletin.

and Kwadaso Agricultural College (KAC) in Ghana continue to make significant progress in spite of the fact that direct support from SAFE ended in 2002 and 2004 respectively. The UCC SAFE programme is being sustained from proceeds generated from the Sasakawa Centre, as well as other internally generated funds. In his report for the 2006/2007 Academic Report, prepared for the 38th graduation ceremony of UCC, the Vice-Chancellor, Rev Prof Emmanuel Adow Obeng, paid special tribute to the SAFE programme, especially the positive impacts of the SEPs on rural communities in various parts of Ghana. He pointed out that the SEPs have brought UCC closer to thousands of farmers and farming households across the country.

The performance of graduates in the SAFE programmes at UCC and KAC in Ghana in 2007 was impressive. Out of the total of 120 graduates with First Class Honours at UCC, seven were from the SAFE programme. Furthermore, five of the six graduates in the Masters Degree in Agricultural Extension programme were former graduates of Diploma and B.Sc. SAFE programmes.

All is set for the first batch of students to enrol in the new SAFE programme at Bayero University-Kano (BUK) in Nigeria in February 2008, and admissions are currently

in progress. The curriculum has been approved, and SAFE has purchased the necessary instructional materials and equipment for the smooth start to the programme. As it is the pioneer SAFE programme in Nigeria, Ahmadu Bello University (ABU) will provide technical support and leadership for the new programme at BUK. ABU played a leading role in the establishment of the joint ABU/BUK SAFE Management Committee, which continues to meet quarterly to devise strategies and advice for the leaders of both universities to ensure the success and sustainability of SAFE programmes in Nigeria.

From 1-7 September 2007, UCC and KAC in Ghana hosted a team from Bayero University-Kano led by the Vice-Chancellor, Professor A. M. Jega. The team learned about planning, implementation and management at various levels, SEPs and the Technology Village. UCC and BUK developed and signed an MOU during the visit, and under the auspices of this MOU and the existing one between UCC and ABU, two staff from UCC visited BUK and ABU in November 2007. They gave seminars to the staff of the two universities with emphasis on SEPs and held discussions with the leaders of the two universities on ways and means of strengthening collaboration between the three universities.



MSc student Alemayehu Shishigu (left) and Professor Zebedayo Mvena of Sokoine University, Tanzania (right) discuss field research in Ethiopia while a farmer uses traditional methods to thresh tef. Shishigu is working with the Extension Department of the Ministry of Agriculture and Rural Development

SG 2000 country profiles



Ethiopia

Like the previous four years, the major crop producing areas of Ethiopia saw very favourable rainfall during the 2007 crop season. In general, adequate rainfall, increased use of fertilisers, improved seed and very little pressure from pests and disease, together with the expansion of cultivated areas, resulted in a bumper crop harvest for the fifth consecutive year.



Drip irrigation in moisture stress areas helps to produce high value crops such as onions

Over the last few years, SG 2000's Ethiopia programme has been promoting and demonstrating the use of the broad bed and furrow approach, as well as conservation and minimum tillage technologies. In 2007, the government targeted areas where adoption had looked promising and scaled-up the process to involve thousands of farmers. Meanwhile, the programme has continued to emphasise the promotion of QPM, rice, line-planting of wheat, water harvesting and comparatively new approaches for postharvesting and agroprocessing.

Although improved production technologies have led to marked increases in crop yields in recent years, the pay-off after harvest has been less significant. "This is largely due to postharvest losses resulting from poor handling systems, both in the field and in storage, higher labour requirements, use of primitive tools and

techniques and poor quality agricultural products," says Dr Aberra Debelo, Project Co-ordinator of SG 2000's Ethiopia programme. "The price of most raw materials also fluctuates according to supply and demand, which is beyond the control of the farmer. This can mean that marketing middlemen intrude, and the farmer loses out".

Now, however, the introduction of postharvest and agroprocessing technologies, in collaboration with SAA's agroprocessing programme, means that farmers get a better deal. The new technology increases efficiency, minimises crop wastage and reduces the drudgery of traditional processing. Thanks to these approaches production is increased, farmers can realise the gains brought about by improved production techniques, and can process and market the quality produce that consumers demand. "This technology also creates the

opportunity for enterprise," says Dr Debelo. "Agroprocessing adds value to products so they can command higher market prices than the original raw material, thereby increasing farm household income and ensuring food security".

Traditional threshing in Ethiopia is a cumbersome process involving beating crops with sticks or trampling the piles under the hooves of animals on bare ground. The grain is then contaminated with dirt, affecting the quality of the grain and the market price. The SG 2000 programme aims to reduce drudgery, save time and improve the quality of crops during threshing by introducing two simple postharvest/agroprocessing machines; an engine-driven multicrop thresher for tef (Ethiopia's major cereal crop), other small grain cereals and grain legumes, and a manually-operated and engine-driven maize sheller. "We hope the machinery will transform the processing of cereal grains and legumes, allowing farmers to harvest crops quickly, before the rains, without compromising quality or quantity," says Dr Debelo.

SG 2000 is promoting postharvest/agroprocessing technologies in collaboration with the Ministry of Agriculture and Rural Development (MoARD), the Ethiopian Institute of Agricultural Research (EIAR) and the Ethiopian NGO, Selam Technical and Vocational Centre (STVC). Currently both postharvest machines are manufactured by the local NGO, Selam Vocational Training College.

All postharvest and agroprocessing machines are selected for their potential impact on overcoming high labour input, poor quality product and postharvest and processing losses. The manufacturer can make modifications when necessary to improve the technologies, or develop new ones

to suit users' requirements.

Currently multicrop threshers and maize shellers are being disseminated widely, and their uptake by farmers has been very encouraging, to the extent that the manufacturer has not been able to meet demand. Dr Debelo is not surprised by the popularity of the new machinery. "These machines are simple to operate, easy to move from place to place, and can increase efficiency dramatically," he says. "Furthermore, farmers have found they can easily afford to buy them as groups, or even as individuals".

New technology

He goes on to provide an example of the impact of the new technology. "In the Shashamenne District of Ethiopia, farmers harvest tef planted during the Belg season (the short rainy season between March and May) at the beginning of the main rainy season (June to September). This makes immediate threshing after harvest rather difficult. As a result, the crop is left piled in the field under the rain, where it deteriorates or is lost altogether. Now, with the introduction of the multicrop thresher, threshing has become easier and the quality of tef produced, and its price in the market, has improved. Farmers with multicrop threshers thresh their crops first, and then provide threshing services to other farmers by going from farm to farm, mounting their threshers on donkey carts. This has really helped to increase farm income" (see page 9).

Other postharvesting/agroprocessing machines that have been introduced lately include a rice polisher, a rice mill, a rice thresher, a cassava grater, a coffee pulper and a groundnut processor, comprising a sheller, a wet-type grinder and a single-screw press. The groundnut processor is already being used by a

co-operative in Babilie town, located in the major groundnut growing area in East Hararghe zone, and the remaining technologies are either being modified at Selam Vocational Training College or about to be disseminated in relevant areas.

The equipment manufacturer provides regular monitoring services to check the condition of the machines and provide repairs and services where needed, and prompt action is taken to address repair, maintenance and training problems as reported by users to SG 2000's field staff during their visits to the project areas.

Women's groups

"Training is one of the major components of the SAA/SG 2000 postharvest/agroprocessing programme," says Dr Debelo. "Different types of training are provided for various beneficiaries, including researchers, technicians, local artisans and farmers and agroprocessors. The other component is field demonstration, which we conduct to promote awareness to potential users and policy-makers on the technical options available to improve handling and processing of farm produce".

One new initiative is a value-adding programme for groups of women farmers and housewives. This project is intended to help rural women's groups develop new income-generating opportunities through small food-processing enterprises, adding value to crops by transforming raw food agricultural products into more suitable forms for consumption.

The programme collaborates with the government and other interested organisations. The approach is to help women's groups, associated with farmers co-operative unions, develop the techniques and management skills needed to establish small-scale, sustainable processing enterprises that are easily manageable, require little capital investment and use simple equipment. Women small farmers learn to improve their indigenous knowledge and food production

techniques as well as organising themselves to obtain credit, acquire inputs and market their produce more profitably.

Model processing centres have already been established by the project at seven sites near rural towns, where organised women's groups bring their processed and raw agricultural produce to the centres for processing. These sites were selected based on cropping patterns, volume of production, nature of crop processing and utilisation, and accessibility to markets. The potential for future expansion was also examined. A wide variety of crops is processed, including wheat, tef, maize, rice, pepper, various grain legumes, spices and milk.

The members of each women's group process more than one agricultural product. Then, the value-added products at each processing centre are packaged by members and delivered to a shop owned by the women's group, where they are registered. Cash is received on sale, on a weekly basis, after nominal handling charges are deducted.



Training extension staff on farmers' fields

"So far, most organised women's groups have found their respective business enterprises very profitable," reports Dr Debelo. "Some of them have already started expanding their businesses by distributing the processed products to supermarkets. A good example of a successful small agroprocessing enterprise is the one at the Lume/Mojo processing centre, which is housed in the compound of the Lume-Adama farmers' Co-operative Union. Members who started with a small birr investment some 13 months ago are earning surprising amounts of money."

At the annual anniversary celebration of the Lume processing centre, it was revealed that gross earnings per individual member over a 10 month period varied from 1,000 birr to 34,000* birr, with four out of the 40 members earning over birr 15,000 to 34,000 for the same period. Since the women's groups integrate production and processing activities, such rural agroprocessing enterprises can penetrate markets beyond the immediate neighbourhood, being close to the source of raw materials.

* 1 USD= Birr 9.209 at the time of reporting

Number of members of women's groups in each processing centre, materials for processing, technologies used and value added products

Regional State	Processing centre	Women's group members	Material for processing	Technology used	Value-added product
Oromiya	Lume	40	tef, wheat, pulses, spices & milk	sealer, pin-crusher, multi-crop thresher, refrigerator, butter churner, cream separator & lactometer	clean seed, flour, split beans, milk, butter, cottage cheese, spices and snacks, etc
	Haromaya	68	milk	butter churner, cream separator, lactometer	milk, butter, cottage cheese
Oromiya	Shashamenne	8	Potato, tef	multi-crop thresher, sealer	potato chips, clean tef seed and grain
	Babilie	200	Groundnut	wet type mill, decorticator, sealer, oil press	Groundnut paste & cake, candy, etc
	Becho	21	wheat, tef	Multi-crop thresher, pin-crusher, flour mill	clean seed, spices, snacks and flour
SNNPR	Aruma, Wondogenet, (Sidama)	42	Enset & maize	Decorticator	Maize flour, Bulla, Kotcho
Amhara	Fogera	18	rice	multi-crop thresher, rice polisher and flour mills	polished rice

Mali suffered another year of erratic rains in 2007. The year started slowly, with below average rainfall recorded across the country, and in July, planting was delayed in several regions and emerging crops suffered water stress. As of 20 June only 16 percent of the millet planting target was achieved compared to 39 percent by the same date in 2006, and cotton planting fared little better, with 33 percent of the target achieved against 70 percent the previous year. The cotton crop, which should have been planted before 20 July to maximise yield potential, was particularly at risk. Heavy downpours came in August, followed by a dry September, and good rainfall expected in October never materialised.

Food situation

Despite the unfavourable weather in 2007, the food situation in Mali is good. Food security in all parts of the country remains stable, and households still have access to regular grain supplies on markets around the country. Prices of coarse grains, such as maize, sorghum and millet, are steady in regional capitals. No price collapse occurred, unlike in 2006, when the price of maize dropped from 93 CFA francs to 40 CFA francs – close to ten cents a kilo.

“Despite rising living costs, mainly due to a significant increase in petroleum products, sellers and buyers are in a win-win situation,” says Country Director Marcel Galiba. “Rice still remains the most expensive cereal, with prices ranging from 203 to 236 CFA francs and averaging 220 CFA francs for 2007, compared to maize at 70 francs, sorghum at 79 francs and

millet at 80 francs. The National Security Reserve of 35,000 mt was established”.

Group empowerment

As SG 2000 continued with its efforts to empower stakeholders, all SG 2000 co-operatives made progress in 2007 in setting up their development centres, known as Niet@Kene. Today all of them have brand new storage facilities and cereal/seed banks. In addition to these fundamental structures, some co-operatives have built meeting rooms, agroprocessing rooms, drying patios and pens for poultry. All co-operatives can communicate via mobile phones, and are all connected to www.tradenet.biz for cereal marketing information.

Producers were able to store the part of their harvest destined for the market safely. In April a national commodity stock exchange (CSE) was organised in



Women farmers using water from a washbore

Ségou with several partner organisations, including the Department of Agriculture, APCAM (the Permanent Assembly of Agriculture Chambers), Afrique Verte, Faso Djigui, the Syngenta Foundation and the Millennium Villages. A total of 21,179 mt of goods were supplied with cereals accounting for 92 percent. On the demand side, the total was nearly 5,400 mt with cereals mounting to 90 percent. Farmers also offered 672 mt of rice seeds, mainly NERICA 4. In that market, SG 2000 co-operatives were able to sell a total of 1,045 tons of commodities for more than \$300,000 with maize having the lion's share with 40 percent (table 1).

More than 100 mt of maize were sold to the biggest poultry farmer of Bamako, 'la Ferme Oeuf Sidibé'. On the seed side, the Sikasso maize co-operatives sold 200 mt of QPM seed to the Ministry of Agriculture of Senegal for more than \$110,000.

Galiba points out that MAP – the commodity-based marketing programme for farmers' organisations launched by SG 2000 in 2006 has had a hugely positive effect on food security in the region. “Under MAP, co-operatives first produce enough food to cover their own needs and can then bring any surplus onto the market for more income,” he explains. “For example, in Ségou and Sikasso, SG 2000 producers achieved above-average yields in 2007. In Sikasso, Mali's maize belt region, SG 2000 farmers' yields ranged from 2,950 kg/ha to 4,070 kg/ha, significantly higher than the national average maize yields of less than 1,500 kg/ha. This meant our producers were able to build up cereal banks as security for local villages during the hunger period”. Sikasso co-operatives amassed a total of nearly 96 mt of grain in their cereal banks. Co-op members received support to be paid back in kind plus 10 per cent, while non-members paid in cash.

“Meanwhile, in Ségou,” Galiba continues, “SG 2000 millet

Table 1: Sales realised by SG 2000 co-operatives during the CSE of April 2007

Commodities	Sales (t)	Price of a kilo (CFA)	Total	
			CFA	\$
Maize	545	110	59 950 000	119 900
Sesame	109	245	26 705 000	53 410
Millet	244	115	28 060 000	56 120
Rice	45	240	10 800 000	21 600
Sorghum	22	90	1 980 000	3 960
Soja	5	300	1 500 000	3 000
Rice seed	65	300	19 500 000	39 000
Millet seed	6	250	1 500 000	3 000
Sorghum seed	4	250	1 000 000	2 000
TOTAL	1045	-	150 995 000	301 990

farmers' average yields were between 41 and 118 percent greater than non-SG 2000 farmers, and nearly 60 mt of crops were put aside (see table 2). The harvest was so successful that the local administration decided not to provide SG 2000 villages with support from the national security stock, acknowledging in its report that they did not need it. When the 72 villages of Cinzana district were sharing 20 mt of food aid, amounting to around 280 kg per village, SG 2000 villages were enjoying an average of 2000 kg each."

Together, GEM (group empowerment) and MAP have helped farmers become much more productive and given them access to markets which can provide improved food security and increased incomes.

New innovations

In recent years, access to wheat supplies in Mali has been less than satisfactory. The country imports 120,000 mt of wheat each year, but prices in the world market are on the rise. Being a landlocked country, Mali is reliant on the ports at Conakry and Dakar for its wheat

Table 2: Use of SG 2000 cereal banks for food security in Segou

Villages	Stock movement in the cereal banks				
	Initial stock (kg)	Quantity distributed (kg)	Members		Non Members
Bénéficiaries (#)			Quantity to reimburse back (kg)	Quantity sold (kg)	
Tingoni	24 000	-	-	-	24 000
Kondogola	14 000	5 000	24	5 500	9 000
Zambougou	7 200	3 000	28	3 300	4 200
Sorobougou	5 500	3 700	36	4 070	1 800
Niatia	4 300	2 300	23	2 530	2 000
Ndinzana	4 300	2 000	19	2 200	2 300
Total	59 300	16 000	130	17 600	43 300

supplies and must then transport them more than 1,500 km to Bamako. After years of enduring increasing fuel prices, frequent delays at both ports and unreliable roads, Mali decided to aim for self-sufficiency by supporting wheat production. It was found that there were 50,000 ha of land suitable for farming wheat in Tombouctou, but only 2,500 ha were actually planted. A survey in November 2006 pointed to two major bottlenecks: a lack of good yielding cultivars, and the high cost of irrigation.

SG 2000 sought to address both of these obstacles. Two varieties of

cultivar from Nigeria called Attila and Seri M82 were introduced, and planted across 11 sites to compare the new cultivars with Tetra, a local variety which is more than 40 years old. Maximum yields of 4,400 kg/ha were obtained. Despite late planting due to seed transportation, average yields of new cultivars were above 3,200 kg/ha compared to 2,500 kg/ha for Tetra. Farmers were very happy about the new materials. Presently, for the second year, 18 villages are involved in 48 demonstration and yield plots.

In order to reduce the cost of irrigation, SG 2000 suggested the introduction of the "washbore" technique, a more affordable method used in the fadamas (riverine valleys) in Nigeria. Three colleagues from SG 2000 Nigeria were brought to Mali to train staff and stakeholders on the approach. A washbore is possible around river borders and loamy-clay plains where the water table is no deeper than 10m; it makes use of a small, portable pump for irrigation and eliminates the need for larger, fuel-hungry pumps. Five washbores are now under trial, and many farmers have shown an interest in the technique as the technology is affordable, costing less than under \$300, and could free them from complex irrigation systems.

The QPM Obatanpa from Ghana was introduced into Mali in 1991 under the name 'Denbanyuman'. Today it is the most used white QPM in Mali, covering areas of up to 80 percent in some villages, and yields have consistently averaged

three to four tons. However, SG 2000 sought to improve on this. "We are always looking for higher yields, and we also wanted to set up a good seed industry," says Galiba. "This encouraged us to look at hybrids, particularly QPM hybrids". With demand from stakeholders increasing and two commercial hybrids already being sold in Mali, PAN 6568 from Pannar Seed Company and SNK 2778 from Monsanto, SG 2000 Mali decided to run its own hybrids yield trials using materials from CIMMYT Mexico, CIMMYT Zimbabwe, IITA Nigeria, CRI Ghana and IIAM Mozambique.

A total of 29 white and yellow QPM hybrids were tested, in comparison with Denbanyuman and Sotubaka, a type of yellow maize. After adjusting yields, considering entries above average and pooling four tests, the ten best entries yielded between six and 11 mt/ha. Denbanyuman performed well and was ranked ninth, with 6 mt/ha. The two commercial hybrids were ranked second and sixth. Population density was between 62,500 and 80,000 plants/ha, and the fertiliser hydrocomplex Acthyva was used only twice, at planting (200 kg/ha) and at 15 to 20 days after planting (200 kg/ha). All tests were run under zero tillage. Results showed that it is possible to have good QPM hybrids which are more productive than Denbanyuman, and which can help become the cornerstone of a nascent seed industry.



Farmers loading maize received from Kondogola cereal bank onto a donkey cart

Nigeria began 2007 with higher January temperatures than usual which affected the yield of dry season crops, especially wheat. Initial rainfall came late in April, but was followed by a long dry spell which lasted until early June; the rains only began in earnest at the end of June and had ceased by mid-September. This late and uneven rainfall caused a drought which resulted in crop losses, particularly affecting farmers in the northern part of Sudan Savanna. The crops which suffered most were maize, millet, sorghum, rice and cowpea.



A high-yielding papaya variety introduced to farmers in Kano State brings good income and improves nutrition

The newly elected Nigerian government has indicated it will prioritise agriculture as a launch pad for rural development, and has already begun to provide funds for research and extension.

“During the 2007 rainy season, the main SG 2000 projects have been to support the establishment of NERICA (New Rice for Africa) and QPM (Quality Protein Maize) training plots (PTPs),” says Ahmed Falaki, Project Co-ordinator of SG 2000 Nigeria. “It was good to see individual states taking over responsibility for establishing PTPs of other crops using their own resources, with SG 2000 providing back-up support in training and supervision.”

Altogether SG 2000 helped establish 2,772 plots of QPM across the 36 states, and the highest recorded yield was 5.8 mt/ha from Gombe State.

The average yield recorded (4.9mt/ha) was four percent higher than the previous season and the national average – table 1. The average cost of production per hectare was US\$375, with a net income of US\$727, similar to the amount obtained by farmers in the previous season (US\$728).

During the same season, SG 2000 co-ordinated the establishment of 1,280 NERICA rice plots, of which the highest yield of 7.3 mt/ha was again recorded in Gombe State. The average yield for the season was 4.8 mt/ha; higher than the previous season (4.6 mt/ha) but more than three times the national average yield (1.3 mt/ha) – table 2. The average cost of production was US\$495, with a net income of US\$1,156 per hectare.

State involvement

States and local governments, as well as private sector organisations, continue to support training schemes with the aim of transferring programme ownership to stakeholders. Nigerian states sponsored the training of 3,145 extension agents and 76,327 farmers in 2007. Other projects conducted jointly with SG 2000, or fully sponsored by the private sector and communities, involved the training of 584 extension agents and 9,900 farmers.

“Field days have attracted increasingly large gatherings of stakeholders, including traditional rulers, policy makers, private sector partners and farmers, who have used the opportunity to interact widely and hold broad discussions around the

demonstration plots,” says Falaki. “During the season 3,204 mini and 202 major field days were conducted across SG 2000 states, with the private sector playing an increasingly important role in providing financial and logistical support”.

States have also been taking on the responsibility of scaling-up SG 2000 extension technology dissemination methodology to their farmers, using state resources to support capacity-building and to provide inputs on credit to farmers to start up Production Test Plots (PTPs) of one hectare or more. Bauchi State established 7,500 PTPs, Kano set up 22,868, and Zamfara planted 24,500. Other states, notably Gombe Jigawa, Kebbi and Katsina, are scaling-up in a modest way, especially in the areas of training and provision of field logistical support to extension staff and farmers.

Rice

SG 2000 provided support to the Nigerian government in its effort to increase local rice production and curtail the current need for massive imports.

Despite the drought experienced during the wet season there was a dramatic increase in the number of areas put to rice cultivation, with SG 2000 farmers cultivating 4,962 ha, compared to 1,891 in 2006. NERICA production also doubled to 13,244 mt, compared to 6,162 mt the previous year. The dissemination of NERICA 1 was accelerated with the availability of more certified seed produced by farmers under the supervision of the National Seed Service, and SG 2000 purchased three tons of NERICA 1 and some 12 tons of lowland NERICA seed under its buy-back arrangement from farmers who planted the lowland varieties received from WARDA (Africa Rice Centre).

Table 1: Number of QPM PTPs, yield range and average yield during 2007 wet season

State	No. of farmers	No. of ha	Yield range (t/ha)	Average yield (t/ha)
Bauchi	374	94	2.7-6.6	4.9
Gombe	995	285	3.3-6.9	4.8
Jigawa	329	82	3.6-5.9	4.6
Kaduna	214	54	4.3-5.1	4.8
Kano	599	150	2.5-5.9	4.3
Katsina	261	65	4.3-6.8	5.8
Total	2,772	730	-	4.9

National average yield = 1.6 t/ha

Table 2: Number of NERICA PTPs, yield range and average yield during 2007 wet season

State	No. of farmers	No. of ha	Yield range (t/ha)	Average yield (t/ha)
Bauchi	275	69	3.3-6.1	4.5
Gombe	204	51	3.5-7.3	6.0
Jigawa	363	91	3.2-6.5	5.6
Kaduna	262	66	3.9-4.3	4.0
Kano	121	30	1.5-3.4	2.4
Katsina	56	14	5.9-6.7	6.4
Total	1,280	321	-	4.8

National average yield = 1.3 t/ha



SG 2000 training for a women farmers' processing group in the use of an improved TADCO parboiler in Zamfara State

“One successful project has been technology demonstrations,” says Falaki. “Rice processing workers, and especially women’s groups, were shown new and improved rice parboilers. Eighteen units of TADCO parboilers were assembled and demonstrated across the SG 2000 operational states.”

In the area of marketing and value addition, SG 2000’s partnership with DFID-PrOpCom and USAID-MARKETS has been successful in introducing its rice farmers to processors, who have purchased over 200 mt of paddy for processing. The Universal Rice Processing Company, which has the capacity to process over 50 tons of paddy a day, is about to launch an agreement with SG 2000 rice farmers in the Hadejia valley area to purchase the FARO 44 (Sipi) variety. Furthermore, in collaboration with a rice processing company called TADCO Nigeria Limited, SG 2000 has been promoting the processing

and packaging of parboiled rice produced by its farmers for marketing in supermarkets and stores across the country.

New approaches

“Postharvest and agroprocessing remain crucial in moving agriculture from subsistence to commercial level, especially with the current emphasis on produce quality for market,” notes Falaki. “SG 2000 has demonstrated the use of wooden winnowers to women’s groups across the states, and delivered ‘training of trainers’ to 19 carpenters on the assembly of the wooden winnowers. Each trainee was mandated to subsequently train at least ten other carpenters in his or her state.”

Working closely with the Regional Director of SAA’s agroprocessing programme, the project identified manufacturers of agricultural equipment and machines, and selected artisans to be trained on

the assembly of various machine prototypes to create awareness and markets. Women’s groups were supported to produce food products from QPM, rice and soybean for market. “We have brought in a Home Economist / Nutritionist from KNARDA to provide technical support to the programme,” says Falaki, “and the value-added products are already stimulating production and better prices for soybeans and QPM”.

Under the same programme, SG 2000 signed an MOU with PrOpCom to increase productivity in the rice value chain and identify and promote technologies that are technically, financially and socially acceptable to participants in the rice commodity chain (farmers, parboilers, millers etc).

Sammaz-14 QPM promotion in the country has gained ground and is fast replacing normal maize in the traditional maize growing areas.

“QPM has been reaching farmers through both formal channels, such as seed companies, and more informal methods, such as community-based seed production, QPM villages and farmer-to-farmer distribution,” says Falaki. “The total quantity of seed sold amounted to 736 mt in 2007. QPM nutrition education was strengthened through the demonstration of QPM processing and utilisation. The project prepared, demonstrated and disseminated various recipes from QPM to women’s groups in QPM villages and neighbouring communities, local trade fairs and the Nane-Nane Agricultural show held at Morogoro, Tanzania, where various Nigerian dishes were prepared and served during the show.”

SG 2000 began working with some large-scale grain processors in Kano willing to process QPM into flour and package it for market. Already Dala Foods Nigeria Limited has begun the test production of QPM into flour, and the results will come to market

soon. At the state level QPM working groups have been formed, with each team consisting of relevant stakeholders in the promotion of production, processing and utilisation of QPM. The QPM national working group is expected to be formed early in 2008.

Partnerships

In the area of linkage, collaboration and partnership, SG2000 has intensified its working relationship with relevant national and international agricultural research institutes and centres.

Other collaborative partners include DFID-PrOpCom in selected commodity chains to facilitate development of more functional and efficient markets with a focus on market-led activities implemented by the private sector; USAID-MARKETS in expanding economic opportunities in the Nigerian agricultural sector by increasing agricultural productivity, enhancing value-added processing and increasing commercialisation through private-sector led growth and development; the UNDP-Millennium Village project to empower impoverished rural communities and various private sector service providers like seed (Premier, Seed Project, Maslaha, Nagari, Alheri and Manoma), fertiliser (Golden) and agrochemicals (CANDEL, Jubaili, African Agro etc).

“The major challenge being faced by the project is the availability of adequate quality seed for farmers,” says Falaki. “The few seed companies on the ground are unable to provide the needed good quality seed resulting in relying on community-based seed production and some individuals are making money by providing low quality or grain as seed. However, the re-activation of Premier Seed Company and the emergence of some new seed companies is providing hope for farmers.”

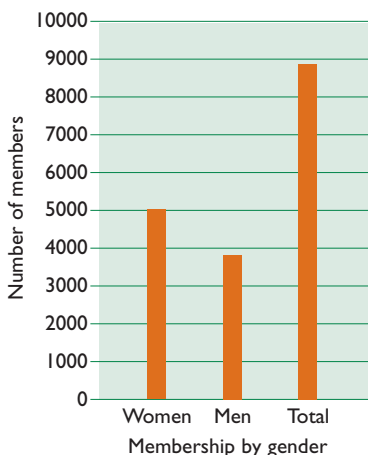
Uganda's food security situation has remained stable despite the torrential rains last year which affected the northern and eastern parts of the country, resulting in floods and crop loss. The World Food Programme (WFP) estimated that 130,000 to 150,000 mt of maize grain were available for marketing in 2007. However, marketable volumes of beans have continued to decline due to the unfavourable weather, triggering a price hike on the local market.

Prosperity For All (PFA), a presidential initiative on poverty reduction in the country was launched to complement the Poverty Alleviation Action Plan (PEAP). PFA is designed to cover 1,025 sub-counties in the entire country. This initiative is aimed at ensuring that every household receives a minimum income of \$10,000 per annum. SG 2000 is one of the key government partners participating in the planning to implement the initiative.

"Inadequate power supply continues to constrain the economy, especially the industrial sector", says SG 2000's Project Co-ordinator Emmanuel Kayaayo, "and this can cause a threat to investment. However, the new Hydro Electric Power (HEP) dam at Bujagali, which is estimated to cost US\$770 million and projected to generate 250 megawatts, should help to address this problem".

Uganda hosted the Commonwealth Heads of Government Meeting (CHOGM) in November 2007. "We hope that spill-over effects from this summit will bring with it new prospects for Uganda, such as ecotourism, and open up EU markets for agricultural and mineral exports," Kayaayo remarks.

Direct beneficiary groups and farmers under the OSCAs by October 2007



Achievements

The year 2007 marked the second phase of SG 2000's five year implementation plan, with the emphasis on scaling up strategic interventions..

Last year also saw several key achievements in Uganda. The target of three new One Stop Centre Associations (OSCAs) was reached, bringing the total OSCAs in the country to 14 and increasing total membership by 14.6 percent. There are now 368 groups with 9,013 farmers (of whom 5,181 are women and 3,832 men), distributed over 51 sub-counties in 13 districts. The management capacity of the OSCAs has been strengthened through the training of 110 executive members, nine centre managers and 73 trainers of trainees (TOTs) to enable OSCAs to service 51,000 farmers (99 percent of the targeted increase) within their catchment areas.

"We have developed value chains for maize and rice in 14 associations through the training of service providers, who in turn trained farmers (TOTs) on key ways to add value to their produce," says Kayaayo. "Furthermore, the availability of seed to farmers has been improved by the creation of three additional community seed banks, bringing the total seed banks up to the target of 12. This resulted in the production of 271.4 mt of NERICA (New Rice for Africa) and 7.6 mt of groundnuts. Support from partners helped us exceed the NERICA target by 111.4 mt."

Thirty-four service providers have been trained, along with 102 TOTs, who have supervised the planting of 2,378 crop demonstrations (118.9 percent of targeted) and scaled-up maize production technology on block farms at 20 sites.



QPM-based products being exhibited at the National Agriculture Show in Jinja

Added value

Improved postharvest handling has added value to maize and rice produce, and 204 mt of maize were sold through collective marketing at a premium price (US\$142/mt), earning an additional US\$ 3,468 on the alternative sale price of US\$125/mt. Association members, combined with other farmers engaged in collective marketing, sold 510 mt of QPM. Ninety women's groups were trained on the utilisation of maize, rice and legumes, and produced 20 products from a range of recipes. The agroprocessing programme assembled 48 assorted machines (88.9 percent of the planned target) using existing technicians.

Finally, the National Agricultural Advisory Services (NAADS) has recognised and adopted the OSCA model as a 'best bet' approach for building Higher Level Farmer Organisations (HLFOs) for specialised production ventures in five districts.

SG 2000 deepened collaboration with NAADS to empower farmers and expand technologies through HLFOs, with the aim of fully integrating both NAADS and SG 2000 approaches for the expansion of agricultural enterprise value chains. A total of US\$ 88,235 was disbursed to implement this initiative, with the aim of covering five districts up to March 2008.



Farmers in the Nebbi district in northern Uganda participating in NERICA seed multiplication

Rice boost

Uganda is the first East African country to be admitted to the Africa Rice Centre (WARDA) – partly a tribute to the work of Vice-President Professor Gilbert Bukenya for his efforts in promoting rice production. The country still imports a significant quantity of rice, estimated at 67,000 mt pa (Uganda Revenue Authority figure for 2006). Rice importation is third after wheat on the food import bill, with an estimated value of US\$60 million. “Per

capita consumption stands at a low figure of 6.75 kg/year, compared with the average African consumption of 15 kg,” notes Kayaayo. “However, consumption of rice is steadily increasing, especially in urban areas, due to change in tastes and preferences, increase in income levels, local production, processing and urbanisation.”

The amount of land under rice cultivation has continued to expand from an estimated 80,000 ha to 105,000 ha over the past two years. Production of upland rice (NERICA-4) has increased from 20,000 ha to over 35,000 ha since 2001. This production boost is attributed to the expansion of cultivated land over the last 15 years rather than increase in yields. In a study conducted in 2007, covering 175 farmers in three districts supported by SG 2000, the highest yield of rice for season A and B of 2006 was on average 3.4 mt/ha. This suggests that the way to significantly increase rice production in Uganda, under the current conditions, would be to bring a great deal more land into cultivation.

The National Agricultural Research Organisation (NARO) is working out a memorandum of understanding (MOU) with seed companies and farmers’ associations to multiply newly

released seed (NERICA-1 and -10) in a bid to avoid seed mixing. During the 2007 A and B seasons, SG 2000 facilitated 271.4 ha of NERICA seed multiplication in 11 OSCAs districts and trained 25 farmers and 15 extension workers to strengthen capacity for quality seed production.

SG 2000, in collaboration with JICA and NARO, conducted field testing of the mobile rice mill services in the four districts of Iganga/ Namutumba, Mukono, Kaliro and Luwero. The mobile rice mill visited 290 homes and milled 27,811 kg of paddy. Japan Overseas Cooperation Volunteers (JOCVs) participated in the assessment.

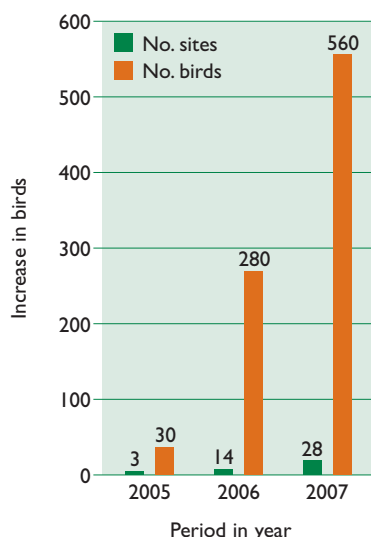
“Good nutrition in food is a key part of food security and a major goal,” says Kayaayo. “Last year we set out to achieve this by promoting more nutritious recipes using grain and legumes in the diets of the local population. Opportunities for extracting more value from crop by-products by using them to produce feed for backyard livestock, such as chicken and pigs, were also promoted. Such activities have largely focused on areas where QPM is grown in large amounts. We are getting a good reaction from local people”.

The poultry initiative was expanded to find additional ways of using QPM and adding value to



Hanada, a Japan Overseas Cooperation Volunteer (JOCV), helps to sow NERICA in Namutumba district

Summary of QPM utilisation through poultry 2005-2007



Summary of NERICA seed multiplication in 2007

District (OSCA)	Target (ha)	Planted (ha)	Actual	Production (mt)	Recovery Actual (mt)
Bugiri (BAIDA)	16	16		64	2.4
Namutumba (BUMUFAS)	28	28		112	4.2
Mukono A (BAMTA)	16	16		56	2.4
Mukono B (WAIDA)	10	8		29.4	1.2
Mukono C (Nakisunga)	-	13		46.2	2.0
Luwero (ZAABTA)	16	16		64	2.4
Kamwenge (MRFA)	40	48		192	7.2
Kyenjojo (KYADA)	30	31		124.8	4.6
Tororo (TMATA)	6	6		21	1.0
Kamuli (KAIDA)	16	18		73.6	2.7
Ibanda	12	12.4		49.6	1.8
Kaliro	40	47		177	7.0
Nebbi	20	12		48	1.8
TOTAL	250	271.4		1,057.6	40.7

maize. Associations participating in utilisation training increased from five to eight. Each unit was provided with animals and materials they would otherwise be unable to afford, including two cocks, 18 pullets, start-up feeds, vaccine kits and housing construction materials. Currently, over 560 birds (504 pullets and 56 cocks) are being reared on QPM bran and other feed mixtures. Survival rates of the offspring range over 75 percent.

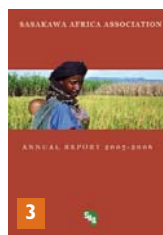
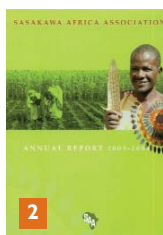
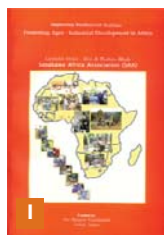
Last year saw several promotional and publicity activities around the SG 2000 programme. One progressive farmer who had adopted NERICA was awarded a motorbike at the National Agricultural Show 2007. Fourteen national field days were conducted across the OSCA districts to create awareness among policy makers, farmers and community leaders of the one-stop centre approach and modern farming practices.

Three postharvest technology innovations for QPM, NERICA and Cassava value chains were promoted during exhibitions at trade shows and at the field days, and two farmer exchange visits were conducted, on rice and QPM promotion. The QPM Working Group’s remit has been extended to cover broader aspects of the maize industry in the country and the region, and it has been renamed the National Maize Working Group.

SG 2000 publications and videos

For copies please contact Raitt Orr & Associates Ltd in London

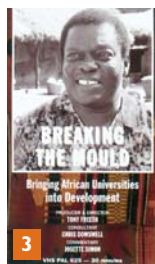
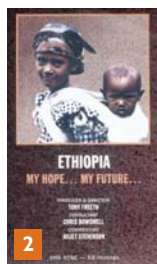
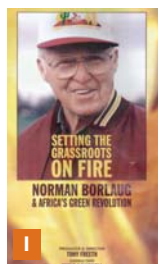
Publications



1. Improving Postharvest Systems – Promoting Agro-Industrial Development in Africa
2. SAA Annual Report 2003/04
3. SAA Annual Report 2005/06
4. Sasakawa Africa Association 20th Anniversary Report.



Videos



1. Setting the Grassroots on Fire – Norman Borlaug and Africa's Green Revolution (1999)
2. Ethiopia, My Hope . . . My Future . . . The 'Green Revolution' in Ethiopia (1998)
3. Breaking the Mould. Bringing African Universities into Development (1997)

All videos are available in English, French and Japanese. Video formats are PAL, Secam and NTSC.

Other videos available:

- Fulfilling the Promise. How nutritionally-improved maize can alleviate malnutrition in maize-dependent countries (1997)
- Facing the Future. The SG 2000 Programme for Agricultural Development in Africa (1996)
- You Can't Eat Potential. Breaking Africa's Cycle of Poverty (1996)

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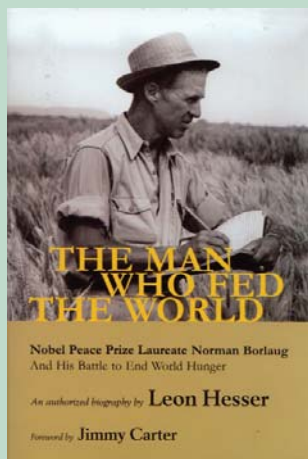
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The title of this biography, *The Man Who Fed the World*, is indeed appropriate. My good friend Norman Borlaug has accomplished more than any other one individual in history in the battle to end world hunger ...

Former US President
Jimmy Carter.

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