THE LOSS OF NORMAN BORLAUG – SAA'S CO-FOUNDER

On September 18, 2009, SAA, and the world, lost one of the great agricultural scientists and food security activists of all times. Dr. Norman E. Borlaug was 95 and had spent an incredible 65 years fighting hunger and poverty. As a scientist, he developed a new type of wheat that – together with similar advances by others with rice – led to a Green Revolution in much of the developing world, as well as in industrialized countries. As a hunger fighter, Dr. Borlaug worked tirelessly to convince governments to adopt higher-yielding smallholder agriculture as their development paradigm. In recognition of this work, he was awarded the Nobel Peace Prize in 1970.

Dr. Norman E. Borlaug, 1914-2009.

The benefits of Dr. Borlaug's work to humankind were enormous. Between 1960 and 2000, world cereal production tripled, driven largely by increasing yields, and real prices dropped by 40%. As a result, hundreds of millions of hungry people had enough food to eat, all year long, for the first time in their lives.

As spectacular as the agricultural development-led industrialization in Asia was, similar success in sub-Saharan Africa proved elusive. An African Green Revolution failed to take hold for a number of reasons. As farmers in Asia and elsewhere capitalized on the fruits of agricultural research – higher yielding crop varieties coupled with improved agronomic practices – African farmers faced daunting challenges that limited their ability to make use of the new technologies. Only 4% of Africa's agricultural land was irrigated, compared to 25% in Asia. Drought was a constant threat. Agricultural produce in Africa was largely transported to market along footpaths and on heads of women and girls, while in Asia farmers had access to bullock carts, lorries, and trains. Key agricultural institutions in Africa – research, extension, markets – were weak and under-funded, and African governments spent (in percentage terms) only half what Asian governments invested in agriculture and rural development. By the mid-1980s, most African governments were in dire financial straights and international donors were pressing them to cut back public sector activities on most fronts, including agriculture.

Against this demoralizing set of challenges, Norman Borlaug responded to an invitation in 1985 from Japanese philanthropist, Ryoichi Sasakawa, that they mount a Green Revolution-style agricultural extension program in Africa, in collaboration with like-minded governments. Their goal was to bring improved crop production technology to smallholder farmers in the shortest time possible.

SASAKAWA-GLOBAL 2000 COUNTRY PROJECTS

Within a year, a partnership had been forged with former U.S. president, Jimmy Carter, and the Sasakawa-Global 2000 agricultural initiative was launched. Collaborative projects were established with the governments of Ghana, Sudan and Zambia in 1986; with Benin, Tanzania and Togo in 1989-90; with Nigeria in 1992 and Ethiopia in 1993; with Mozambique and Eritrea in 1995; with Burkina Faso, Guinea, Mali, and Uganda in 1997; and with Malawi in 1999.

Between 1986-2006, SG 2000 country projects helped finance more than 500,000 demonstration plots, involving upwards of 5 million smallholder farmers, directly and indirectly. On 0.25 to 0.5 hectare demonstration plots, participating farmers obtained yields in maize, rice, wheat, millet, sorghum, grain legumes, and roots and tubers that were two to three times their traditional level of production.

Still, despite these impressive field results, adoption of the recommended crop technologies – and especially the more expensive fertilizers and crop protection chemical components – was often less than expected. Only about 25% of participating farmers were able to adopt the full package of practices.

Herein was the difference with Asian farmers, who had more ready access to the recommended seed-fertilizer technologies, and where irrigation made adoption a less risky proposition than in Africa.

In the last 10 years of his life, Dr. Borlaug talked more and more of the need for investments in rural infrastructure in Africa, especially roads, but also regional and transcontinental railroads, energy grids, and government action to maintain order in national grain markets. "The road to agricultural development is often a road," he would say.

On September 18, 2009, Norman Borlaug, though very weak, received a report at his home in Dallas, Texas, from a former trainee, now an outstanding professor of soil science. The scientist was talking about the progress of his research team to develop a hand-held scanner to improve the efficiency of nitrogen fertilizer use. At the end of the briefing, Borlaug said, "take it to the farmer." These were his last words. He slipped into a deep sleep and died that evening, his family at his side.

THE EVOLVING SG 2000 PARADIGM

Over the past decade, smallholder agriculture has moved to a higher priority on national and international development agendas. Government has an indispensable role to play – in improving infrastructure, strengthening agricultural research and development institutions, and creating incentives for smallholder farmers to adopt new technologies. Millions of Africa's farmers need to move from traditional subsistence agriculture towards becoming commercial agricultural entrepreneurs who are closely linked to market-led agricultural value chains – the customary domain of private sector agribusinesses. The SG 2000 program in 2009 reflects this broader focus in which raising the productivity of resources committed to production and post-production activities is addressed in a more integrated manner.

Figure 1 depicts a simplified view of the rice value chain. Doubling yields on a 0.5 hectare plot can add 750 kg to the farm household production, worth US$ 225 gross and US$ 150 in net revenue. That profit can be more than doubled through various post-harvest handling and agroprocessing operations, greatly increasing benefits to the farmer. The SAA/Global 2000 program now focuses on productivity improvements from the farm to the table.

As it moves forward, another important change in the SG 2000 model is to shift its focus to reaching smallholder farmers who have not previously received much if anything in the way of agricultural extension services. These marginalized farmers, who tend to be very poor and mostly women, have been excluded from mainstream extension programs for several reasons. Limited government resources have usually gone to supporting more prosperous farmers in the misplaced belief that confining investments here would achieve greater benefits. In addition, large groups of poor smallholder producers have been marginalized due to various socio-cultural reasons.

However, research now shows that extension training and crop demonstration programs today can produce greater impacts when focused on smallholder women farmers and resource-poor producers. That is where gaps in information about productivity-enhancing technology are the greatest, and consequently where the largest returns at the margin can be achieved. Indeed, SAA estimates that US$ 1 invested in women-focused productivity training will produce a

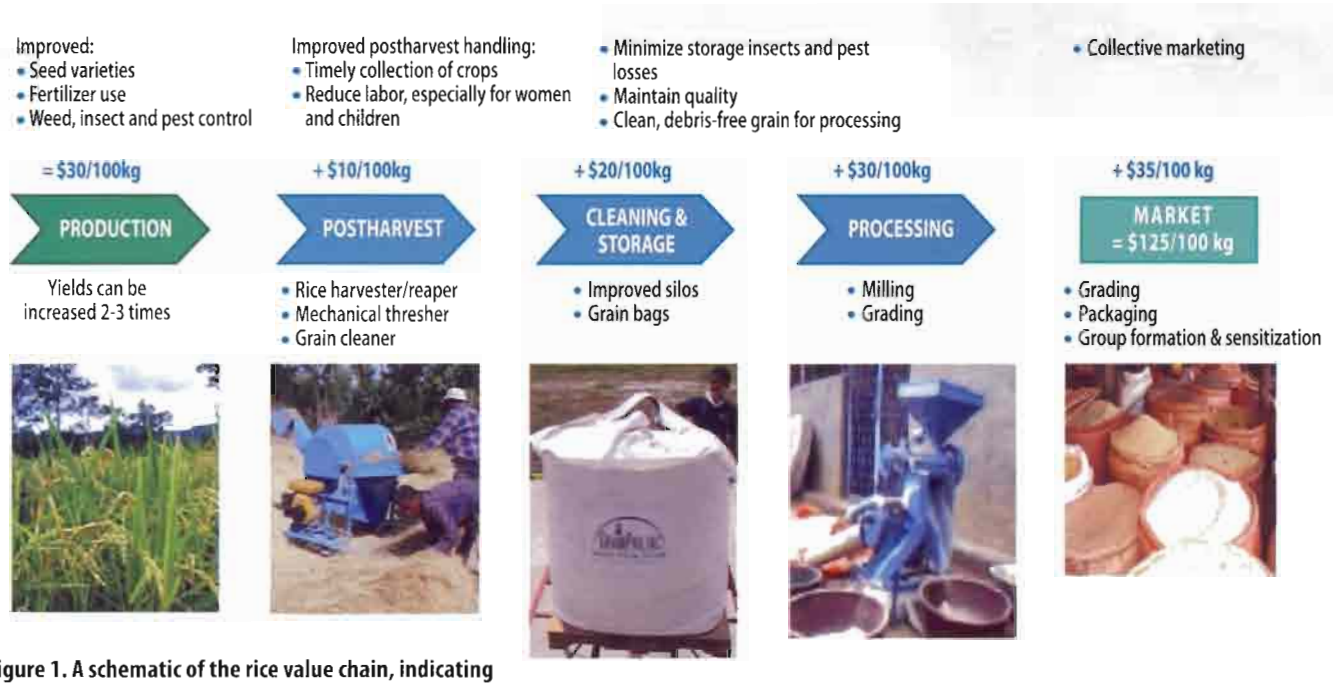

Figure 1. A schematic of the rice value chain, indicating the estimated value added at each stage of processing.

30% greater return compared to the same investment in male-focused productivity training.

SAA Restructuring

In 2008, SAA initiated a far-reaching organizational restructuring, in part prompted by negotiations with the Bill & Melinda Gates Foundation for collaboration in agricultural extension. In 2008, BMGF provided SAA with a $400,000 planning grant to assist in its planning and organizational restructuring efforts. In-depth consultations were held with key stakeholders in Ethiopia, Mali, Nigeria and Uganda – SAA's current focus countries. A preliminary project proposal was submitted in late 2008 and revised in early 2009. In mid-2009 BMGF asked SAA to redesign the joint project again and to focus only on Ethiopia. This was done and submitted in late 2009.

In 2009, the SAA Board of Directors approved a new matrix organizational structure involving two executive directors (one for Management and the other for Programs) who serve as co-chief executive officers. They are complemented by a Managing Director, who is the chief operating officer of the organization. Five Thematic Directors lead planning and programming for their respective areas, and four Country Directors drive the implementation of SAA's country programs.

SAA's five thematic program areas are:

- Crop Productivity Enhancement (primarily through closing yield gaps);
- Post-harvest and Agroprocessing (for value-adding enterprise development);
- Public-Private Partnerships (for extension delivery and smallholder development);
- Human Resource Development [led by the Sasakawa Africa Fund for Extension Education (SAFE) for mid-career extension staff]; and
- Monitoring, Evaluation and Learning (for documenting impacts, the effectiveness of investments, and building on lessons learned).

A matrix management approach fits the SAA/SAFE organizations well. The five Thematic Directors and the SG 2000 country teams work together to advance mutually agreed objectives, and the matrix structure provides for better technical quality assurance and the sharing of best practices. At the same time, the Country Directors have the option, in consultation with the SAA Managing Director and the Thematic Directors, of tailoring individualized programs of work that fit country needs and opportunities. The matrix structure also provides SAA with more flexibility in responding to new fund-raising opportunities and challenges, since it allows more flexibility to shift human resources within a thematic area across countries.

Staff Recruitment/ Rationalization

During 2008 and 2009, SAA underwent an extensive review of its personnel policies and staffing patterns. New personnel manuals were approved by the SAA Board, for international staff in 2008 and

SAA's new Managing Director, Dr. Juliana Rwelamira (center, black t-shirt).

for national staff in 2009. In 2008, Mr. Masaaki Miyamoto and Mr. Christopher R. Dowswell, two long-time SAA staff, were promoted to Executive Directors for Management and for Programs, respectively.

Dr. Marco Quiñones, SAA Regional Director, and Dr. Michael Foster, SG 2000 Uganda Country Director, left SAA in 2008. In 2009, other departures occurred, including: Dr. Wayne L. Haag, Regional Quality Protein Maize Coordinator; Mr. Toshiro Mado, Post-harvest/ Agroprocessing Program Director; and Dr. Ahmed Falaki, SG 2000 Nigeria Project Coordinator.

Dr. Juliana Rwelamira, an agricultural economist with Tanzanian citizenship, was brought on board in June 2009 as SAA Managing Director. By the end of 2009, four of the five thematic director positions were in place (ME&L was still vacant and projected to be recruited in early 2010), and new country directors were hired for Ethiopia, Mali, Nigeria and Uganda. (The current staff list is provided on the inside front cover of this report.)

In addition, important administrative positions were filled at the SAA regional office in Addis Ababa and in Tokyo.

The next challenge is to rationalize and recruit in 2010, as needed, national thematic staff in the four SAA focus countries. Since a matrix management approach is being taken, each of the thematic areas will have programmatic staff based in each country. These staff will simultaneously be part of the country teams led by each Country Director and members of their respective thematic teams.

So far, the proportion of our professional program and administrative staff that are female has increased from 5% to about 40%, one of the highest in the NGO community in Africa. This significant change in gender balance is not motivated by political correctness, but rather is the result of our strategic planning process. One of the key outcomes of that process was the conclusion – with data to support it – that the biggest economic impact on smallholders that SAA can make moving forward is to place a major emphasis on reaching women farmers to improve crop productivity and promote post-harvest and agroprocessing enterprise development. SAA is convinced that to do this successfully requires female professional staff in key positions.

New staff members have considerable experience (and successful track records) in mobilizing resources from various donor organizations. They are accustomed to preparing business plans, tracking progress in meeting targets, and measuring impacts. SAA's new strategic plan, which rests on the organization's new structure, provides a general framework for their activities. Still, there will be considerable freedom to develop more country-specific business plans and to establish strategic partnerships.

New Funding Strategies

For virtually all of its 24-year history, SAA – and its partner organizations, the Global 2000 agricultural program of The Carter Center and the Sasakawa Fund for Agricultural Education (SAFE) – has relied on The Nippon Foundation to finance its agricultural programs in Africa. During 2010-12, SAA will strive to diversify its funding sources and increase its annual budgets by at least 50%. Resource mobilization efforts will focus on five categories of potential investors (see Figure 2):

- **Private Foundations** – Strong core support of SAA from the Nippon Foundation is expected to continue for at least the next decade. Several other major private foundations are also expected to become program investors. This category is expected to account for 65% of SAA revenue in the coming decade.
- **National Governments** – SAA is requesting earmarked financial support from its partner governments. In a first attempt, eight northern State Executive Governors in Nigeria have agreed to provide complementary funds to support local SG 2000 programs. SAA seeks to secure up to 20% of its country budget funding from national governments.
- **Official Development Assistance** – SAA expects its support from bilateral and multilateral development organizations – such as JICA, USAID, IFAD and the World Food Programme – to expand. Good opportunities exist for developing smallholder extension programs that promote market-led, value chain enhancement. This category is projected to account for 10% of SAA funding.
- **Private Sector** – SG 2000 has worked in the past with a range of national and multinational agribusinesses engaged in agricultural input supply and commodity marketing in Africa.

Figure 2. SAA will work to diversify its funding base drawing on a range of potential investors. In addition smallholder farmers will be encouraged to support local extension operating costs, not SAA, which will help sustain SG 2000 interventions.

Moving forward, SAA will seek to develop private-public partnerships in which private companies contribute to the cost of training and demonstration of productivity-enhancing technologies. Funding from private sector organizations will be accepted within a code of ethics framework to ensure extension neutrality and objectivity in farmer recommendations. This source will account for about 5% of SAA's budget.

- **Farmers** – Agricultural extension is a labor-intensive, inherently costly activity. While governments pay for salaries, they rarely allocate adequate operational funds. This is a pervasive problem in African extension that greatly affects effectiveness and impact. It is unlikely that the needed funds will come from government. Hence, village-based extension workers need to develop a revenue model that permits them to generate sufficient income to cover local operating costs. The target extension revenue per farmer-beneficiary is US$ 3/year. While not funding SAA directly, such local revenue generation models will help ensure sustainability of SG 2000 interventions. Developing them will thus be a priority for SAA.

Reaching Policy Makers

The Sasakawa-Global 2000 agricultural alliance was led by an influential group of eminent people – Nobel Peace Laureate agricultural scientist Norman E. Borlaug, Nobel Peace Laureate and former U.S. President Jimmy Carter, and Ryoichi and Yohei Sasakawa, leaders of the largest private foundation in Japan. With leaders of this stature, it is not surprising that SG 2000 had access to the highest levels of government, and it used this access to press for increased investment, especially in high-potential areas, which were still producing far below their promise. A series of international workshops (19 in total) were organized by the Center for Applied Studies in International Negotiations (CASIN), from Geneva, Switzerland, and attended by national and international policy makers. Heads of state and governments were also engaged in these high-level meetings, and outcomes often involved recommendations for significant and much-needed policy changes.

Two of the founders of the Sasakawa-Global 2000 alliance have died. President Carter, still in very good health, will be 86 in 2010, and Yohei Sasakawa, at 71, has pledged his unwavering support. Still, without Dr. Borlaug and with less involvement in the future by President Carter, the nature of SG 2000 influence in policy circles has changed. Before, it was the personalities themselves that carried the weight. Moving forward, SAA's influence will be more directly tied to significant and verifiable project impacts on smallholder livelihoods, and to communicating these impacts to today's leaders and opinion makers in African countries, as well as in the international development community. This is why SAA's new ME&L Theme is so important; it will be responsible for assessing project impacts and transmitting information on best practices through partner organizations. Armed with better information on outputs and outcomes, SAA will work to influence investment decisions within an agricultural investor matrix, involving national governments, private agribusinesses and international donor organizations.

CIMMYT's Sasakawa Impact Project

At the request of the Nippon Foundation – SAA's principal donor – CIMMYT was asked to develop an impact assessment project to monitor and assess the impact of activities and technology packages promoted by the organization and its national partners. With Nippon funding, in 2006 CIMMYT launched an assessment project in Ethiopia and Uganda to gauge the impact on farmers' livelihoods of the main SG2000 extension activities in crop productivity, post-harvest handling and agroprocessing enterprise development. Intended users of project information are SAA, national partners, CIMMYT, other international agricultural research organizations, and the influential public. By the end of 2009, more than a dozen research reports had been generated and can be accessed via the project's interactive webpage (http://sg2000ia.cimmyt.org/).

The pages that follow provide reports from the organizational units that prevailed in mid-2009: SAA's four focus countries (Ethiopia, Mali, Nigeria and Uganda); the SAA Regional Programs for Rice, Post-Harvest and Agroprocessing, and Quality Protein Maize; and from the SAFE program. Future annual reports will reflect SAA's new management and organizational structure.