

# **FUTURE FOOD**

**THE FUTURE FORUM ON WORLD FOOD AFFAIRS**

OCTOBER 9, 2014.

BERLIN – GERMANY

## **AFRICA FUTURE FOOD OUTLOOK: THE ROLE OF SASAKAWA AFRICA ASSOCIATION – GLOBAL 2000-UGANDA AND K + S GROWTH FOR UGANDA PROJECT**

**A PAPER PRESENTED**

**BY**



**Dr. Juliana Rwelamira - Managing Director  
Sasakawa Africa Association, P O Box 24135 Code 1000  
Addis Ababa, ETHIOPIA**

**E-mail: [jrwelamira@saa-safe.org](mailto:jrwelamira@saa-safe.org)**

**Website: <http://www.saa-safe.org>**

**Table of Contents**

AFRICA FUTURE FOOD OUTLOOK: THE ROLE OF SASAKAWA AFRICA ASSOCIATION – GLOBAL  
2000-UGANDA AND K + S GROWTH FOR UGANDA PROJECT ..... 1

- 1. "Can we feed 10 billion people this century?" ..... 3
- 2. The African Situation..... 4
  - 2. 1. United Nations-Led Efforts: Millennium Development Goals ..... 5
  - 2.2. The initiatives of African Leaders (under the auspices of the Africa Union) and their  
pledge to end hunger in the African continent ..... 6
- 3. Sasakawa Africa Association (SAA)'s contribution towards Africa Food security and  
reduction of Poverty..... 8
  - 3.1 SAA Background ..... 8
  - 3.2 SAA Program model ..... 8
  - 3.3 SG 2000 - Uganda..... 9
- 4. Conclusion ..... 15

## 1. "CAN WE FEED 10 BILLION PEOPLE THIS CENTURY?"

From the time Thomas Malthus (1806) set forth the concept that population growth outpaces the means of subsistence, or that population tends to grow exponentially or geometrically, whereas food production increases arithmetically, though disproved through human ingenuity and advances in science, the issue of population growth and food production remained of great concern to academicians, policy makers and the world community at large. Although advances in science and technology have proved the theory wrong, many analysts, especially Neo Malthusians, still believe that an increasing population (10 billion by year 2100) and decreasing agricultural production will limit a country's ability to provide food for its citizens. Consequently, 3-4 billion people will go hungry by end of this century across the world. Jeremy Grantham, a leading consultant who in 2008 two years earlier, predicted the 2008 economic meltdown boldly states that the planet's "carrying capacity" cannot feed 10 billion people. He further concludes, "as the population continues to grow, we will be stressed by recurrent shortages of hydrocarbons, metals, water, and, especially, fertilizer. Our global agriculture, though, will clearly bear the greatest stresses."

Contrary to some analysts' belief, the world already produces more than one and half times enough food to feed everyone on the planet. That is enough to feed 10 billion people, the population peak we expect by 2050. But people making less than \$2 a day -- most of whom are resource-poor farmers cultivating un-viably small plots of land -- cannot afford to buy this food (Eric Gemenez, 2010), indicating the importance of not only food production, but significant improvement in access to food by the needy and vulnerable

To feed the population by 2050 with a basic 2900 kcal diet, the average annual rate of cereal production per capita needs to be around 420 kg per year. However, the expected cereal production for 2050 is 360 kg; a 60 kg deficit under a "business as usual" scenario (Gilland, 2002). On the other hand, current projections suggest that average daily energy availability could reach 3,050 kcal per person by 2050 (2,970 kcal in the developing countries), up from 2,770 kcal in 2003/05 (FAO's Expert Group Forum, 2009), indicating that there will not be any food deficit. The same projections suggest that production increases alone would not be sufficient to ensure food security for everyone. Unless governments make sure access to food by the needy and vulnerable is significantly improved. There is a wider belief that Malthusian theory is outdated and inapplicable arguing that the revolutions that have taken place since humans have inhabited the earth have kept up with population growth.

Today, humanity produces enough food to feed everyone but, because of the way it is distributed, there are still a billion hungry. A study commissioned by the European Union on "Technology Options to feed 10 billion people (2003) indicated that the reduction of food waste is seen as an important lever for achieving global food security, freeing up finite resources for other uses, diminishing environmental risks and avoiding financial losses

In its 2008 World Development Report, the World Bank indicated that, indeed, investment in smallholder farmers was among the most efficient and effective ways of rising people out of poverty and hunger. Raising productivity for resource-poor farmers is one piece of ending hunger, but how this is done -- and whether these farmers can gain access to more land -- will make a big difference in combating poverty and ensuring sustainable livelihoods. The conventional methods already employed for decades by poor farmers have a poor track record in this regard. It is therefore essential that agro-ecological friendly farming practices and structural reforms that ensure that resource-poor farmers have the land and resources they need for sustainable livelihoods are the best way forward.

Experience from countries that have succeeded in reducing hunger and malnutrition shows that economic growth and poverty reduction policies as such do not automatically ensure success: the source of growth matters too. Cross-country analysis shows that GDP growth originating in agriculture is, on average, at least twice as effective in benefiting the poorest half of a country's population as growth generated in non-agricultural sectors. A vibrant agricultural sector has been the basis for successful economic transformation in many of today's developed countries. It was the precursor to the industrial revolutions in Europe and the USA and more recently to those in China, Taiwan, Republic of Korea, Thailand, Viet Nam and other rapidly growing Asian economies.

Improving crop production and yields are not new ideas, but the strategic choices we make matter a lot. For instance, instead of trying to get high-performing farmlands to perform even better, improving the lower-performing farmlands could dramatically increase the amount of food produced. Therefore, if the yield gaps are closed in underperforming regions of Latin America, Africa and Eastern Europe, food production could be increased by 60 percent (Jonathan Foley, University of Minnesota). At the same time crop production can increase by bringing more lands under cultivation in a sustainable way in Latin America and Africa where about 90% of world arable land is available (Nkoya, Year). Overall, however, it is fair to say that although there is a number of countries (in particular in the Near East/North Africa and South Asia) that have reached or are about to reach the limits of land available, on a global scale there are still sufficient land resources to feed the world population for the foreseeable future, provided that the investments required to develop these resources are made and the neglect of recent decades in the agricultural research and development effort is reversed (FAO High Level Expert Forum, 2009).

## **2. THE AFRICAN SITUATION**

It is impossible for Africa to end hunger and reduce poverty unless it significantly increase production and incomes on Africa's smallholder farms. African economies and food security revolve around the millions of smallholder farmers, who work tirelessly on less than a hectare of land. However, most of them, especially women farmers, are poor, they struggle to produce enough food to feed their families and they face multiple challenges. They often work in depleted soils without access to improved seed, fertilizers, irrigation or financial help; they routinely confront drought, floods, pests and diseases, and now climatic change is making conditions even worse.

Addressing the issues of climatic change is as important as increasing productivity and production. According to The Africa Agriculture Status Report (AASR) 2014 produced by the Alliance for a Green Revolution in Africa (AGRA), with contributions from other development agencies and scholars, Africa's agricultural greenhouse gas (GHG) emissions are growing rapidly, accounting for 15% of global agricultural GHG emissions. Given the need for agricultural growth for food security, Africa's agricultural GHG emissions are projected to grow the most rapidly by 30% by 2030. However, there are interventions applicable to African farming systems that will simultaneously increase yields, increase resilience to climatic change, reduce GHG emissions and increase the stock of carbon in the soil.

AASR 2014 provides the most recent and comprehensive review of African agriculture, climatic change, and highlights the most promising paths to producing more food in Africa. The report was launched in September 2014 during the fourth Africa Green Revolution Forum. According to AASR 2014, the population in SSA is expected to grow from 800 million in 2014 to 1.5 billion by 2050; so increasing production in Africa, especially by smallholder farmers, who produce the bulk of continent's, food is

essential, for increasing food security and reducing poverty. The AASR 2014 also examines how climatic change is affecting food production; it looks at the potential reduction in crop yield and livestock production, reduction in food security and incomes that climatic change could cause over the next decade. Climatic change is predicted to impact on the amount of areas suitable to grow beans, bananas, maize, sorghum, pearl millet, cassava and other African staple crops, as some areas are expected to become wetter while other will become drier. Climatic change could also mean that farmers will harvest less food from the same area of land. Changes to crop production and yields would significantly increase malnutrition and poverty.

Another serious factor to watch out for is harvest, postharvest, processing losses of produce before and in storage. Institute for Technology Assessment and Systems Analysis carried out a study for The Science and Technology Options Assessment (STOA) Project: "Technology options for feeding 10 billion people - Options for Cutting Food Waste" sponsored by the European Union Parliament. The study stresses the importance of the reduction of food waste, which is seen as an important lever for achieving global food security, freeing up finite resources for other uses, diminishing environmental risks and avoiding financial losses. In its roadmap for a resource efficient Europe, the European Commission has set the target to halve food waste by 2020.

Even though the study is focusing on EU-27, the approaches and lessons therein can be applied elsewhere for preventing food waste. There are measures and instruments that are considered in literature or in the current debate as particularly useful, easy to implement and/or that have already proven their effectiveness in practice. These include improvement and harmonization of the data basis; setting of reduction targets on national and regional level; revision of existing regulations on food date labelling; enforcement of awareness campaigns; introduction of economic incentives; improvement of workflows as well as the implementation of an integrated supply chain management in the manufacturing and wholesale/retail sector including technological innovations which are likely to reduce food waste. In addition, African smallholder farmers have to be skilled on how to reduce losses before and during harvest, while transporting and processing, and in storage.

## **2. 1. United Nations-Led Efforts: Millennium Development Goals**

As far back as 2000, governments agreed to embark on the implementation of the eight Millennium Development Goals (MDGs), with a number of sub-targets covering a range of poverty, hunger, health, gender equality, education and environmental indicators, most with a due date of 2015; this was an outgrowth of the UN Millennium Summit in 2000.

Assessment of MGD #1 indicated that the proportion of people living in extreme poverty declined by half at the global level in 2010. In developing regions, the proportion of people living on less than \$1.25 a day fell from 47 per cent in 1990 to 22 per cent in 2010, five years ahead of schedule. While the proportion of undernourished people globally decreased from 23.2 per cent in 1990-1992 to 14.9 per cent in 2010-2012, this still leaves 870 million people—one in eight worldwide—going hungry.

The Millennium Development Goals Report 2013, found that sub-Saharan Africa has made steady progress for its 1 billion people, with fewer mothers and children dying, growing numbers of women in power and broadened access to health and education services, alongside sharp drops in malaria and tuberculosis deaths. The report emphasized that work to boost MDG achievement must continue to tackle some of the greatest challenges for the region. These include bolstering development efforts to

further reduce the poverty rate, which fell only 8 percentage points over the last two decades, and addressing the needs of 414 million people still living on less than \$1.25 a day.

## **2.2. The initiatives of African Leaders (under the auspices of the Africa Union) and their pledge to end hunger in the African continent**

The language used when talking about African agriculture and food systems has been shifting in recent years and is changing rapidly in positive and exciting ways. High level African leaders and their development partners are paying new attention to the positive role African agriculture plays in economic development across the continent. The fact is that Africa has the agricultural potential not only to feed itself but also to grow a surplus to help provide global food security. However, fulfilling this potential requires efforts from both within and outside the continent. It requires a broad perspective that looks at the needs of the smallholder farmers as part of the food systems and supply chains and considering agricultural productivity and food and nutrition security in the context of overall economic development and social stability.

### ***2.2.1 The New Partnership for Africa's Development (NEPAD)***

NEPAD was adopted by African Heads of State and Government of the OAU in 2001 and was ratified by the African Union (AU) in 2002 to address Africa's development problems within a new paradigm. NEPAD's main objectives are to reduce poverty, put Africa on a sustainable development path, halt the marginalization of Africa and empower women. NEPAD, an African Union strategic framework for pan-African socio-economic development, is both a vision and a policy framework for Africa in the twenty-first century. NEPAD is a radically new intervention, spearheaded by African leaders, to address critical challenges facing the continent: poverty, development and Africa's marginalization internationally

### ***2.2.2 The Comprehensive Africa Agriculture Development Program (CAADP),***

CAADP which was established in June 2009 is the agricultural programme of the NEPAD. CAADP's overall, goal which is to eliminate hunger and reduce poverty through agriculture is aligned with the MDG # 1, to eradicate extreme poverty and hunger. To do this, African governments agreed to increase public investment in agriculture by a minimum of 10 per cent of their national budgets and to raise agricultural productivity by at least 6 per cent, through the Maputo Declaration in 2003.

The CAADP Pillars are the four key focus areas for agricultural improvement and investment. The four key pillars are: (i) Sustainable Land and Water Management; (ii) Market Access; (iii) Food Supply and Hunger; and (iv) Agricultural Research. Each pillar oversees various programmes working to achieve CAADP's goals. The most relevant to this discussion is **Pillar 3 - Food Supply and Hunger**.

### ***2.2.3 Harnessing Innovation for African Agriculture and Food Systems***

In 2013, African leaders and eminent persons met again, inspired by the spirit of the necessity to invest in and sustain the momentum of the positive transformations taking place, and in support of the 2014 Year of Agriculture and Food Security in Africa and the 10<sup>th</sup> Anniversary of CAADP. Led by the African Union Commission (AUC) and the Kofi Annan Foundation and with the support of the Bill and Melinda Gate Foundation, the leaders, with deep commitment to agricultural development in Africa, discussed 'Harnessing Innovation for African Agriculture and Food Systems: Meeting the Challenges and Designing for the 21st Century. The meeting highlighted the needs of the smallholder farmers, emerging transformations in the agriculture and agri-food sector, the role of the private sector and other forces of change in Africa.

Promising transformations signalling potential for rapid growth in African agriculture and food systems were captured by studies by Boaz Keizire-Blackie and Professor Thomas Reardon. The studies indicate that a number of countries are seeing strong growth in food and agriculture and there is potential for growth in the agricultural sector across much of Africa. Transformations include:

- *Government's critical role in creating enabling environment for growth* and transformation: A number of countries are demonstrating how sound agricultural policy and implementation can result in remarkable growth rates (5 to 10 percent as opposed to a 3.8 percent average for Africa). Several countries are showing that productivity improvements can have major impacts on food and nutrition, security, and poverty alleviation, while also conserving land and other natural resources. Policy and institutional innovations are essential to encourage growth and engage the private sector to develop markets and supply chains; so are political leadership and vision, coordinated strategies and a long term commitment. Others notable transformations are:
- *Diversification of food markets and food systems as a response to urbanization* and as engines to growth. Rural-to-urban food supply chains are developing rapidly to meet expanding urban demand. African entrepreneurs, both large and small are investing throughout the supply chains; from inputs through processing to retailing.
- *The smallholder farmer as an agent of change*: Smallholder farmers are achieving productivity gains and contributing significantly to agricultural growth in many African countries. Many smallholder farmers are women, who play central roles not just on the farm but throughout the food system by helping to ensure household nutrition and community - wide food security. Farmers are building up business management skills that enable them to articulate their needs and to better manage resources and risks, while access to real-time and better data is resulting to better decisions. Farmer organisation are helping to support cross cutting issues, sharing of best practices , dissemination of innovation and informing of decisions. The other two important opportunities are:
- *Government – led vision for agricultural entrepreneurship* that would encompass incentivizing investment, appropriate regulations, support communication and planning across sectors and providing safety nets to manage risks and
- *Capturing the potential of youth in the labour force*: Youth unemployment is a big challenge facing the African continent, with the growing population and its large percentage of young people, most of whom are not attracted to farming in the rural areas. Thus, farming and the agri-food sector need creativity, technological skills and engagement of the youth. A number of mechanized farming, food processing, transportation, marketing and other small business opportunities are emerging that need talent and skills to fill their ranks so that they can grow and expand to create meaningful employment for African youth.

#### **2.2.4 The 2014 Malabo Summit and Declaration:**

Another follow up to the Maputo Declaration, happened this year, 2014. The Heads of States, under the leadership and coordination of the Africa Union, renewed and sharpened their commitment to accelerate agricultural growth and broadly share the benefits across the African society. Through the July 2014 Malabo Declaration, the Africa Union strengthens support for governments as they seek to fulfil their promise in the CAADP to invest 10 percent of national budgets in agriculture and achieve 6 percent annual growth in the farm sector. Every country in Africa is expected to embrace programs and budgets that will allow them, in the next three to five years, to meet or exceed these goals for agriculture-related investments and results.

### **2.2.5 The Africa Green Revolution Forum (AGRF)**

Less than two months after the AU Heads of States Summit in Malabo, the 4<sup>th</sup> Africa Green Revolution Forum (AGRF) convened in Addis Ababa during the first week of September 2014 to review the outcome of the AU Summit and discuss actionable way forward. The AGRF was, thus, an important platform of multi-sectoral groups of stakeholders (over 40 organizations) including a number of African private sector players. Discussions were around six major themes critical to Africa's food security including: increasing crop and livestock productivity in the presence of climatic change and other challenging conditions; promoting agricultural investments that will generate benefits at all economic level; increasing financing for agricultural development; and support for modernizing commodity markets and removing barriers to intra-regional trade. AGRF consists of on-going stakeholder engagements as well as major events in which participants review progress and strategize. AGRF convenes such conferences every year. The first AGRF was in Accra, Ghana in 2010, followed by the one held in Arusha, Tanzania in 2012 with the third in Maputo, Mozambique in 2013.

## **3. SASAKAWA AFRICA ASSOCIATION (SAA)'S CONTRIBUTION TOWARDS AFRICA FOOD SECURITY AND REDUCTION OF POVERTY.**

### **3.1 SAA Background**

In response to the early 1980s drought, Roichi Sasakawa the then Chairman of the Nippon Foundation reached out to Nobel Laureate Dr. Norman Borlaug (for whom SAA commemorated 100 years of his life in Uganda – Jinja in July 2014) and to former US President Jimmy Carter in search of a more sustainable solution to Africa's food challenges. Sasakawa's vision was for a Green Revolution in Africa, similar to that in the Asian Subcontinent that was sparked by research done by Dr. Borlaug on higher yielding wheat varieties, and he was prepared to fund the long-term effort needed to achieve it.

The Sasakawa Africa Association (SAA) and the Global 2000 program of The Carter Center joined hands to launch a joint initiative known as Sasakawa Global 2000 (SG 2000) to alleviate hunger and poverty and improve health in sub-Saharan Africa. SAA leads the grassroots efforts to modernize the techniques smallholder farmers use to produce food, and helps them organize to get credit, acquire inputs, and market their harvests more successfully. Global 2000 focuses on helping policy makers design and implement more effective, smallholder-friendly policies that encourage efficiency and participation across the agricultural value chain and increased economic returns to the sector and on health-related interventions.

The Sasakawa Africa Association (SAA) has worked for 28 years in agricultural extension and smallholder development in sub-Saharan Africa. Between 1986 and the end of 2003, SAA together with its sister organization Sasakawa Africa Fund for Extension Education (SAFE), operated in a total of 15 countries (Ghana, Sudan, Nigeria, Burkina Faso, Benin, Togo, Mali, Guinea, Ethiopia, Eritrea, Tanzania, Uganda, Zambia, Malawi and Mozambique). However, Zambia was operated only as a Global 2000 Agricultural Program. In early 2004, the SAA Board of Directors decided to concentrate the organization's human and financial resources on a smaller number of focus countries – Ethiopia, Mali, Nigeria and Uganda. SG 2000 country programs that had not already come to a close were gradually wrapped up.

### **3.2 SAA Program model**

SAA has always had a very strong field and farmer orientation. Working with the main partners, national agricultural extension services, SAA has concentrated on introducing productivity-enhancing food crop technologies to increase yields and improve household incomes. The best synthesis of its mission was



captured in Dr. Borlaug's dying appeal, "Take it to the farmer!". Initially, SG 2000 focused on showcasing the potential of improved food crop technologies, hands-on participation and training of extension workers and farmers. SAA primary classrooms were and remain the fields of smallholder farmers. From 1986 to 2013, national extension personnel and smallholder farmers worked with SG 2000 country program staff to establish more than half a million large crop demonstration plots and several million smaller production test plots in the target countries. Of late, SAA program in the focus countries are also incorporating livestock, based on the needs of the smallholder farmers.

In recent years, as the complexities and challenges of African agriculture have become better understood – and as national extension services have responded by broadening their agenda, SAA has realized the need for a concerted effort to diversify and scale up their work. New priorities and programmatic areas have been established. We now support farmers' efforts to organize into farmer based organizations, address post-harvest and marketing issues, and we are partnering with a range of service providers and organizations, often from the private sector.

Since 2008 SAA embarked on a restructuring process which resulted into five thematic areas working along the value chain. To increase efficiency of implementation of its programs SAA now follows a matrix management style where there is horizontal and vertical accountability for programmatic and operational matters. The five thematic areas are:

- Crop and Livestock Productivity Enhancement tasked with increasing agricultural productivity and strengthening capacities of farmers and national extension systems in the four focus countries.
- Postharvest and Agro-Processing is working to improve the postharvest handling, storage and processing of agricultural produce to reduce losses in order to increase income and improve the livelihoods of smallholder farmers and agro-processors.
- Public - Private Partnership and Market Access works closely with the first two to establish public-private partnerships in support of extension delivery and smallholder agricultural development through more profitable access to markets.
- Human resource development, which is part of a bigger SAFE program, focuses on capacitating mid-career extension workers, who in turn train smallholder farmers.
- Monitoring, Evaluation, Learning and Sharing, SAA tasked this theme with establishment of a relevant, efficient and effective monitoring, evaluation, learning and sharing system to drive SAA's evidence-based programs.

The five themes work in tandem along value chains, in collaboration with other value chain players.

### **3.3 SG 2000 - Uganda**

#### ***3.3.1 Background***

SG 2000 Agricultural Project was designed to work closely with and in support to the Government of Uganda (GOU) initiatives articulated by the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) through its organs for research and extension system. A memorandum of Understanding between SAA Uganda and the Government of Uganda was signed in November 1996. Actual operations started in January 1997. SG 2000 - Uganda has been involved in the evolution of the Plan for Modernization of Agriculture (PMA) and subsequently the formulation of the National Agricultural Advisory Services (NAADS). Since its inception in 1997, SG 2000 - Uganda, in partnership with MAAIF has operated in 43 districts, 383 sub-counties, mobilized over 400 extension agents and have reached over 100,000 smallholder households, 60% of them women-headed. Between 1997 and 2001 SG 2000 - Uganda focused on crop demonstrations, seed multiplication, on-farm research, postharvest handling,

animal traction, input delivery and savings and credit (in 24 districts). Starting from 2001-2007 capacity building of extension workers and smallholder farmers became the priority in 15 districts. The focus is on farmer institutional building, post-harvest enterprise development and linking farmers to credit and markets. After SAA's restructuring, in 2008,, SG 2000 - Uganda, like the rest of the four focus countries programs, is pursuing the value chain approach under the five themes of SAA.

### **3.3.2 Highlights**

The other highlights of SG 2000 Uganda's achievements over the years include:

- Initiating the development of rural agricultural inputs stockists networks which gave birth to Uganda National Agro-Dealers Association (UNADA)
- Spearheading the New Rice for Africa (NERICA) Revolution in Uganda in partnership with WARDA, CIMMYT, JICA, National Agricultural Research Organisation (NARO) and Nalweyo Seed Company (NASECO), leading to reduced imported rice by \$20m and providing income to over 450,000 farmers.
- Introduction and promotion of quality protein maize (QPM) and its utilization in human and livestock feed.
- Establishment and operationalization of 13 One Stop Centres (over 10,000 members, 57% of them women) as access points to multiple services to farmers and other value chain players; leading to markets.
- Spearheading farmer organization for collective marketing and agro-processing and over 1,000 savings and loans organizations have been established with farmer groups within the SG 2000 - Uganda Program intervention areas.
- Spearheaded postharvest handling and agro-processing (PHAP) components of the agricultural value chain,
- Demonstration of PHAP technologies, leading to use of various value-adding technologies for drying, shelling/ threshing, and cleaning (maize, cassava, groundnuts, sorghum, pigeon peas and rice).
- Training and establishment of PHAP private service providers and local fabricators.
- Initiation and establishment of Farmer-Village Agent-Trader model collaboration with aBi Trust thus, enhancing farmers' access to agriculture inputs and profitable markets.
- Brokering new business opportunities - produce buyers identified at national level, e.g., Savannah Commodities, East African Breweries, Agro-empowerment, Upland Rice Millers
- Linkage with financial institutions (4 banks supporting agricultural financing - Equity, Centenary, Opportunity and Post banks).
- Institutionalised Monitoring, Evaluation, Learning and Sharing (MELS) for evidence based reporting and decision making.
- Initiated the mobile farmer training / learning & soil testing laboratory to improve on quality and quantity of produce in partnership with K+S GmbH-Germany.
- SG 2000 has won various national and international recognitions/awards for demonstrating appropriate value chain innovations, improving food security, development of the agricultural sector and dissemination of drought resistant maize in East Africa.

### **3.3.3 K + S - SAA / SG 2000 – Uganda: Growth for Uganda Project**

On 26 April 2013, in Kassel - Germany, K + S and SAA / SG2000 launched an Aid Project in Africa, called "**Growth for Uganda**". The Project is a Cooperation Agreement between K + S -KALI and a non-governmental organisation called Sasakawa Africa Association (SAA). The aim of the project is to improve the livelihoods of small scale farmers in selected districts in Northern Uganda by improving

productivity, food self-sufficiency and incomes of smallholders in Uganda, one of the focus countries of SAA.

The specific objectives of the project are to:

1. Improve agricultural productivity and increase food security of up to 50,000 farming households within 5 years;
2. Improve income generating activities of up to 50,000 farming households; and
3. Give special emphasis to women farmers and other under-served groups.

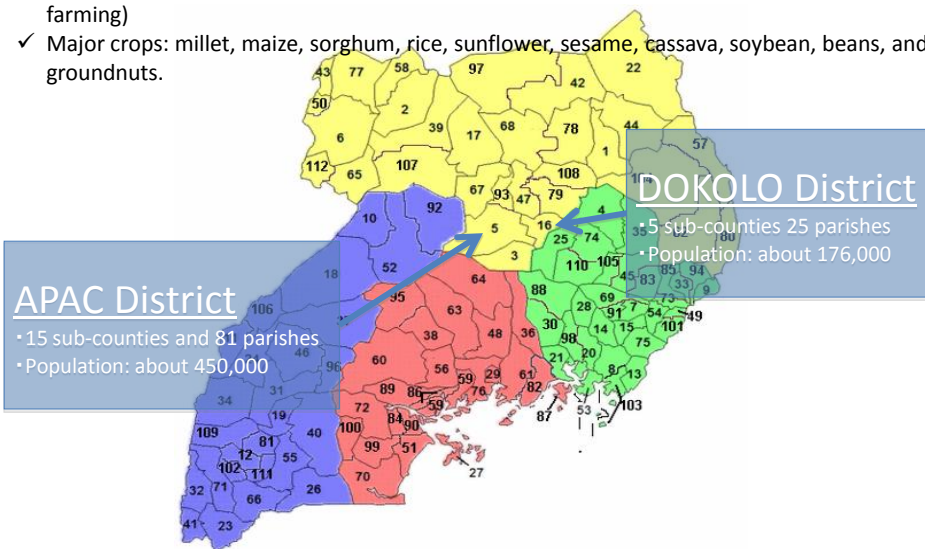
### 3.3.3.1 Project Area and rationale

Through the project farmers are trained on the proper use of fertilizers to improve their productivity and production. The project has great potential to contribute to the development of agriculture in sub-Saharan Africa. The project area covers two districts of Apac and Dokolo, but the Mobile Training Unit (truck) will be used in the neighbouring districts of Lira, Oyam and Gulu as well. Apac and Dokolo districts have a population of about 450,000 and 176,000 people, respectively. The districts' primary economic activity is subsistence farming, producing crops such as millet, maize, sorghum, rice, sunflower, sesame, cassava, soybean, beans and peanuts. Yields are typically poor due to lack of modern farming technologies, yet over 95% of the local economy depends on agriculture, resulting in low household income.

#### Project area: Northern Uganda – Apac & Dokolo

##### Common characteristics of 2 Districts

- ✓ Primary economic activity: 95% of the local economy depends on agriculture (Subsistence farming)
- ✓ Major crops: millet, maize, sorghum, rice, sunflower, sesame, cassava, soybean, beans, and groundnuts.



The project is complementing what SAA has been doing in Uganda since 1997, but a new dimension in the Growth for Uganda Project has been the establishment of a mobile teaching unit, whose specific objectives are to:

- i. Improve knowledge and skills of small scale farmers;
- ii. Disseminate improved agricultural technologies;
- iii. Reach greater numbers of farmers and farmers in remote areas;

- iv. Support SAA field activities; and
- v. Test and evaluate effectiveness and cost-efficiency of the approach.

Using the soil laboratory installed inside the mobile truck, more soil samples from farmers' fields are being tested and farmers are advised on the best fertilisers to use on their land. In addition, best practices are developed for growing typical major crops. Cereals grown include rice, maize, sorghum, barley, millet and wheat. The legumes are beans, groundnuts, soybeans, pigeon peas, cow peas, field peas and chick peas among others. Farmers also grow root tubers, namely, cassava, sweet potatoes and Irish potatoes. This will include both those crops that ensure that farmers have a supply of food as well as those that farmers can sell to earn an income. K+S is, in turn, becoming very familiar with the situation of smallholders on the ground, gaining new insights into the functioning of the local markets, and will thus better tailor the range of goods that it offers towards regional needs over the long-term. This results in a transfer of know-how that can profit both sides over the long-term.

Uganda was the best choice for this project because it is one of the poor developing countries in sub-Saharan Africa, with 31% of its population living in poverty. It is also among the African countries with very low fertilizer use. According to Ssali et al 2005, fertilizer usage is 2% inorganic fertilizers and 24% organic fertilizers. Between 1996 -2000, fertilizer use was estimated at just 1kg /ha- 0.2% of the required quantities compared to Kenya at 31.6kg/ha and Netherlands at 578kg/ha. Ugandans have a misconception that Ugandan soils are very fertile and do not need enrichment with fertilizer. The low usage is exacerbated by the high transaction costs, unreliable supplies, poor product knowledge of fertilizers and poor output markets. As a consequence, crop yields are typically low due to poor practice, coupled with inadequate use of modern farming technologies/practices.

The choice of Apac and Dokolo as appropriate Districts for the K+S Project was guided by the socio-economic situation in those districts. Northern Uganda generally and the two districts of Apac and Dokolo are very poor. Over 95% of the local economy depends on agriculture, and till 2006, these districts were among those affected by the Lord's Resistance Army war, where massive population displacement took place; for fear of the war people were internally displaced into peoples' camps. The demographics of the two districts indicate a high rate of child stunting and malnutrition due to poor food security; some households have less than two meals per day.

Looking at Apac and Dokolo from agriculture production point, due to the war and general neglect agricultural extension services are very poor, undermanned and underequipped national. The farmers have limited access to agriculture information, agro-inputs, and remunerative markets. There is high unemployment, especially among the youth, who prefer to move to peri urban centers, towns and cities looking for jobs.

#### 3.3.3.1 Implementation Progress Report to-date

The Project was launched on 19<sup>th</sup> July 2013 in Dokolo by Hon. Bright Rwamirama - Minister of State for Agriculture, Animal Industry and Fisheries (MAAIF) who emphatically appealed to farmers and local leaders to embrace the project. The project implementation focuses on activities that promote technology transfer, especially fertilizer use, proper agronomic practices, use of improved seed including increase access to postharvest handling technologies and income opportunities of smallholder's farmers through inputs access and market linkages.

The project is being implemented under four(4) major thematic areas namely: Crop Productivity Enhancement (CPE), Postharvest handling and Agro-processing (PHAP), Public Private Partnerships and Market Access (PPPMA) and Monitoring Evaluation, Learning and Sharing (MELS). Implementation

follows the value chain of selected crops, working with and through the National Extension Service within the District Local Governments, and with other partners such as farmers’ organizations, input dealers, traders/buyers, fabricators, processors, research organizations and financial institutions. Community-based facilitators (CBFs) who are farmers selected from within the communities with ability to train others, fill in gaps of extension workers where in Uganda the ratio of farmers to extension worker is 2,500:1, and therefore sustain the system after project exit. Capacity building of farmers is done through adult learning participatory approaches and learning by doing through farmer learning platforms that include demonstrations.

Trainings have been carried out by themes even though post-harvest and agro-processing theme (T2) is still finalising training materials. Some trainers have been trained on agro processing, quality control , food safety, business skills and general agronomy, weed management, soil and water management; all together 36 trainings have so far been conducted.

Results from demonstrations established using maize, rice and soya beans in Apac and Dokolo Districts cannot be discussed conclusively, but just the tables below indicate what the situation is like now. With adoption of best practices over time things might change. Tables 1 and two indicate the results from demonstrations with maize and fertilizer (without and with Korn –Kali fertilize (potash), provided by K+S.

**Table 1: Yield Data from Demonstrations (Maize TOP without Korn-Kali)**

District	S/County	1	2	3
Dokolo	Agwata	3480	3010	2060
	Bata	1050	900	600
	Adeknino	6100	6120	3120
	Dokolo	5573	4373	1820
	<b>Av.</b>	<b>4051</b>	<b>3601</b>	<b>1900</b>
Apac	Ab'mola	5160	4100	2367
	Akokoro	3000	2307	2020
	Ibuje	4900	3400	2400
	<b>Av.</b>	<b>4353</b>	<b>3269</b>	<b>2262</b>

- Av. Yield is in Kg/Ha
- 3 levels of treatment
- Level 1 = Full DAP, Full Urea
- Level 2 = Half DAP, Half Urea
- Level 3 = Farmers’ Practice (No fertilizer)
- National Yield Av. = 1,500 Kg/ha

**Implication:** Plots with full fertilizer recommendation (125 kg/ha) gave the highest yields in both Apac and Dokolo; so, farmers will get highest yields if the use the full recommended quantities of fertilizer.

**Table 2: Yield Data from Demonstrations (Maize TOP with Korn-kali)**

District	S/County	1	2	3
Dokolo	Kwera	6,475	3,950	2,300
	Agwata	8,400	6,155	3,700
	Bata	2,530	2,120	1,480
	Adeknino	6,340	4,540	2,480
	Dokolo	7,500	6,000	4,500
	<b>Av.</b>	<b>6249</b>	<b>4553</b>	<b>2892</b>
Apac	Ab'mola	4,960	6,340	2,407
	Nambieso	3,944	3,252	2,312
	Akokoro	3,930	3,780	2,670
	Aduku	3,648	3,288	2,836
	Ibuje	5,053	3,780	2,833
	<b>Av.</b>	<b>4307</b>	<b>4088</b>	<b>2612</b>

- Av. Yield is in Kg/Ha
- 3 levels of treatment
- Level 1 = Full DAP, Full Urea, Full Korn Kali
- Level 2 = Full DAP, Full Urea
- Level 3 = Farmers' Practice (No fertilizer)
- National Yield Av. = 1,500 Kg/ha

**Implication:** Plots with Korn-kali gave higher yields compared to those without, especially in Dokolo district. This could be due to better management and more rains in Dokolo.

One cannot make any inferences using these two season data, but merely state the fact that average yields of Longe 10H maize under full package using Korn Kali, DAP and UREA was higher than the full package of DAP and UREA only from the 30 sites. Yield for half package under Korn Kali and DAP/UREA were still higher compared to that of DAP and UREA treatments only. This will be very good for farmers if this trend is proved to continue in future.

Indicative results from the other themes are also encouraging. For example, working with public and private sector in developing value chains has been necessary to the project. As such, agro-input suppliers, traders, financial institutions and associations were identified, participated in organized multi-stakeholders meetings to discuss farmer needs and priorities and others trained to partner in project activities. To further improve delivery of services to farmers, 30 Commodity Association Trainers/Traders (CATs), 22 males and 8 females were identified, and trained in business and financial management including savings and lending among groups, safe handling and product knowledge of agro-inputs. The CATs also established agro-input businesses and brokered beneficial partnerships between agro-input suppliers (which has improved farmer access quality agro-inputs), facilitated farmers' access to better and profitable markets from commodity buyers and provided financial linkages to farmers in need of financial services.

The main attraction to the public has been the mobile Farmer Training Centre / soil laboratory (MFTC). The MFTC has been operational since February 2014 and carrying out trainings alongside the farmer learning platforms (FLPs) in project and non-project areas. The trainings carried out are mainly on topics on crop agronomy. The MFTC pulls a lot of crowds, and the farmers are usually inquisitive about it, especially in the soil laboratory because they want to be advised on what crops best suit their land. They rarely ask which fertilizer to add but rather which crop suits the fertility of the land. Soil sampling has been carried out mainly from the areas of intervention from a few selected demonstration plots (28) including those for the school children and youth and analysis is ongoing. So far the soil tests carried out show low levels of major nutrients.

#### **4. CONCLUSION**

The question “Can we feed 10 Billion People this Century”? has no easy answer, but different development partners are working together under the auspices of different fora to find answers on specific issues, locations and challenges. The situation is not easy but it is not gloom either.

The project “Growth for Uganda Project activities are being implemented according to the project logframe and successfully achieving outcomes, such as improved productivity of focus crop enterprises, improved farmer access to agricultural inputs as implied in increased demand for the inputs as reported by input stockists and the increased capital base through sales. The challenge of access to markets is being solved by linking CATs and farmers to major grain buyers such as Savannah Commodities, Uganda Breweries, Mukwano Enterprises and Agro-empowerment. With the arrival of the truck, the targeted project number of 50,000 farmers will be realized sooner than expected. This is yet another contribution towards feeding 10 billion people by 2050.

## REFERENCES

*2008 World Development Report*

*Agriculture Drivers of Success for CAADP Implementation; Preliminary Findings.* Boaz Keizire-Blackie, 2013. On [www.merid.org/Africanagricultureandfoodsystems/Background\\_Documents.aspx](http://www.merid.org/Africanagricultureandfoodsystems/Background_Documents.aspx)

*An essay on the Principle of Population.* Malthus Thomas Robert, 1806. Vol. 1; Third Edition. London, 1906.

*Climatic Change and Smallholder Agriculture in sub-Saharan Africa.* African Agriculture Status Report 2014: European Union on "**Technology Options to feed 10 billion people (2003)**"

*Food Crises, food regimes and food movements: Rumbblings of Reform or Tides of Transformation?* Eric Holt-Gimenez and Annie Shattuck. *The Journal of Peasant Studies*. Vol. 38, No. 1, January 2011, 109–144

*How to Feed the World in 2050.* FAO's Expert Group Forum, October 2009

*Linking farmers' movements for advocacy and practice.* Eric Holt-Giménez Guest Editor; Roland Bunch; Jorge Irán Vasquez; John Wilson; Michel P. Pimbert; Barry Boukary; Cathleen Kneen. *The Journal of Peasant Studies*. Vol. 37, No. 1, January 2010, 203–236

*Technology options for feeding 10 billion people: Options for Cutting Food Waste.* Carmen Priefer, Juliane Jörissen and Klaus-Rainer Bräutigam; October, 2013. Institute for Technology Assessment and Systems Analysis, Karlsruhe Institute of Technology. Brussels, © European Union

*The Emerging 'Quiet Revolution' in African Agri-Food Systems.* Thomas Reardon, November 2013.

On [www.merid.org/Africanagricultureandfoodsystems/Background\\_Documents.aspx](http://www.merid.org/Africanagricultureandfoodsystems/Background_Documents.aspx)