

UGANDA IDEA

Building Foundations for Agribusiness

FINAL REPORT
2004





“With regard to agriculture, we are waging a modernization crusade through the availability of improved seeds and other farm inputs, as well as demand-driven extension service delivery systems.”

-Yoweri Kaguta Museveni, President of the Republic of Uganda, April 1 – 3, 2004



Uganda IDEA Final Report
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UGANDA IDEA Final Report 2004

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A boy takes an afternoon walk through an upland rice field in Uganda's Bugiri district.

About This Report

"If you could point to one thing, what would you consider the project's secret of success?" We asked that question often in preparing this report. Frequently, the answers were prefaced by a combination of relief at the chance at last to answer that question, and anxiety at the difficulty of summing up nearly 10 years of work in a neat phrase. But in each instance, we received a thoughtful, candid response.

"No one ever asks us how or why. We talk about it among the team but no one ever hears or writes about it."

-Mark Wood,
IDEA project
low value
crop advisor

That's what we hope to provide with this final report: honest responses, critical analyses, detailed summaries of responsibilities fulfilled and unfulfilled, sketches of real people and personalities, suggestions for the future of the NTAE sector in Uganda, and a chronicle of lessons learned and best practices. The report offers guidance for future programming in the next generation of agricultural and enterprise ventures in Uganda or anywhere in the world. This report also addresses the concerns of the donor community, responds to the needs expressed by the private sector, and submits to the GOU the experiences of USAID's Investment in Developing Export Agriculture project. Finally, this report is IDEA's chance to literally stop to smell the roses after years of cultivation.



This woman bags rice seed for FICA, a successful indigenous inputs dealer in Kampala. With IDEA assistance since 2001, FICA surpassed five-year business targets in less than two years.

The IDEA Approach

“IDEA made NAADS rethink its enterprise approach in that it should be demand driven. Also, there are many lessons and experiences learned as a result of the market linkages made, particularly in the grain sector. These linkages have resulted in a significant improvement in the quality of maize now being supplied by farmers to the market. NAADS will continue to build on this work, especially in working with input suppliers like FICA and other private companies where possible.”

-Dr. Joseph Oriokot,
National Agricultural
Advisory Service

In a phrase, the integrated commodity system approach is the secret to the IDEA project's success in commercializing non-traditional agricultural exports in Uganda. Agribusiness studies in Africa show that impacts are greatest when focusing on high-potential, medium-sized firms that feature upward linkages to larger firms, trickling downstream to smaller firms and producer organizations, yielding multiplier effects. Specifically, IDEA put in place a system in which farmers adopt improved technologies when production costs are reduced and profits realized; input suppliers can deliver products and information on a profitable basis; and production economies of scale can be achieved to meet domestic, regional, and international demand. Throughout the approach, attention must be focused and refocused on the market chain to provide technical assistance at particular areas of constraint with regard to producers, traders, and exporters.

What does this mean to the average producer, medium-sized business or large exporter? The voices of those who participated in the IDEA project offer a verbal picture:

"You know what was typical of Uganda maize then? Shriveled, diseased, fermented and spoiled. Train cars full of, rotting maize."

Priority Commodities

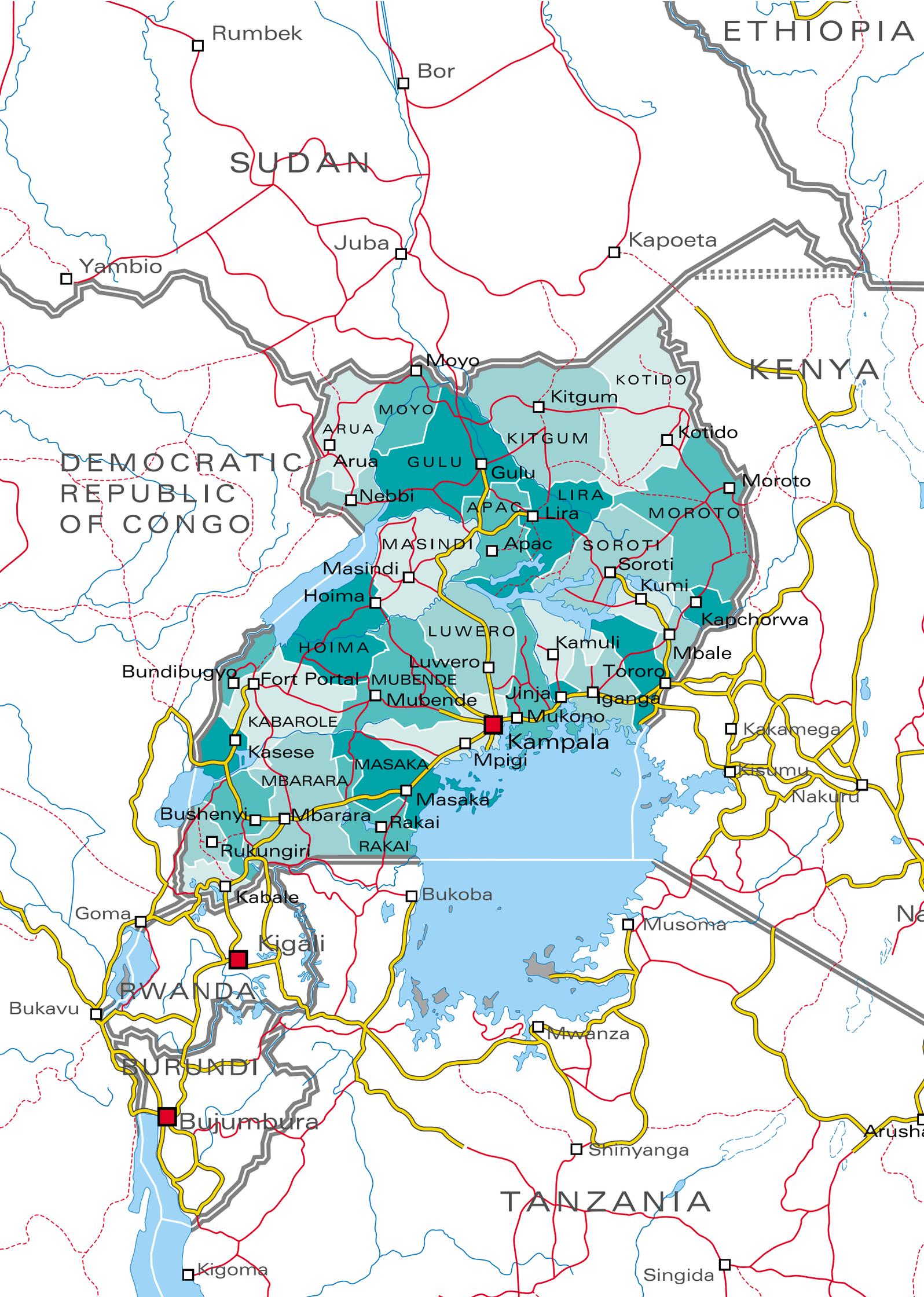
Crops identified at the initial stage for targeting were field crops (maize and beans), flowers (roses), vegetables (mushrooms, asparagus), fruit (papain and passion fruit), spices (vanilla, chili) and essential oils (citronella, geranium). Targeted crops were later narrowed down to maize and beans as the key field crops, flowers, selected fruits and vegetables, vanilla, cocoa, and papain.

"I remember walking the tarmac at Entebbe, just even in the late 90s, and seeing the damned things just sitting there in the sun, wilting to nothing."

"It's a business of showing and telling. The major problem was that government was leading everything. The government would give cheap prices to the population, impure seed, and when the private sector came and offered better seed with a higher price, the farmer looks at you funny. He won't invest. But, if you plant next to the same farmer, and he sees it mature so much faster, with all the fruit, then the farmer will say, 'What is this?' You change attitudes quickly."

"The farmer is at the mercy of the market. The banks are at the mercy of the market. We try to forecast the market, but some are local and you cannot predict factors such as weather, hunger or drought, or how neighboring countries affect us."

"He started with around 5 acres and then he went crazy, shooting up to 50 acres. He over-expanded and did not account for storage. So, he got excited and had to store maize all over the house, in the sitting room, in the bedroom, on the veranda. It was very unsightly. Maize chased him out of the house. But it is a lucky problem to have."



SUDAN

ETHIOPIA

KENYA

DEMOCRATIC
REPUBLIC
OF CONGO

TANZANIA

RWANDA

BURUNDI

Rumbek

Bor

Juba

Kapoeta

Yambio

Moyo

Kitgum

ARUA

Arua

MOYO

Gulu

APAC

Apac

KOTIDO

Kotido

Moroto

LIRA

Lira

SOROTI

Soroti

Kumi

Kapchorwa

MASINDI

Masindi

HOIMA

Hoima

LUWERO

Luwero

Kamuli

Tororo

Mbale

Bundibugyo

Fort Portal

MUBENDE

Mubende

Jinja

Iganga

Mukono

Kampala

Kakamega

Kisumu

Nakuru

KABAROLE

Kasese

MASAKA

Mbarara

Masaka

Bushenyi

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RAKAI

Rukungiri

Kabale

Bukoba

Goma

Kigali

Musoma

Na

Bukavu

Mwanza

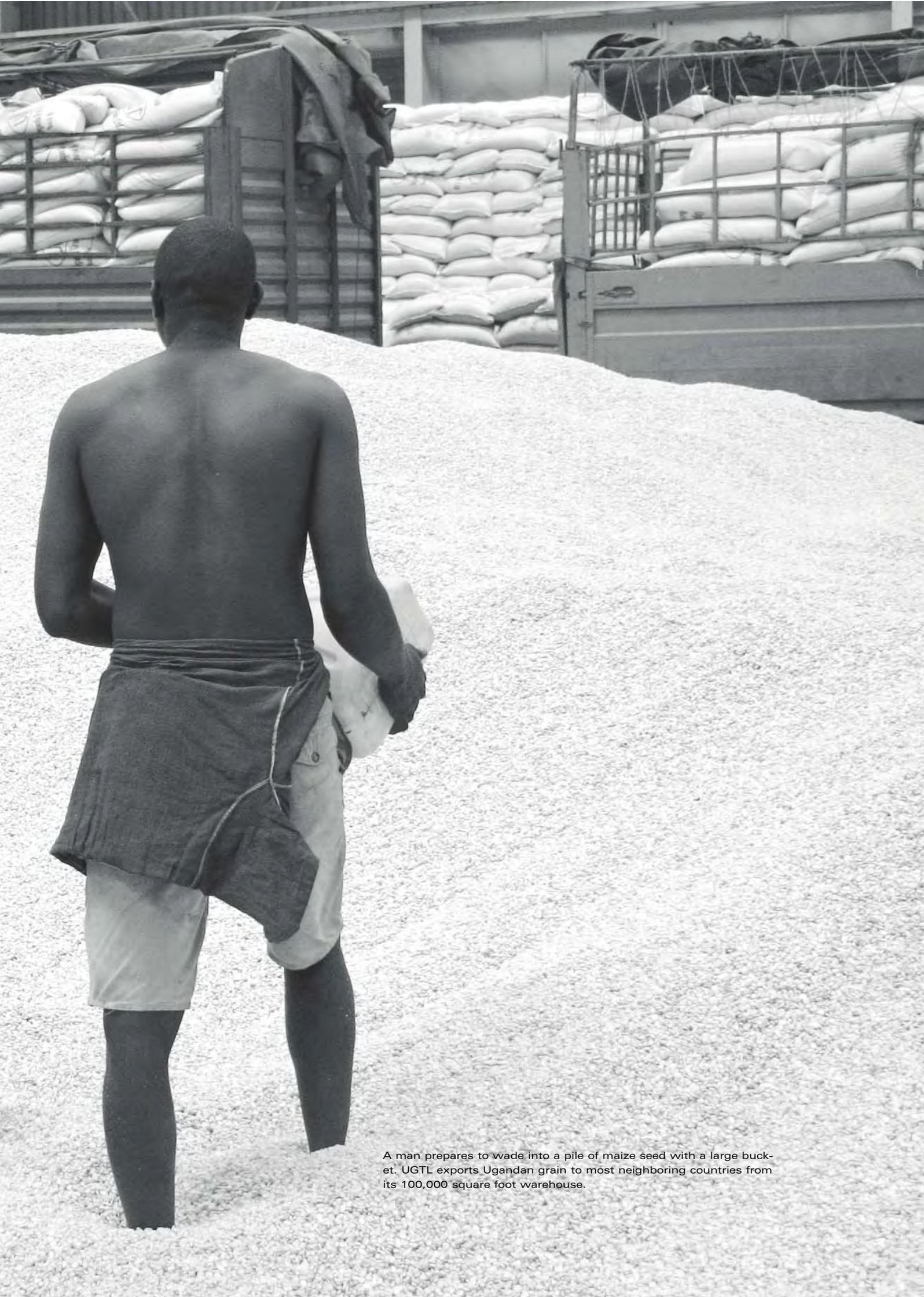
Bujumbura

Shinyanga

Arusha

Kigoma

Singida



A man prepares to wade into a pile of maize seed with a large bucket. UGTL exports Ugandan grain to most neighboring countries from its 100,000 square foot warehouse.

CHAPTER ONE

Project Overview

"Most farmers today are still not market-oriented. They simply produce a commodity crop each year with the hope that they can sell it for the best price possible, while having enough to feed their families as well. Yet the IDEA project has succeeded in changing the perceptions of thousands of farmers in favor of a more market-oriented outlook. Being able to address the needs of the exporter as well as the producer, being able to help members of a commodity industry face the international market collaboratively in order to negotiate prices, air-freight rates, and input costs from a stronger position, has been essential to the outstanding achievements of this project."

-External evaluation of IDEA, USAID, March 2003

In 1994, world coffee prices spiraled downward and world cotton prices were at their lowest since 1987. Uganda, a country where the economy and roughly one-quarter of the population depend on coffee and cotton earnings, suffered greatly. The need to expand government revenues was critical—the whole economy was at risk. At that time the government of Uganda was in the final stages of liberalizing the agricultural sector and privatizing state-owned enterprises. Concurrently, USAID was supporting small, promising efforts in NTAE post-harvest handling, policy reforms, education, and export promotion. With two agricultural seasons for many crops, Uganda has both competitive and comparative advantages: farmers, input suppliers, traders, and exporters can plan strategies for periods of six-months instead of one year. The time was right for a new effort aimed at building on those advantages and expanding exports. It was in this environment that IDEA was designed.

IDEA began on February 24, 1995, and ended June 23, 2004. It was initiated as one of the key field operations that would contribute to the achievement of USAID Strategic Objective 1 (SO7), under which the project was implemented, namely, "increased income for rural men and women." When the project was extended in February 2000, it aimed to increase the value and volume of selected NTAEs as a source for increased rural incomes under SO7. Although the project agreement was between USAID and the Ministry of Tourism, Trade and Industry (MTTI), IDEA operated principally with the NTAE private sector. IDEA's Agribusiness Development Centre (ADC) in Kampala was the project's nerve center, holding much of the intellectual capital and strategy for project implementation. The team's strategy focused on direct assistance to producers,

The Project by the Numbers

Budget: \$30,058,284

Period: 9 years, 4 months

Funds for local grants and subcontracts: Phase I: \$1,215,979 disbursed of \$2,224,700 awarded; Phase II: \$1,536,644 disbursed of \$1,600,000

Targeted commodity exports: \$20.9 million in 1994; \$98.5 million in 2003, a 21 percent increase

Targeted commodity export values were 44 percent over end of project targets

More than 2,500 export deals facilitated



Maize cribs and shellers are some of the post-production innovations introduced to low-value producers through IDEA.

"The cluster approach has to be part of the design of new donor funded projects. If there are weak links anywhere along the chain—for example, if you get a lack of access to inputs, no cold storage facilities, or unreliable air-freight—all of the businesses cannot function properly."

-Steve Humphreys,
High value
crop advisor

traders, and exporters, using a vertically integrated commodity systems approach. Work was divided across low value and high value commodity production and marketing activities. Throughout the life of the project, USAID staff provided critical support and guidance. More importantly, USAID allowed the project the flexibility to take on new challenges and abandon efforts that did not work. USAID trusted in the integrated commodity systems approach, watching as the project benefited peasant farmers, farm laborers, factory workers, processors, traders, exporters, transporters, input suppliers, bankers, and government.

There is no doubt that IDEA was a successful project. In fact, the project provided services beyond its clients' needs; their successes and failings have been instructive to businesses, banks, and donors working in the entire agricultural sector. IDEA floated ideas, served as a broker and catalyst, and applied resources at critical junctures along market chains. At times the project nurtured clients; other times it took risks with

them; still other occasions called for hard-nosed business requirements or a combination of all three tactics. In the end and along the way, the project was an agent of change, a rallying force for the private sector, and a model for others as described in *The Big Idea* on page 11, and throughout the report.

An agent of change. IDEA helped change attitudes about the viability of agriculture, agribusiness, and exports. The Ugandan government and donors wanted a market-led economy. But it is impossible to create one on the backs of subsistence farmers. Therefore, producers commercialized to grow the market and created reliable, high-quality production for that market. Changing producer mindsets, habits, and business practices was critical. In fact, changing business practices was necessary all along the commodity market chains, not just with farmers. Over time, Ugandans began to view farming as a business; saw the export potential for commodities other than coffee, tea, tobacco, and cotton; and looked upon agribusiness as a viable sector for investment. The

(continued on page 12)

The Big IDEA

It was "obvious that export-led growth is about the only solution for achieving growth in Uganda. ... IDEA was an excellent model and approach for catalyzing export-led growth. No other donor was doing it. I believe we catalyzed the process, and institutionalized a new way of thinking in the private sector, and also within the government. Leadership and partnership between USAID and the IDEA team, and with the Ugandan clients really increased over time. Pushing and protecting the technical advisers was important. ... A key component was the ability to do feasibility studies up front including market research in Europe and the U.S. to make sure the market demand was there and to match that with the potential for Ugandans to supply that market. Then it was just a matter of tackling the various pieces in the supply chain. ... Not a big weakness as it turned out, but finance is important and we could have probably expanded the pie. A little more focus on contract farming and some other approaches that link larger companies with smaller firms and farmer organizations would have been good as well."

-Ron Stryker, former chief, Economic Growth Office, USAID/Uganda, 1998 to 2002

"Traditional exports were in trouble and others were working on this, especially the government. USAID decided to help diversify to increase foreign exchange. IDEA had an outstanding team. You can redesign, tinker around the edges with the right people. At that time it was very unusual to have a project of more than five years but we asked for approval for 10. The first phase got us a good foundation and the second five years brought even greater benefits."

-Jim Dunn, former agricultural officer, USAID/Uganda, 1992 to 1997

"It's an exemplary project. I've seen the successes myself. I am Ugandan and I never imagined flowers could be exported from Uganda. I went down to Entebbe to the cold storage that USAID built and it was overflowing with flowers. When I see codes of practice developed by the private sector, being self-enforced by the private sector ... something great is happening. If you go to Mukono there are new buildings and roads. What's happening in Mukono? It's vanilla. The maize market is another example. You open their eyes to see there is a market."

-Gaudensia Kenyengi, IDEA Cognizant technical officer, USAID/Uganda

"Producers need the assurance that the adoption of such technology will be sustainable to enhance production. At the same time, the producers expect a reliable market and a price which must at least offset the cost of production. Adoptions will only take place with market confidence and suitable input supply strategies."

-Mark Wood,
LV advisor

(continued from page 10)

reason: IDEA clients, from smallholders to exporters, made money.

To see the results, look to the young but established core market structure—previously ad-hoc—complete with basic supplier and buyer knowledge. A subsistence farmer with surplus, for example, can now make an informed sale of her products to the market.

A rallying force for the private and public sectors. The project played a catalytic role, fostering partnerships between the public and private sectors to facilitate the growth of NTAEs. Project-supported linkages helped grow commercial agriculture generally, leading to investment in the entire agricultural sector. The formula called for a focus on the private sector while it promoted appropriate partnerships with the government. Project accomplishments and the reputation of the ADC were the driving forces in renewing faith in the agriculture sector.

A model for others. IDEA took an integrated commodity systems approach across all exports. At the same time, the project applied a four-pronged emphasis on technology transfer, input supply, output marketing, and access to finance to improve production efficiencies. Others have emulated this approach to increase NTAEs with a host of different commodities. USAID embraced the approach and built the APEP, SCOPE and PRIME projects around it. The watermark of IDEA's implementation also can be seen in DANIDA's approach to their own agribusiness support work. Even more gratifying is that clients are

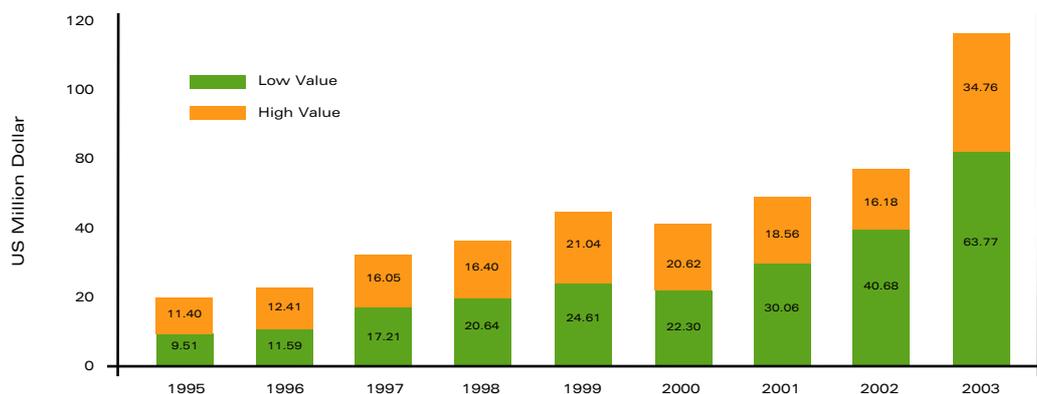
spreading the word, changing the way they do business and fostering the approach of others.

Key Cross-Cutting Efforts

A number of IDEA efforts supported both the low- and high-value components. They are described below.

An emphasis on technology transfer. IDEA's mandate at project inception was marketing. However, it soon became clear to the team that agricultural export issues were very much tied up in the fact that Uganda was an unreliable supplier of poor quality products. So the IDEA team worked to transfer technologies and give low-value smallholders the confidence to take risks. We emphasized technologies to improve yields, restore soil fertility, and mitigate environmental impacts. On the high-value side, technology transfer involved one-to-one assistance to flower growers. IDEA split the costs, using its grant funding to the Africa Project Development Facility (APDF) to bring in experienced resident farm managers, who were placed at 12 flower farms. Technical advice was given to fruit and vegetable growers in small groups. A different approach for vanilla provided a series of grants to the umbrella association covering the costs for short-term vanilla consultants and trainers to develop a private extension service. IDEA set up programs similar to the vanilla strategy for banana and cocoa. Overall, technology transfer was the point of the spear; appropriate programs and delivery systems designed for specific audiences were developed to follow.

Targeted NTAEs from Uganda, 1995-2003



Source: ADC/IDEA Project

IDEA Technology Transfer Efforts in Maize*

Farmer Costs	Technology	Benefits	Introduction Methods	Beneficiaries Trained
No Cost ↑ Low Input	<ul style="list-style-type: none"> Timely planting Correct plant population Timely weeding Improved seed (open pollinated) 	<ul style="list-style-type: none"> Increased awareness of "Commercial agriculture" Ability to determine efficiency of operation by counting Doubling of yields Halving of Unit Costs of production 	<ul style="list-style-type: none"> Demonstrations On farm field days Input supplier trainings Adopter enthusiasm 	<ul style="list-style-type: none"> Rural producers Extension workers Input supplier field staff and management
Low Cost	<ul style="list-style-type: none"> Conservation Tillage Post-harvest handling (cribs) 	<ul style="list-style-type: none"> Increased commercial awareness Reduced operating costs Improved timings of operations, especially between season 1 and 2 Prolonged storage possibilities allowing better price without decreased quality 	<ul style="list-style-type: none"> Demonstrations On farm field days Input supplier trainings Adopter enthusiasm 	<ul style="list-style-type: none"> Rural producers Extension workers Input supplier field staff and management
Higher Cost ↓ High Input	<ul style="list-style-type: none"> Improved seed (hybrids) Fertilizers (basal) Fertilizers (top dressing) Herbicides 	<ul style="list-style-type: none"> Trebling of traditional yield Lowest Unit Cost of Production Minimized market price risk 	<ul style="list-style-type: none"> Demonstrations On farm field days Input supplier trainings Adopter enthusiasm 	<ul style="list-style-type: none"> Rural producers Extension workers Input supplier field staff and management

*Technology transfer with maize producers was sequenced beginning with no cost technologies. Demonstration trials showed both low and high input technologies and results in the same field. Farmers could take on the methods possible based on their own resources. The high input demonstration was an attraction to farmers but adoptions were based on real resources. High input adoptions followed the success of their initial trials with low input technologies.

"The stockist system organized the inputs and lowered the prices with increased demand from the associations."

-Abraham Batambozi,
Bugiri district
site coordinator

Targeting the inputs sector. Production and post-harvest technologies demonstrated by IDEA led to higher demand for inputs, including improved seed, fertilizers, crop protection chemicals, cribs, shellers, and dryers. The project then had to find ways to strengthen private sector input supply to respond to producer demands. IDEA's objective was to have inputs accessible to both subsistence and commercial farmers and make sure they were supplied in a timely manner and at reasonable costs. The project took a three-pronged approach.

First, IDEA built and then expanded the Agribusiness Training and Input Network (ATAIN). ATAIN responded to the growing village-level demand for inputs while helping overcome some of the deficiencies of the input supply chain. This effort produced a credit guarantee program

allowing distributors to develop a rural stockists network, as well as extensive technical and management training for stockists. It also encouraged business linkages between distributors and stockists, and stimulated inputs demand through farmer training. Second, IDEA supported a young private-sector seed industry that produced for both local and regional markets for the first time in 1997 and 2003, respectively. Third, IDEA continued to advocate for a private-sector-led input supply system in Uganda, working to resolve regulatory issues related to the seed industry and crop chemicals.

In 1996, the temporary break down of the government-run Uganda Seed Project (USP), which had a monopoly on both the production and distribution of all seed in Uganda, left a void in the input supply industry and a shortage of seed nationwide. This

Attaining ATAIN

Low value crop demonstration trials convinced project-targeted farmers as early as 1995 that new technologies offered increased yields. When those new technologies included fertilizer and seeds, there was a problem. The right items were stocked on the shelves in Kampala, not in the local village shop. The stockist in the village, who sold such items as soap and aspirin, didn't have the needed fertilizer or seed. How could IDEA get the products out there? The answer came in 1996 when the low value team leader visited a CARE program in Zimbabwe that did just that. He came back to Uganda with the program concept and soon after ATAIN was launched.

The ATAIN program aims to get the products to the villages without asking stockists to take inordinate risk. At the beginning of the project, there were three wholesale distributors and essentially no rural stockists. By the end of the project, there were 7 wholesale distributors, 208 rural retail stockists, and more than 400 employees.



A worker carries bags of maize seed to a customer. The inputs supply business has exploded into a full-scale private operation in Uganda with IDEA's help.

seriously impacted production capacity because farmers did not have access to registered seed. The establishment of a viable, private-sector input supply system thus became the focus of much of IDEA's low-value efforts under Phase II. As part of this larger project effort, IDEA awarded grants to Farm Inputs Care Centre (FICA), Nalweyo Seed Company (NASECO), and Harvest Farm Seeds to purchase seed processing equipment and, in the case of NASECO, land preparation equipment and seed processing equipment. The inputs sector has since grown substantially. For example: Monsanto entered into two contracts with FICA to be the sole agent of Roundup Max in Uganda, and to produce Monsanto hybrid maize seed for export to Kenya and Tanzania.

A flexible, results-oriented project fund. Despite the difficulty of subcontracting and grant making in the Ugandan environment, IDEA effectively and

efficiently provided grants, cost-sharing agreements, and subcontracts to clients for activities that produced results. The total amount earmarked for grants under Phase I was \$3,313,650. The total amount awarded was \$2,224,700 and the total amount disbursed was \$1,215,979. Altogether, 38 grants and/or subgrants were awarded. On the other hand, during Phase I of the project, IDEA technical assistants supervised the technical aspects of the grant program while USAID managed the finances.

This contributed to a disconnect between technical and financial oversight, making grant management difficult. Phase II incorporated both activities under the institutional contract, bolstering the program with a more comprehensive management structure.

During Phase II, the funds had built-in capability and flexibility to react to



Children leave an Anglican church in Kampala on Easter Sunday.

changing conditions. The IDEA small grants program complemented both the high- and low-value components by providing industry-level support for research and development, training and extension, management support and technical capacity development across the entire spectrum of NTAE commodities. Rather than providing support directly to individual companies, IDEA targeted government research organizations, industry associations and private sector companies that proposed activities to impact across a specific industry. Over the life of the small grants

program, IDEA entered into 22 grants/fixed amount reimbursement agreements (FARAs) and disbursed \$1,536,644 of the \$1.6 million programmed for grant activities. A total of nine FARAs were made to NARO to fund pest/disease resistance research, fertilizer and irrigation research, varietal development/multiplication, demonstration plot/mother garden establishment and extension/training activities in maize, beans, sesame, banana and passion fruit. IDEA used funds for a variety of grants: to provide a sub-contract to an inventory control firm

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The Plan for Modernization of Agriculture (PMA) and IDEA

Agricultural sector activities are driven by the PMA, the government's blueprint for the sector whose vision is "poverty eradication through a profitable, competitive, sustainable, and dynamic agricultural and agro-industrial sector." IDEA staff were directly involved in development of the PMA and many of its concepts and operational mandates mirror IDEA's commercial agriculture approaches, including appropriate roles for government and the private sector. IDEA's chief of party served on the PMA planning committee, providing major input along with the project's low and high value team leaders.

IDEA Small Grants Program Breakdown

Phase I

Original funds: \$2,224,700

Disbursed funds: \$1,215,979

Period of disbursement: February 1995 - February 2000

Phase II

Original funds: \$1,600,000

Disbursed funds: \$1,536,644

Period of disbursement: March 1, 2000 - December 31, 2003

Private sector clients and results:

- Africa Project Development Facility (management support): supported 19 NTAE clients; management support in young industries such as floriculture, fresh produce, seed/input supply, freight handling/cold storage and regional grain trading
- Harvest Farm Seeds Ltd., FICA and NASECO Ltd. (seed companies): slump in seed sales continued for the second half of 2001 and all of 2002, preventing achievement of most benchmarks; seed sales recovered during the 2003A season; the companies were forced to look to alternative markets to survive, strengthening the industry in the end
- UFEA (two grants) (flowers association): 42 varieties planted, 6 high-performing varieties identified, and 16.95 ha of identified varieties planted; 9 open days held with an average of 17 participants; research conducted at 9 farms, soil analysis sent to Dutch labs; 8 farms participate in post-harvest temperature study, manual created; helped secure funding for director and new research facility
- UNVA (vanilla association): 855 trainings conducted; 24,352 farmers trained; 4 packages incorporated into training program; 2 curing facilities established
- Uganda Cocoa Association (cocoa association) 238 trainings conducted; 9,296 farmers trained; 1,127 individual farmers, 7 exporters, and 17 local associations have paid memberships; helped secure funding from Irish Aid to continue extension, training and code of practice work; yield per hectare has increased to 450 kilos based on data compiled by the Cocoa Development Project
- Melissa Flowers Ltd. (gerbera): 30 varieties planted, 25 move on; 1.25 ha of gerbera planted commercially, sales to exceed \$500,000; 1 open day
- Mairye Estates Ltd. (vegetable trials): 76 vegetables trialed; 25 move on; data from the trials allows two flower farms to begin high value vegetable production; most trial shipments not sold
- FHL (cold store): 6 complaints from importers during 4/01-3/02; arrival temperatures on direct flights averaged 8-12 degrees C; averages in line with regional competitors (Kenya, Zimbabwe, and Zambia)
- Outspan Enterprises Ltd. (organic sesame): 450 mt exported in 2001; 318 mt exported in 2002; 6,000 farmers certified from base of 2,096 as of 12/31/02
- Roka Ale Trading Company Ltd. (conventional sesame): tests show 89 percent germination rate; partners well with demonstration plots; program terminated 8/03 after Roka Ale unable to procure remaining 44 mt from contract farmers

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that monitored commodity stocks at an enterprise that received a loan; a cost-share agreement to a commodity association working to employ its own extension staff for conducting field demonstrations; and a service agreement with NARO for contracted technology generation and dissemination. Subcontracts were competed often, further encouraging enterprises to operate in a business-oriented manner.

Fostering an appropriate role for government.

IDEA facilitated public-private partnerships. For example, it brought together private radio stations and the MTTI's Market News Service to broadcast agricultural programs and price information. The project also helped define relevant GOU agency roles and activities. Grants to NARO to conduct research relevant to commercial agriculture provide an illustration. NARO's National Maize Programme produced and released new varieties of maize and beans, including the introduction of locally-bred maize hybrids. Through this process, NARO-previously an insular research organization-was exposed to significant interaction with the private sector, had an opportunity through IDEA to get products into the field,

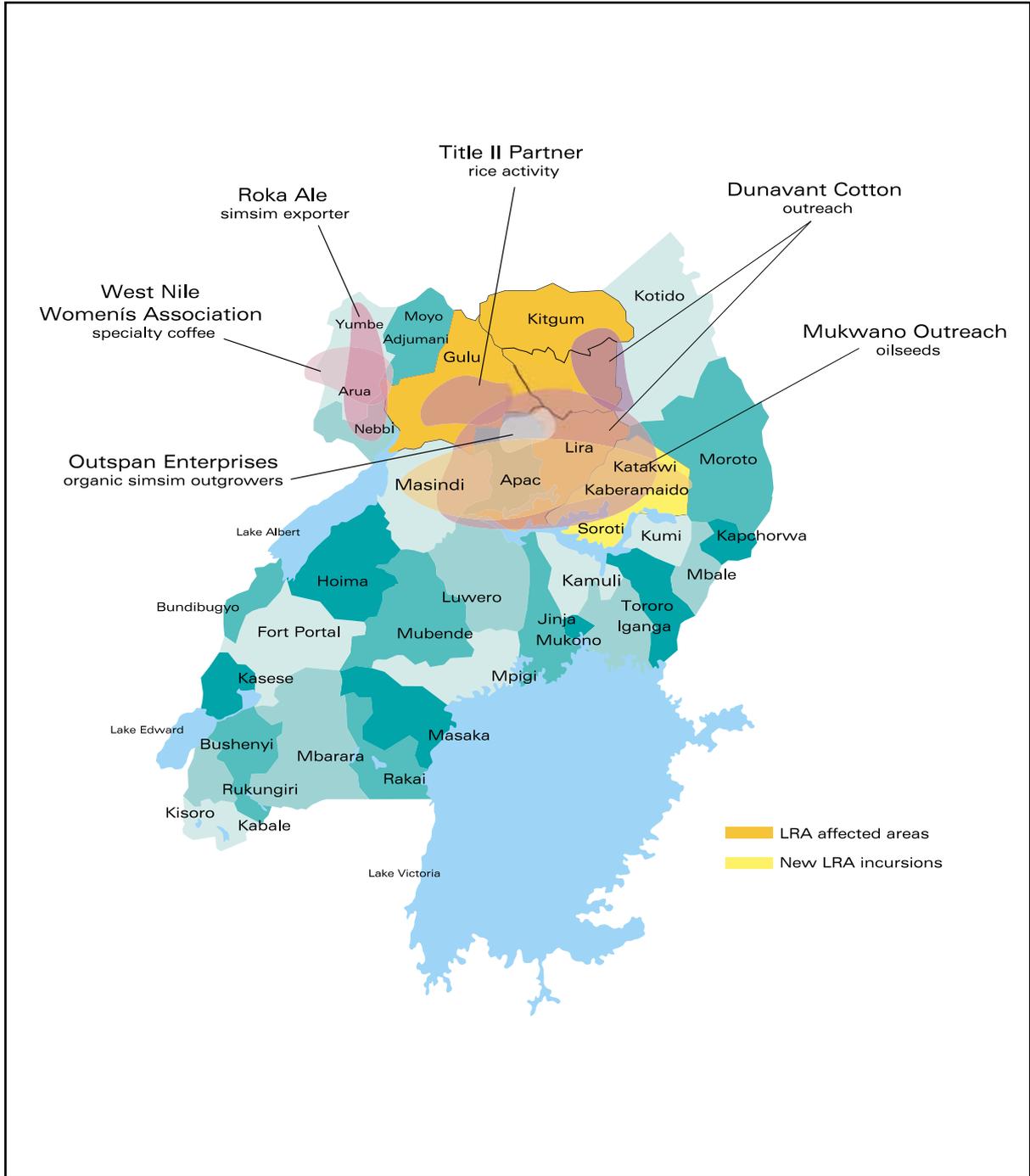
and fielded requests from four seed companies vying for rights to new varieties. Unfortunately, NARO's targeted research in high-value commodities was less successful, particularly for horticulture, cocoa, and banana, due to internal capacity problems.

Building commercial agriculture for Northern Uganda.

USAID requested that IDEA provide assistance in Northern Uganda, an area of long-standing conflict with higher levels of poverty and internally displaced populations than in the South. USAID requested that IDEA provide assistance in the region. Operations in Northern Uganda required special considerations, but IDEA came through in the design and implementation. The project worked with proven business-driven models in conjunction with clients and NGOs, as they expanded operations northward. Highlighted in orange, on page 19, are long-term Lord's Resistance Army (LRA) incursion areas; the yellow shows 2003 incursions into Teso. The map illustrates IDEA's sesame, rice, oilseeds, and cotton activities in Northern Uganda. In the case of sesame, for example, IDEA worked in West Nile and Apac with two

The Human Factor

Best practices in NTAE promotion revolve around the ability to blend human, physical, technical, and financial resources. Of these, the human factor appeared to be the key determinant. Consistently across all of the IDEA successes over the years was a need to adopt a positive attitude, stay committed, and be willing to change methods of operation mid-stream. Interpersonal relationships and management capability were crucial elements at work under IDEA.



"Even though we have made many mistakes, it is encouraging that the IDEA project is regarded as a success by most of our clients in the private sector. If you ask them why, they never refer to grants or workshops. They usually say something like, 'You have helped us with our business,' or, 'You have great practical information,' or, 'You have really supported the industry.' I think what they mean is that we had staff who identified with them and brought practical skills. Undoubtedly the technical knowledge and commercial backgrounds of the whole IDEA team has been the single most important reason for our success."

-Steve New,
HV advisor

exporters, Roka Ale and Outspan, on multiplication and distribution of an improved sesame variety. At the extension level, the project worked to improve production efficiencies. The idea is that as the word spreads, sesame production will filter into intermittently insecure areas by default; and as the transition takes hold across the North, supported by a targeted market pull for the product, it is likely that sesame production and marketing will begin to emerge as a significant economic driver. Should conditions become secure, active market and extension support can be mobilized immediately into the new area through the two firms.

The Lessons Learned

At the end of nearly 10 years, IDEA project staff, USAID, stakeholders, and clients have looked back to identify the lessons learned. Although their perspectives and experiences differ, they articulated one common theme: the importance of building relationships.

Hire the right people. IDEA's international staff members were raised on farms from Australia to Zimbabwe. Many worked in agricultural sales early in their careers, selling commodities and inputs from pigs to pesticides. The team adopted a results-oriented approach from the start, long before it was in vogue with USAID and other donors. Clive Drew, the IDEA chief of party, notes that he gave guidance to the low- and high-value team leaders but did not micromanage their activities. This created healthy, internal competition between the components. Personalities also made a difference, as the local professional staff complemented the international staff. The local team comprised master's-level graduates in the fields of agriculture, agricultural economics, and food science. Prior to joining IDEA, members of the crew had compiled 5 to 10 years each of private and public sector experience. A number held managerial positions while others were active in field-based agricultural development activities. Collectively, they brought a deep

Commodity Chain Support and Household Incomes

Although the IDEA project had a mandate to increase and measure NTAE volumes and value, it was clear from work with smallholders in a variety of commodities—from sesame to vanilla—that integrated commodity chain support efforts increased household incomes. Employment has no doubt led to increases in household incomes and effective impact was felt all along the market chain.

The IDEA approach is emulated by the new APEP project and is being applied to selected, high potential food and cash crops with a dual focus on commercial agriculture and food security. APEP's overall mandate is to increase rural household incomes and will track those income changes. The successes and failures experienced by IDEA contributed significantly to APEP's design.



Workers at a flower farm in Entebbe congregate around a soil and peat cleansing bed. Uganda's flower industry employs close to 8,000 people. In 1995, there was no flower industry.

understanding of the agricultural sector as well as positive attitudes and a willingness to learn. To say that there was good chemistry among the entire team would be to state the obvious: anyone visiting the ADC could see it. The team found motivation and momentum in early project successes and positive feedback from USAID and clients. Continuity was also a factor. The international staff stayed through their contracts. During the life of IDEA, the project lost only three local professionals—one of which, Alphine, passed away. Another left to pursue his Ph.D.

Take an integrated commodity chain support approach. IDEA's successes came from intervening along a commodity market chain. From the smallholders to the exporters and all along the way with researchers, bankers, input suppliers, and transporters, the project focused attention on specific sections of that chain, such as building business linkages between these groups.

IDEA's approach consisted of concentrating on improving crop yield through new varieties and improved inputs, expanding existing operations, diversifying the product base, further commercializing several well-established NTAEs, and searching for new markets. USAID and other donors began to emulate the IDEA approach. For example, for the 2000-01 growing season, at the request of one of the major ginners, USAID asked the project to work with the Cotton Development Organisation (CDO) and the Uganda Ginners and Cotton Exporters Association (UGCEA) to design and implement technical programs for cotton producer organizations. IDEA's field demonstration approach was used to deliver new income-enhancing technologies to smallholders. The approach increased yields nearly threefold. These yield increases were key to changing attitudes in the industry: farmers could clearly see affordable ways of moving from net negative to net positive margins.

"We could tackle all the different bits at once, from the research to the market at the other end. We had the flexibility to work with all the different links in the chain. So, if something was causing a logjam, we could tackle it, impact the next stage, and keep the whole thing moving."

-Frank O'Brien,
LV advisor

Put equal focus on supply and demand.

Although the project initially focused on marketing, it soon became clear that while markets existed, production quality and quantity did not. Consistency in volume and quality was needed. So the project quickly shifted its focus to create production efficiencies through technology transfer and input supply access, cold chain management, codes of practice, as well as output marketing. These three thrusts provided the most critical elements of value addition for project-assisted commodity development. And by working closely with producers, whether grain smallholders or fruit and vegetable farmers, IDEA showed them that improving production brought immediate rewards.

Pick champions. IDEA had to ferret out the champions in each NTAE sector. First, they chose the commodity; then staff would identify spots in the market chain where interventions had the most potential for impact. IDEA assessed the businesses with this information and chose the potential champions. The point was to select bankable clients and deals. Poor assessments sometimes led to poor selections of players with weak capacity, and those businesses did not sur-

vive. Others on the brink just needed cultivation. However, picking champions is not all instinct. Experience led IDEA staff to pursue detailed, market-driven feasibility studies before applying resources to any new commodity. Even before undertaking the studies, the chief of party and high- or low-value team leader had to agree that there were markets for the product. They studied the basic, positive signals on the feasibility of commodity support and potential for success. Bad selections decreased over time as the team's knowledge of the agricultural sector and players expanded. The project's long life allowed for the accumulation of a body of experience and knowledge, which became the team's greatest asset.

Let go of non-performers. The flip side of working with champions is to shed the non-performers. Five commodities were let go in all; in other words, assistance was begun and then stopped. In order to apply resources to more serious enterprises and smallholders IDEA also shed business and association clients that were not technically oriented and business-focused. For example, IDEA ended support to a number of fruit and vegetable export businesses

Time Favors the Smallholder

IDEA's nearly 10-year time horizon worked in favor of efforts in the beginning of the chain with smallholders. IDEA took a great risk and worked directly with thousands of farmers. As these subsistence smallholders became commercial smallholders through IDEA assistance, the project staff encouraged them to form informal groups based on commonalities and business interests. Many are now registered agribusinesses and other donors are beginning to work with them.



Nearly \$26 million in roses and plant cuttings were exported from Uganda in 2003, from next to nothing in 1995.

"The main thing is to find the good bankable deals. It takes a certain amount of guts to pick the winners. And we had a fully supportive mission, too, that gave us the flexibility. Also, you have to get to know the players, the personalities of who you are dealing with."

-Clive Drew,
IDEA COP

because the sector did not attract heavyweight local or foreign investors, and the businesses lacked the requisite technical and business focus. What commodities were cast off and why? Here are a few examples:

- Bird's eye chili: laborious crop, Ugandans not interested in picking
- Essential oils: the wrong climate conditions
- Mushrooms: no market
- Honey: market exists but no consistent, quality supply

- Beans: viable varieties of interest to local market only

Look for both traditional and innovative financing mechanisms. The Ugandan NTAE sector lacks equity and collateral. For many IDEA clients, land was the sole asset, and banks were generally cautious with NTAE efforts, as with all agricultural ventures. Despite this, IDEA has worked closely with a number of financial institutions and helped to build relationships between the banks and IDEA clients. A major focus was to change the negative attitude of financial institutions towards the NTAE sector while also training

The Beginnings of Upland Rice in Uganda

Smallholders cultivating in swamps have dominated rice production. This has undermined wetland conservation and become a major environmental concern over the years. WARDA, the West African Rice Development Authority in Boauke, Cote d'Ivoire, developed and introduced a new conventional rice variety for Africa in 2001 called NERICA. IDEA's low value team leader visited WARDA to obtain breeder seed for Uganda. And then the work began. IDEA supported upland rice production in early 2002 in four Eastern districts and expanded by the end of the year to four Western districts. Yield increases were phenomenal—from one ton per hectare using local varieties to five tons per hectare using NERICA. And an added bonus: wetlands were saved.

"Training aspects are the main issue with the association now.

Maybe the biggest thing IDEA has done for UFEA in the last three years has been to help with training indigenous supervisors and management level staff. When you make sure that staff underneath are efficient, that they know the compliance standards and technology, then we know our agricultural practices are the best coming in."

-Keith Henderson, UFEA executive director

clients on business and financial management to increase their attractiveness to banks. Strong and strict financial management of the client's personal and borrowed funds, accompanied by the ability to manage financial resources effectively, was critical.

Be responsive to new opportunities. IDEA staff had a keen ability to respond to new opportunities as they arose. Its intimate knowledge of Ugandan agriculture and extensive networks in the country helped staff sniff out opportunities and readied them to assist in strengthening new commodity responsibilities. Upland rice, as a latecomer to IDEA, is a prime example.

Be prepared for the challenges of working with associations. For each commodity IDEA supported, an apex export business association existed. Early on in the project, SWOT (strengths, weaknesses, opportunities, and threats) analyses showed that all associations were weak: no paid memberships, little leadership change, no permanent staff, often no office and no finances. In response to the SWOTs, all received tailored support and all eventually held general elections for leadership—a positive step. But there were many disappointments. What became clear to IDEA is that for an export commodity association to survive in Uganda, the association had to provide valuable member services, have active members, and have a commodity with significant export value. Of all of the associations, UFEA most clearly had these features and is somewhat of a success, although a donor currently funds the costs of its executive director.

IDEA also observed that strong businesses build strong associations: their positive growth is dependent upon natural, mutual needs among the members to come together to increase strength. This insight made

IDEA focus harder on its work with the businesses in the commodity market chains, rather than simply lend major support to associations.

Another layer was necessary. Post-harvest losses and the effects of climatic conditions are precipitous when left in the hands of smallholders. Near the end of the project, IDEA began to see that there were missing links in commodity chains related to taking harvested products from the farm quickly. In addition, farmers are not qualified to undertake post-harvest transformation of maize, cocoa, fruit and vegetables, and vanilla. Intermediary organizations such as transporters, processors, regional traders, and producer organizations can play key roles in these areas, as well as assist in bulk marketing and sales. IDEA did not focus on this intermediary layer immediately adjacent to farmers. This shortfall presents a critical opportunity for producer organizations, agribusiness buyers, and donors to help develop these intermediary roles and services.

Leverage resources and activities. No one project or intervention has the resources to do everything. The ability of IDEA to complement its efforts and resources with government programs, NGOs, and other donors helped it achieve its objectives satisfactorily and often ahead of schedule. IDEA was able to bring its comparative advantage in hands-on business development and effectively collaborate with the PMA secretariat, NAADS, other USAID projects, other donors and, last but not least, clients. Some team members even refer to the project in customer-service terms, saying, "The client is king."

Ensure results orientation. A simple and flexible monitoring and evaluation



Much of Uganda's rural poor are unorganized small-scale producers, many of whom grow and sell food just to survive. Roughly 35 percent of Ugandans live below the poverty line.



A worker hefts a bag of maize from the truck to the warehouse. UGTL expects 200,000 tons of tradable maize in 2004; much of that will pass through the warehouse.

system closely linked to USAID's strategic objective and the project's annual work plan, along with active participation of project technical personnel in the system, were critical to project success. Each intervention under IDEA was aimed at the ultimate objective of increasing incomes and employment for rural producers, employees, traders, and exporters. The M&E system provided a mechanism for feedback that informed staff of needed program and project adjustments.

Scrutinize grants not once, twice, but three times. The grantee must have the appropriate personnel to conduct and oversee program activities. For example, if the grantee is conducting vegetable or flower research trials, it must have a full-time employee with the appropriate skills outlined in the grant. Research trials should not become trial and error sessions. The IDEA project staff was also aware of the danger of dooming grantees by setting the bar too high. Benchmarks must be relevant and realistic, based

on past performance and industry trends. Younger industries will make smaller strides than older, more established ones, and should consolidate in associations for strength. However, deciding on grant support to industry associations is very challenging; particularly insofar as issues of sustainability are concerned. Industries in which the exporters are heavily invested in their businesses and association, and understand the benefits of membership—for example, flowers and vanilla—function the best. Beware of opportunistic traders because these small businesses are less able to pay than committed exporters. Cost sharing is critical to building a sense of ownership in the program. If the beneficiary feels that the grant is a handout, they will be less inclined to focus on achieving results.

Financing the sector. Financing is needed for the NTAE sector, and agribusiness generally. Developing countries that have fully succeeded in creating high-value NTAE exports often have

"When it comes to money that people don't have, that's where IDEA helped us the most. [Agribusinessmen] want agricultural loans. But even we can't afford them. If this project could have a component of funding for low interest loans, that would be a big deal. Most people cannot afford these rates—22 to 48 percent interest. A project needs to negotiate for a lower, set rate. It would involve guarantees maybe; but that's what it takes."

-Chris Kaijuka,
partner of FICA

a business sector that received soft loans from donors for such things as greenhouses and equipment. Loan guarantee programs, low interest rates, grace periods on repayment of capital, and government tax incentives are all features that donors can use to stimulate continued, high-value NTAE growth in Uganda. On the low value side, programs directed towards enhancing farmer income through training and market linkages, coupled with commercial bank engagement through assistance in establishing contact points and banker development, have proven to be effective and sustainable because of the potential profits for banks. Working to bring a comfort level to banks via business-oriented technical assistance to both farmers and banks should be a priority.

Project Best Practices

The IDEA staff provided significant feedback on a series of best practices compiled or logged during the life of the project. Below are some selections.

- A well-functioning, results tracking M&E system with technical team involvement is critical for reporting, planning, and trouble-shooting.
- An integrated commodity chain support approach should be used on selected commodities.
- For a commodity, find the segment of the market chain where there is likely to be the most return on project resources; at that segment, identify the potential champions.

Innovative Credit Solutions

IDEA developed initiatives to deal with the fact that commercial banks were not initially interested in the NTAE sector:

Financial mediation for trade finance from Barclays Bank with over \$3 million secured for UGTL and FHL.

Use of a Bank of Uganda Export Credit Guarantee Scheme for floriculture investments.

Design and implementation of ATAIN, an input inventory credit guarantee program for distributors and stockists.

Credit guarantee programs with Centenary Rural Development Bank for commercial maize farmers.

Credit guarantee programs with Standard Chartered and Barclays for private sector seed companies and commercial maize production.

A lease/purchase program with DFCU leasing on farming, post-harvest handling, and processing equipment.

- Promotion of NTAE requires adequate measures to mitigate environmental concerns.
- Focus on the private sector while building appropriate public-private partnerships.
- Be market-led but also tend to the supply side: quality product and sufficient volumes are critical.
- Apply a four-pronged focus of technology transfer, input supply, output marketing, and financial services support to the production base.
- With smallholders, it's best to focus initially on what they can do using their own resources.
- Market-led studies must be undertaken before taking on a new commodity; the markets must exist and be accessible and there must be a way of producing the product that meets market requirements.
- Provide clients with training in business and financial management, especially strict management of financial resources, particularly borrowed funds.
- Results-oriented grants and subcontracts are important for jump-starting activities and risk-sharing.
- The number of associations supported should be limited, focus on those at the apex and those serious about providing relevant services to their members.
- Gender balance in a private-sector environment can be attained through proactive and targeted interventions.
- Capitalize on the opportunities to leverage resources and activities.
- Grants should have very specific goals that benefit entire industries to maximize achievements.

Just the Facts Ma'am: Impacting Women Through IDEA

Seventy to 80 percent of Uganda's agricultural labor force is women, while 26 percent of rural households are headed by women. Yet only 7 percent of women own land and 30 percent have access to and control over proceeds. In this environment, IDEA went to work. It did not specifically develop a program for women but instead provided better than equal access to women in all of its programs. By the end of the project, women encompassed:

- 60% of flower industry employees
- 56% of fresh produce growers
- 37% of vanilla producers
- 18% of rural ATAIN inputs stockists
- 11% of commercial farmers
- 25% of project-supported loan beneficiaries



Women account for roughly 60 percent of Uganda's flower industry. About 40 percent, or 3,200 of all employees are single, and most of those are women.



Maize farmer Laston Mugoya and his family stand between their homes. Mugoya credits construction of the new home, right, to IDEA for increasing the family's income through training.

- Whenever appropriate, offer grant funding for tangible items and tie grants to specific program benchmarks. For example, withholding funds is effective when you want the entity to secure continued funding from alternative sources and the release of promised new seed varieties is still pending.
- Grant activities that work in conjunction with proven project technical programs, such as pairing seed distribution programs with demonstrations of improved varieties, are more likely to have a greater impact than stand-alone programs.
- Over \$403 million in selected NTAE commodity exports supported since 1995
- Increased rural area household incomes of a large number of IDEA smallholder clients
- A base of commercial farmers and smallholders, many now in organized, sustainable commercial producer groups
- The existence of a basic, functional low value crop market system
- Greater banking community confidence in the agricultural sector, with numerous relationships built between bankers and NTAE-related borrowers
- A variety of impacts on women in the NTAE sector
- The beginnings of sustainable NTAE commodity clusters and

The Impact

IDEA's work unquestionably improved Uganda's economy, but it also had softer impacts because it changed attitudes across the public and private sectors—from farmers to bankers to NARO research staff. Below are key impacts:

critical cluster elements, including sector self-regulation, market-driven codes of practice, and associations

- A critical mass of export volumes puts Uganda on the map as a reliable supplier of quality products, such as cut flowers, cuttings and vanilla
- The foundations for a sustainable private sector input supply system
- Increased off-farm employment-a multiplier effect of IDEA's work-with increased work opportunities in the inputs sector, processing, commodity and employee transport, construction and warehousing
- A cadre of Ugandan agribusiness professionals coming from the IDEA team, IDEA/Makerere University undergraduate agribusiness intern program, Makerere University agribusiness management graduate program, the Applied Tropical Floriculture course run collaboratively by Makerere University and UFEA, and other Ugandan agricultural consultants who worked through the IDEA project
- Business linkages within Uganda, in the region, and with U.S. and multinational firms
- Regulatory changes in seed variety testing, agrochemical issues, and import duty regulations

The Challenges Ahead

Uganda's NTAE sector, and agriculture sector in general, offers continuing challenges. However, IDEA

has built foundations and designed blueprints for lasting NTAE exports, increases in rural household income for smallholder and employee families, growth in agribusiness, improved market systems, and cluster-based competitiveness. With these measured accomplishments, the list of what remains takes on even greater importance.

- Donors should continue to target the private sector, whether focused on agribusiness, finance, competitiveness, or commercial smallholder development.
- Financing for the NTAE sector, and agribusiness generally, is needed. Developing countries that have fully succeeded in high value NTAE exports have a business sector that received soft loans from donors. Loan guarantee programs, low interest rates, grace periods on repayment of capital, and government tax incentives are all features that donors can use to stimulate continued high value NTAE growth in Uganda. On the low value side, SME and agricultural financing are critical to NTAE sector growth. Working to bring a comfort level to banks via donor-funded technical assistance, loan guarantees, and other appropriate agricultural financing mechanisms should be a priority.
- The private sector and donors can work with and grow business-minded producer organizations. Commercial producer organizations can be used to reach small-

- holders for nearly all Ugandan crops except flowers.
- A layer of intermediary enterprises is necessary to move commodities from the farm as quickly as possible, and provide services such as processing, transport, warehousing, and infrastructure development.
 - Donors can help NTAE commodity sectors develop market led codes of practice, a standard requirement for any serious NTAE industry. The GOU should meet these standards with its own accreditation program. IDEA provided support for codes in floriculture, horticulture, vanilla, and cocoa. The latter two are not yet finalized.
- The private sector input supply system needs expanded assistance and support.
 - Efforts towards environmental impact awareness should continue.
 - Training, technology transfer, and capacity-building efforts in the NTAE sectors still require major support.
 - There is a continuing need for reinvestment in commercial-driven research. Research is a public good and should be funded by government or donors. The private sector does not have the resources to undertake relevant research.
 - After more than nine years, IDEA found that market infor-

A Sampling of IDEA-Brokered Alliances with U.S. and Multinational Firms

IDEA promoted vanilla to overseas buyers, working to bring vanilla exporters together with U.S. firms McCormick and Shanks, and Zinc and Triest, some of the world's largest vanilla buyers.

Monsanto, Aventis, and Syngenta all have been investors in the seed sector, conducting research trials and bringing Uganda a variety of options. IDEA served as their first entrée to local seed companies.

UNGA Millers (U) Ltd., a U.S. multinational Seaboard Corporation, trades in commodities and has worked with IDEA and its grain exporter clients.

IDEA formed partnerships with agrochemical and input firms, Dow Chemicals, CropLife, Monsanto, and Universal Chemicals for training in post-harvest handling, pesticide safe use, conservation tillage, and improved seed varieties and fertilizer use.

IDEA effectively promoted and facilitated foreign and local investment in flowers, vanilla, and grains. Successes in the sector built investor confidence.



A boy breaks away from his siblings to wander the upland fields. Fifty-one percent of Uganda's population are younger than 14 years.

"The product mix in the HV range should be revisited, focusing on crops where there is real competitive advantage, and where Uganda is gaining a reputation as a benchmark in the industry.

They may only be small volume niche products, but if they are good enough to beat off all competition, they will allow exporters to consolidate a longer term business; and later they can expand the product's range."

-Steve Humphreys,
HV component

mation systems were not sustainable within associations or the private sector. Basic market information should be funded by the government or a donor as a public good, as it is in the U.S. From this basic structure a futures market will emerge, with improved information.

- Promoting a cluster approach is critical in design of new donor efforts—it ensures strengthened and integrated commodity chains.
- Strengthening domestic and regional market systems is important yet has been overlooked,

particularly in post-harvest handling. A strong domestic market system is an excellent base for export market systems.

- Continue targeted support to serious NTAE sector apex associations, focusing on relevant member services.
- Donors and the private sector should always seek out new opportunities and innovations, whether assessing the feasibility of producing a new commodity, moving into new regions with a particular commodity, or testing new varieties.





An IDEA district site coordinator pauses to survey a farmer's land. IDEA holds technology transfer training in 20 districts, and 2,521 sites hosted training in 2003.



A maize farmer shows off his land after flagging down an IDEA site coordinator driving through the village.

CHAPTER TWO

Low Value Crop Export Development

IDEA's low-value team technical assistants made it their mission to get out into the field to promote the best practices developed back at the ADC nerve center. The team pushed new technologies, such as fertilizers and proper crop spacing, as integral to its "show and tell" message. However, the smallholder base of peasant and subsistence producers made targeting "the winners" even more difficult. Work under the low value component focused on identifying and supporting a reliable, business-minded private sector client base of producers, producer organizations, traders, export associations, and exporters. The low value team focused on technical advice, technology transfer, input supply, and output marketing. The project focused primarily on maize and beans for the NTAE sector and, in the last few years of the project, began supporting efforts in rice, sesame, and other grains. Since 1995, the low value component has demonstrated that:

- maize exports grew steadily year by year
- beans presented insurmountable post-harvest problems and regional variety preferences; therefore support was dropped later in the project
- there were exciting opportunities for sesame in the North
- proven successes in upland rice came in the last two years of the project

By the end of the project, export figures for the targeted low value crops, maize and beans, were just over the project target of \$34 million in export value, compared with \$11.4 million in 1995. Aside from the dollar value and export volumes, the LV component has achieved tremendous success in growing its base of commercial smallholders and larger farmers, as well as business-minded producer organizations that IDEA helped to build. Results were achieved in eight major activity areas:

1. The project sought to generate improved production technologies by supporting local seed companies and NARO. Project grants were used for technology packages and handbooks for farmers, as well as the introduction of new seed varieties for maize, beans, and oilseeds. Technology packages could include, for example, seeds, fertilizers, crop chemicals, and other inputs such as sprayers and measuring strings.
2. These new production technologies, in addition to post-harvest technologies, were promoted directly to large numbers of farmer-clients and others along the market chain who worked directly with producers.



A FICA worker carries bags of maize seed from the warehouse to a customer's pickup truck. Establishing the supplier-distributor-stockist linkage is one of IDEA's significant achievements.

3. The project promoted and supported a private sector input supply network for low value farmers that emphasized that regular availability, accessibility, and affordability were critical to meeting farmers' new and growing needs. The supplier-distributor-stockist linkage is significant as stockists also play the role of extension agent, helping farmers to adopt improved farming practices and boosting incomes.
4. The low value team also supported efforts in seed multiplication and distribution, working closely with private seed companies to mitigate seed shortages, improve quality and farmer access, expand production for regional markets, and support agribusinesses with their own seed distribution and farmer commercialization programs.
5. A variety of market information efforts were undertaken with a focus at the trader and exporter level. Activities included helping Uganda Grain Traders Ltd. (UGTL) develop and disseminate their own market reports; collaboration with IITA's Foodnet and USAID's FEWS NET and RATES projects on the Web-based Regional Agricultural

It's All In the Numbers

The original IDEA contract signed in 1995 required that the project train 1,600 farmers and extension workers per year. Once on the ground in Uganda, the team felt this number was too low to be catalytic or bring about change. They knew from experience that resistance to change is human nature and particularly common in farmers. They knew that a very large numbers of farmers needed to be exposed to training so that enough risk-taking, open-minded farmers could be found. And so the net was cast wider and they committed to train 180,000 farmers per year.

Trade Information Network (RATIN); and regular participation in crop forecast meetings with traders, government, and donors.

6. The project provided ongoing support for the marketing of farmers' products via 25 rural agricultural marketing centers. Project staff helped build linkages between a variety of traders and buyers and the 25 centers.
7. The team worked with seed companies to develop and

support out-grower initiatives for maize, bean, and rice seed production.

8. Finally, the project provided advisory services and training and technology-transfer assistance to exporter clients. This included UGTL and its effort to support and buy from upcountry producer groups and purchase needed processing equipment. The team also supported Roka Ale's development of the sesame market in the West Nile.

The LV Component by the Numbers

Volume of maize and bean exports: 1995: 51,740 metric tons; 2003: 164,835 metric tons

Value of maize and bean exports: 1995: \$11.4 million; 2003: \$34.7 million

Number of commercial farmer clients: 2,864

Percentage who are women: 11 percent

Technology transfer/training programs in 20 districts

Number of technology transfer demonstration sites: 1995: 15; 2003: 2,521

Percentage of farmers trained who are women: 32 percent

Percentage of farmers adopting low input technology: 1996: 5 percent; 2003: 65 percent

Percentage of farmers adopting high input technology: 1996: 0 percent; 2003: 12 percent

IDEA-supported commercial farmer loans 2000-2003: \$2.26 million

Loan repayment rates: 100 percent

Percentage of loan beneficiaries who are women: 25 percent

Number of farmers served by ATAIN program stockists in 2003: 116,255

Number of employees in the input supply system: 1998: 115; 2003: 825

Fig. 4.5 Volume and Value of Maize and Bean Exports from Uganda, 1995-2003



Source: ADC/IDEA Project

Along the Market Chain

We examine the low value component further with a series of impact stories meant to guide the reader through the commodity market chain. The narratives presented here focus on maize, but also touch on the up-and-coming upland rice crop that saw late-bloomer success with IDEA. The stories add depth to the eight focus areas discussed on pages 37-39. By offering a glimpse into that intangible, slippery side of the anecdotal, the stories chronicle the successes and hardships of USAID's decade-long commitment to Uganda. The series also illustrate how the integrated commodity system approach was implemented, how those receiving assistance and guidance reacted, and presents the results-both direct and indirect

results-of this approach. Using the voices, faces and experiences of the people involved along the market chain, the goal is to give a balanced and informed human perspective that brings to life those impacted by USAID's IDEA.

The maize farmer:

Just before Laston Mugoya razed his house and planted over the 36-square-foot plot with a few stalks of maize and a banana tree, he took a mental snapshot of the site. He stared hard at the thick and brown straw roof, the smooth mud walls, and the circular shape of his hut, paused, and quickly went to work demolishing the structure where he lived for nearly 18 years with his wife and growing family.



Maize farmer Laston Mugoya opens the door to his maize crib to showoff about 500 kilos of dry maize. To help improve post-production practices for small-holders, IDEA offered technical assistance and small grants to help construct such drying and storage cribs.

"I started with one acre of land before the IDEA project. One acre of land just here," Mugoya says, pointing to the area where maize grew haphazardly around the old home. "I have 20 acres today. I am the owner of this land. I am the owner of this house. Look at this home. I am able to build this home because of IDEA project."

Mugoya gestures toward a new home only a few feet from old plot. It is a humble structure of bricks and mortar, with a dirt floor, three rooms, and a roof of steel sheets glaring against the sky. In the areas of Uganda touched by IDEA, those steel sheets are a metaphor for success and empowerment for small-holders and bankers alike—anyone working with the project.

"I have been a farmer doing this since I was a child," Mugoya says. "I am cultivating this land for many years. But you know that my output was miserably low. I say this, but I did not know and nobody knows that the output was so terrible. But IDEA project came and we learned the new technologies, and we learned to use the inputs. So, when

before I get only three bags of maize from the land, now I am getting 20 or 22 bags to each acre."

The ADC and IDEA worked with more than 1,560 small-scale commercial farmers like Mugoya in 2003 alone. Almost 34 percent of those received some credit, and loan repayment rates were 100 percent. Most small-scale farmers worked in maize, cultivating roughly 4,300 hectares of land in all and yielding about 3.7 metric tons per hectare, or nearly 16,000 metric tons in total. However the numbers have improved almost year to year with IDEA's integrated commodities approach of technical assistance, increased production and market linkages, the real story lies here with farmers like Mugoya who make up the project's foundation. Changing minds on the ground and attitudes within the lending and commodities market chain was a difficult task for IDEA staff that took years of effort. Even the simplest efforts like introducing fertilizers hit a snag.

"Yes, I thought at first that the fertilizers would hurt the ground and the plants," Mugoya says. "Everyone here is like this. I am not the only one.



Abraham Batambozi, Bugiri district site coordinator for IDEA, stands over the former site of Laston Mugoya's home.

Everyone here thought the fertilizers hurt the ground because that is what we are taught from a long time."

The farmer culture also accepted a certain amount of crop loss to disease and rot due to high moisture content. IDEA helped to change that mindset through a grant program that provided successful farmers with funds to build cribs for storing and drying. Mugoya's own crib holds about 800 kilos of maize, and there are others with 30,000-kilo capacities. The cribs also allow farmers to store maize until the off-season when demand is up, which lends stability to the market by supplying buyers and traders with product.

Small-scale farmers like Mugoya continue to make superfluous requests of donors for expensive things like tractors and commercial drying machines. However, as the farmers turned to

more practical concerns like access to adequate inputs and capital to grow their business, those requests lessened. Instead, small-scale farmers utter business concerns that echo Mugoya's own:

"I think that one of the most important things that IDEA project did for me was connect me with a high profile market. Maybe getting stronger ties to these markets is very important now."

The district site coordinator:

Abraham Batambozi just finished telling the funniest part of the story about the man who grew too much maize, the part about how the man, in an effort to keep his corn dry and secure, began stacking the corn in every room of his small home until, finally, it forced him and his family to sleep in a corner of the kitchen.

"He started with around 5 acres and then he went crazy, shooting up to 50 acres," Batambozi says. "He over-expanded and did not account for storage. So, he got excited and had to store maize all over the house, in the sitting room, in the bedroom, on the veranda. It was very unsightly. Maize chased him out of the house. But it is a lucky problem to have."

Batambozi, the Bugiri district site coordinator for the IDEA and now APEP projects, put both hands on his thighs and slumped over, filling his own home with booming laughter. Then his mobile phone rang. He checked the caller I.D. tag and looked up, smiling broadly.

"It is him. This man I am talking about."

Tenwya Christopher is the farmer. He said that IDEA technical assistance pushed his production over the 20-acre mark within 18 months.

"We got training to use improved seeds and fertilizers," Christopher says during a phone interview. "Now I have the cribs and can use them to dry and store the maize. I asked my family to sacrifice at first, and right now I have 55 acres. I am very happy I got involved."

Christopher lives close by, so he asks us to visit his home so that his wife can show us the new storage cribs. She retells the stories and talks more about suffering through months of discomfort. On the other hand, she says, their lives have improved greatly in just a few years. They employ laborers to work the farm. She points to new cattle feeding on

grass behind the home. She also mentions that her older children attend school regularly and school fees are no longer an issue.

"We monitor and encourage the move from peasant to commercial farming," Batambozi says, explaining his role as site coordinator and training leader in the community. "IDEA gave [the trainers] practical training first. They showed us how to apply fertilizers to a certain area, to work with new seeds, and they let us practice on an acre. When we get experienced, we hold demonstrations with area farmers and share the practical knowledge. Then the farmers do the same, and on and on."

That's the simple explanation of how IDEA's demonstration plots revolutionized the commercial agriculture sector in Uganda, increasing yields five- and ten-fold in most instances. However, underlying the success is a more complex methodology of agribusiness. Before training is administered, technical assistants prepare farmers with advice on selecting the right land and enterprise—for example, whether to choose half an acre of maize or five acres of upland rice. In this, producers look at the type of seed and fertilizers required, study the land and discuss the investment, at which point loans officers may be introduced. Basic agronomical practices follow, such as spacing, where and when to plant, how to plant, proper seed variety, when to weed, record keeping, and how to stop pests and disease. Proper use of inputs underscores most success, Batambozi says. Discussions of timely harvests and post-harvest han-

dling follow as the season progresses. IDEA staff encourages market linkages and may suggest local, relief or export linkages depending on the producer's level of effort and ability. Finally, reinvestment is encouraged.

"We convince a poor farmer to sell something of theirs, like a goat," Batamboози says. "They invest in a quarter-acre of maize. At the end you can get three times the money for the goat, and you will have money to buy back the goat, a better goat.

"Some are amazed," he continues. "If you have someone who had six bags [of maize] and then they go to 20, they ask, 'Where is the magic?'"

Batamboози also has amazed himself, as have other demonstration plot farmers and site coordinators involved in IDEA. The 45-year-old father of eight has built the family a new home, bought "a few cattle," owns his own land for the first time, is working toward a bachelor's degree from Busoga University in Iganga, ensures an education for his children, and practices what he preaches in his spare time.

"We are giving advice so we cannot beg for food."

The agricultural loans officer:

From the perspective of the agricultural lending institution, repayment is the ultimate sign of success—it's the bottom line. So when you consider that repayment of agricultural loans associated with the IDEA project are somewhere in the high-90 percent range, success is obvious.

"The farmer is at the mercy of the market. The banks are at the mercy of the market. We try to forecast the market, but some are local and you cannot predict factors such as weather, hunger or drought, or how neighboring countries affect us," says Julius Segirinya, director of agricultural lending for Centenary Rural Development Bank.

"We look for active efforts by donors and governments to stabilize the price of maize to not repeat grain crash scenarios. When something like UGTL buys and stores maize to stabilize the prices, and the government searches for markets outside of this country to make sure the maize is sold at adequate prices, that's all we can ask for."

This stability is not possible without increased training, production and monitoring, however. And IDEA stepped in to encourage farmers to plant maize on a larger scale, graduating from subsistence to commercial levels. That effort created access to agricultural loans and contributes to how farmers manage access to inputs and labor.

News from the lending sector regarding how farmers use these loans is improving, Segirinya says. He notes that the reasons given by many smallholders for requesting loans usually include access to inputs and building storage facilities, like stilted cribs for maize, rather than for expensive, needless gadgets like tractors. Interviews conducted with maize farmers in the Bugiri district supported Segirinya's claim.



Collecting water for dinner.

Repayment plans tailored specifically to suit needs of farmers also have helped the banks see greater return on their investment.

"We ensure that the payments are flexible and well adapted to the cash flows of the producer," Segirinya explains. "We want the farmer to pay when he has the cash, so we tailor toward the harvest seasons and leave room for the unexpected. Installments are not fixed and we offer varying sizes."

The average smallholder loan is about 1 million US\$. The bank also sees a strong correlation between smallholder and home improvement loans, with the latter requested as the farmer gathers assets and builds the business.

Segirinya also credits the IDEA project with organizing training workshops for loans officers to strengthen their skills in agribusiness lending. He says that IDEA staff encouraged officers to visit clients regularly, inspect their fields and crops, and offer tips to increase yields. IDEA staff also provided the bank with current market news

and price forecasts that improved their bottom line as well as their relationship with clients.

The inputs dealer:

The input supply system under the IDEA project exploded in 2003, working with more than 116,250 farmers to get them more than 1,200 metric tons of maize seed valued at nearly \$830,000. The value of fertilizers sold also climbed to more than \$7.5 million. From a flailing, government-controlled industry with a tiny client base, it was transformed into a full-scale private operation employing 825 people split evenly among men and women. Nearly 400 rural stockists also are flexing their muscles, offering technologies including seed, herbicides, fertilizers, and pesticides. In the midst of these eye-popping numbers, however, there is a moment for pause: the input supply system cannot keep up with the current demand of farmers.

FICA, Uganda's first successful seed and inputs sales company to be owned and operated by indigenous Ugandans, is producing and shipping at capacity, says partner Chris Kaijuka.



The FICA processing facility is humming with upland rice and maize seed, treated and then packaged for export to markets like Tanzania. In 2001, just after FICA approached IDEA for assistance, the company set a moderate goal to sell 1,000 metric tons of maize seed per annum. They surpassed that mark easily and are selling more than 2,500 metric tons per year now, with a goal of 5,000 metric tons, conditional with expansion of their current facilities.

"It's a business of showing and telling," Kaijuka says, explaining the secret to inputs sales as imparted through IDEA. "The major problem was that government was leading everything. The government would give cheap prices to the population, impure seed, and when the private sector came and offered better seed with a higher price, the farmer looks at you funny. He won't invest. But, if you plant next to the same farmer, and he sees it mature so much faster, with all the fruit, then the farmer will say, 'What is this?' You change attitudes quickly."

With credentials in grain trading stretching back nearly 20 years, Kaijuka admits he is no farmer: A businessman with an appreciation for seed, is more like it. He realized an opportunity in the inputs market in 1996 when the seed business was liberalized. But he waited and studied the market, showed he was serious. IDEA began supplying market research studies around 2000 and pushing FICA to expand beyond Uganda, providing the technical assistance and short term training for

his staff. Small grants allowed FICA representatives to visit Zimbabwe to prepare linkages. Now FICA also exports to Malawi, Tanzania, Kenya, and Zambia.

"Those markets are not easily penetrated," Kaijuka explains. "The associations helped. Growing grain is looked at as a cash crop and not food now, and prices have improved from 30 shillings a kilo to 150 shillings."

Developing their own "exclusive variety" became Kaijuka's main venture once the markets opened. Seventy percent of the seeds exported are maize, three varieties and two hybrids, all developed with NARO through IDEA funding.

"IDEA project let us climb on their back. They provided the funding for research. Next we will push for private accreditation beyond the National Seed Certification, something that guarantees our purity in the world markets."

IDEA grants also contributed to construction of the FICA processing facility and provided smallholder farmers with confidence through investment opportunities. Smallholders, the main producers of FICA seed, sign contracts for allotted amounts and develop yearly business plans. IDEA encouraged smallholders to form associations with strong leaders, Kaijuka says, to improve access to financing.

"That's really what IDEA project did: It brought some reality to agricultural business in Uganda," Kaijuka says. "We sustain it by encouraging training, more training at our own

demonstration sites. It's worth more than any newspaper ad for inputs."

The importance of producer organizations:

Fred Muhhuku, the IDEA producer organization and inputs specialist: IDEA needed people to build a private sector seed industry from nothing. We looked to people who were already buying seed, the smaller players. They connected, just like the farmers do in the associations. Now there are seven private corporate companies and international companies collecting here because of the liberalization, as well as companies from regional areas in Africa. The private sector is providing 80 percent of the seed at improved quality. Prices have been constant because of competition, and IDEA encouraged competition that kept prices stable. Competition among whom? It starts with the producer organizations that supply the traders and dealers. It's much more focused now.

Julius Segirinya, Centenary Rural Bank, director of agricultural loans department: The associations, through IDEA influence, identified potential crops for financing through targets set by the bank and business targets for each farmer in relation to the association. The associations also encourage and practice record keeping, and can easily provide a list of farmers who might qualify for loans based on assets and effort. IDEA started the practice of supplying price information, market information, price forecasts and movement on maize production to the bank. The good associations have picked up on this.

Abraham Batamboози, Bugiri district site coordinator for IDEA/APEP project: Getting the farmers together in groups became very important because they can easily access inputs together and get lower prices by buying in bulk. And when they connect to markets, they get better prices by negotiating in groups. Education is very important, too. Some of the illiterate farmers will at least know the kilogram cost because of the association, the market information provided through the group. Personal marketing is not a problem for people, but they will never get the best price on their own. And the associations need to convince farmers to go beyond our borders to the bigger price markets. The local markets are not reliable for everyone.

The commodities trader:

The low value commodities market in Uganda was a slow train moving through the agricultural sector in 1995, when the country exported a feeble \$7.25 million in maize, or 37,179 metric tons.

"And the [World Food Program] were setting standards based upon the European standards," says John Magnay, managing director of Uganda Grain Traders Limited. "You know what was typical of Uganda maize, grain then? Shriveled, diseased, high moisture-content, fermented and spoiled. Train cars full of stinking, rotting maize."

Comprised mainly of field crops like maize, beans and rice, the Ugandan LV farmers number roughly 5 million small-scale households, 80 percent of whom own an average of less



UGTL warehouse workers carry sacks of coffee beans. Standing 16 members strong, UGTL clawed its way from the 2001 grain crash to help Uganda establish new quality standards.

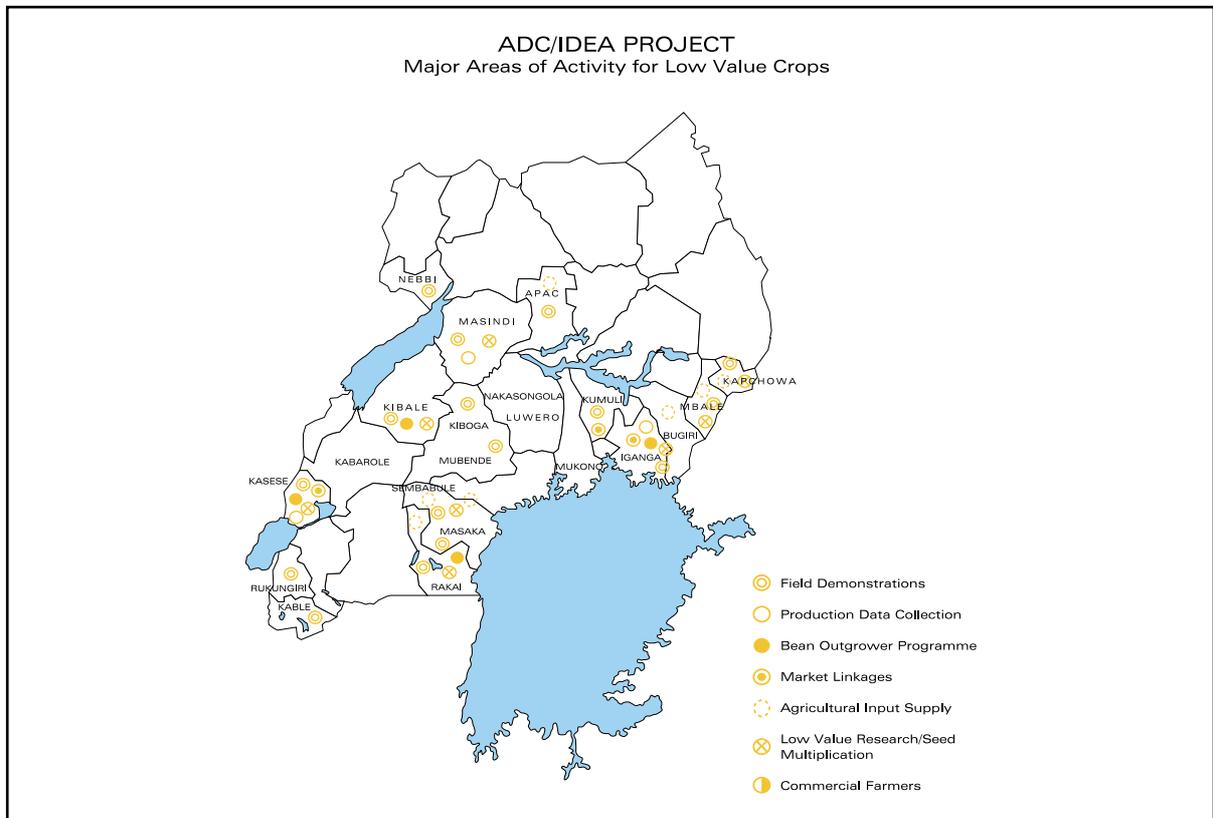
than 2 hectares. USAID's IDEA project reached 1 million of those households. That's a hefty number—hefty potential—but those farmers were scattered, unorganized, without standards, access to inputs, markets, capital investment, or to the modern technical knowledge and tools available. Most importantly, the smallholders lacked a power player, a locomotive to pull their individual cars through the ripening sector.

USAID, on the heels of GOU decentralization within the agricultural sector, stepped in with IDEA in 1995 to vastly increase production of the low value crops. With the integrated commodities approach practiced by the IDEA project, production comes first. Maize, particularly, looked like a winner in the regional foodstuffs, grain and relief markets. Magnay says it accounts for only about 15 percent of the country's food requirement, but anywhere from 80 to 90 percent in neighboring countries like Kenya and Malawi. There are huge piles of it just below his office, visible from a

window overlooking a 100,000 square foot UGTL warehouse scattered with stacks and sacks of maize seed, barley and coffee. As big as an airplane hangar with a capacity of 25,000 metric tons, the place can employ 150 laborers in shifts over 24 hours.

The UGTL now stands at 16 members strong. However, in Sept. 2001 the entire Uganda grain trading industry was threatened by infighting and price-cutting, side-selling and low quality grain, maize especially. Magnay scrolls through a few SME text messages on his mobile phone—current grain prices—pulls up a PowerPoint on his laptop and offers a critique of IDEA.

"We're seeing maize production go up dramatically right now," he says, crediting IDEA technical assistance and market linkages with the surge. "We campaigned for increased production, and we're seeing the results: 100,000 tons of maize and 80,000 tons of beans to the WFP, the dominant commercial buyer. About 80,000 tons went to Kenya. This year there will be



200,000 tons of tradable maize. The market is rising thanks to increased production at the farmer level. But, remember IDEA did not address the issue of the market standards and quality in the beginning, only production."

That changed after the grain crash of 2001, when a large majority of smallholders defaulted on loans and lost land. IDEA pushed for self-regulation in the industry to bring up the standards and increase demand. Magnay holds up a poster now enforced by the GOU. It reads: "By rail ferry to the Tanzania market. All stakeholders in the export chain are requested to comply with the requirements indicated above which aim at uplifting the

quality of Ugandan maize exports." UGTL now works with inspection agencies to test at farm gate level, training farmers to keep disease ratings less than 3 percent and moisture content less than 13 percent. These increased standards will bump the maize crop into export markets in addition to WFP. Oddly enough, through the WFP Uganda smallholders supply 80 percent of the grain to their own IDPs in the Northern part of the country.

"It's a powder keg," Magnay says. "Those IDPs can farm and they will farm, and when they start to turn out another 100,000 metric tons, we'll be sitting on it here unless we get recognition from the African and European markets."

Increased quality will also introduce an important risk element: buying surplus in the harvest season, maintaining its quality and selling out of storage. What more is required? Finance and storage, says Magnay.

"We have to change African governments to buy food security. Africa is always going to be in surplus and deficits. It's a biblical epidemic of weather and tense conditions."

Magnay suggests a trip out behind the warehouse to drive home his last point about the future of grain trading in Uganda. He slides open a huge steel door that reveals two sets of railroad tracks and a loading station.

"It can hold about 20 train cars, with the ability to switch tracks."

Average exports now stand at roughly \$11.8 million and 67,800 metric tons, and growing. Looks like the industry has found its locomotive.

Upland Rice: From Start to Finish

At their own choosing, upland rice farmers often grew their crop in ankle, sometimes knee-deep primitive conditions in mosquito infested swamps. There was no mandate under the PMA, NARO, or donors to work in upland rice at that time, no one telling the farmers, "Get out of the swamps! There's a better way." In fact, the only organization interested in upland rice was the National Environmental Management Authority (NEMA), concerned primarily with how the swamp rice threatens the wetlands. Before that, policies

played the important watchdog role: the National Environment Statute (1995), the Water Statute (1995) and National Wetlands Policy promote environmentally safe wetland use, thereby limiting paddy rice.

At the start of 2002, there was essentially no upland, rain-fed rice production. But the climate was ripe, investment crept in, and research continued to suggest that upland rice would fill holes in the highlands left by wilting coffee. Food prices of staple crops such as potatoes, bananas and maize also were on the rise. Then new varieties were developed and imported from regional markets. All of the sudden, by the end of the project in early 2004, upland rice was produced in 29 districts and Uganda's Vice President Gilbert Bukenya launched the National Rice Program in March 2004.

How did all this start? Tilda Uganda, a transnational rice producer/exporter, was in Uganda producing irrigated rice with yields of 3 tons per hectare. Tilda encountered the rice yellow mottle virus in its irrigated production and asked WARDA to help solve the problem. A WARDA consultant came to Uganda, dealt with the virus and also let the word out about five new rice varieties called NERICA (NEw RICE for Africa), specifically designed for upland, rain-fed conditions. Tilda and others, including IDEA, were skeptical yet intrigued. The consultants answered their own skepticism by bringing some rice seed to Tilda where it was tested in 2001 on a small plot. Results were excellent. IDEA decided to run with the variety under an out-grower scheme. They under-



Out-grower schemes, or contract farming, helped make upland rice a latecomer success for Ugandans through IDEA.

took a number of interventions to get things started:

- In 2002, IDEA gave a grant to NASECO, a private seed company, for technical assistance from the same former WARDA consultant to help with NERICA seed breeding and multiplication. NASECO then began selling the seed to the ATAIN distributors and stockists and private seed companies.
- IDEA brought in 300 kilos of growers seed and staff promoted upland rice production in rice growing regions with half-acre demonstration plots developed during both 2002 seasons. Demonstrations first focused to the east on Ingaga, Kamulie, Sronko, Pallisa, and Tororo. By the end of the year, they expanded to Hoima, Kibale, Masindi, and Kiboga in the west.
- Farmers who provided their land for demonstration plots received free seed and inputs, and IDEA offered lead farmer training as well. By accepting the new responsibilities of a lead farmer, these producers committed to bringing in a minimum of 10 farmers for group training and observation sessions. Lead farmers could also sell seed they produced to their group.
- IDEA helped lead farmers establish rice seed centers in their villages. The centers allowed farmers to access seed at lower cost. The seed centers also sold seed to the ATAIN stockists, who would package it and sell it in their village shops.
- The project's low value team-trained NAADS extension service staff in production technologies in all 29 rice-growing districts.
- To ensure the level of quality product demanded by the two firms, IDEA provided Tilda and

Rice and the Vice President

In 2002, Hunger Alert's country director heard about the phenomenal yields in upland rice supported by IDEA. She purchased the seed from NASECO and took it to Gulu in Northern Uganda where the USAID-supported NGO worked with smallholders. IDEA provided technical advice to the effort.

Uganda's Vice President Gilbert Bukenya visited Gulu in late 2003 and reported high yields when he visited the Hunger Alert project. So, he purchased some seed from one of the farmers and took it to his home town, Wakiso, outside of Kampala, where he distributed it to farmers. Again, yields were remarkable. The vice president was so impressed that he called IDEA in early 2004 and met with the low value team leader and IDEA's rice consultant to plan a new special initiative in upland rice that will be implemented under APEP.

Nyanti Rice Millers field staff with agronomic, financial, and business management training, particularly as it related to harvest and post-harvest handling.

- IDEA helped FICA, a private inputs firm, import affordable herbicides needed for upland rice production and distribute them via the ATAIN program.

In 2003, roughly 100 metric tons of upland rice was produced. By early 2004, 250 metric tons of seed were produced, with 60 percent sold by April 2004. The successes in rice have had tremendous impacts along the market chain. First, Tilda and Nyanti Rice Millers Ltd. are selling to local, Congolese, and Western Kenyan markets, as well as to local markets. Second, Agro-Sonkoni, the only rice milling machinery distributor in Uganda, now sells 200 rice mills per year compared to a previous average of four per year. Third, financial institutions are beginning to show interest in upland rice. Toward the end of the project, Standard Chartered Bank gave a loan to a large commercial rice farmer.

Upland Rice is a Late Bloomer for Uganda

As populations around the world urbanize at a higher rate, the race is on to uncover the versatile food that can

feed millions, store easily, and be transported trouble-free. More than ever, countries are turning to rice as the answer to urban sprawl and growth. Rice is less bulky and perishable than traditional staple food crops, such as Uganda's own staples: matooke bananas and maize. Brown, white, wild, long, medium, short, naturally fragrant, nutritious, rice comes in hundreds of varieties and, lately, is defying common notions about its cultivation.

Upland rice varieties were researched in the mid and late 1990s and endorsed by the IDEA project in a joint venture with the West Africa Rice Development Association to introduce several rain fed varieties with early maturity (90 to 120 days) and good yields (2,500 to 4,000 kilo/ha). Images of the paddy farmers toiling in disease- and pest-ridden swamps and undermining wetland conservation have been replaced with men and women tending fields of lush, green upland rice waving in the breezes of the Ugandan uplands, where the air loses its tropical weight. Although officially the home for Ugandan coffee, recent coffee wilt and depressed world markets have decreased the practicality of coffee as a cash crop for small-scale and larger commercial producers. Enter upland rice and risk-takers like Majidu, a 32-year-old father of five who went from digging latrines as a

Why Import?

Uganda imports more than \$20 million of rice annually. It costs \$350 to import one metric ton of rice and only \$120 to produce one metric ton of rice in Uganda.



"Mostly reading and crafts," says Majidu's 16-year-old son about his favorite subjects in school. New income has allowed the farmer to send all of his children to school.

journeyman to a commercial farmer employing 10 in his fields of maize, sunflower and—his newest love—upland rice.

Before commencing to dig waste pits with a shovel and pick for eight years, Majidu had tried to sustain his growing family on farming alone for two years, but had nothing to show for it except food to eat. The maize wouldn't grow. The sunflowers hung limp.

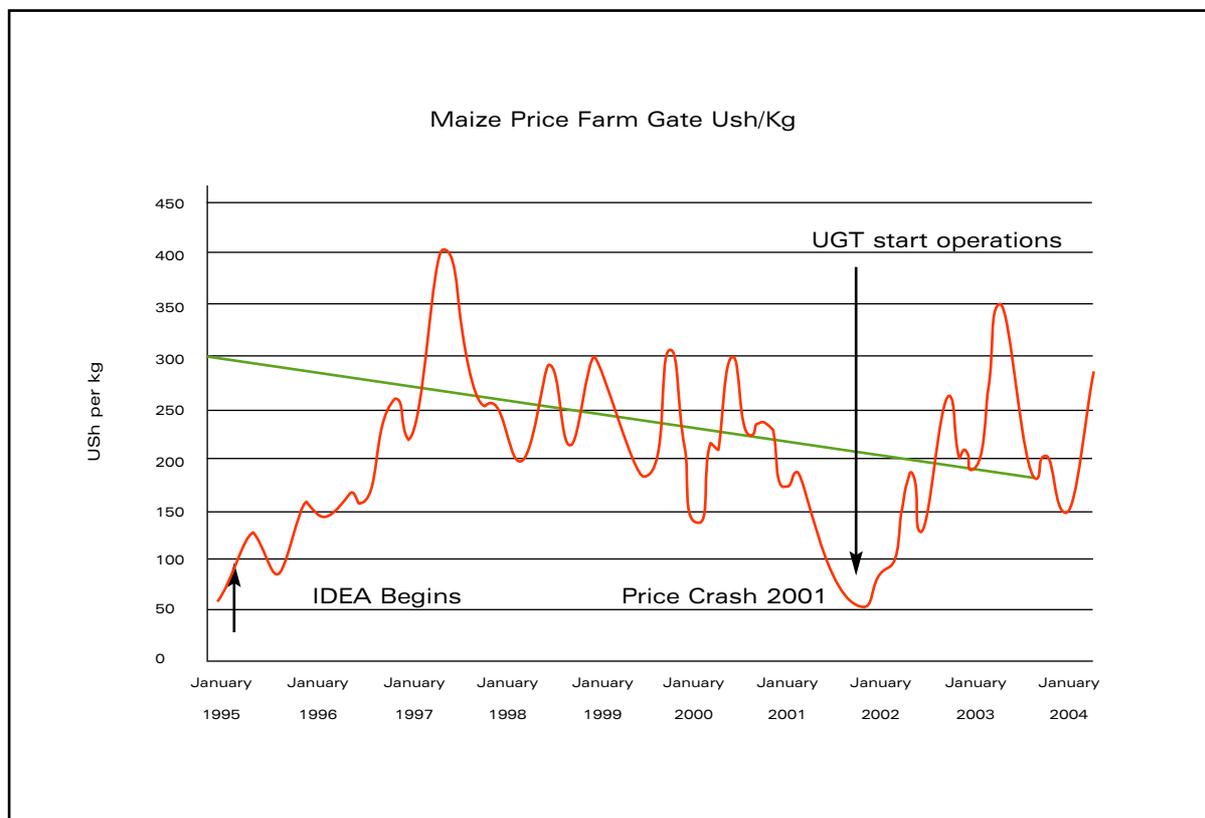
"We had two children when I started to dig the pits," Majidu says. "I have a family. I cannot sit in the house, you know. So I worked and we started to make plans for the future."

Majidu deposited earnings with his wife—"the family bank"—and after eight years they had saved enough to purchase 15 acres of land. He planted maize the way he had done for his father. But the increased area only increased his frustration and concern, especially when others around him seemed to have such success of late. Tired of scant quantities and low quality, Majidu tracked down

an IDEA project extension agent giving maize and upland rice demonstrations in his village. He told the agent about his desire to get involved with the program.

"I told him, 'I have the land now. How can I have the tall crops?'" He cracked a smile standing between the emerald green grasses of the upland rice field. Majidu came to IDEA for assistance three years ago. Today the farm is 30 acres, double the original size.

IDEA technical assistants connected Majidu to stockists in his area who supply WAB 165 variety upland rice seed, known for its heavy, tasty and reproducible traits. They taught him how to dig the furrows, how to lay a line and plant straight, how to bank the land to hold rainfall, and, most important, IDEA taught Majidu the patience to trust in the 110-day growing cycle and reassured him that this variety of rice did not require overwatering. But Majidu remained stubborn, as he had with the maize before. "I got scared," Majidu says about trusting the rain. "I watered too much



and the weeds choked the rice in the first season because I couldn't afford the herbicide. So we sacrificed the second season and it is successful now with weed control."

Upland rice began as an out-grower scheme with IDEA, similar to contract farming where prescribed production guidelines under predetermined marketing arrangements are made between producers and buyers. One acre of upland rice will fill roughly 16 100-kilo sacks with un-hulled, winnowed rice. Each bag can bring roughly \$23 on the market. If a farmer mills the rice, they will get an equivalent of 10 100-kilo bags per acre. For the case of milled or

hulled rice, the farm gate price is \$32, the wholesale price is \$42, and retail price is \$54. And because of the influence of the farmers association, buyers come to Majidu and fellow members to collect the sacks of rice. Un-hulled rice also offers valuable byproducts such as rice flour, bran and husks used for a variety of things like animal feed or paper products.

Majidu remains humble even with early success. He pays school fees for his five children, bought a few cows, constructed a decent house, and bought more land for his business—just the way he and his wife planned it 11 years ago.



Ringworm, guinea worm, tapeworm, AIDS, malaria, and hunger affect thousands of Uganda's children each year. Building local agricultural economies has beneficial effects on health care.

The Lessons Learned

The project lessons learned that are detailed in Chapter I apply to both the low and high value components. However, there are other lessons learned specific to low value crops. They include:

A reduced unit cost of production. For example, reductions from 170 USh/kilo to 100 USh/kilo in the case of maize, makes farmers less afraid of the market and gives them the confidence to take more risks.

A phased approach to technology transfer. This is a progressive, effective plan of introducing farmers first to no-cost technologies such as proper spacing, then to low cost solutions such as storing and drying cribs, then to higher cost technologies such as hybrid seeds and crop chemicals. Even with no-cost technologies, UCOPs were reduced.

Technology adoption. Rates of technology adoption in Uganda have been relatively low compared to Kenya and Southern African countries,

especially those technologies requiring higher-cost inputs. However, the no-cost technologies have literally changed the landscape in the past nine years. With this visual proof, interest among farmers grows by the day.

Producer organizations. The strongest producer organizations are those that were once informal groups that came together due to common business interests.

Producer saturation is critical for real technology transfer, requiring broad geographic coverage to reach large numbers of farmers through field demonstrations held over multiple seasons.

Inputs. Access to required inputs for all farmers is essential; inputs must be available at the village level.

Access to credit. Agribusiness and commercial producer support projects must facilitate access to credit. Finance is not the biggest constraint, as farmers often state, but it is just as important as access to inputs, technology and markets.



The FICA processing and packaging plant was built, in part, with funds from an IDEA grant.

The Impact

Broad impacts evolved from the low value component work. The "Along the Market Chain" series illustrates the differences created by USAID's project, complete with taste, touch and smell. Some of those differences include:

- Market awareness by smallholders
- The beginnings of functioning market systems for maize, beans, sesame, and upland rice that previously did not exist or were ad hoc
- The beginnings of structures and systems, including business-oriented producer organizations, to reach down to farmers
- A core of commercial producers in maize
- The foundations for a stronger and functional private sector input supply system for low value crops
- A government research organization, NARO, that is attuned to the private sector
- Opening minds in the public sector to the concept of farming as a business. Low value team leader Mark Wood once said, "It's a full time job, not a weekend hobby. Uganda is one of the few places in the world with two productive seasons in a year. This combined with good management could increase profits greatly."
- IDEA work is emulated by NAADS in technology transfer, DANIDA who is working with agribusiness and producer organizations, the EU is supporting UGTL, and the Japanese aid agency is looking into working in upland rice

The Challenges Ahead

Commercializing small and medium farmers in low value crops offers multiple challenges. Some would refer to

(continued on page 60)

Best Practices of Low Value Crop Production and Marketing

- Ensure quality product and sufficient volumes are critical for sustainable market linkages
- To build commercial smallholders, apply a quadruple focus of technology transfer, input supply, output marketing, and financial services support on the production base
- With smallholders, its best to initially focus on what they can do within their own resources, starting with no-cost technologies
- Offering a phased approach to technology transfer is effective with smallholders, starting with no-cost technologies and over time offering low-cost and higher cost technologies
- Subdivide demonstration plots to show use of and results from no-cost and low-cost technologies
- To interest as many farmers as possible, broad small farmer exposure to new and improved technologies is critical
- Ensure access to, availability of, and affordability of needed agricultural inputs at the village level
- Commercial agriculture can occur in conflict zones such as Northern Uganda by using the same project approaches but also working through NGOs within the zones
- Train farmers in the UCOP concept and calculations
- Develop programs focused on increasing farmer income through training and market linkages, coupled with commercial bank engagement

(continued from page 58)

these farmers as "the bottom of the food chain," and, in a way, they would be accurate. The small and medium farmers don't have the financial advantages, for example, of the larger commercial producers. But without the small and medium producers there is no market chain and the multiplier effect of the integrated commodity system approach would screech to a halt. Therefore, it is important to focus on the first link of the chain by providing support to replicate successful models and efforts, including embedded extension programs with processors and expansion of the successful technology transfer, financing, and private sector inputs system. Below are some specific needs of small and medium producers on the market chain.

Quality standards. Notions of what constitute quality standards among Ugandan farmers are far removed from established quality requirements for exports, such as EUREP GAP. Quality standards and buyer requirements need to be built firmly into all training programs. However, relevant commodity industries must be the ones to take the lead, as donor projects are more apt to serve as catalysts.

Unit Cost of Production (UCOP). For farmers to understand profitability, they need to understand how to calculate their UCOP. Thus, an understanding of UCOP across the industry is critical. The concept is sinking in after nine years as farmers have become more commercialized. Both the private sector and donor projects can ensure

that farmers understand UCOP and how to calculate it as part of technical assistance and training.

Organizing farmer groups. Marketing in groups by farmers is still highly ineffective; there is a culture of mutual distrust among farmers and a disregard for contracts. Much work is needed to form and support like-minded, business-oriented groups of farmers to participate in bulk marketing efforts.

Strengthening input supplies. The project has made solid progress in strengthening private sector input supply systems. However, the system is fragile and small. It needs broader national coverage and a wider commodity base. The input supply network supported by IDEA is heavily dependent on maize.

Accessing rural financing. The loan programs supported by IDEA are not truly embedded within banking institutions, despite the successes with Centenary Rural Development Bank. Successes were based on the interest and commitment of branch staff, some of whom paid regular field visits to encourage their clients and view their investment. There is no doubt that commercialized farmers need access to credit to succeed. Donors must continue to work with banks to increase their comfort level so that small and medium commercial farmer lending is expanded and, if possible, becomes openly supported at the corporate and institutional level.

Grain Market Crash of 2001

The maize market in 1995 was in a sorry state, with some of the lowest prices and farmer morale in memory. IDEA moved in and met project targets. However, grain-derived rural incomes and producer confidence were non-existent. Between 1996 and 2000, new technologies combined with recovering prices gradually reinvigorated producer confidence. Suppliers of rural financial services also were gaining confidence. Unusual were well-distributed rains in Kenya. Although district officials had been reporting better than average crop performance, Kenyan national statistics until May 2001 had reported a national deficit. Enthusiastic Ugandan farmers planted, as always, by the previous season's price. By June, the looming crisis began to come into focus. WFP was briefed and supply pipelines were altered as much as possible to accept the September harvest. Too little too late. WFP funding was insufficient to meet the requirement for off take. The industry met in July under the guidance of IDEA and formed the Uganda Grain Traders consortium, initially 14 traders. A temporary site was arranged at the old intervention store of the Uganda Coffee Development Authority with a capacity of 15,000 mt bagged. However, the industry knew that unless product was removed from farmers, quality would deteriorate to throw away levels.

UGT managed to secure a guarantee through the Export Credit Guarantee system of the Bank of Uganda covering \$2.5 million in commercial bank exposure—available once a contract was signed. Zambia was in a grain supply crisis, and UGT seized the opportunity to supply 40,000 mt out of the low price situation. This chain of events established Uganda's potential both internally and externally and set UGT as the terminal buyer for Ugandan grain.







After a rocky start, the doors to Uganda's flower industry were thrust wide open with the arrival of IDEA in 1995.

CHAPTER THREE

High Value Crop Export Development

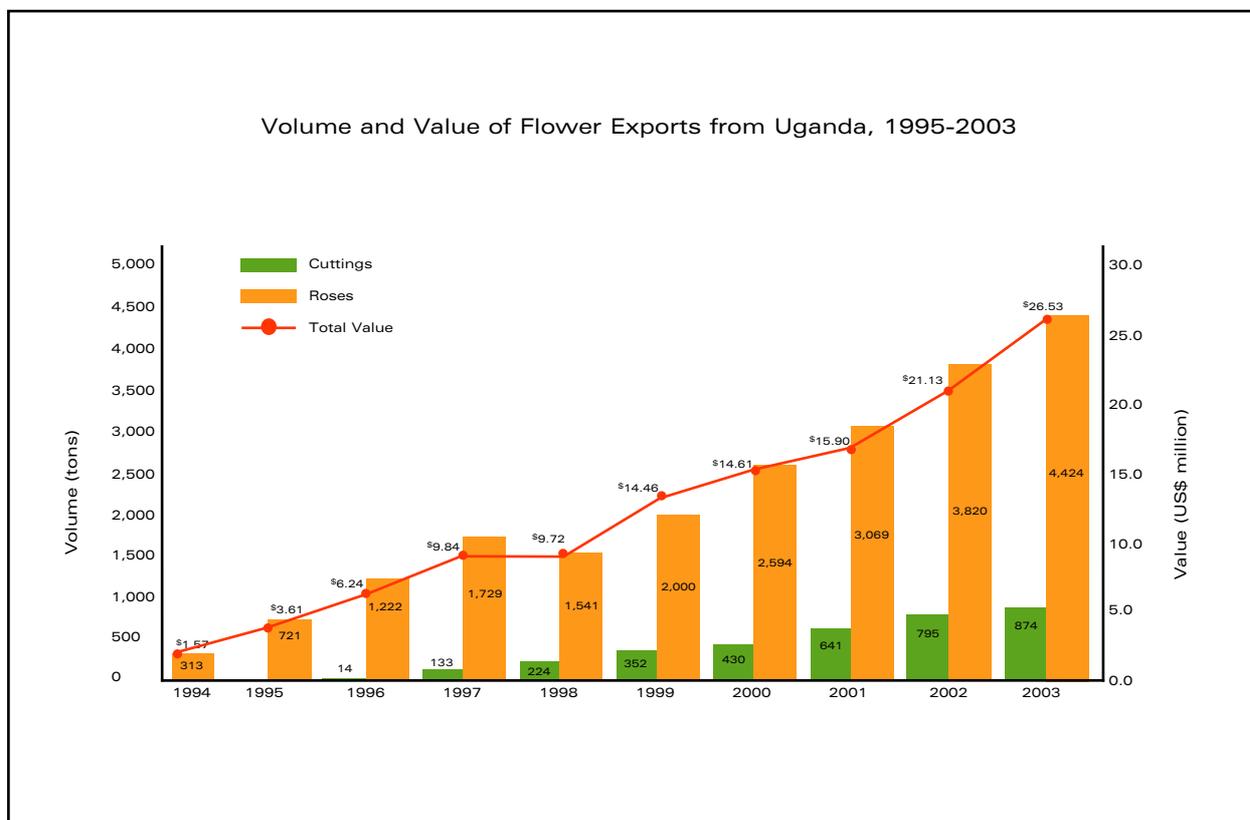
Work under the high value component focused on identifying and supporting a suitable private sector client base of producers, producer organizations, traders, export associations, and exporters. The team concentrated on technical advice, access to financing, business-plan development, and technology transfer and training in all aspects of business, from production to post-harvest handling to marketing.

The project exceeded the life-of-project target of \$45 million in high-value exports by \$19 million. This was largely due to strong performances in the floriculture and vanilla sectors. Early identification of the requirements and potential growth for these two crops enabled the team to focus on all aspects of the commodity chain, from production through harvesting, post harvest, logistics, and marketing. In floriculture, IDEA played a critical role in encouraging local and foreign investors, focusing on the excellent growing conditions that Uganda offers. The chrysanthemum-cuttings industry, for example, begun with infusions of foreign investment, developed into a nearly \$8 million business in only three years, and continues to expand. With vanilla, the IDEA team quickly recognized that this was an ideal crop for smallholders because it offered excellent opportunities for raising rural household incomes. The increase in production coincided with a huge increase in world prices. Vanilla exports by the end of 2003 were valued at nearly \$25 million while the IDEA life-of-project target was \$2 million in exports.

Shortcomings in the high-value export sector were in fresh produce, largely because the exports come mainly from a large number of small growers who lack irrigation and infrastructure. The growers are widely dispersed geographically and often lack a basic understanding of agronomic methods. Despite extensive training efforts by the IDEA team over the life of the project, consistent increases in volumes and quality were elusive. Traceability and strict phytosanitary requirements from European importers will continue to be barriers to growth in fresh produce exports. Uganda will realize significant fresh produce export growth only with further investment from large agribusiness firms, such as those invested in Kenya.

Project-Targeted High Value Crops

- Flowers (roses, chrysanthemum cuttings)
- Fresh produce
- Cocoa
- Vanilla
- Papain



Overall, with IDEA's help, the high-value NTAE sector showed steady growth beginning in 1995. The most dramatic increases took place in floriculture—specifically roses—and vanilla. There were encouraging signs from the cocoa industry. However, fresh produce exports and papain grew slowly. Below are major activities and achievements:

- The first objective study of the feasibility of a Ugandan rose industry was carried out by the IDEA team in 1995. Conclusions were positive with some reservations. Since then, an estimated \$49 million in new private capital has been invested in the floriculture industry. Every new investor consulted IDEA on technical and marketing issues.

- Continuous support has been provided to the Uganda Flower Exporters Association (UFEA) since 1995. It now provides a range of services to members, including freight consolidation and rate negotiation through FHL; representation and lobbying on taxation issues; technical research and training; and management of donor funds for floriculture development provided by the European Union and the Netherlands. A research center was established in 1998 to identify new rose varieties suitable for Ugandan conditions. This was a Global Development Alliance-type joint venture with funding from many sources including Dutch rose breeders, Israeli input

suppliers, and East African packaging companies. It is anticipated that the center will be relocated and expanded in 2004/05 with financial support from the European Union.

- The first trials on chrysanthemum cuttings were carried out under an IDEA research grant in 1996. This has since developed into a major commercial product with an estimated FOB value of \$7.6 million in 2003.
- A customized training course in Applied Tropical Floriculture (ATF) was designed and initiated in 1997 as a public-private venture between IDEA, UFEA and Makerere University. Six annual courses have been held and a total of 140 farm supervisors, MAAIF technicians and university staff have graduated with ATF certificates. Makerere University started the first degree course in horticulture in September 2003.
- A grower owned and financed freight and handling company, Fresh Handling Ltd. (FHL), was established in 1999 with IDEA technical support and guidance. This is now a profitable company that handles more than 95 per-

cent of all flower exports, 50 percent of fresh produce and a share of other perishable freight. Besides reducing the cost of freight to the industry by more than \$1.5 million per year, FHL has been instrumental in improving market-arrival quality and creating a reputation for Uganda as a reliable and consistent supplier of roses and plant cuttings. Via FHL, IDEA was able to facilitate funding that enabled exporters to finance their own air freight, so they could consolidate tonnage and increase their bargaining power with the airlines. This led to a 40 percent reduction in air-freight costs and the availability of eight flights per week to various European destinations.

- IDEA helped prepare market-driven national Codes of Practice for the NTAE sectors, beginning with the flower and produce industries; these codes are now finalized. Before the project ended, the team helped draft codes for cocoa and vanilla, and has helped businesses implement the codes and prepared them for external audits.
- Vanilla extension workers were trained in 12 districts initially in

Up to Code

A national Code of Practice protocol for floriculture was prepared with IDEA support and all members of UFEA agreed to work towards compliance. This has enabled some to achieve accreditation in 2002 under the Dutch MPS scheme for environmental protection and safe use of chemicals. Four farms are currently working towards EUREPGAP certification.



Vanilla farming favors smallholders because of the careful hand pollination necessary to achieve maturity.

1996 and extended to 18 districts in 1998. Today, vanilla is grown successfully in many of the higher rainfall parts of Uganda, from Bundibugyo to Mbale. Through technical bulletins, training, radio broadcasts, and demonstration plots, growers are now aware of the techniques necessary to produce top quality vanilla. The leading buyers from the United States and Europe were invited to visit growers and processors who have become global supporters of the planned expansion of the industry. Even more investors were attracted to the industry toward the project's end. By 2002, there were eight green-bean buyers with well-equipped processing facilities valued at more than \$300,000, financed by private capital. Vanilla was promoted by MAAIF and the PMA as a target crop for poverty alleviation.

- With IDEA support, the Uganda National Vanilla Association (UNVA) has become a national association with growers and pro-

cessors meeting regularly to set harvesting dates and quality parameters. A local private laboratory has been assisted to provide pre-shipment quality analysis, including vanillin and moisture content, and microbiological screening.

- Individual companies have been provided with customized technical assistance on many fruits and vegetables since 1995. However, the growth in exports of fruits and vegetables has been slow compared to the rapid growth of floriculture and vanilla. This disparity is likely to remain because the profit margin and returns on investment on fresh produce are relatively low. For example, a gross FOB return of \$20 per square meter of greenhouse space can easily be achieved with roses, while it is difficult to obtain \$5 per square meter for the highest value vegetable products. This situation is compounded by the increasing traceability and quality demands of the food market,

Hot Stuff

Uganda has achieved sustainable market penetration in Europe with fresh chili, hot pepper, okra, various "Asian" vegetables and sun dried fruit products. For example, since 2001 Uganda has replaced Caribbean suppliers as the market leader in Europe for red and yellow hot pepper.

which place additional costs on commercial fruit and vegetable producers and make it difficult for small growers to survive. Also, the considerable "sunk" cost of infrastructure for fresh produce exports in other East and Southern African countries will make it difficult to justify new investment in Uganda, except for highly specialized products such as pre-packed chili, passion fruit, fresh herbs and baby vegetables, where some competitive advantage could be achieved.

- Cocoa is an important alternative in some areas where coffee has been completely destroyed by wilt. IDEA has worked with cocoa growers and exporters to make production and processing improvements since 1998. The

project has also worked with MAAIF to support their cocoa rehabilitation programs and funded the formation of the Uganda Cocoa Association (UCA). The UCA is significant because it brought together the major cocoa buyers and growers' associations under one umbrella.

Along the Market Chain

IDEA's work in high value NTAE exports is examined at the household, business, and national levels in the following narratives. As you follow the people and businesses along the floriculture market chain, take note of how the integrated commodity system impacts each link in the chain. The approach has led to such innovations as the cold chain and significance of FHL, codes of practice, and the formation and structure of UFEA.

The Component by the Numbers

Value of rose, cuttings, fresh produce, vanilla, papain, and cocoa exports: 1995: \$9.5 million; 2003: \$63.7 million

Number of employees in the flower industry: 2,540 in 1995; 2003: 7,000, 60 percent are women

An estimated \$49 million invested in the floriculture industry

Number of fresh produce producers: 2,400 in 1995; 2003: 56 percent, 8,000 are women

Number of vanilla producers: 4,000 in 1995; 2003: 15,000, 37 percent are women

Technology transfer/training programs in 24 districts

Number of technology transfer demonstration sites: 1995: 0; 2003: 96

Percentage of farmers trained who are women: 25 percent on average, 43 percent in 2003

Percentage of farmers adopting technology: 1996: 15 percent; 2003: 33 percent



More than 4,600 women have found work thanks to Uganda's blooming flower industry.

At the ground level, the series examines one particular flower producer, shows how the quasi-government agencies work with handling and freight companies, and describes the lives of those changed by the flower industry's success.

The greenhouse worker:

Eight months ago, Moona's husband committed suicide after a debilitating mental breakdown that ravaged the family of four for nearly a year.

"He was not right, and he took it out on us," Moona says, smiling at first and then letting her face and eyes go blank for a moment before reconnecting. "It was not good. I work now for survival because I have no family or friends to help."

After a few moments, Moona admits that her husband's family turned her and the children away following her husband's death. Uganda, a patriarchal society that bestows the power in a marriage with the men and their family, can be a cold place to widowed and single mothers and their children. Four out of 10 children are stunted because of malnutrition. Ringworm, guinea worm, tapeworm, AIDS, malaria—which kills more than AIDS—and hunger contribute to a death rate of 80 babies out of 1,000. Women have seven children on average, and giving birth is very dangerous. Men and even children are sometimes abducted by rebel armies to fight in the North against the Ugandan army. Life expectancy is 43 years old.

While many women struggle to find gainful employment that offers enough

free time to raise their children, some women are flocking to a thriving new Ugandan industry that mixes mothering with nature: flowers.

The floriculture industry now employs almost 8,000 people in an area of Entebbe that skirts the low and humid spots around Lake Victoria. It's an industry that bloomed from virtually nothing beginning around 1994. It started with a few greenhouses, investors from the Netherlands, consultants from Israel, and technical assistance and guidance from the IDEA project, and grew into a \$30-million-plus export industry by the end of 2003. Since 1995, floriculture has attracted \$49 million of new investment. The numbers are so startling that they resemble budgets for small towns. In fact, many of the horticultural businesses in Entebbe seem like small towns, providing benefits for employees such as soccer fields, volleyball courts, subsidized housing, medical clinics and allowances, day care centers for working mothers, bicycle purchases, soft loans, training and promotions, employee cafeterias, three months of maternity leave, clean drinking water to the surrounding area, and a community of support.

Women may benefit most from a familial culture created on the flower farms. Roughly 4,800 women comprise more than 60 percent of the total work force. About 40 percent, or 3,200, of all employees are single, and most of those are women. Farm salaries trickle down to support a network of more than 22,000 people across the 20 flower farms in Entebbe. And more than 90 percent of employees with school-age chil-

dren send their kids to school, which contributes to Uganda doubling the number of children in school to 6.6 million from 3 million in five years.

On a sunny afternoon at the Wagagai greenhouses in Entebbe, children are cuddling teddy bears in their cribs at "The Baby House" while their mothers work on the farm. Mothers stop by the nursery twice a day to visit and breastfeed their children, says manager Juliet Ssekitoletto, a 26-year-old wife and mother of one.

"Usually when a mother has to work," Ssekitoletto says, "they just leave the baby at home for the day. Sometimes alone. Here, you can take your baby to the clinic when it is sick, feed and care for your baby. We have baby clothes, Vaseline, soap, baby powder, and it's all free for employees."

Juliet Namukhula, supervisor of soil and peat cleansing at Wagagai for three years, is also a 37-year-old single mother of three who manages nearly 30 employees during the day while her children attend school.

"Yes, it is difficult because we are separated," Namukhula says of her marriage. "But I have friends here. I don't worry about my children because we are safe when I work here."

The greenhouse owner:

Looking through the plastic sheeting of a greenhouse, blue and orange figures glide against a sea of green. The air outside is cool with a lake breeze and ripe with rain during this season. Then the greenhouse door slides open and a blast of humidity swathes

you in heat and moisture. Women buzz from flower to flower, pricking the buds and harvesting the flowers and cuttings.

"Excuse," yells a man in an orange jumpsuit hauling dead, drying flowers in a cart.

Back outside, men haul tanks of herbicides on three-wheel bicycles. Some don gas masks before slipping into doors hung with cautionary signs: Do Not Enter Spraying In Process. A quick retreat into the next chamber, a labyrinth of botanical beauty, and the temperature drops to 25 degrees Celsius, 85 percent humidity, the correct conditions for poinsettia plants strictly enforced by electronic climate control and women with clipboards. It is the perfect blend of nature, (wo)man and machine.

The place is Wagagai Flowers in Entebbe, Uganda, and it is a well-oiled business machine just off the shores of Lake Victoria and right on the crest of Uganda's emergence as an exporter of floriculture to Europe. Owned by Netherlands investors, Wagagai is one of 20 new flower farms to crop up just south of Kampala since 1995. Together, all 20 businesses accounted for more than \$26 million in roses and plant cuttings exports in 2003. Working mainly in sweetheart roses, chrysanthemum cuttings and a few potted plants, Wagagai employs more than 900 under partner and director Olav Boenders.

"I tried to come here in the early 1990s, back when the first flower farms started," Boenders says, his



Flower farm health clinics offer free treatment and medicines to employees and their children as an incentive to join the community.

voice echoing against the freshly painted walls of a new office building at the farm. "People started to grow tea hybrids, big rose varieties, copying Kenya's every move. But the management was all wrong because Uganda has a very unique, specific climate. So the whole thing failed."

Boenders is a Dutchman with experience in the Kenyan floriculture market who committed himself to Wagagai and Uganda's efforts in 1999 without even a salary to entice him. The IDEA project provided a grant to cover Boenders' salary and supplied additional technical assistance to the farm during that year. Boenders and his staff worked out of rusty steel shipping containers. No phones. No fancy desks, chairs or computers. Just flowers.

"Slowly they got into sweethearts as more knowledgeable staff came in for a more specialized flower," he continues. In Uganda, the hot, humid and minimal diurnal variation climate favors the sweetheart roses—Rodeo,

Sacha, Lambada, for example—which yield between 350 and 450 stems per square meter. "But now the sweetheart market is oversupplied with low quality, forcing the market down to an uncompetitive price. So, it's time to move on again into intermediates and hydroponics technology."

From humble beginnings to a business leader firing off market information like a stock ticker: "We need something a little bigger, with a higher average price, a higher yield, a higher production rose," he says, pointing to a prim vase of full, yellow roses.

The flexible, open system says enough about the success of floriculture in Uganda, Boenders points out. In Kenya, for example, the business is every greenhouse for itself. On the other hand, Uganda growers attend the same applied tropical floricultural courses, work with the same handling company, are protected under the same umbrella association, and share knowledge regularly in site visits and study groups.



Many greenhouse workers, supervisors especially, benefit from the Applied Tropical Floriculture courses structured through IDEA. Environmental awareness is a main pillar of that education.

More important, consolidation of the growers led to selling directly to European supermarkets, quality self-regulation in 2000 that met 2002 EUREPGAP standards, increasing their foothold as a force to be reckoned with, and reduced airfreight costs by 10 to 12 percent immediately.

"It all would have collapsed without the support of IDEA," Boenders says sincerely. "Having the right people who are seriously dedicated and interested, a proper team, is the key. They always put money in the right spots, listened to the industry and didn't go spending money on nonsense. They targeted funds on TA for individual farms, set up breeders with individual farms, and focused on hardware."

Hardware includes the Fresh Handling Limited cold-store facility at Entebbe airport, which could use an expansion to double its capacity for the good of the flower association, Boenders says. The current price wars with sweethe art roses could bury a small-time exporter like Uganda, he warns, unless the donors focus TA to improve current businesses, production and quality of hardware.

"Sure, it looks like a success story now. But it's no time to rest or it's going to be a real difficult time."

The flower association:

The second phase of IDEA took the foundation established in Phase I and built solid structures around them to protect that groundwork from the elements. Like putting a roof on a house. Research, contacts, market linkages,

investment, training, and capacity and facility building were the hallmarks of Phase I for flowers—the house. But floriculture still suffered an image problem in early 2000. So, for the vulnerable, bruised and battered flower growers, building market strength and reputation—the roof—was the force driving floriculture in Phase II. The structure built to protect the individual flower growers was UFEA, or the Uganda Flowers Exporters Association. Originally founded in 1995 among two large flower producers, UFEA convinced other businesses to join ranks over the years and now stands 20 members strong. In fact, it's the only show in town.

The unity created by the umbrella exporters association allowed donors to focus technical assistance on the industry at large, rather than individual growers. And UFEA could ensure donors that funding would not be duplicated. For example, when the GDA, the growers, USAID, Israeli input suppliers and East African packaging companies decided to fund the first Research and Training Center for flower and horticultural experts in 1997, donors were quite sure that TA would be targeted and specific to issues of Ugandan growers. In other words, when donors talk about the R&D Center, everybody knows where it is and what it does.

Such transparency and focus, along with the country's growing market reputation, have attracted donors beyond the life of IDEA. The Netherlands is financing UFEA executive director Keith Henderson's salary. The EU is considering funding the flower indus-

try and helping to build a new training school on Entebbe Road. The flower growers themselves, with growing financial security provided first with donor support, contribute \$4,000 per grower per year in dues to support their efforts. And the IDEA project itself is leaving its own legacies in areas like higher education, where Makerere University commenced a horticulture studies degree program in September 2003 based largely on the model of applied tropical floricultural courses begun by IDEA, UFEA and MU in 1997. Those courses certified more than 140 graduates, including professors now teaching courses at MU that will train thousands to come.

Some will say that "Uganda was just ready for the success." But they would be ignoring the years of failed flower research, trial rose varieties stretched out over six years, technical advisers running here and there, bad advice, bankrupt farms, broken deals with European buyers, and the total lack of standards that clouded most of the 1990s in Uganda flowers. International flower market studies, like the one conducted for the European rose market through IDEA, opened possibilities to growers and donors alike, with \$49 million in new investment coming into Uganda's flower sector since 1995.

Self-regulation came because the market demanded a Code of Practice that affected everything from the cold chain to worker health and safety. The ultimatum was set: meet or beat the EUREPGAP standards, or lose the

market. Never mind that the GOU didn't provide phytosanitary accreditation at the time. But UFEA, the growers, stepped up. Today, growers are working toward achieving proper Dutch MPS and EUREPGAP certification on their own.

At first glance it is simple to see UFEA as simply handling the following grower concerns: freight consolidation and rate negotiation through FHL; representation and lobbying on taxation issues; technical research and training; management of donor funds for floriculture development provided by U.S., EU and Netherlands governments; and reviews of the Uganda floriculture industry. But these categories say nothing about the hard numbers—\$30 million in exported roses and cuttings in 2003 and a new Dutch market for chrysanthemum cuttings—or what is required for the future.

Encouraging more Ugandan-owned businesses through tax breaks and lower interest rates is the future. Phasing out harmful chemicals like methyl bromide to comply with the Montreal Protocol signed by Uganda is the future. Doubling the size of the industry over five years and moving to areas beyond Entebbe—perhaps the highlands—is the future. Attracting investment through export processing zones is the future. Hydroponics technology for every grower, introduction of intermediate-sized rose varieties to keep abreast of the market, refrigerated trucks to facilitate expansion and "maintain the cold chain," and ending duties on inputs—all these essentials represent the future of



With increased demand in the European markets for Ugandan flowers, the FHL facility has reached capacity and hopes to expand with donor assistance.

Uganda's floriculture industry through the eyes of UFEA.

The handling company and outside agencies:

In the Ugandan flower industry during the past nine years, few phrases were repeated as often as, "Maintain the cold chain." Flower growers heard it in their dreams. Donors may have developed cramped fingers from writing and rewriting the comment. Cargo handlers could only shrug their shoulders from lack of proper equipment. And buyers would utter the phrase in contempt when Ugandan flowers arrived at auctions.

"I remember walking the tarmac at Entebbe, just even in the late 90s, and seeing the damned things just sitting there in the sun, wilting to nothing," says Clive Drew, managing director of the IDEA project from February 1995 through November 30, 2003.

Graham Stone, new executive director of Fresh Handling Limited, was

employed with Das Air Cargo during the time that Uganda's horticulture industry was developing. USAID has provided a three-month salary to Stone to tap into his insight as a cargo manager. Das Air has handled perishable agriculture products from Uganda since the late 90s, and they are one of two companies with whom FHL deals for airfreight from Entebbe to Holland. Stone remembers more than one instance when Ugandan flowers and cuttings were refused by buyers in Holland because of poor quality and other occasions when exporters would get hit with dead freight penalties.

The chairman of the board of FHL and a Uganda flower grower himself, Olav Boenders goes even one step further, saying that "handling was zero."

"So we brought the growers together with standards," he says, "and we bought an auction block in Europe. Just three years ago everyone was



Some flower farms still lack the funds to buy or lease refrigeration trucks.

shipping individually, dumping their flowers on the tarmac to rot in the sun. IDEA helped us take over and we had immediate improvement and got reduction in freight costs of about 30 to 40 percent door to door."

The first step to healing Uganda's bruised image in the world floriculture market centered on maintaining the cold chain, from the time cut flowers and cuttings leave the greenhouses to the time they enter the cargo plane, after which time they may not see an end-user's vase for four to five days. That is where a little used, badly designed cold store built by USAID in 1997 just a stone's throw from Entebbe Airport became the missing link to Uganda's success and proved USAID's foresight again.

Built by USAID to be owned and operated by Uganda's Civilian Aviation Authority, a quasi-government entity that owns the airport, the cold store became the focus of renewed effort to consolidate and strengthen floriculture around technical assistance from

IDEA horticulture specialists, like Steve New and Steve Humphreys. New and Humphreys are the men who many industry leaders credit with making flowers work in Uganda, pointing to the more than 4,600 tons of roses and chrysanthemum cuttings exported in 2003 as proof. They helped organize 20 flower growers into a powerful association, established grades and standards and held everyone accountable for enforcing them, gave startup advice, developed a statistical tracking system implemented by CAA staff, provided hands-on technical assistance with trial shipments, market information and contacts, negotiated and juggled for freight costs, and delivered the cold store in 1999. IDEA grants provided purchasing power for compressors, pallet dollies and covers, pre-cooling fans, and approval of the general manager's salary.

Today, FHL is a grower owned and financed freight and handling company that handles rate negotiation for its partners. It employs 32 full-time

workers and nearly 150 in all, controls 95 percent of all flower exports, 50 percent of fresh produce, and a share of other perishables. Most important, FHL creates a marketable quality product and maintains consistency in floriculture, accounting for Uganda's emergence as a small, reliable competitor in European markets. Direct flights of Ugandan flowers to Europe now arrive at temperatures competitive with those of other regional suppliers, including Kenya, Zimbabwe and Zambia. However, the building is not big and is made even smaller by the fact that about 60 percent of space is used for offices and loading docks. The refrigeration rooms hold about 55 tons of product, or 16 pallets, which accounts for only half the space on cargo planes. And for the flower industry to continue its growth strategy, says Graham Stone, the facility will have to double its capacity. But FHL is at the mercy of CAA, which owns the

land, and is already stretched for funding by fledgling flower farmers.

In the meantime, Stone is pushing for reforms such as cheaper jet fuel for airlines, tax credits on fuel for refrigerated trucks so the industry can expand beyond Entebbe, and asking each farm to use refrigerated trucks for the good of the group.

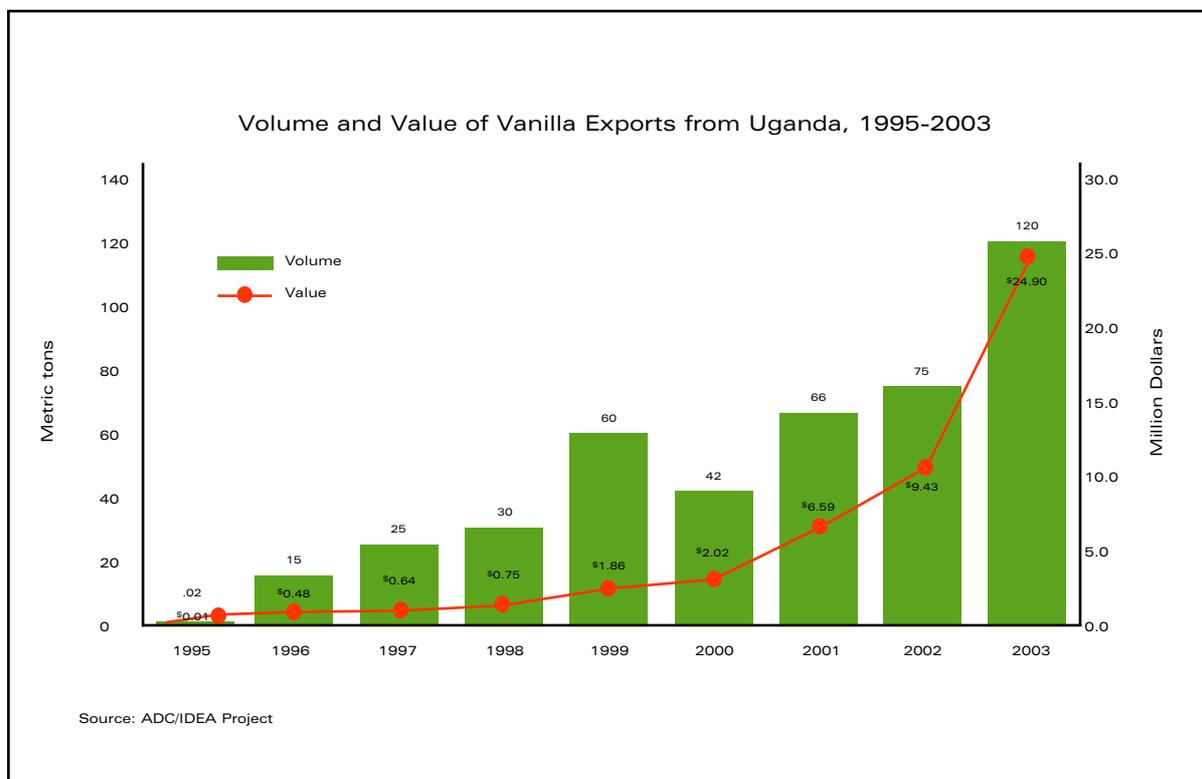
"Some of the trucks coming through without refrigeration are costing a few degrees here and there because they heat the other flowers on the pallets. It's not fair to some farm that pays for the refrigeration to get stocked with a farm that comes in warm."

Supporting Vanilla: From Start to Finish

From zero production, Uganda became the world's third largest producer of vanilla in just eight years, with the potential to become not only a leading world exporter but a

Uganda Vanilla Web Site Brings In New Buyer

IDEA was at the forefront of promoting Uganda vanilla, an alternative crop for growers hit by coffee wilt. Considered to produce vanilla of comparable quality to Madagascar, Uganda has an excellent opportunity to take a large share of the potential \$400 million world market. IDEA promotes Ugandan vanilla internationally through the Web site, www.ugandavanilla.com. Initially imported by only one U.S. firm, McCormick, the number of international importers buying Ugandan vanilla has increased dramatically. One of the buyers attracted by the Web site was Shanks Extracts Inc. from Pennsylvania. With assistance from IDEA, Shanks was introduced to local vanilla exporters. In 2001, prices increased from \$70 to \$140 per kilo; a kilo of cured vanilla today can cost \$500. During 2001, Shank's bought 11 tons (one-sixth of the Ugandan crop) at an average price of \$100 per kilo, resulting in \$1.1 million in exports. The relationship has continued to get stronger by the year. However, market conditions may change.



major challenger to industry giant Madagascar in terms of quality and volume. IDEA has been a catalyst in bringing the vanilla industry to this point, from virtually no exports in 1995 to its current \$25 million export level. Short-term prospects for Uganda's vanilla exports are expected to expand three to four times their present value and volume, even with the decline in price that the sector faces.

Vanilla is unique in that it is the only high value crop that must be produced by smallholder farmers. Also, because of the care required during pollination, which takes place by hand using small needles, women are more engaged than men in its cultivation. The expansion of vanilla exports has resulted in transforma-

tion of small rural households and their communities, moving them from poverty to relative prosperity and economic security. Some smallholder households have increased their annual disposable incomes from less than \$3,000 per year to more than \$12,000 per year cultivating just one acre of land. Of the current sale price for cured vanilla, roughly 60 percent returns to the smallholders who grow it.

When IDEA began in 1995, vanilla had a narrow production base in one district and was only recently introduced in a second district. Technical know-how and market information was negligible; there was a limited marketing system with few processors and exporters, and no effective



Proper care can increase incomes from less than \$3,000 to more than \$12,000 per year cultivating just one acre of vanilla.

national vanilla export association. IDEA assessed the commodity chain, noted its many weaknesses, and focused assistance in the following areas:

- direct market information via radio and directly with clients
- technology transfer to smallholders through field demonstrations, eventually supporting a total of 50 demonstration sites
- technical assistance to investors in processing
- certification of organically-grown vanilla for growers and exporters
- facilitate financing by local banks to exporters to fund processing and training costs
- support to the Uganda National Vanilla Association (UNVA) for development of member services
- liaison with vanilla buyers in the United States and Europe

- initial support of the new commodity association VANEX, an association made up of processors and larger exporters

Uganda now produces roughly 120 tons, or 5 percent of the world production of 2,500 tons of cured vanilla. Its product is competitive in both price and quality. The prospects for the future are very good, particularly in the short-term as Uganda rides out the vanilla boom with prices reaching \$500 per kilo, much higher than the historical average of \$50 per kilo. However, producers need prepare themselves for likely dips in prices.

Demonstrating Patience: Vanilla Farming in Uganda

Hajji Yunus Lubwama's words seem harsh to 30 prospective vanilla growers who came from hundreds of miles around Uganda to hear his lessons in vanilla farming. Even in the cool shade of a tall, old tree, the semicircle of men and women shifts nervously, uncomfortably when Hajji Yunus departs from the basic lessons of



Proper care can increase incomes from less than \$3,000 to more than \$12,000 per year cultivating just one acre of vanilla.

vanilla farming to offer his common sense warnings. Like clockwork every 15 minutes during the two-hour meeting, Hajji Yunus stops gesticulating, puts his large hands over his bony knees, and leans forward, staring fiercely at his students.

"Do not think it is easy," he says once.

"It is not for the lazy," he warns later, the legs of his stool digging into the dirt as he leans forward. With each lecture, the audience stops taking notes and collectively looks up.

"The prices will not remain strong forever. Many will not see the success that we have here."

Indeed, success was a lesson in hard work and patience for the family, multiplied by tremendous market prices, says 40-year-old Hajjati Haawa Lubwama, Yunus' wife of 22 years.

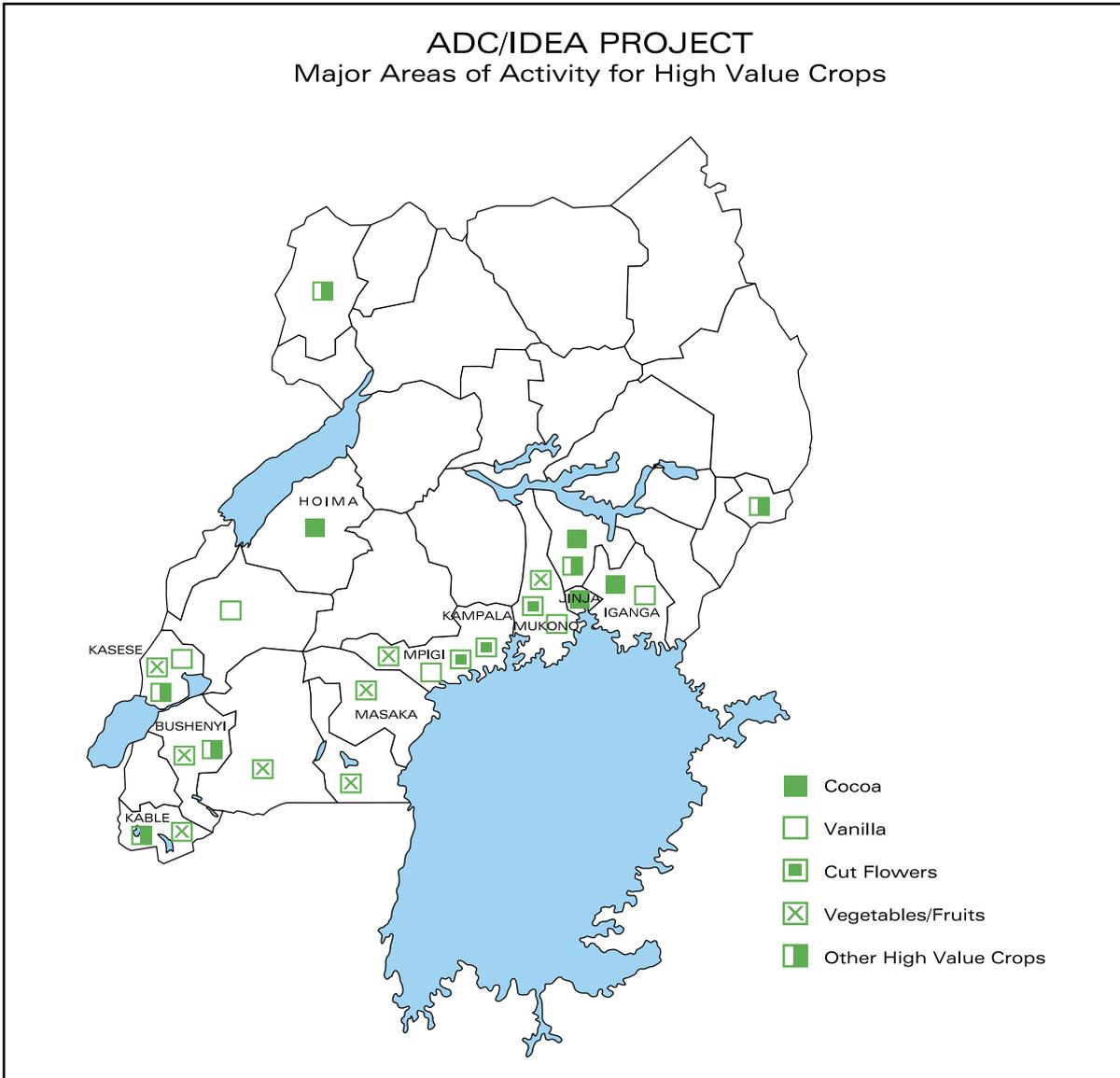
Beginning in 1992, after years of subsistence farming with maize, potatoes and bananas, Hajjati Haawa says the family decided to take a chance on the lucrative but highly volatile cash crop known to many now as "green gold". Although

vanilla picked up some notoriety in the 1950s by making rich men out of a precious few, it was known thereafter for its hit or miss success stories in Uganda. That was unfortunate for the only country boasting two dry seasons strong enough to support two vanilla harvests in the world. Until recently.

The export of Ugandan vanilla went from \$8,000 and 0.2 metric tons in 1995 to nearly \$25 million and 120 metric tons in 2003 thanks, in part, to IDEA-led training and assistance. That means that suddenly Hajjati Haawa's family was pulling in more than \$50 per kilo. Much of that has to do with market conditions, like Madagascar's fall from grace due to weather conditions. However, IDEA prepared thousands for that opening by working with the processors and producers to develop the crop, using tactics such as radio announcements to offer training to peasant farmers. That model has many convinced that vanilla is a tool to attack rural poverty, since pollination of the vines must take place by hand, a time-consuming process that favors small-scale out-growers over large commercial farms.

(continued on page 84)

ADC/IDEA PROJECT
Major Areas of Activity for High Value Crops



The Post-Harvest Blues

For those growers who had gone to the trouble of producing a reliable crop, there were then difficulties post harvest. In floriculture, attention to detail in maintaining the cold chain meant many farms received critical quality reports and consequently lower prices. A series of practical workshops through FHL and the producer associations helped alleviate this. For vanilla and cocoa, with prices high toward the end of the project, there was always a temptation to take short cuts on proper harvesting, fermenting, and drying, and great effort was put into persuading farmers and local buyers to do this work properly.

(continued from page 82)

Hajjati Haawa digs into the earth around a shade tree and plants a vine in the soil, buries it with an organic mixture of mulch, soil and cow dung, and trains the vine around the tree's branches to hang like a lock of green hair. The family of seven now has 600 vines on five acres of land, she says. The season always determines their harvest, but current conditions produce about 300 kilos (\$15,000) of vanilla in a good season and about 200 kilos (\$10,000) in a bad season. And that does not include additional

income for selling vine and tree cuttings. Their first harvest, however, didn't come until four years after initial planting. That type of patience chases away nearly as many as it entices.

Demonstration sites like Hajji Yunus' have grown from 0 in 1995 to 50 in 2003 over 18 districts, which also accounts for the jump in the estimated number of vanilla producers in select areas from 4,000 in 1995 to 15,000 in 2003. Previously, there were only two active companies buying and

Best Practices of High Value Crop Production and Marketing

- Activities that ensure quality product and sufficient volumes are critical for sustainable market linkages
- Make post-harvest handling a priority
- Focus on a few products only
- Take a step-by-step approach with clients, starting with agreed-upon small, realistic production and export targets and, once achieved, offer further resources
- Help industries develop and implement codes of practice
- Keep an eye on the external environment so that opportunities can be seized (e.g. demise of sweetheart rose industry in Zimbabwe due to the political and economic crisis there)
- Get customers on board
- As the number of export growers and traders increase and export values grow, channel technical assistance through commodity associations
- Provide needed business, management, financial, and technical training to local management
- With smallholders, focus initially on what they can do with their own resources
- For vanilla and cocoa, develop programs focused on increasing farmer income through training and market linkages, coupled with commercial bank engagement
- Invite government extension and research staff to participate in relevant training programs
- Have representatives from the private sector and donor projects sit on government working committees



The boom in the vanilla market is not expected to last much longer, say industry experts. The parents of these children brought in more than \$15,000 in 2003 thanks to vanilla.

processing vanilla. Now there are about 10 processors and exporters collected under the UNVA network, which meets regularly to set harvesting dates and quality parameters. To help increase the quality in post-harvest and post-production of vanilla—a major threat to Uganda's place in the world market—UNVA and IDEA contracted a local laboratory to provide pre-shipment analysis including vanillin and moisture content and microbiological screening. A new apex vanilla association, VANEX, is now dedicated to the long-term growth of the industry and stakeholders, offering such outreach as security awareness for growers to prevent theft. Hajji Yunus warns his audience that vanilla is as good as money these days, and men with guns may come to take that money. The family's new home stands tall and strong behind him as proof of the income potential. Inside the home are pictures of Mecca, Saudi Arabia, where the couple traveled recently in their first trip out of Uganda—out of the

neighborhood, really—to worship at the most holy Muslim shrine, the Great Mosque and Ka'aba.

"We did not pray for anything, to get anything," Hajjati Haawa says. "But we prayed to be strong and patient. And things are much improved."

The Lessons Learned

The overall project lessons learned in Chapter I apply to both low and high value components. However, there are a number of other lessons learned specific to high value crop production and marketing that we emphasize. They include:

Production is key. A focus by all market chain actors on production efficiency, rather than marketing, is critical. The markets are there; the real problem is consistent, year-round production of high quality products, a requirement for exporting to Europe.

Moving clients into success. Initially IDEA staff divided time equally between



More than 20 flower farms skirt the area around Lake Victoria in Entebbe, Uganda. UFEA, the grower association, hopes to expand business beyond such narrow confines.

clients and products, typically providing start-up advice; inputs to business plans and feasibility studies; market information and contacts; and hands-on technical assistance with trial commercial shipments. As successful clients became profitable, products with the most potential became evident, and the number of clients increased, it became necessary and cost-effective to focus more on strategic constraints such as research and training.

Narrow down the products. Within the general product categories originally assigned to IDEA, there were more than 50 potential crops. The team screened these for market value, bearing in mind that Uganda is a landlocked country with high transport costs, market size, and production potential. After the first two years, the team began to focus exclusively on a small, manageable target group of products: floriculture and fresh produce for investors, and vanilla and

The Public Sector, Markets, and Comparative Advantage

Vanilla and flowers have been Uganda's most successful high value export products and perhaps the only products that involve "modern" agricultural processes and "added value" as promoted by the PMA. Yet, until 2002, both were purely private sector efforts with no government support. By comparison, the fresh fruit and vegetable export sector, for which there are limited comparative advantages, receives more public sector attention and greater resource allocation. IDEA worked closely with the PMA Secretariat and GOU to provide as much information as possible, but management issues, analysis, and dissemination of relevant commercial information, including national statistics, is still a constraint.

cocoa for smallholders. This approach ensured results in foreign exchange earnings, new employment, and increased rural incomes.

Post-harvest. There was a consistent lack of attention to post-harvest handling in all sectors over the life of the project. Training, technology transfer, and technical assistance programs had to focus on this area.

Training local management is vital to the long-term future of the high-value, non-traditional agricultural export industries. Initially there was reliance on expatriate staff to kick start many projects, but Ugandan owners and managers have proven their ability to manage their businesses. A continuing lack of middle managers and technicians plagues the expanding floriculture and vanilla industries.

Building capacity among vanilla and cocoa producer associations is important. If associations are managed properly, they serve as a conduit for information and services down to the smallest growers. But the sectors must have sufficient critical mass—aggregate export value—to attain sustainability; otherwise their associations remain dependent on donors.

Importance of large commercial farms and irrigation. Building the fresh produce industry is constrained by the lack of large commercial farms and irrigation. The situation does not allow for EU supermarket supply contracts and a consistent year-long produce supply. Because of this, most exporters were advised to continue dealing with the European wholesale import market buyers who

are less demanding on traceability and exact conformation regarding product specification. Exporters were also advised to organize growers into groups to stagger production from one area to another so that production peaks and dips could be leveled out over the year. These issues present continuing problems for Uganda and any producer country that relies on rain-fed smallholder production while trying to meet increasingly tough traceability standards.

Continued support for associations. Commodity associations are critical to building strong industries. However, truly self-sustaining organizations take time and funding to grow. Most in Uganda are still donor-dependent. Despite this, support is critical so that they can play their role in regulating the industry, coordinating buyers and sellers, promoting products externally, and advocating for industry.

"Customer as king". IDEA always regarded the "customer as king". When the project began, no potential buyers wanted to come to Uganda. However, within two years the project had generated a stream of flower, fresh produce, and vanilla buyers who have continued to be great supporters of Uganda in the European and American markets. They provide invaluable first-hand information on market trends, intelligence on what the competition is doing, and ideas on which crops and products to try next.

Specialized capacity building in the government, particularly those dealing with plant health and pesticide control boards, will strengthen NTAE industries.



The cuttings industry is growing by the year thanks to Dutch businessmen who see a strong partnership with Uganda.

Adding value at the source is a must. While production in Africa offers both the climatic advantages of producing off-season crops for Europe and elsewhere, the other advantage is lower labor costs. Whatever can be done to grade, prepare, or pre-pack in the country of origin benefits Ugandans.

Dedicated research is hard to find. IDEA staff found it best to avoid formal research projects after trying to manage both public sector research teams

and commercial on-farm research efforts. IDEA then tried the logical solution of combining the two approaches and it became even more difficult. In practice, the IDEA team had to do the research themselves, which proved to be very time-consuming. Although funding on-farm research can be extremely effective, it is probably best to monitor results purely in terms of commercial sales that follow from adaptation of the research. Alternatively, a dedicated research team must be funded, as in

What is FOB?

FOB means Free On Board, which in the case of high value perishables is the equivalent of its export value. The FOB figures are the value of the product plus FHL charges and any other loading charges on the plane. IDEA calculated FOB in the following way:

- Selling price in Europe
- Less Europe selling commissions
- Less Europe preparation and agency fees
- Less any transit charges in Europe
- Less airfreight charges
- Less insurance
- Equals FOB value

the case of the successful UFEA research center. But this is expensive and difficult to sustain.

Use private labs. Using government-accredited private laboratories for soil samples and other testing for high value crops is the right choice. Private laboratories offer better equipment, more timely services, and fewer concerns about corruption.

The Impact

IDEA's design made it possible for the project to work directly with private sector clients. IDEA could not have achieved the same results if it had been working through a government ministry such as MAAIF or a government agency such as the PMA Secretariat or NAADS or UEPB. This focus on the private sector sometimes caused problems in relationships with official agencies, but these were sorted out in amicable and constructive ways. A variety of impacts evolved from the direct high value component work, including:

- Improvements in the cold chain for flowers and fresh produce—from the greenhouse and field to European destinations—have strengthened the entire industry, leading to higher quality flowers and higher prices for flower exporters. It has also increased Uganda's image in the floriculture sector, as well as its foreign exchange earnings.
- Air freight constraints were alleviated by IDEA's efforts to help establish FHL, which lowered air-freight costs for exporters and increased capacity and flights to

Europe. However, cold storage needs have outgrown FHL's original cold storage capacity.

- In floriculture, IDEA played a critical role in encouraging local and foreign investors by broadcasting Uganda's excellent growing conditions. IDEA support of investment in the chrysanthemum cuttings industry led to nearly \$8 million in export earnings in just three years, and that market continues to expand.
- IDEA support of the floriculture research and development center at Nsimbe allowed rose growers to select more suitable export varieties, competing more effectively with Zimbabwe and increasing rose exporters' profitability.
- Uganda has greatly improved its image in the flower and vanilla sectors; however, the image of the fresh produce export industry remains clouded. Because strict quality controls are not legally enforced, some exporters are shipping sub-standard products. Others are opportunistic, only interested in short-term gain, and unwilling to commit to long-term relationships with overseas buyers. A few unscrupulous exporters can give the whole country a bad name.
- The FOB (free on board) value of floriculture exports is on course to exceed \$30 million in 2004. Current market trends for small/medium roses and selected plant cuttings for which Uganda has competitive advantage sug-

gest that the industry could double over the next five years. The FOB value of vanilla exports is likely to decline in 2004 due to Madagascar's resurgence and regeneration. But current market and production trends suggest that the industry could still double over the next five years. And the FOB value of cocoa exports is on course to exceed \$5 million in 2004. Current market and production trends suggest that the industry could double over the next 10 to 20 years. FOB value of fruit and vegetable exports exceeded \$5 million in 2003. The industry could continue to expand over the next five years if new investment takes place in irrigation, post-harvest handling, and EUREPGAP compliance.

IDEA Agribusiness Interns: Where are they now?

In collaboration with USAID, the ADC and Makerere University

Faculty of Agriculture offered the Student Internship Program starting in 1996. The program increased the number of highly skilled professionals in the NTAE sector by taking advantage of the intellectual capital among entrepreneurs through their practical interaction with students. Acceptance into the program was competitive. Opportunities were available to full-time students and to interested members of the industry who lacked college educations. Students worked alongside faculty advisors to outline their specific course of study. If accepted, the highly qualified final-year students were given supervised, hands-on experiences in agribusiness that matched the student's career goals. Periodic progress reports documenting the student's advances were required by the academic department, and faculty members would make periodic site visits to observe the student's progress. By the internship's end, the student, faculty mem-

What Constraints?

All was not rosy for IDEA. The project faced and addressed in creative ways a number of major, ongoing constraints over the life of the project. The work must continue, and all high value export sector actors must continue to tackle these issues:

- Lack of capital and pre-existing agribusiness investors
- Poor understanding of markets and comparative advantage
- Inherent disadvantages in fruit and vegetable production
- Few large commercial farms or irrigated farms
- No systems for collection and analysis of export statistics
- No effective commercially-oriented research institutions
- Lack of technicians and middle managers
- Local clients with overly ambitious expectations
- Lack of attention to post-harvest handling



A former ATF trainee, Okello Robert Cyrus Ongom says, "I have a world view of the floriculture industry."

ber and employer participated in one final evaluation to help round out the participant's performance. Other participants were sponsored by flower farms as current employees who desired more training and an opportunity for higher education in the ATF course. This latter vocational and professional training effort helped to increase indigenous management-level staff at the farms.

Besides the benefits of bringing together the NTAE private sector firms and the academic community, students also reaped direct benefits when many were hired by their host firms. Years have

passed since those first interns entered the private sector in 1997. As part of the project closeout, we have interviewed two trainees/interns for USAID to answer the question, "Where are they now?" and to get a more candid assessment of the impact and sustainability of the trainee/intern effort.

Kizito Spelius, 39 years old, Kasangati, Wakiso district, ATF trainee during 2000:

"I learned how to live a hard life," says Kizito Spelius, a production manager with Fiduga Ltd.

Before life got hard, Spelius was a

Floriculture Opportunities to Explore

Now that Uganda is getting a name for itself as a floriculture producer specializing in sweetheart roses and chrysanthemum cuttings, the time is right to look into diversification. It is always going to be difficult to produce summer flowers in Uganda due to heavy rainfall, but other flowers such as asters, limonium, and hypericum would be worth looking at, as well as tropical flowers such as anthuriums under shade netting. Additionally, trying to attract more cutting business to set up vertically integrated businesses and supporting hydroponics systems have merit.



Cargo companies, like Das Air, see export constraints in Uganda because of high jet fuel prices and limited schedules of departure.

child who wanted nothing more than to help his peasant farming parents work their small parcel of land. They always paid his school fees and stressed the importance of education. Then his parents were killed in an automobile accident, forcing him and his seven siblings to split among family. He still fought for his education—to better himself and honor his parents—wanting to go to Makerere University but settling for Ssesse Farm College instead. College helped Spelius land a managerial position dealing with fruits on a local farm,

but something better came along at Fiduga as the Uganda flower industry barnstormed Entebbe, and the man moved on, hoping to further his education and gain a managerial position.

Soon after, the IDEA project extended opportunities to study under the ATF course conducted by Makerere University, IDEA and UFEA, and Spelius jumped at the chance. The crop management course increased his production skills with irrigation and fertilization instruction, offered management training and strengthened his

The Missing Middle

The floriculture and vanilla industries face major problems in the recruitment of middle managers. During the last year of IDEA there was a massive demand from the flower industry for IDEA to provide training in supervisory skills to staff who had been promoted from the production line. In the vanilla industry, it is extremely difficult for processors to find staff to manage the large number of out-growers who produce green vanilla, in order to ensure quality and financial accountability. This is understandable for such fast-growing industries, but it is also a constraint that needs urgent attention from new projects in the NTAE sub-sectors.

administrative skills, all within the familiar Fiduga greenhouses, helping Spelius establish more credibility among his employers and colleagues.

"I became a resource person after this training," he says during a recent interview. "I went to represent the director at some functions. I also got involved in promoting the internship's programs on the farm."

And there were trips to Costa Rica, Holland and Kenya—the latter two sponsored by USAID and other donors—to further improve his awareness of environmentally sensitive materials, flower handling during export, and new technologies. It's been a whirlwind of positive experiences since completing his ATF course. Fiduga promoted Spelius upon completion of the course.

"Really, without IDEA's sponsorship, which opened the door to the flower industry for me, I wouldn't be who I am today and I am very grateful."

Okello Robert Cyrus Ongom, 26 years old, Nkumba, Entebbe Wakiso district, ATF trainee during 1997:

He was always a go-getter, one of those young men who never gave up and excelled at academics. But at 19 years old, Okello Robert Cyrus Ongom lacked the confidence and experience to enter the Uganda floriculture industry on his terms. He had watched the industry grow quickly, and his father, a government worker, advised his son that the future of Uganda agriculture was there, in flowers. So the boy set

his sights on horticulture, taking training courses offered by flower farms and doing some agricultural consultancy with his new knowledge. One of the farms that trained Ongom was Wagagai. He says that the company must have paid attention to his desire to learn and excel because they offered to host his training through IDEA.

Seven years later the Ugandan flower industry is a \$30 million export success. The number of flower farms has blossomed from two or three in the early 1990s to 20 businesses operating under one umbrella association today. And after all this growth and change in the industry, Ongom is still with Wagagai, working exclusively for their chrysanthemum division as a production manager. His duties have expanded over the years to include responsibility for seven greenhouses and their electrical installations, climate control systems, and pest and disease control. It is a lot to handle, and he is grateful for the chance to fulfill his ambitions.

"The ATF training gave me confidence and taught me anything is possible. Especially in horticulture. I have a worldwide view of the floriculture industry."

The Challenges Ahead

During the last nine years, IDEA has helped lay the foundation for these high value agricultural export industries. Given the non-traditional nature of the crops and complex requirements, all was not easy. The learning curve for Ugandan producers and exporters was steep. What's next? It's clear that production must be

expanded for a few reasons: to reach a critical mass so the businesses and industries can be competitive; so Uganda can be recognized as a supplier to international buyers; and so industries can support themselves and their respective associations without donor support. Additionally, new opportunities must be identified and products diversified. While IDEA has shown that several high-value sectors are viable and gains can still be made from the expansion of existing firms, Uganda needs fresh investors—especially foreign direct investors with deep pockets—proper facilities, and strong management. There are roles for donors, the private sector, and government. Here are some of the needs:

- *Donors must continue to target the private sector.* Programs that have worked directly in a focused way with agribusinesses, like IDEA, have obtained good results. Local capacity-building is needed in the private sector—from business skills to technology transfer.
- *Production efficiency over marketing.* A focus by all market chain actors on production efficiency is critical. Programs offered by donors, processors, buyers, and exporters that help producers achieve consistent, high quality products should be a priority. Special attention to post-harvest handling and cold chain management are needed.
- *Integrate cluster approach in future programming.* Promoting an industry cluster approach should be part of the design of new donor-funded agribusiness and non-traditional agricultural export projects. If there are weak links anywhere along the commodity chain—for example, lack of access to inputs, cold storage facilities, or reliable airfreight-industry businesses will not and can not function properly.
- Donors open doors to finance. Access to finance is critical for

It's All in the Numbers II

The only reliable high value export statistics were those reported by IDEA. Because data collected at the airport and border points is incomplete and not accurately recorded by product, IDEA was forced to make estimates based on primary data obtained from various sources. Volumes were calculated from production and export statistics collected from the Civil Aviation Authority, MAAIF, Uganda Revenue Authority, FHL, airlines, commodity associations, and individual clients and traders. They were then converted into values using average prices provided by exporters and importers, official statistics, trade journals, and on-line databases. Since no single source gave a complete or accurate picture of export volume and value, the figures were cross-checked and adjusted to give conservative average estimates. Finally, exchange rate, marketing, and freight cost adjustments also have to be made to get to final FOB values.



high value NTAEs and donors can help with soft loans from international institutions for equipment. Low interest rates, grace periods on repayment of capital, and tax incentives from government are all things that donors can support to stimulate expanded high value exports in Uganda.

- *Strengthen the associations.* Despite the ability of commodity associations to be somewhat self-financing, they need additional support via targeted, time-bound assistance. Current needs include UFEA and the establishment of a floriculture training school; UNVA's extension and training activities; and the efforts of VANEX, the new association of vanilla curers and larger exporters, to be an industry voice, attract buyers, establish codes of practice, and disseminate information on Uganda's crop and world trade.
- *Competent government inspection.* There are still constraints growing out

of inadequate funding for government inspector services in issuing phytosanitary certificates and registering new agrochemicals. Greater efficiency and streamlined procedures will help Uganda compete more effectively. Donors could work with MAAIF and Uganda National Bureau of Standards on establishing a competent quality inspectorate. This in tandem with implementation of industries' own codes of practice will help exports grow. Training is needed within the government and within industry businesses.

- *Continue and strengthen high-value crop courses* such as the Applied Tropical Floriculture course supported by IDEA. Building capacity in the industry helps create a pool of local talent and management from which new projects and businesses can draw experienced professional staff.
- For vanilla sector growth, *building capacity among vanilla producer associ-*



ations, along with concentrating on expansion and quality control to keep buyers supplied and happy, is critical for donors and NAADS.

- *Strengthening the domestic market for fresh produce.* Constraints abound on fruit and vegetable production and exports; however, a few niche-market specialty products should be pursued. In addition, donors and others should consider strengthening the domestic market for fresh produce before concentrating much more on exports. A focus should be on raising standards of post-harvest handling. All over Uganda, produce is poorly handled, badly presented, and wilting in the blazing sunshine on dusty roadsides.
- *Facilitate collection and analysis of export statistics.* There are no established systems for collection and analysis of export statistics. Donors might consider working with MAAIF, Uganda Bureau of Statistics and Uganda Export Promotion Board to strengthen export statistics, data collection, analysis, and dissemination capacity. IDEA helped the CAA develop such a system. CAA acting-marketing manager Moses

Namoboa says, "The kind of statistics on flowers and fresh produce include the number of stems, volumes accounted for, fresh produce types and volumes, exporter and importer companies, and destination. Generally, it has improved logistical planning with airlines to consolidate products and give volume forecasts. It's improved our practices for tracking other exports, like fish."

- *Support demand-driven strategy for public sector research.* Uganda has able researchers but no effective institutions to conduct commercially relevant research. IDEA made various attempts to use the scientific design and reporting skills of research personnel from NARO and Makerere University, in combination with the drive and management skills of private farms, but with limited success. This barrier cannot be removed until a system is developed for equipping and rewarding public sector researchers for commercial success. NARO is developing a new demand-driven strategy to guide its research activities in the future, which may improve the situation. Donors and businesses should advocate this approach.

Uganda IDEA Final Report Annex

The inside back cover of this Uganda IDEA final report contains a CD-ROM of annex material. The information contained in the Uganda IDEA Final Report Annex provides a history of the IDEA project through tabular and statistical data, as well as necessary accounting information. An index of the material contained on the CD-ROM follows.

Grants

IDEA Grant Funding Tracker

Phase II Grants Benchmarks

Phase II Grants NARO Benchmarks

LOE

Phase I LOE for ADC Professionals

Phase II LOE for ADC Professionals

M&E Summaries

ATAIN Performance Progression

Comparison Phase I Targets

Comparison Phase II Targets

IDEA Export Charts and Graphs

IDEA Export Charts and Graphs 2

IDEA Project Status Analysis

Results Framework for HV

Results Framework for LV

Results Framework for Project

STTA (short-term technical assistance)

STTA 1995 to 1996

STTA 1996 to 1997

STTA 1998

STTA 1999 to 2000

STTA 2000

STTA 2001

STTA 2002

STTA 2003



Credits

On the cover

Majidu, a farmer in Uganda's Bugiri district, received technical assistance through USAID's IDEA project that increased his income and property. His daughter is on the back cover.

All photographs: Matt Herrick

Design: Jane deBruijn



"If we sought the kingdom of trade first, the rest would follow."

-Yoweri Kaguta Museveni, President of the Republic of Uganda, April 3, 2004



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