PRIVATE SECTOR SOLUTIONS FOR HELPING SMALL FARMERS
On the cover: Harriet Nankabirwa, a farmer in Kito, Uganda. Hassan Mukibi/IFC
Changing Lives:
Private Sector Solutions for Helping Small Farmers
At the Grainpulse factory outside Kampala, workers sort maize. Hassan Mukiibi/IFC
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Jalia Nakawuka, a Grainpulse village agent, on her farm in Kito, Uganda. Hassan Mukiibi/IFC
When I met Harriet Nankabirwa last summer, she had nearly given up farming after a lifetime of toiling away on a tiny plot of land in her village of Kito, just two hours east of Kampala. Long droughts, low yields and soaring input prices had conspired against her, she said, and she struggled to turn even the slightest of profits. “It was too much hard work and very frustrating because the yields were always so low,” she told me, taking a late morning break to greet our delegation. As she spoke, a half dozen farmers and neighbors who had assembled to talk about their experiences, nodded. “Between climate change and fluctuating prices, it’s been very difficult,” said another farmer, Mukumbe Powell, who lives down the road.

Harriett, who is featured on the cover, and Mukumbe were just two of the smallholder farmers I met this past summer on a trip to Rwanda and Uganda to visit investment and advisory programs supported by the Private Sector Window of the Global Agriculture and Food Security Program (GAFSP). And though the contours of their individual stories are unique, their struggles are indicative of the challenges that smallholders around the globe face, particularly as food prices surge, weather patterns become more unpredictable, and food security—both within in their homes and the world—becomes increasingly tenuous.

For Harriet, it was nearly too much, and she was ready to quit by early 2022, when an agent for Grainpulse, a fertilizer blending company and GAFSP-supported advisory and investment client, came to her farm and offered to do a free demonstration plot. The agent, Bazanya Aloysius, divided her plot of land into two: In one half, he used Grainpulse fertilizer, coupled with modern planting techniques and in the other, Harriett planted as she always had, with beans, maize and cassava interspersed. At harvest, Harriet’s plot yielded 12 kilos while the agent’s yielded more than triple, at nearly 40 kilos. Some of the nearby farmers—who traveled to Harriet’s farm to see the results—joked that Bazanya had used witchcraft.

“For farmers believe by seeing,” Nathan Were, an IFC operations officer and project lead, who is himself a farmer, told me later. “Demo plots are critical to our work because they show farmers that even with a small piece of land, if you use fertilizer and proper planting techniques you can have a high yield.” In other words, he said, “you don’t need to have a lot of land to have high productivity.”

It’s a truism that’s essential to GAFSP’s mission—and it continues to guide us as we help smallholders weather the impacts of COVID-19, climate change, rising fuel and fertilizer prices, and the very real challenges they face in boosting yields, accessing markets, and feeding the world.
My field visit this past summer, after more than two years of COVID-19-related travel restrictions, was humbling and inspiring—and much overdue. I returned to IFC headquarters in Washington D.C. with many stories about farmers eager for training, knowledge and access to finance. These are men and women who are confronted daily with the reality of climate change and want tools to boost their resilience—whether by building an irrigation pump for their crops or a trough system for their cattle. Indeed, I returned to my office newly energized to continue working closely with our investment and advisory teams to create innovative solutions that support the world’s rural poor. IFC and GAFSP are leading the way in mobilizing private capital for development using unique blended finance solutions.

Since our program began in 2011, the GAFSP Private Sector Window has approved investments totaling $446 million to support 84 agribusiness investment projects in 29 countries. In addition, we have approved 95 advisory projects in 33 countries for $47 million.

This past fiscal year, nearly 70 percent of our investment projects were in fragile and conflict-affected situations (FCS), building on IFC’s strong commitment to create markets and private sector opportunities in some of the world’s most challenging places. With support from the United Kingdom, our IDA-blend pilot has also undertaken highly impactful smallholder-linked projects to ensure that the pandemic and the global food crisis do not stall—or even reverse—hard-fought progress in IDA-blend contexts. That means that we have invested in early stage
or risky projects that hold high potential for development impact and sustainability in places where it is needed most. Rooted in the heart of our model is the belief that GAFSP concessional funding should be temporary, and that our clients will one day become financially and commercially sustainable.

This latest edition of Changing Lives, our award-winning flagship publication, offers a snapshot of recent GAFSP Private Sector Window projects. Organized under the four GAFSP themes, these investments focus on our efforts to transform the lives of smallholders through 1) raising agricultural productivity and improving climate resilience; 2) increasing nutritional intake and adoption of high-yield and innovative technology; 3) inclusive business and gender; and 4) improving access to finance.

Every day, we are buoyed by the stories of smallholders we’ve met along the way—and the very real impact our work has on their lives. In this edition, you will meet Marvin Tercero, a smallholder along Nicaragua’s remote Caribbean coast, who increased milk production on his family farm thanks to GAFSP support to Financiera Fondo de Desarrollo Local (FDL), the country’s largest microfinance institution. You will also meet Euphrasie Nyirasafari and Seraphine Uwitonzé, smallholder farmers in Rwanda, where two separate advisory services projects are boosting grain quality, while also working to strengthen and professionalize agricultural cooperatives. Their stories are a poignant reminder of GAFSP’s mission—and the unique privilege we feel to be part of this program.

With food security at the forefront of policy discussions, GAFSP will continue to do what we do best: work together with our donor partners—the governments of Australia, Canada, Japan, the Netherlands, the United Kingdom and the United States—to support agribusiness and agri-finance investment and advisory services projects that commercial players deem too risky. Indeed, the need for GAFSP support remains critical as we rebuild value chains, strengthen food systems, and support smallholders hardest hit by the pandemic and the Russian invasion of Ukraine. IFC and GAFSP’s commitment as advisors, investors, and innovators—particularly as we navigate the impacts of climate change and a global food security crisis—has never been stronger.

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Program Manager, GAFSP Private Sector Window

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Namanya Dennis/IFC
Small farmers face big challenges
Along the way from farm to market

Small farmers lack proper inputs for their farms, including high-yield seeds, technologies and fertilizer.

Financiers view small farmers as risky borrowers because most of them have undocumented credit histories, unstable incomes and little collateral.

Every $1 of Private Sector Window funding leverages more than $6.50 of private sector funding.

We support business models that provide access to improved seeds, fertilizers and high-yield technologies, alongside access to training and knowledge.

We invest in non-traditional lenders who work with smaller borrowers and provide private supply-chain finance that can provide farmers with more credit & more stable income.
Women farmers are particularly disadvantaged, lacking land ownership opportunities and access to inputs.

Small farmers lack access to fair markets and to reliable storage facilities, often forced to sell their crops at harvest time when prices are low.

We support investments & advisory services that empower women farmers.

We support development of farm-to-market linkages and improving post-farm logistics.

Private Sector Window projects are targeted to reach 4.5 million farmers.
GIVEN THE RIGHT ENABLING CONDITIONS AND PRIVATE SECTOR SUPPORT, FARMERS CAN TRANSFORM THE RURAL LANDSCAPE AND UNLEASH A NEW AND SUSTAINABLE AGRICULTURAL REVOLUTION.
The Challenge

Seventy-five percent of the world’s poor live in rural areas, toiling on tiny plots of land that yield barely enough to support their family’s basic needs and necessities.

For many of these rural citizens, agriculture has the greatest potential to lift them out of poverty—proving two to four times more effective in raising incomes among the very poor than through growth in other sectors. But for many smallholder farmers struggling to feed their families, formidable obstacles stand in the way.

Even if they have land to farm, many small farmers, particularly women, lack access to proper agricultural inputs, including high-yield seeds, technologies and fertilizers. Shut out from traditional forms of banking, these farmers have little access to formalized financing. At harvest time, with no credit, they are unable to store their crops in reliable and safe warehouses. Often working in remote areas, they find it difficult to get their harvested goods to market.

It is a vicious cycle that keeps them mired in perpetual poverty: forced to sell crops at a time when prices are low, and forced to buy food and inputs at a time when prices are high. These challenges have been compounded in recent years with the overlapping threats of COVID-19, climate change, and food price volatility.

These are the people the Private Sector Window of GAFSP aims to help. By harnessing the private sector as an engine of growth and development, we know that we can make a difference in the lives of millions of small holder farmers throughout the world.

Given the right enabling conditions and private sector support, these farmers can transform the rural landscape and unleash a new and sustainable agricultural revolution.
AflaSight is decreasing the incidence of aflatoxin in local grains. Simeon Uwiringiyeye/IFC

TO DATE, GAFSP HAS APPROVED $446 MILLION IN 84 INVESTMENT PROJECTS IN AGRIBUSINESS THAT ARE IMPROVING THE LIVES OF MORE THAN A MILLION SMALL FARMERS ACROSS THE GLOBE.
Private Sector Solutions

Supporting agribusiness and agri-finance projects that commercial investors deem too risky is what GAFSP Private Sector Window does best: investing across the entire food supply chain from farm inputs to logistics and storage, to processing and financing.

We use blended finance solutions and IFC’s expertise and knowledge to support projects in the agricultural sector that may not attract commercial funding due to perceived high risks. GAFSP funding is co-invested alongside IFC funding but we take it one step further: addressing market failures by providing affordable funding with less demanding terms. This allows us to invest in early stage or riskier projects that hold high potential for development impact and financial sustainability. That means that we can partner with companies who include farmers as part of their overall value chain, providing access to markets, financing and storage, and increasing production and incomes for those living and working in the world’s lowest income countries. To date, GAFSP has approved $446 million in 84 agribusiness investment projects in 29 countries that are improving the lives of more than a million small farmers across the globe.

In addition, we are supporting 95 advisory projects in 33 countries for $47 million. These projects involve working with technical specialists who provide on-the-ground training and advice for businesses and farmers in promoting access to agricultural finance, improving farmer productivity, establishing market links, reducing risks and mitigating climate change effects. Read more about our Advisory Services on the next page. The GAFSP Private Sector Window is making a difference, one innovative investment at a time.
Carol Nalugya, a Grainpulse agent and farmer, at her fertilizer shop in Mityana, Uganda. Hassan Mukiibi/IFC

THE PRIVATE SECTOR WINDOW’S ADVISORY PORTFOLIO INCLUDES 95 ADVISORY PROJECTS FOR $47 MILLION.
Advisory Services

It takes more than just finance to achieve sustainable private sector development. Advice is a critical part of the Private Sector Window’s work as a comprehensive blended finance solutions provider.

The Private Sector Window provides technical and financing knowledge, expertise, and tools to:

- Raise agricultural productivity and improve climate resilience through climate-smart practices
- Increase nutritional intake and adoption of high-yield and innovative technology through better farm management
- Create opportunities for inclusive business by linking farmers to global value chains and implementing approaches that target gender equality
- Develop financial products and services that help farmers access finance and invest in new technologies

The Private Sector Window’s advisory portfolio includes 95 advisory projects for $47 million. Our work spans the globe, with active projects in 33 countries, including Rwanda, where we are partnering with two innovative local companies to decrease the incidence of aflatoxin, a mold-growing carcinogen that is pervasive in local grains. We have also worked closely with the World Food Programme (WFP) in Rwanda to professionalize 145 farmer cooperatives across the country, strengthening governance and financial management, as well as agronomy and post-harvest handling.

In Honduras, we are working with the Cadelga Group, one of the region’s largest distributors of agricultural products and services, to provide loans to smallholders in the form of fertilizer, seeds, and irrigation technology. And in Nicaragua, we are working with FDL, the country’s largest microfinance institution, to deliver technical assistance to boost farmer incomes and resilience in the face of climate change. The training, which includes in-person visits, also features agronomist-led WhatsApp groups and a call center, and has reached 4,000 farmer clients—80 percent of whom reported a better quality of life than at baseline, before the training began.
Improving Access to Finance
IN NICARAGUA, WHERE AGRICULTURE ACCOUNTS FOR 15 PERCENT OF THE COUNTRY’S GDP AND EMPLOYS 30 PERCENT OF THE POPULATION, CLIMATE CHANGE HAS LEFT FARMERS ACROSS THE COUNTRY’S RURAL COMMUNITIES REELING, AS THEY STRUGGLE WITH EXTREME WEATHER.

Marvin Tercero on his farm, where milk production has increased 27 percent. Nitlapán
For Marvin Tercero, a farmer along Nicaragua’s remote Caribbean coast, summertime—with its relentless sun, minimal cloud cover and little rainfall—has long been the most challenging time of year. His herd of cows often struggled to find food and as they grazed amidst parched, withered pastures, the weakest calves often died of starvation.

That started to change in 2020, thanks to an IFC initiative that supported Financiera Fondo de Desarrollo Local (FDL), Nicaragua’s largest microfinance institution. With support from the Private Sector Window of GAFSP, IFC provided advisory support to FDL over the course of three years, helping the company deliver technical assistance to boost farmer incomes and resilience in the face of climate change. The training, which included in-person visits, also featured agronomist-led WhatsApp groups and a call center—providing ongoing and responsive support to farmers at a lower cost to FDL.

“Price volatility and climate change have left farmers vulnerable,” said Eva Garcia, Deputy Manager of Commercial Operations at FDL. “They need technical and financial support to become more resilient and transform Nicaragua’s agricultural sector because they can’t do it alone.”

IFC and GAFSP’s relationship with FDL began in 2013, with a $7 million investment that helped the company expand its agricultural lending. Though that project has since closed, the investment helped the company reach rural borrowers, who comprise 70 percent of FDL’s portfolio.

In Nicaragua, where agriculture accounts for 15 percent of the country’s GDP and employs 30 percent of the population, climate change has left farmers across the country’s rural communities reeling, as they struggle with extreme weather. Hurricanes and cyclones are becoming more frequent and in 2020, for the first time in history, Nicaragua was impacted by two category four hurricanes that made landfall within two weeks of one another during the coffee harvest, with devastating effects on three million people—or nearly half the population. Rising temperatures have also introduced diseases and pests in completely new geographies: mutations in coffee rust, a fungus that causes disease in coffee plants, have increased rapidly and crop-eating insects are becoming more common, even in mountainous areas that never experienced them before. Indeed, in a recent survey commissioned by IFC, nearly half of the coffee and livestock farmers interviewed said that they have been affected.

A Mobile Phone is Helping Boost Resilience for Smallholders

Climate-smart training is making a difference along the remote Caribbean Coast of Nicaragua.
by climate change in the last four years—with loss of harvest, loss of productivity, soil erosion and an increase in production costs among the most common impacts.

The result is that for farmers like Tercero, maintaining production has become harder than ever. As part of the technical assistance provided, program agronomists taught him to reduce the size of his paddocks and plant more nutritious, drought-tolerant pastures, so that his cows had reliable access to quality forage, regardless of the season. He also learned to safeguard the forest abutting his land and preserve water in the nearby creek and river—which meant that his family, cattle and crops had a reliable water source, with minimal erosion and less flooding. And with healthier cows, a 27 percent increase in total milk production and extra income, Tercero invested in a biodigester, which converts manure into gas for cooking and also generates bio-fertilizer that he uses on his pastures, helping him avoid additional fertilizer costs. "We don't need to cut down or burn trees anymore," he said.

Indeed, it's been a win-win for farmers—and climate smart agriculture. "About 80 percent of food production in the country is in the hands of smallholders and so supporting them as they deal with climatic shocks, with training and financial services, is critical," said Carlos Guerrero, Director of the Business Development Services Program at Nitlapan, a research and development institute at Nicaragua’s Central American University (UCA) and the provider of technical assistance for FDL’s clients. "It’s the only way to help the farmer—and FDL—mitigate their risks because producers who are struggling need to make an extra effort to pay back their loans."

In addition to the call center, which was complemented by two dedicated WhatsApp groups for coffee and livestock farmers, Nitlapan trainers established a network of 25 demonstration farms, which implemented climate-friendly solutions such as the use of solar driers for coffee production, electric fences for paddock rotation in livestock and the planting of fruit trees to diversify farm income, provide shade to livestock, and capture carbon. The company also supported 11 rural micro entrepreneurs to establish their own retail stores, facilitating access to inputs and advice for farmers in more remote areas. And a project-supported paperless data capture system, Agro Mobile, allowed agronomists to easily access and update client technical data and other relevant information, so that they could make more accurate on-farm diagnoses.

As part of the project, FDL and Nitlapan also produced a series of 44 podcasts focused on climate-smart agriculture, ranging from the prevention of coffee leaf rust to best practices for managing lactating cows. The podcasts series, called “Produccion Verde,” was streamed more than 7,000 times, with some episodes featured on national radio. And because COVID-19 interrupted in-person trainings, farmers were increasingly willing to use these alternative methods, regularly calling or messaging the agronomists or receiving training videos and other tips via WhatsApp.

"Our clients face challenges every day and so they require channels that respond to their needs and concerns," FDL’s Garcia said.
“About 80 percent of food production in the country is in the hands of smallholders and so supporting them as they deal with climatic shocks, with training and financial services, is critical.”

Solar driers allow farmers to properly dry their coffee beans, even during the height of rainy season. Nitlapan
“There’s a lot of knowledge out there—and we need to keep investing in new technologies to make it accessible to the farmers who need it.”

Indeed, for Otilio Sánchez Molina, a coffee and citrus farmer, knowledge has transformed his once-struggling homestead. After listening to a podcast on how to improve coffee quality and with hands-on support from an agronomist, he decided to introduce a solar drier, which allows him to properly dry his coffee beans, even during the height of rainy season. The result is that Molina receives payment for 100 percent of the volume of dry coffee delivered to the collection center—whereas previously, offtakers deducted 14 percent of the volume for his delivery of wet coffee. Molina can also better navigate the unpredictability of extreme weather—which helped convince him that climate-smart agriculture and higher income can go hand in hand. “I have better quality and higher yields than ever before because of Nitlapan’s recommendations,” he said.

The advisory project, which closed in June 2022, reached 4,000 farmer clients—80 percent of whom reported a better quality of life than at baseline, before the training began. FDL and Nitlapan plan to continue supporting clients using the lower-cost methods developed through its partnership with IFC and GAFSP. In a final survey with over 500 farmer clients, more than half confirmed their willingness to receive technical assistance through these alternate methods—a significant finding that may encourage adoption of lower-cost training options for remote farming communities in other countries and contexts. Focus groups with farmers also confirmed that they valued FDL’s combined financing and training package, which distinguished the company from other local microfinance institutions.

“Our clients face challenges every day and so they require channels that respond to their needs and concerns.”

“Farmers have no control over the weather:
they know that there’s nothing they can do to avoid drought,” Nitlapan’s Guerrero said. “But they can be more resilient and that’s something we will continue working towards.”
WITH SUPPORT FROM GAFSP, CADELGA CREATED AN AGRIFINANCE UNIT CALLED AGROMONEY THAT PROVIDES LOANS TO SMALLHOLDERS IN THE FORM OF FERTILIZER, SEEDS, AND IRRIGATION TECHNOLOGY.
Microfinance Yields Better Futures for Honduran Farmers

In Honduras, IFC and the Private Sector Window of GAFSP helped the Cadelga Group, one of the country’s largest distributors of agricultural products and services, create an agrifinance unit called AgroMoney that provides loans to smallholders in the form of fertilizer, seeds, and irrigation technology. As part of the loan, farmers receive training that helps offset the effects of drought and boosts resilience in the face of climate change. Carlos Ferrera, a fruit and tilapia farmer, says that the program’s accessible and affordable credit, alongside agronomist visits to his small homestead, have helped the family cope with fluctuating market prices, rising input costs and more extreme weather patterns. “GAFSP has helped us with technical support and acquiring supplies,” he said. Next year, he’s hoping to expand the farm and continue diversifying its offerings. “Perhaps next year, I will achieve economic stability and continue improving production.”
Raising Agricultural Productivity & Improving Climate Resilience

Hassan Mukibi/IFC
GRAINPULSE’S FERTILIZER-BLENDING FACTORY IS THE FIRST IN UGANDA

Grainpulse's mill produces maize flour to make breads and other staples. Hassan Mukiibi/IFC
In Uganda, Boosting Farmer Access to Fertilizer, Markets, and Opportunity

Grainpulse’s “one-stop-shop” is helping double production of local crops while connecting farmers to markets and export possibilities

Crops have been plentiful in recent months for Doreen Nansasi, a 33-year-old smallholder who plants beans and maize on her small family farm in the village of Kito in central Uganda. The relative bounty has allowed her to invest in her farm, pay school fees for her children and even put money aside in her local village savings group—a first, she admits.

As Nansasi sees it, this spell of good luck has just one explanation: Grainpulse, a Kampala-based agribusiness company, visited her fields last year to provide training on planting techniques, including best practices for applying the company’s locally-blended fertilizer.

The results have been dramatic. In just one planting season, Nansasi’s maize and bean production have both increased by more than 60 percent and though she’s farming on less land, her income has increased dramatically. “Ever since we started using the fertilizer, we are seeing a big change,” she said recently. “I used to think that fertilizer was a luxury. Now, with trainings, I know to save my money on renting more land—and instead use it to buy inputs that increase production on land that I already have.”

IFC, with support from the Private Sector Window of GAFSP, has committed $11 million in loans to Grainpulse to support the company’s expansion and strengthen its farmer supply chain. The investment, alongside advisory services—also supported by GAFSP—is expected to boost the company’s reach to an estimated 200,000 smallholders like Nansasi by 2023, up from approximately 20,000—increasing food production and economic growth throughout Uganda. It’s also helping Grainpulse expand to become a “one stop-shop” for farmers, providing them with multiple services, including fertilizer blending, that is optimized to popular local crops like those on Nansasi’s farm.

Fertilizer use in Uganda is low, about 9.6 kilograms per hectare annually. This is significantly lower than the 16.2 kilograms per hectare average across sub-Saharan Africa, and the 140 kilograms per hectare average globally.

To introduce it to farmers, Grainpulse works closely with smallholders leveraging a digital extension platform throughout the planting cycle—and has intensified its outreach to women farmers like Nansasi to ensure the
company’s long-term growth. “Reaching women farmers and empowering them isn’t a side project—it’s core to our business strategy,” said Grainpulse CEO Alta Theron. “Creating a sustainable supply chain is critical to growing our business and customer base.”

As part of the company efforts, they’ve employed a team of female village agents—about 40 percent of their total outreach staff—whose role is to reach out to women farmers in their communities. The training they provide is flexible to accommodate the household work that many women farmers are also tasked with. Grainpulse has trained 2,500 farmers so far—about 45 percent of them women—and has covered agricultural best practices, as well as financial literacy. Jalia Nakawuka, a female extension agent who joined the company this year, says that her training—which focuses on land preparation, proper planting techniques, weeding, pest management, and harvesting—also includes financial literacy, highlighting the importance of profit, rather than just revenue. “I train farmers to focus on cultivating a small piece of land with high yields, rather than having a lot of acreage with less output,” she said.

In addition to Grainpulse’s fertilizer-blending factory—the first in Uganda—the company also buys crops such as coffee, maize, sorghum, barley and pulses directly from farmers, helping connect them to markets and exporters, while also reducing their postharvest losses. Grainpulse’s mill currently produces maize flour to make breads and other staples; the IFC-supported expansion will enable Grainpulse to process maize into animal feed as well.
“Reaching women farmers and empowering them isn’t a side project—it’s core to our business strategy.”
“Agriculture in Uganda is almost entirely based on smallholders and so empowering them is critical to our supply chain sustainability.”
“Agriculture in Uganda is almost entirely based on smallholders and so empowering them is critical to our supply chain sustainability,” said Hannington Karuhanga, Grainpulse Executive Chairman and Founder. “For us to be successful, we need to create an ecosystem by working closely with farmers, providing last-mile solutions and reducing middlemen.”

Grainpulse, formerly known as Savannah Commodities, became a joint venture with K+S AG, a global potash and salt company headquartered in Germany, in September 2018.

Agriculture employs an estimated 70 percent of the country’s labor force and accounts for about a quarter of its GDP. But Ugandan smallholders are particularly vulnerable: Rainfall is unpredictable and dry spells can be disastrous for farmers without irrigation systems. COVID-19 restricted movement even in rural areas, and farmers had a hard time getting to stores to purchase inputs or recruit additional workers to assist during planting season.

Halima Nanjego, who farms cassava, sweet potatoes and maize on her half-acre farm, says life has been transformed since Grainpulse taught her streamlined planting techniques. “I have only a small area of land, but I can produce so much more,” she says. “And I can use the extra money to invest in my small shop and improve my family’s well-being.”

Last year, the company’s mobile farmer training center—a retrofitted truck equipped with lab for soil testing analysis, as well as a fold-out tent where upwards of 100 farmers can attend training sessions—stopped at Nanjego’s farm. The truck has traveled across the country, crisscrossing rural communities and hard-to-reach areas to teach farmers how to prepare land, apply fertilizer, use seeds, and manage diseases and mold like aflatoxin. It has also worked closely with farmers like Gad Brightard, who says that Grainpulse’s training and fertilizer has helped ensure lush coffee trees and high-quality beans on his farm in Kabarole in western Uganda. With support from GAFSP, the company also distributes training manuals and informational leaflets that provide easy-to-use information on streamlined techniques, as well as financial literacy training.

“Farmers are doubling their yields and with continued training on good agricultural practices, they can improve even more,” says Hilary Rugema, Grainpulse’s lead agronomist. This ongoing training is critical, according to Theron, who says that empowering smallholders helps secure Grainpulse’s financial future, while also creating opportunity for the people who ensure Uganda’s food security. “By getting agricultural inputs and know-how directly in the hands of farmers, we are giving them the tools to be more successful,” she said. “It's a win-win for everyone.”
Why is climate smart agriculture a strategic priority?

Climate change is an existential threat to the United States and to the world. The gravity and severity of the crisis is clear, particularly in its impact on the world’s food systems. The ongoing food security crisis is tragically stalling progress in reducing poverty and exacting a harsh toll on communities and families around the world. All of this has been exacerbated by Russia’s war in Ukraine and the increased volatility of food and energy prices. Collectively, the international community needs to address this, and the United States, as a member of GAFSP, will continue responding to immediate needs, while also looking beyond the crisis at underlying drivers. This means incentivizing investments in resilient and climate-smart food systems in agriculture, so that we can strengthen the world’s ability to efficiently and sustainably produce enough food. We hope that through those efforts and investments, we can push off the next crisis—or at least reduce its severity.

What is the role of the private sector in strengthening food systems and combatting climate change? And where does GAFSP Private Sector Window fit into these efforts?

The private sector is an important source of investment, innovation, and dynamism in economies, particularly when it comes to agriculture and food systems. SMEs are especially important: They are on the ground, and in the community, generating jobs and economic growth and building local, regional and global value chains. In poorer countries and in fragile contexts, Small and medium-sized enterprises (SMEs) are often the best source of information about the challenges that need to be addressed—and they are also a critical solution. As we look to expand the world’s ability to sustainably and efficiently produce food, the private sector is absolutely vital to expanding economic opportunity for communities and farmers around the world.
The United States sees GAFSP as an important part of the global food security architecture and is proud of its role as a founding member and as the largest historical contributor. The ongoing crisis that we’re facing underscores the need to incentivize private sector investment in areas where they are needed most—which is why GAFSP is so relevant. We see GAFSP’s work, particularly with SMEs in poor and fragile countries, as critical to strengthening agricultural value chains.

**What are some of the main areas of focus for the U.S. in its strategy to boost climate-resilient agriculture?**

The Biden-Harris administration has returned the United States to a position of leadership on climate. As part of an ambitious action plan, the administration launched the **Agriculture Innovation Mission for Climate**, or AIM for Climate, to accelerate investment in climate smart agriculture and food systems innovation. The President has laid out a challenge to mobilize $8 billion in new climate smart agriculture innovation investments and is working with more than 40 countries, nearly 200 non-governmental stakeholders, and other partners to meet that goal. He has pledged to increase U.S. international climate finance and his FY23 budget request includes more than $11 billion of government wide and international climate finance. If enacted, it

“The ongoing crisis that we’re facing underscores the need to incentivize private sector investment in areas where they are needed most—which is why GAFSP is so relevant.”
would meet the President's historic pledge to quadruple our international climate finance one year early. A fundamental tenet of our approach to climate finance is that no single actor is sufficient: to achieve the goal, we’re going to have to work together with governments, civil society and the private sector. We therefore see GAFSP’s Private Sector Window as a critical link in the global food security architecture and part of our strategic focus on reducing food insecurity around the world.

**What are some of your priorities as chair of the GAFSP Donor Committee?**

My first priority is ensuring that GAFSP is prepared to meet the challenges of the moment and is well-resourced to be able to engage with private sector—both in terms of supporting investments, but also in extending technical assistance. There’s high demand and we need to be sure that GAFSP can meet those needs. I also look forward to working with partners and members of the Donor Committee on continuing to implement climate smart agriculture as a strategic priority across GAFSP, including through its work with the private sector.

**What is the role of blended finance in promoting food security and climate-smart solutions?**

We see blended finance as an important tool in a broader toolkit alongside technical assistance, sharing best practices and leveraging partnerships on the ground. When used in a targeted manner and in a way that is focused on achieving impact, blended finance can be a catalytic tool that de-risks transactions and fosters growth in places where it is otherwise difficult for the private sector to work. Blended finance has the potential to invite the private sector into new spaces and pilot innovative solutions to create markets. It’s a tool with great potential for achieving impact.

**How did you become interested in international development?**

My passion for development really began through my service after university as a Peace Corps volunteer in Bolivia, where I worked with rural communities that lacked basic services to bring potable water systems. I returned from that experience inspired by the people that I worked with to dedicate myself to a career that could deliver good in the world and help improve people’s lives. I have continued to pursue that interest, first in the private sector with a USAID contractor, then in the U.S. diplomatic service and now in Treasury.

**What motivates you?**

As Director for International Development Policy at Treasury, I’m privileged to represent the U.S. government with partners like GAFSP and other important institutions. I work with people who share a passion for making the world a better place and that’s really motivating. I’ve always been called to public service, which I see as an opportunity to contribute. As we have talked about, people can make contributions working within government, outside of government, in philanthropy, civil society, or in the private sector. My guiding tenet has always been to build on the good work of those who preceded us—and to leave the world a better place for those who come after us.
Inclusive Business & Gender

Daphna Berman/IFC
As one of the most densely populated countries in Africa, there’s little room for Rwandan farmers to expand their holdings. Boosting production using existing plots is therefore critical to food security.

Euphrasie Nyirasafari, farmer and president of her local women’s savings group, in her village of Muhanga in southwest Rwanda. Simeon Uwiringiyeyesu/IFC
In Rwanda, Strengthening Cooperatives to Boost Productivity, Quality and Incomes

The project worked with 145 farmer cooperatives across the country and helped establish more than 700 women’s savings groups.

Euphrasie Nyirasafari, a farmer in southwest Rwanda, never imagined herself to be a community leader. Quiet and softspoken, she has long embraced a variety of other titles—from wife and mother to farmer and community member. But leadership wasn’t something she ever considered, let alone imagined to be attainable.

That changed after a training program came to her village in 2019. Over the course of 24 months, Nyirasafari—alongside other members of her agricultural cooperative—gathered in the local village meeting hall, not far from the home she shares with her husband and four children. There, she learned everything from proper planting techniques and post-harvest handling to contract negotiation and record keeping. And when it came to nominating a president of the women’s savings group that the cooperative decided to establish, Nyirasafari was chosen to be its leader.

"It changed my life," she said on a recent afternoon, the savings group’s ledgers and balance book in her hands.

Nyirasafari is one of the nearly 40,000 farmers trained as part of an IFC and World Food Programme (WFP) project that aimed to boost overall productivity and quality for smallholder farmers across Rwanda. As part of the project, which closed in 2022 and was supported by the Private Sector Window of GAFSP, trainers worked with 145 farmer cooperatives across the country, strengthening governance and financial management, as well as agronomy and post-harvest handling. The project, which was launched in 2016, also helped establish more than 700 women’s savings groups, mobilizing an estimated $120,000 in savings that farmers used to access loans from financial service providers. For Nyirasafari, the change was dramatic: With the money her savings group put aside, she purchased high-quality seeds—rather than using leftover maize stalks from the previous year—which meant high-quality production, and higher income, come harvest. "I learned that saving isn’t just whatever is left over: You need to sacrifice to achieve your goals," she said.

Agriculture is critical to Rwanda’s economy, accounting for 31 percent of gross domestic product (GDP) and 70 percent of employment. But the sector is dominated by smallholders—who account for 75 percent of the country’s agricultural production, making market access
and offtake particularly challenging for local agri-processors. Land is also in short supply: As one of the most densely populated countries in Africa, there’s little room for Rwandan farmers to expand their holdings. Boosting production using existing plots is therefore critical to food security—and only possible with high-quality seeds, fertilizer, and other inputs, as well good agronomic techniques.

As part of the program training, farmers learned techniques like proper seed spacing—and the benefits of moving away from traditional methods like intercropping, where two or more crops are grown in close proximity. Theogene Kwizera, a graduate of the program and president of a 2,000-person cooperative in Nyaruguru in the country’s south, says that production on his farm has grown more than 200 percent since completing the training.

“The project has ended, but we have the skills to continue growing produce and increasing yields,” he said. The extra 30 percent income increase has allowed him to cover school fees and health insurance payments for his five children—and with money left over, he’s also undertaken small home improvement projects.

Maize in Rwanda is the main source of nutrition and a critical crop for farmers, but it is mostly low quality and so many farmers are unable to sell their crops in formal markets. Levels of aflatoxin, a mold-growing carcinogen, are particularly high due to the country’s high humidity levels, short dry season, and lack of mechanical, post-harvest practices. Aflatoxin is associated with the suppression of the immune system, childhood malnutrition and is lethal in high doses. The training therefore helped farmers learn techniques to prevent the growth of aflatoxin—and Kwizera, for example, now dries his maize in trees rather than on the damp floor. “Before the training, I didn’t know what aflatoxin was,” he said.

Challenges faced by Rwandan farmers have mounted in recent years. COVID-19 made access to inputs or markets difficult during the country’s lockdowns—which stretched for several months in 2020 and 2021. Prohibitions on gatherings also meant that saving groups like Nyirasafari’s couldn’t come together to talk about their goals—or pool their contributions. The food security crisis exacerbated by the Russian invasion of Ukraine has also further intensified these challenges. Food, fuel and fertilizer prices have surged in recent months and essentials like cooking oil and rice have doubled in cost, leaving farmers scrambling to feed their families.

As part of an effort to protect smallholders from these shocks, the project worked to further professionalize the agriculture sector. The project’s trainers helped create market linkages to off-takers and oversaw the signing of contracts between cooperatives and buyers. Coaches also worked closely with an estimated 2,300 cooperative leaders, creating a culture of empowerment so that farmers could access the premium market, where prices are higher, and leverage their collective bargaining power. Kwizera, for example, says that he learned to negotiate with financial institutions. “I now see that farming is a business,” he said.

In previous years, Kwizera said, the chaos and mismanagement at his cooperative meant that presidents never completed
their three-year terms. Kwizera is now into his second three-year term—a first in his cooperative’s history—which he says would have been impossible without the training. “My members now hold me accountable and at every general assembly, I present how I’ve used our money,” he said. “We formed committees, so that it’s clear who is responsible for what.”

As the program came to a close this summer, IFC, WFP and GAFSP teams came together in Kigali, convening a group of development officials, agricultural experts and policymakers to share lessons learned and brainstorm about ways to further support Rwanda’s smallholder farmers. Seraphine Uwitonze, a maize farmer from Ngoma in the country’s east, was invited to the closing event, and from the conference stage, talked about how the program changed her life—and that of her family and community.

Uwitonze was one of the 900 women who were trained and coached to become cooperative presidents and as she told attendees that day, the project taught her a range of agricultural and business skills. But for Uwitonze, who never imagined herself traveling to a Kigali hotel to speak on behalf of her village—let alone getting on stage and talking to a room full of strangers—the experience was so much more. “I learned not to shy away from ideas that will improve the status of my family,” she said. “I never thought I was capable and now I know that I am.”
GAFSP is committed to increasing the participation and impact of women in the global agricultural value chain.
Yet most women farmers toil in relative obscurity, shut out from land ownership, lacking market price information and agricultural inputs. They tend to have smaller plots of land and have to travel long distances to market. As a result many female farmers are less productive and miss out on valuable earnings, money that could feed their families and educate their children.

The Private Sector Window of GAFSP is committed to helping women farmers raise their productivity profile through gender related actions attached to many of our projects. To date, more than 152,000 female farmers have been reached through our investments.

Gender is now a driving force in all Private Sector Window projects. Before we agree to a new investment or advisory services project, our staff will undertake a thorough gender assessment as part of the appraisal process. With specialized training from IFC’s gender team, our Private Sector Window staff can help GAFSP’s corporate clients understand the importance of including women in their value chain.

By allowing women the same access to agricultural resources as men, the Food and Agriculture Organization of the United Nations estimates that women’s agricultural yields would increase by 20 to 30 percent over current levels. With GAFSP support, we are committed to increasing the participation and impact of women in the global agricultural value chain.

Closing the Gender Gap

Women—who produce more than half of the world’s food—are the beating heart of agricultural productivity.
Participants in Cargill’s Coop Academy study governance, digitization, traceability, and sustainable development. Cargill
For Cocoa Farmers, Cooperative Training Tastes Sweet

In Côte d’Ivoire, where almost half of the country’s jobs are linked to cocoa, IFC and the Private Sector Window of GAFSP are working with the cocoa company Cargill to professionalize and digitize the sector. The “Coop Academy” management training program, often described as a cross between an accelerated MBA and an operational bootcamp, teaches cooperative leaders governance, digitization, traceability, and sustainable development—and has so far trained 700 leaders, with another 700 in the pipeline for the coming year. Equipping local agricultural leadership with the necessary tools to build profitable and sustainable supply chains is creating opportunities in rural economies—and helping create profitable and sustainable businesses. Coop Academy will reach an estimated 130,000 smallholder farmers and has already helped cooperatives gain access to more than $13 million in commercial financing. Coop Academy is also supporting women leaders and entrepreneurs, providing tools and resources to help them establish income-generating activities. To date, more than 2,200 women have taken part in the community development program, with more than 80 percent reporting an increase in their income post-training.
Increasing Nutritional Intake & Adoption of High-Yield and Innovative Technology
AN ESTIMATED 75 PERCENT OF RWANDA’S AGRICULTURAL PRODUCTION COMES FROM SMALLHOLDER FARMERS, WHO PRODUCE AN ESTIMATED 350,000 TONS OF MAIZE EVERY YEAR.

AflaKiosk is providing affordable testing services to help smallholders meet the needs of the formal market. Simeon Uwiringiyeyesu/IFC
Rwandan Start Ups Are Creating a Supply of Safe, Affordable Grain

Removing aflatoxins from local value chain is critical to ensuring adequate supply of high-quality maize.

Emile Ngaboyisonga wishes he didn’t need to travel so much, but as a grain trader who sources maize and soy for some of Rwanda’s largest agro-processors, he’s often crisscrossing through Zambia, Malawi, and Tanzania to meet his clients’ demands.

Local supply isn’t an issue: As Ngaboyisonga himself concedes, there’s plenty of grain in his native Rwanda—and it’s significantly cheaper too. But for Ngaboyisonga and the clients he represents, the quality of local harvests is just too low. “It’s an unfortunate situation, but farmers in Rwanda can’t meet the standards of the formal market,” he said.

An IFC project is working to change that. With support from the Private Sector Window of GAFSP, the Rwanda Grain Markets project is supporting farmers and aggregators to affordably tackle widespread contamination, poor storage practices and limited access to affordable finance. The goal is for Ngaboyisonga and grain traders like him to source locally—ultimately creating a safe and affordable supply of high-quality maize that sustains the agricultural value chain throughout the country.

As part of the project, IFC is supporting two innovative local companies that work to decrease the incidence of aflatoxin, a mold-growing carcinogen that is pervasive in local grains. Though invisible to the human eye—and largely undetected by farmers—aflatoxin is associated with the suppression of the immune system, childhood malnutrition and is lethal in high doses. About 30 percent of local grain samples have aflatoxin above levels safe for human consumption, largely due to the country’s high humidity levels, short dry season, and lack of mechanical, post-harvest practices. Improper storage also means that even grain that does not have aflatoxin is often unsuitable: More than 80 percent of samples are too wet for safe storage and more than 90 percent fall outside of formal requirements for high-quality grain.

AflaKiosk, a Kigali-based startup, is tackling that challenge by providing affordable quality aflatoxin testing services for grain at a fraction of the price charged by regulators. The company has two mobile grain testing facilities that move between ten major grain trading hubs across the country, “meeting demand along the value chain,”
as Benjamin Byinshi, a senior analyst at Vanguard Economics, the research company that implements the technology, recently explained. These “AflaKiosks” provide grain testing services—with results in just 30 minutes—that allow traders and farmers the ability to determine the quality of their grain before selling it. The company also connects farmers with quality grain to high-value markets so that they can fetch better prices.

“We’re creating incentives for improving grain quality,” Byinshi said. “Farmers and traders test their grain onsite and see immediately that they’re able to get a premium price for higher-quality maize.”

IFC and GAFSP are also supporting AflaSight, another Kigali-based startup that uses technology to identify aflatoxin-infected maize kernels. Though aflatoxin is impossible to remove, it glows bright blue under UV light, and so the company’s proprietary machinery is able to identify, sort and remove individual kernels using jets of air. The process reduces an estimated 90 percent of the aflatoxin present and is the cheapest means of aflatoxin control in Rwanda to date.

AflaSight’s UV sorter is precise, and so only about five percent of crops they process are lost. The improvement is dramatic: Grain entering the company’s warehouse has an average aflatoxin level of 135 parts per billion (ppb) and when the sorting and removal process is done—about 15 metric tons per hours—grains have an average level of just 8.3 ppb, rendering it food safe. The result is that even with minimal lost crop, smallholder farmers and grain aggregators increase their incomes by 20 percent, while also ensuring that a safe product is making its way to consumers.
“We are trying to democratize the value chain and reach as many farmers and cooperatives as possible to improve grain quality.”
The technology enables smallholder farmers and grain aggregators to increase their incomes by 20 percent, while also ensuring that a safe product is making its way to consumers.
“We are trying to democratize the value chain and reach as many farmers and cooperatives as possible to improve grain quality,” Kathryn Rendon, Managing Director of AflaSight, said during a recent tour of the company’s warehouse.

The two companies also work together closely: After testing, AflaKiosk sends grains with high rates of aflatoxin across town to AflaSight, where maize, as well as peanuts and sorghum, is sorted. And both companies help contribute to a food safety training for grain aggregators, which is also part of the project. Data from AflaKiosk from along the value chain, for example, helps trainers better understand where along the value chain quality starts to deteriorate—and how to find specific solutions.

An estimated 75 percent of Rwanda’s agricultural production comes from smallholder farmers, who produce an estimated 350,000 tons of maize every year. But because their harvests are largely untouchable by local agri-processors, the maize they produce is sold into unregulated and informal channels, where they earn much lower prices. And it’s not just a financial issue: Consumers across the country unknowingly eat contaminated grains, which can cause a range of health issues. Indeed, the World Health Organization (WHO) estimates that more than 500 million people in sub-Saharan Africa are exposed to aflatoxin’s serious long-term health effects.
“MANY OF OUR FARMERS CAN’T INCREASE THE SIZE OF THEIR LAND, SO SUPPORTING THEM TO INCREASE PRODUCTION ON THE LAND THEY HAVE IS CRITICAL TO FOOD SECURITY.”
An agribusiness specialist and farmer himself, Nathan Were experiences daily the impacts of climate change, rising fuel and fertilizer costs, and increasing food insecurity in his native Uganda—and across the region. Were, an IFC operations officer, works on several agribusiness advisory projects in Uganda, Kenya, Rwanda and Zimbabwe from his office in Nairobi, including a number of GAFSP-supported projects. He spoke recently about his passion for agriculture, how he stays motivated, and why collecting plastic bottles on the streets of Kampala inspired him to establish an educational foundation for disadvantaged children.

There's a lot of talk about the food-security crisis. What are you seeing in the field?

I see the crisis on two levels: In urban settings, food prices have skyrocketed, pushing many low-income families to just one meal a day. In rural areas, where most families are dependent on agriculture, we see farmers who are forced to sell their livestock, which has long-term implications for productivity and livelihoods. Fertilizer prices are also higher than ever, and so smallholder farmers can't afford the quality inputs they need to increase production, which is critical to food security.

How is climate change impacting that challenge?

Farmers used to rely on a traditional planting cycle, but climate change has caused longer dry seasons and more inconsistent rains. Farmers don't know when to plant or how to plan. Climate change is also affecting their yields: Rains don't come on time and seeds aren't germinating. Also, without enough fodder and water for animals, milk production goes down. The result is that food is less available—and more expensive for everyone. This causes a lot of frustration because many of the farmers have gone through our trainings and adopted good agricultural practices. They've made every effort, but they are limited in what they can implement given the drought.

That sounds difficult. How do you stay motivated?

Talking to farmers and hearing about their successes keeps me focused on our mission. In countries like Uganda, Rwanda, and Kenya, populations are increasing at a rate higher than food production, so we need to make sure we have enough affordable, quality food. Many of our farmers can't increase the size of their land, so supporting them to increase production on the land they have is critical to food security. It can be difficult to convince traditional farmers to change their methods,
but we’ve had a lot of success creating demonstration plots, where trainers divide a plot of land into two and apply best practices on only half the land. This helps farmers see the effects of quality inputs and training. There’s so much potential to make an impact—and that has been energizing.

What attracted you to agribusiness?

I come from a farming family. My grandmother was a potato farmer, which is how she supported my siblings and me. I am also a farmer: I grow bananas and raise goats on my farm outside Kampala. I feel the pains that farmers face and also understand their struggles. I try new things on my farm to see what works, and I practice what I preach.

Your journey from your grandmother’s farm to operations officer at IFC wasn’t easy. Can you tell us more about it?

Growing up, we struggled to afford school fees and even food. I’m the oldest of seven children, and we had a meager family income. As a young boy, I sold charcoal, and at 13, I was a street hawker of women’s shoes, which helped pay for my school fees. Sometimes I would go a full day without a sale, but it taught me resilience. When my family moved to the city, I started collecting plastic bottles from garbage bins to cover the cost of books. Later, as part of a scholarship to secondary school, I provided casual labor—moving bricks and sand—in exchange for school fees. I received a scholarship to university, where I studied social work and economics. My first job after university was as a loan officer in microfinance, working with farmers. Later, I worked at Equity Bank, the Grameen Foundation, CGAP and several other institutions before joining IFC. In 2019, I published a book about my experience, From Garbage Collection to a Global Development Bank: A 15-year Journey of Prayer, Resilience and Hard Work.

What do you like most about your job?

Operations is very dynamic. I work across different value chains, teaching farmers, but also learning from them. I love to teach: Passing on knowledge creates more change agents.

What are you most passionate about?

A few years ago, my wife and I established a scholarship fund to provide disadvantaged children access to quality education. Education unlocked opportunities for me, and I’m passionate about helping provide those same opportunities to others. We currently support more than 20 students across Uganda with school fees, supplies, and for girls, reusable sanitary towels. It’s rewarding to interact with kids who are just grateful for the chance to stay in school.
“We’ve had a lot of success creating demonstration plots, where trainers divide a plot of land into two and apply best practices on only half the land. This helps farmers see the effects of quality inputs and training. There’s so much potential to make an impact—and that has been energizing.”
Supporting agribusiness and agri-finance projects that commercial investors deem too risky is what GAFSP Private Sector Window does best.
Global Agriculture and Food Security Program (GAFSP) is a global effort that pools donor resources to fund programs focused on increasing agricultural productivity as a way to reduce poverty and increase food and nutrition security. The Private Sector Window, managed by IFC, and supported by the governments of Australia, Canada, Japan, the Netherlands, the United Kingdom and the United States, provides long and short-term loans, credit guarantees, equity, and technical assistance to private sector companies and financial intermediaries. It links smallholder farmers to markets by improving their access to finance, technology, expertise and inputs.

International Finance Corporation, a member of the World Bank Group, is the largest global development institution focused exclusively on leveraging the power of the private sector to tackle the world’s most pressing development challenges. Working with private enterprises in more than 100 countries, IFC uses its capital, expertise, and influence to help eliminate extreme poverty and promote shared prosperity.

For more information, visit www.gafspfund.org or www.ifc.org/GAFSP.

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