



2024 ANNUAL REPORT



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A JOURNEY OF GROWTH: A LETTER FROM THE CHAIR OF THE BOARD

As we present IFDC's 2024 Annual Report, I am pleased to reflect on a year of growth, collaboration, and continued commitment to advancing sustainable agriculture and food security across the globe.

This year, IFDC has made significant advancements in enhancing sustainable agricultural practices and strengthening food security worldwide. Through our training initiatives, we reached 374,402 farmers (54% being women), equipping them with essential knowledge on improved agricultural practices and innovative technologies. Demonstration plots served as crucial learning sites, with 9,566 established to showcase the effectiveness of management practices in real conditions.

As a result, 509,515 hectares were cultivated using good agricultural practices, while 173,887 hectares benefited from climate-adaptive technologies. These efforts translated into 432,986 farmers actively applying improved agricultural techniques, reinforcing IFDC's mission to drive sustainable transformation in the sector.

In 2024, IFDC provided support for the Africa Fertilizer and Soil Health (AFSH) Summit, advancing the Soil Initiative for Africa (SIA) to anchor soil health in Africa's Agenda 2063.



This crucial African Union initiative brought together leaders, experts, and stakeholders from across the continent and beyond to address the critical issues of soil degradation and sustainable fertilizer use.

During the AFSH Summit, IFDC, the International Institute of Tropical Agriculture (IITA), the African Plant Nutrition Institute (APNI), and the Forum for Agricultural Research in Africa (FARA) signed a coalition agreement known as the Coalition of Implementers for Soil Health (CIFSH).

Marking a pivotal step toward agricultural sustainability, the Economic Community of West African States (ECOWAS), in collaboration with IFDC and key partners, launched the Regional Hub for Fertilizer and Soil Health for West Africa and the Sahel on June 26 in Nigeria. IFDC plays a critical role in driving the hub's mission by fostering collaboration between researchers, policymakers, and farmers to enhance soil fertility and improve fertilizer access across the region.

On October 28, a Memorandum of Understanding (MoU) was signed between IFDC, the Ministry of Agriculture and Livestock of Brazil (MAPA), and the Brazilian Agricultural Research Corporation (Embrapa) to advance research and development in sustainable agriculture, food security, and environmental protection.

Expanding IFDC's global footprint, the organization is establishing new Fertilizer Innovation Centers in key agricultural regions, including Brazil and India. These centers serve as hubs for research, development, and knowledge dissemination, focusing on region-specific challenges and solutions in fertilizer technology and soil health management.

IFDC additionally led the launch of the Soil Values program, a 10-year \$100 million initiative funded by the Netherlands Directorate-General for International Cooperation (DGIS). The program began its 10-year implementation phase, focusing on improving soil fertility and productive capacity across 2 million hectares of farmland and supporting 1.5 million farmers in the region.

IFDC is also proud to welcome Dr. Zachary P. Stewart as Vice President of Research and Beatrice Bezmalinovic Dhebar as Vice President of Business Development, strengthening our leadership team as we advance innovation and global impact in soil and plant nutrition.

In late 2024, IFDC began an important process to review and reset its organizational strategy, following nearly five years of pursuing a strategy adopted in 2019. The world has changed significantly since then — from shifting climate realities to evolving global food security challenges — and so must we. This strategic renewal is a timely opportunity to adapt and reposition IFDC to remain responsive, impactful, and forward-looking in our mission to build resilient food systems and improve farmer livelihoods around the world.

I extend deep gratitude to the organization's dedicated staff, whose expertise and passion fuel our mission, and to our partners — governments, donors, research institutions, private sector collaborators, and farming communities — whose commitment and collaboration make our progress possible.

As IFDC's work continues, the team looks forward to deepening these partnerships, expanding our impact, and pursuing our shared goal of a more food-secure and sustainable world. Together, we are shaping the future of agriculture — one rooted in resilience, innovation, and shared prosperity.

Sincerely,



Neal Gutterson
IFDC Board Chair

IFDC APPOINTS NEW LEADERSHIP

IFDC welcomed two new Vice Presidents to the leadership team, bringing with them a wealth of experience and strategic insight. With their leadership, we are enhancing our capacity to deliver innovative solutions, scale successful models, and respond more effectively to the evolving challenges of global food security. Learn more about their backgrounds and accomplishments.



BEATRICE BEZMALINOVIC DHEBAR

Beatrice Bezmalinovic Dhebar joins the organization to lead its business development team. With more than 25 years of experience in global health and development, Bezmalinovic Dhebar is highly experienced in business development, project management, and consultancy, with a strong track record of driving results and delivering strategic solutions.

Bezmalinovic Dhebar's career reflects her passion for leveraging business development to foster links between strategy, implementation, and impact. She has successfully engaged with diverse funders, including the United States Agency for International Development (USAID), the Gates Foundation, United Nations agencies, and European donors.

DR. ZACHARY P. STEWART

Dr. Zachary P. Stewart joins IFDC as the organization's new Vice President of Research and Chief Scientist. Dr. Stewart brings significant expertise in international agricultural research and development and a multidisciplinary background that will be invaluable in his new role.

As Senior Food Security Advisor at USAID, Dr. Stewart led transformative initiatives aimed at enhancing global food and nutrition security for smallholder farmers across sub-Saharan Africa and Southeast Asia. His efforts not only served to increase agricultural productivity but also led to improved livelihoods and nutrition for farming communities worldwide.



DR. SINGH LEAVES A LEGACY FOR IFDC RESEARCH

Dr. Upendra Singh, who recently retired as Vice President of Research and Chief Scientist at IFDC, leaves behind a legacy spanning more than 30 years of groundbreaking work in soil fertility and systems modeling.

Originally hired for his expertise in phosphate research, Dr. Singh quickly became a foundational member of the IFDC modeling group, expanding his focus to nitrogen dynamics and nutrient use efficiency – areas that would define much of his career.

Dr. Singh played a pivotal role in developing the Phosphate Rock Decision Support System (PRDSS), a tool that enables researchers and farmers to optimize phosphate fertilizer use based on soil and crop conditions. His expertise extended to developing models for phosphorus, nitrogen, and rice where he collaborated with leading universities, including the University of Florida, University of Hawaii, and University of Michigan, to develop key components of nitrogen models for the widely used Decision Support System for Agrotechnology Transfer (DSSAT).

These models have improved understanding of phosphorus and nitrogen uptake and synchronization with crop demand, helping to reduce nutrient losses and enhance yields.

Beyond his research, Dr. Singh was instrumental in organizing and conducting international training programs on integrated soil fertility management (ISFM), fertilizer research, and crop modeling, sharing his knowledge with students, scientists, and practitioners worldwide.

He hosted and led numerous DSSAT development sprints and workshops, fostering collaboration among global experts and advancing the science of crop simulation and decision support tools.

As IFDC appoints new leadership, the organization bids a heartfelt farewell to Dr. Singh as he embarks on a new journey. His departure closes a significant chapter defined by scientific rigor, innovation, and dedication to improving soil fertility and agricultural productivity.

Now, as Dr. Zachary Stewart steps into the role of Vice President of Research, IFDC will build on Dr. Singh's impactful legacy and continue to deepen its commitment to farmer-centric research, adapting to the rapidly evolving needs of local agriculture.

IFDC looks ahead to the innovations of the coming years with gratitude for the foundation that has been laid and with great optimism for what lies ahead.



SHAPING THE NEXT 50 YEARS: A LETTER FROM THE PRESIDENT

As we reflect on IFDC's 50th anniversary in 2024, I am filled with pride and gratitude for the significant progress our organization has made to deliver research, technology, and innovation that empower smallholder farmers to build sustainable livelihoods worldwide.

IFDC's journey began in 1974 when U.S. Secretary of State Henry Kissinger addressed the United Nations General Assembly. He called for a global effort to improve agricultural production in developing countries, emphasizing better access to and proper use of advanced fertilizer technologies. IFDC was conceived at the urging of the U.S. Department of State to bridge the gap between scientific research and practical solutions that benefit smallholder farmers.

Building on the legacy of the Tennessee Valley Authority's National Fertilizer Development Center, IFDC has been at the forefront of developing and disseminating innovative fertilizer technologies and agricultural practices that have transformed the livelihoods of millions of farmers worldwide. Since its inception, IFDC has expanded its reach to over 100 nations and, as of 2024, maintains a presence in 31 countries.

Throughout the year, IFDC strengthened its engagement with global agricultural stakeholders through a series of impactful events and optimistic beginnings.

To honor the organization's legacy, IFDC hosted Open Door events and successfully held two symposia under the theme "Future Proofing: Unified Action for Soil Health and Food Security," designed as a dynamic, solution-focused consultation to enhance the conversation in shaping the future of sustainable agriculture.

Looking ahead, IFDC is building strong partnerships with government, academia, startups, and private industry across Alabama and the U.S. to grow a robust innovation ecosystem.

These efforts are paving the way for the establishment of a U.S. Fertilizer and Soil Health Innovation Center, with planned locations in Muscle Shoals and Dothan, Alabama.

The Center will serve as a national hub for advancing and scaling next-generation fertilizer technologies that promote sustainable soil health and environmental resilience.



From strengthening partnerships to expanding our presence in the U.S., we're deepening our commitment to innovation, research, and development where it all began.

IFDC's 50th anniversary marked a pivotal moment in the organization's journey, celebrating five decades of transformative contributions to global agriculture. Yet, in looking toward the future, we recognize that progress is not without its challenges.

One such challenge came on February 26, 2025, when IFDC received official notification that all its USAID-funded projects had been terminated as part of a broader policy shift by the Trump administration. This action has had a considerable impact on global development efforts.

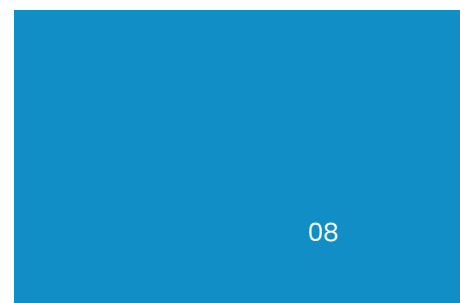
While this presents a significant obstacle, IFDC remains steadfast in its vision of producing healthier soils and plants for a food-secure and environmentally sustainable world. We will continue to move forward with our current projects and programs. IFDC's commitment to soil health, sustainable agriculture, and farmer prosperity has not changed. Working closely with strategic regional partners, the organization will continue to identify and scale the research and innovations that benefit farmers, entrepreneurs, and the environment.

Our dedication to developing agriculture from the ground up remains strong. With gratitude to partners, donors, and the farmers the organization serves, we look forward to another 50 years of agricultural innovation and impact.

With great appreciation,



Henk van Duijn
IFDC President and CEO



A GLOBAL CELEBRATION OF IMPACT, INNOVATION, AND COMMITMENT

What began as a singular mission to advance fertilizer development has since grown into a movement seeking to achieve soil health, food security, and sustainable agriculture worldwide. To honor this 50-year legacy, IFDC staged a year-long celebration in 2024 that included 13 Open Door events across its country offices as well as two landmark symposia in Washington, D.C., and Amsterdam.

The Open Doors welcomed nearly 1,300 guests, including representatives from government ministries, international organizations, donors, research institutions, and local entities, amplifying the conversation around soil health and food security on a global scale.

These local events served to reaffirm IFDC's vital partnerships with national governments and international development agencies and paved the way for continued progress toward resilient food systems.

Oumar Tamboura, representing Mali's Ministry of Agriculture, spoke about the enduring collaboration between IFDC and the Government of Mali. He noted, "I remain convinced that IFDC's reiterated commitment to providing innovative solutions to meet challenges linked to fertilizers and soil health will not be in vain and that together we will succeed in achieving our objectives."

This sentiment was echoed in Benin by Dr. Dossa Aguemou, Director of Cabinet at the Ministry of Agriculture, Livestock and Fisheries, who declared government support for IFDC. He stated, "I would like to reassure IFDC, its technical and financial partners, and the various actors involved of the support of the Government of Benin, which will spare no effort to assist you in your noble task of sustainable agricultural development in Benin."



A highlight of this anniversary year was the IFDC symposia, "Future Proofing: Unified Action for Soil Health and Food Security," held in Washington, D.C., and in Amsterdam, the Netherlands. The symposia employed a hybrid model to convene nearly 300 high-level guests from government agencies, the private sector, international development organizations, universities, and research institutions, as well as representatives of international financial institutions and embassies.

Designed as a dynamic, solution-focused consultation, the symposia showcased IFDC's role as a thought leader in soil health and sustainable agriculture.

Five working groups were established for the symposia, designed to spark cross-sector collaboration and drive actionable solutions. Organized by key sectors, these groups engaged in dynamic discussions to strengthen soil health and food security in Africa.

Participants emphasized the importance of public-private partnerships, enhanced access to soil data, youth engagement, and policy alignment to scale impact across regions.

As the global population continues to rise, these discussions will remain crucial in shaping the future of sustainable agriculture.

“Africa will be the next breadbasket of the world,” said Dr. Rattan Lal, Distinguished Professor of Soil Science and Director of the College of Food, Agricultural, and Environmental Sciences at The Ohio State University. “It has the soils, the resources, the climate, and the people. What we need is for the policymakers to put word[s] into action.”

Commemorating 50 years of IFDC’s agricultural innovation and partnerships, the Open Doors and symposia were more than just a time for celebration – they marked the organization’s recommitment to its mission. Leaders, partners, and stakeholders gathered not only to reflect on past achievements but also to chart the course ahead.

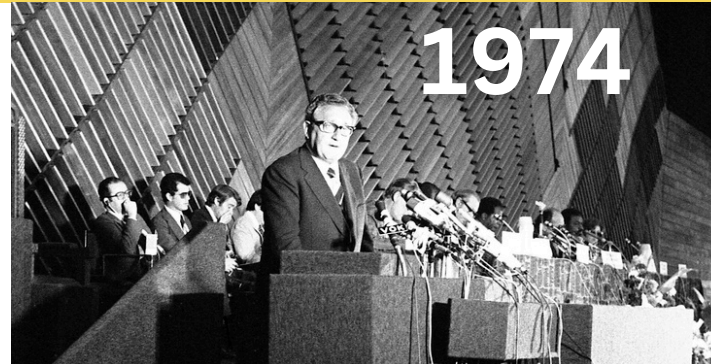
By building on five decades of impact and leveraging the insights and alliances forged during this anniversary year, IFDC is poised to help shape the next era of resilient, sustainable food systems.



50 YEARS OF IMPACT: IFDC'S LEGACY

IFDC Is Created

In 1974, with nearly 500 million people facing food insecurity, U.S. Secretary of State Henry Kissinger called for global action to improve agricultural production through better fertilizer use. IFDC was established in response and continues this mission today through global partnerships, cutting-edge research, and support for smallholder farmers.



IFDC Begins Its First Project in Bangladesh

The Fertilizer Distribution Improvement (FDI) project was implemented in 1977 to improve the Bangladesh Agricultural Development Corporation's fertilizer warehousing and distribution systems. A follow-on project, FDI-II, privatized fertilizer marketing in Bangladesh, a strategy that would be adapted and used in a number of other IFDC projects.

IFDC Introduces FDP in Bangladesh

Fertilizer deep placement (FDP) was under development by IFDC prior to its official dissemination into the Bangladeshi agricultural system in 1986. FDP reduces the amount of total fertilizer used per crop by 33% and increases crop yields by 15–18%. By 2016, 30 years later, more than 2.8 million Bangladeshi farmers were using FDP.



IFDC Establishes a Permanent Presence in West Africa

IFDC established a permanent office in the West African nation of Togo in 1987, continuing to expand its range of activities tailored to serve the special needs of African agricultural development. Through innovative approaches and collaborative initiatives, IFDC's office in Lomé became instrumental in driving sustainable solutions, fostering partnerships, and contributing to the overarching goal of enhancing agricultural productivity and resilience across the continent.



IFDC Helps Albania Build Back Its Economy

In 1991, during Albania's democratic transition and economic hardship, IFDC responded to a USAID request to assess the fertilizer market, helping the country grow its agricultural exports. The experience forever changed IFDC's approach to supporting smallholder farmers, and the organization's work is still recognized as an enduring legacy in the country.

ISFM Introduced in West Africa

Integrated soil fertility management (ISFM) was introduced in West Africa in 1996, benefitting over 2,500 smallholder farm families with crop productivity and profits. ISFM is still used today as one of IFDC's main approaches in continuing to help farmer households improve soil health.



1996



2008

IFDC Helps Rebuild Bangladesh's Agriculture Sector After Cyclone Sidr

In 2007, Cyclone Sidr devastated Bangladesh, destroying crops and killing thousands. In response, IFDC and the Bangladesh Department of Agricultural Extension launched the Improved Livelihood for Sidr-Affected Rice Farmers (ILSAFARM) project, introducing FDP to 280,000 rice-farming families. This commitment positioned IFDC as a catalyst for building resilience in agricultural development, ensuring that countries can withstand and recover from similar challenges.

IFDC Launches First Project in India

In 2019, IFDC launched its first project in India — Accelerating Farm Incomes (AFI) — to improve soil health, markets, and productivity in Telangana. The project sought to increase farmers' knowledge through training and advisory as part of a community empowerment process. AFI demonstrated IFDC's ability to incorporate and adapt its knowledge for specific purposes in new geographical contexts.



2019



2024

IFDC Commemorates Its 50th Anniversary

Over the past 50 years, IFDC has conducted research, developed innovative technologies, and implemented best practices for smallholder farmers, enhancing soil fertility worldwide. Reflecting on this milestone, IFDC continues to look ahead in progressing collaboration and impact to address the world's growing food challenges.



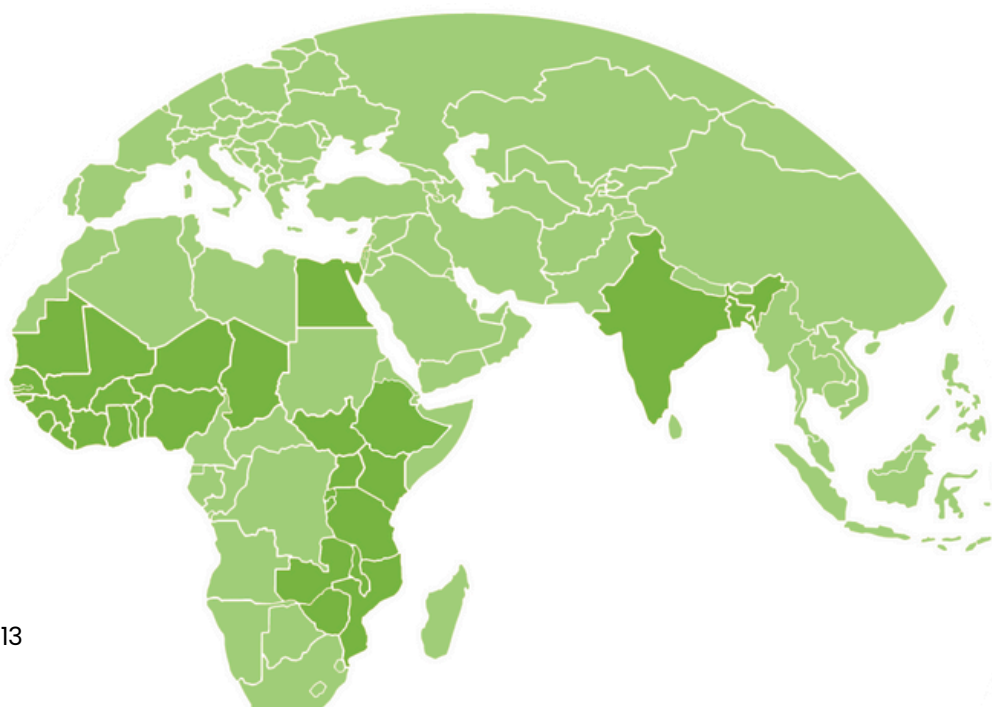
IFDC RESULTS

KEY INDICATORS 2020-2024

Indicators	2020		2021		2022		2023		2024	
	Total	Projects	Total	Projects	Total	Projects	Total	Projects	Total	Projects
Hectares under improved technologies	193,768	17	419,652	13	641,595	11	821,907	20	509,515	15
Farmer participants who applied technologies	416,522	18	527,003	11	945,930	11	650,917	20	432,986	16
Farmers trained (% women)	267,023 (46%)	18	408,557 (53.4%)	14	258,566 (47%)	14 (13)	464,097 (38%)	22 (22)	374,402 (54%)	16
Demonstration plots established	14,501	20	9,383	14	5,661	11	7,564	17	9,566	15
Public-private partnerships formed	838	24	245	14	331	12	424	21	400	15
Outreach activities	5,133	25	4,054	15	5,083	16	4,887	20	4,860	12
Climate-adaptive technologies (hectares)*	N/A		302,482	3	428,122	8	549,407	13	173,887	13
Private agri-enterprises that have benefited or improved as a result of interventions*	N/A		8,376	6	7,152	7	4,956	12	1,676	11
New jobs created as a result of agribusiness interventions*	N/A		14,242	3	22,316	2	7,141	1	21,070	9

*Tracking for these indicators began in 2021

OUR REACH IN 2024



Bangladesh • Benin
 • Burkina Faso • Burundi
 • Cabo Verde • Chad
 • Côte d'Ivoire • Egypt
 • Ethiopia • Gambia
 • Ghana • Guinea
 • Guinea-Bissau • India
 • Kenya • Liberia • Malawi
 • Mali • Mauritania
 • Mozambique • Niger
 • Nigeria • Rwanda
 • Senegal • Sierra Leone
 • South Sudan • Tanzania
 • Togo • Uganda • Zambia
 • Zimbabwe

IMPACT ASSESSMENT

IFDC seeks to measure the success of program interventions not only through the number of agricultural and soil health innovations the organization has developed or the large number of beneficiaries reached but, ultimately, by the actual advances in soil health the organization has achieved and the real improvements made in the livelihoods of program beneficiaries.

This assessment aims to measure the effects and impacts of IFDC's interventions by leveraging available datasets from both past and ongoing projects. The assessment is informed by key performance indicators, including the farm-level profitability of soil health improvement technologies and global program interventions on soil health, crop yields, poverty reduction, and food and nutrition security.

This initial report presents evidence from projects with readily available practical data. The overall aim is to assess all IFDC programs, and this activity will be expanded to include other projects. The present assessment considered the impacts of various program interventions on soil health, crop yield, income, food security, and gender gaps.

INTERVENTIONS IMPLEMENTED BY THE PROGRAMS ASSESSED

The following interventions were implemented by the programs in 2024:

- The Soil Fertility Stewardship Project (PAGRIS) based its actions on two complementary strategic approaches: integrated soil fertility management (ISFM) and integrated farm planning (PIP). Interventions included the promotion of improved sustainable land conservation management techniques, climate-resilient strategies, and dolomite fertilizers.
- The Fertilizer Research and Responsible Implementation (FERARI) program experimented with innovative fertilizer recommendations combined with best agronomic practices, such as the use of improved seeds and farm management, in Ghana. Interventions included farmer education on best practices and extension service support.
- The Communal Approach to the Agricultural Market in Benin – Phase3 (ACMA3) program promoted the development of agricultural market linkages, value chain activities, and technical training. The program supported access to inputs, microcredit, and digital tools for farmers and promoted climate-smart agriculture.
- The Feed the Future Bangladesh Climate Smart Agriculture (CSA) Activity strengthened seed systems to increase the availability of climate-adapted varieties, improved private sector capacity to distribute high-quality agricultural inputs and link smallholder farmers to output markets, and expanded farmers' access to climate-smart technologies and practices through training, advisory services, and digital tools.

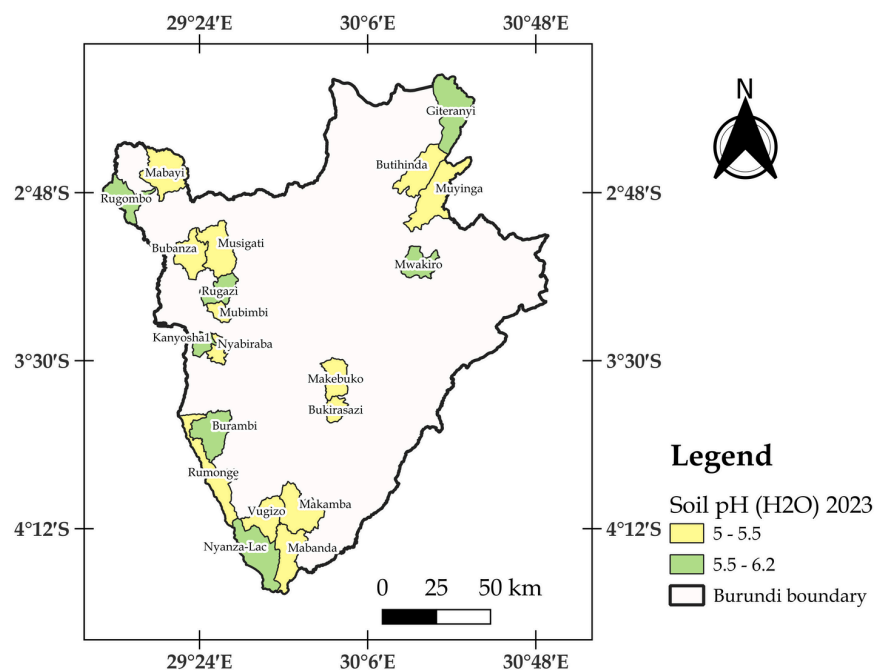
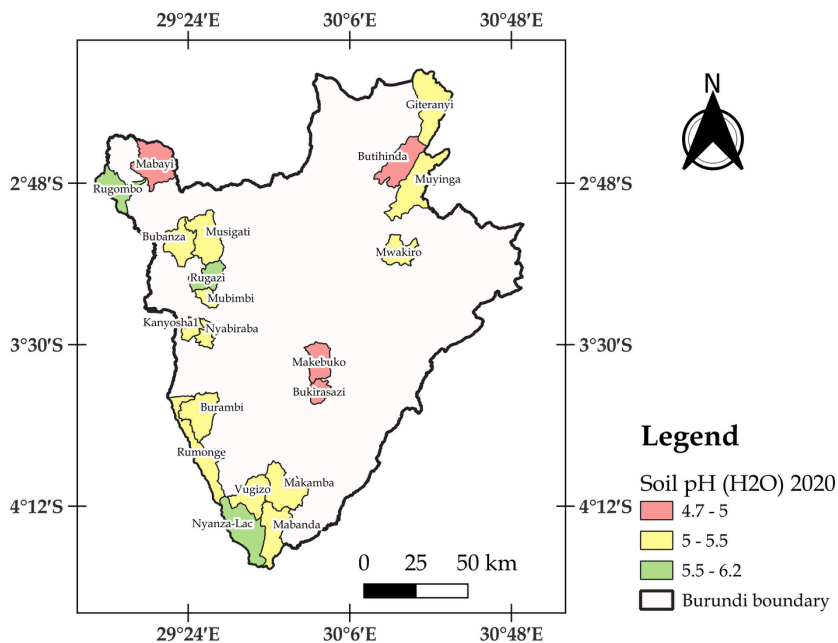


IMPACT OF INTERVENTIONS ON SOIL HEALTH

Restoration, improvement, and maintenance of soil health are critical aspects of IFDC's institutional goals. In line with this, PAGRIS seeks to achieve ecologically sustainable land management and lower the acidity of the soils in Burundi by introducing dolomite technology.

This strategy has had a significant impact on soil pH, correcting the acidity level for most parts of the country by up to about 10%. Considering the significant role of soil pH in driving most soil properties, the change in soil pH due to PAGRIS's interventions will result in overall improvement in soil health, fertilizer use efficiency, and crop yields.

Figures 1 & 2. Impact of dolomite interventions by PAGRIS on soil pH in 2020 and 2023



IMPACT OF INTERVENTIONS ON CROP YIELD

One of IFDC's fundamental objectives is to improve crop yields at farm level. Its programs have achieved this objective at varying degrees for different crops (Table 1). Although yields remain low for most crops, the impact of IFDC's interventions has been significant, ranging from 27% to 300% growth, which could potentially improve food availability.

Table 1. Impact of IFDC's interventions on crop yields

Project	Country	Year	Crop	Yield (mt/ha)		Difference (%)
				Treatment	Control	
FERARI	Ghana	2024	Maize	1.9	1.5	26.7
3R	Mozambique	2024	Maize	1.2	0.6	100
		2024	Rice	3	0.9	233.3
		2024	Sesame	0.4	0.1	300
CSA	Bangladesh	2024	Rice	6.3	NA	30.8
		2023		4.8	NA	
HortiNigeria	Nigeria	2024	Tomato	9.5	NA	45.8
		2022		6.5	NA	
		2024	Onion	7.5	NA	37.9
		2022		5.4	NA	

NA: not available

IMPACT OF INTERVENTIONS ON INCOME AND POVERTY

IFDC's interventions are driven by two key motives: improving incomes and reducing poverty among farm households and other agricultural value chain actors. Table 2 shows significant evidence that IFDC's interventions are improving the overall incomes of farmers while also contributing to the achievement of United Nations Sustainable Development Goal 1 – No Poverty by 2030.

Income Improvement

IFDC project beneficiaries experienced income increases ranging from 6% to 197% compared to nearby non-beneficiaries. For example, ACMA3 led to income increases of 7% in 2023 and 10% in 2024, while PAGRIS beneficiaries saw a 17% increase. Beneficiaries of FERARI and 3R also earned more than non-beneficiaries. Similarly, farm incomes under CSA and HortiNigeria improved over time, even after adjusting for price changes.

Poverty Reduction

IFDC project beneficiaries consistently earned greater incomes above the extreme poverty line of \$2.15/day, compared to non-beneficiaries. For example, total income of ACMA3 and PAGRIS beneficiaries was 327% and 22% above the poverty line, compared to 287% and just 4% for non-beneficiaries. With FERARI, farm income for beneficiaries was 5% above the line, while non-beneficiaries fell 7% below the poverty line. For the 3R program, both groups were below the threshold, but beneficiaries fared significantly better (28% below vs. 76% below).

Table 2. Impact of IFDC's interventions on income and poverty reduction

Project	Country	Year	Income (U.S. \$)		Difference between Beneficiaries and Non-Beneficiaries (%)	Difference from the \$2.15/Day Poverty Line (%)	
			Beneficiaries	Non-Beneficiaries		Beneficiaries	Non-Beneficiaries
ACMA3**	Benin	2024	3,348.10	3,040.00	10.1	326.6	287.4
		2023	2,899.90	2,715.70	6.8	269.5	246.1
PAGRIS**	Burundi	2024	954.7	817.3	16.8	21.7	4.2
FERARI*	Ghana	2024	819.8	730.3	12.3	4.5	-6.9
3R*	Mozambique	2024	558.4	188.1	196.9	-28.8	-76
CSA*	Bangladesh [#]	2024	2,472.10	NA	13.5	215	NA ^a
		2023	2,178.90	NA		177.7	NA ^a
HortiNigeria*	Nigeria	2024	1,848.70	NA	92.1	135.6	NA ^a
		2022	962.5	NA		22.6	NA ^a

Note: * indicates farm income; ** indicates total income; # indicates use of same outprice price for both years. NA: not available; NA^a: not applicable.

IMPACT OF INTERVENTIONS ON GENDER YIELD AND INCOME GAPS

Gender-focused interventions proved effective: in HortiNigeria, female farmers outyielded male peers in every crop except pepper – by 23% in tomato, 16% in onion, and 5% in rice – showing women’s strong productivity potential.

The ACMA3 project showed female beneficiaries earned 55% more than males. In HortiNigeria, women earned 27% more per hectare of tomato, though men still had higher incomes from pepper and onion (Table 3).

Table 3. Impact of IFDC’s interventions on gender yield and income gap

Project	Country	Crop	Men	Women	Gender Gap (%)
			Yield (mt/ha)		
HortiNigeria	Nigeria	Tomato	8.8	11.4	-23.3
		Pepper	10.8	10.8	0.8
		Onion	7.3	8.7	-16.3
FERARI	Ghana	Maize	1.8	1.9	-5.3
CSA	Bangladesh	Rice	5.5	5.8	-5.2
			Income (U.S.\$)		
ACMA3	Benin	Total	1,830.50	4,051.30	-54.8
HortiNigeria	Nigeria	Tomato	1,571.80	2,140.80	-26.6
		Pepper	2,017.20	1,606.90	25.5
		Onion	1,351.90	1,287.00	5

IMPACT OF INTERVENTIONS ON FOOD SECURITY

Improvements in yields and incomes are thought to be associated with improved food security. However, the evidence showed that the food security gains from IFDC's interventions were marginal (Table 4). Project beneficiaries generally had a Food Consumption Score (FCS) almost 4% above that of non-beneficiary households, while the FCS of ACMA3 program beneficiaries was nearly 3% lower than that of non-beneficiaries. This critical lesson highlights the need for programs to ensure that improvement is made in food security.

Table 4. Impact of IFDC's interventions on household food security, 2024

Project	Country	Food Security as Measured by the Food Consumption Score (FCS)		Difference (%)
		Beneficiaries	Non-Beneficiaries	
ACMA3	Benin	46.5	47.7	-2.5
FERARI	Ghana	66.9	64.4	3.9
BRIGHT	Uganda	50.6	48.8	3.7





DEVELOP BETTER TECHNOLOGIES

INNOVATIONS AND RESEARCH DEPARTMENT

In 2024, the Innovations and Research Department secured funding for nine projects, valued at U.S.\$4 million. One important initiative is the Green Ammonia project, which focuses on developing prototype formulations by capturing and converting green ammonia into slow-release fertilizers. The project aims to address rising fertilizer costs and environmental concerns, particularly in sub-Saharan Africa, through a systematic evaluation of nutrient-release dynamics, transformations, and agronomic performance.

During the year, the department led 13 research projects spanning diverse innovations in fertilizer development and sustainable soil management. These included the characterization and evaluation of organo-mineral fertilizers, novel potassium sources, enhanced efficiency nitrogen fertilizers, and carbon capture technologies. Key areas of investigation included tailoring phosphate rock for direct application, assessing the potential of biochar as a soil amendment, and developing micronutrient-enriched fertilizers containing boron, molybdenum, and copper.

Additional studies addressed the water requirements for salts leaching into sodic soils using new fertilizer inputs and evaluated volatilization and leaching losses of new fertilizer types. The department also delivered training on ammonia volatilization research for a leading fertilizer manufacturer, supported greenhouse gas monitoring for a climate-smart agriculture project in Bangladesh, and assessed the agronomic effectiveness of nitrogen- and phosphorus-based enhanced efficiency fertilizers through greenhouse trials.

In 2024, the Innovations and Research team contributed to five peer-reviewed publications and delivered seven presentations at international conferences. The department also submitted 12 research reports to various funding and implementing agencies and successfully organized four scientific events.





PILOT PLANT

The Engineering and Pilot Plant Department completed 13 projects for seven different industry partners in 2024. These projects included:

- Pilot plant activities
 - Production of 15 metric tons (mt) of controlled-release fertilizers of various formulations.
 - Granulation of controlled-release phosphate-based fertilizers of various formulations.
 - Incorporation of soil amendment additives into phosphate-based fertilizers.
 - Processing and concentration of 1 mt of wet-process phosphoric acid.
- Product characterization/evaluation
 - Various product characterizations and physical properties testing for multiple customers to evaluate handling and storage characteristics, dustiness, and the effects of additives.
- Engineering
 - Front-end engineering design for a commercial-scale facility to produce controlled-release nitrogen fertilizers.

The pilot plant resumed operations in July 2024 after going through several months of renovations and upgrades, including concrete repairs. Some renovations will continue into the future.



SOILS-SPACE TO PLACE

(SOILS-S2P)

Funded by USAID and implemented by IFDC from 2022 to 2025, the Sustainable Opportunities for Improving Livelihoods with Soils (SOILS)-Space to Place (S2P) initiative provided hyperlocalized soil nutrient recommendations in sub-Saharan Africa.

The program combined soil maps ("Space") with farm-level characteristics ("Place") to optimize fertilizer use efficiency and economic returns. The S2P initiative applied a comprehensive approach to enhancing soil fertility management across sub-Saharan Africa through three interconnected levels of impact.

1

Scaling Proven Technologies

S2P generated rapid impact through the swift scaling of proven soil fertility technologies.

Partnering with established scaling networks, the initiative successfully integrated soil health practices into existing agricultural systems across Ghana, Malawi, Tanzania, and Zambia, creating pathways for rapid adoption and achievement of tangible outcomes.

Key achievements in 2024 included reaching 350,000 smallholder farmers and building the capacity of 2,000 last-mile input providers on soil health and balanced fertilizer management practices across Ghana, Madagascar, Malawi, Niger, Tanzania, and Zambia in collaboration with the Accelerated Innovation Delivery Initiative (AID-I), led by the International Maize and Wheat Improvement Center (CIMMYT).

Working with One Acre Fund, S2P widened its coverage in Zambia to integrate demand-driven soil health practices with the following objectives:

Strengthen food security through increased crop production

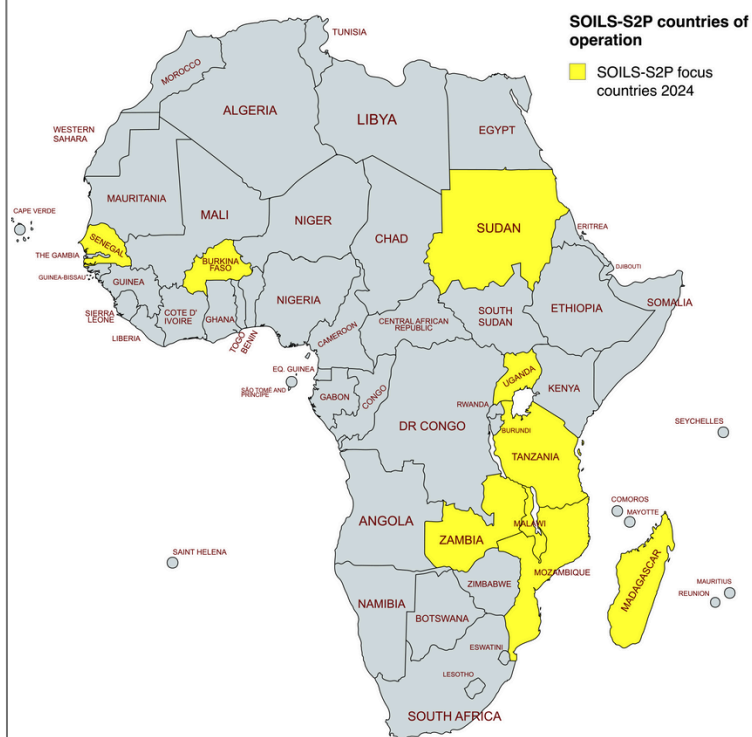
- Expanded to reach 20,000 households.
- Delivered training on optimal, balanced fertilization.
- Brokered credit and financing.

Build farmer resilience and soil health by scaling agroforestry

- Provided nitrogen-fixing tree packages to farmers to build multiple layers of resilience in farming for soil health through nitrogen fixation.
- Facilitated regular income generation through harvests of fruit and medicinal trees.
- Promoted carbon credit financing.



Photo credit: One Acre Fund



These demonstrations assessed various treatment combinations to identify nutrient deficiencies and determine the best fertilizer application rates for improved yields and farm income. At least 30 fertilizer trials were conducted per crop in each agroecological zone.

An analysis of maize in Uganda revealed variable nutrient responses across farms. Nitrogen and phosphorus were identified as the most limiting nutrients for upland rice, maize, bean, Irish potato, and sunflower, while a positive response to potassium and secondary and micronutrients was observed in only a few locations.

The effectiveness of nitrogen was influenced by phosphorus and potassium application, particularly for maize. For most crops, nitrogen application beyond 60-90 kilograms per hectare showed no significant yield improvement.

2

Improving Impact at Scale

To improve impact at scale, S2P's activities addressed critical data gaps in major cropping systems to enhance the quality of information on soil fertility through its decision support system (DSS).

The DSS integrates soil maps and geographic information with new crop response data and farmer input to deliver precise soil health guidance for smallholder farmers. The S2P DSS also enables more profitable and productive fertilizer use through extension partners across sub-Saharan Africa.

During the 2023-24 season, S2P partnered with national agricultural research systems, the private sector, and farmers to establish 2,200 field-based demonstrations across diverse cropping systems in six countries of sub-Saharan Africa, focusing on optimization of fertilizer and soil management practices across 27 agroecological zones for 15 crops.

Box 1: Toward Site-Specific, Optimal Soil Fertility Recommendations in Sub-Saharan Africa

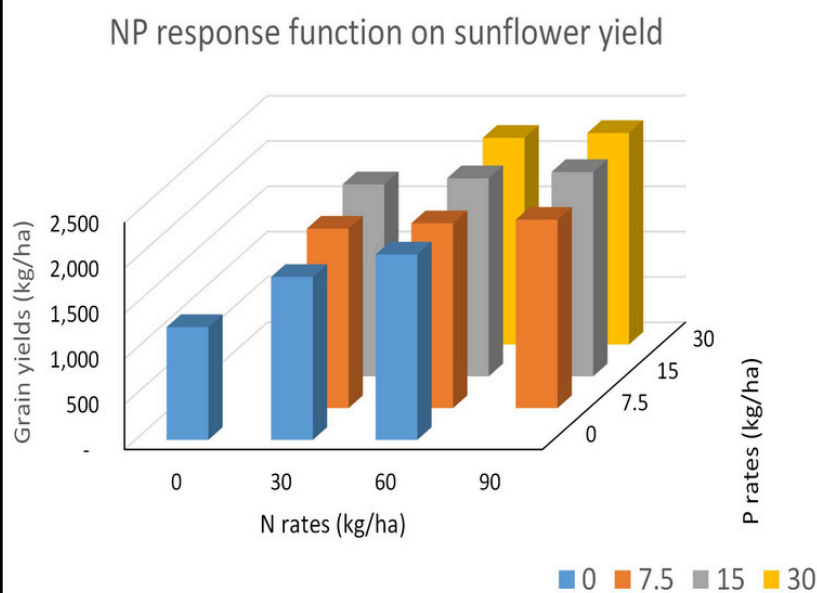


Figure 3: Sunflower grain yields across various nitrogen and phosphorus rates, Uganda (Season 2023B)

Box 2: Decision Support Tool to Guide Localized Soil Fertility Recommendations

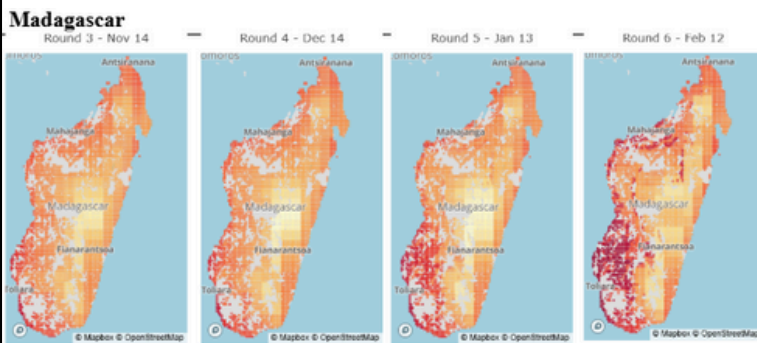
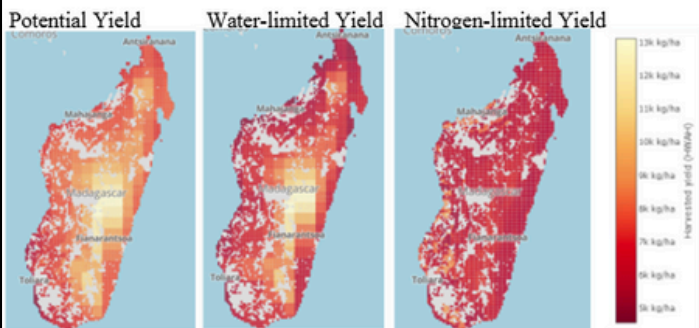


Figure 4A: Planting period evaluation: Nov. and Dec. are best planting months for maize var. Bakola, but planting can extend to Jan. and Feb. in the central and eastern regions of the country.

Figure 4B: Simulations of maize var. Bakoly over 38 years of potential (no water stress and no nutrient deficiency), water-limited (with no nutrient deficiency), and nutrient-limited yield (water- and nutrient-limited with no fertilizer added) for planting mid-November.



GSSAT2, an interactive geospatial crop modeling and decision support tool, enhances the existing capabilities of the Decision Support System for Agrotechnology Transfer (DSSAT) platform by transforming it from point-based to spatial crop simulation, enabling localized soil fertility recommendations.

In 2024, GSSAT2 models, calibrated using legacy data, SoilGrids, and NASA Prediction of Worldwide Energy Resources (POWER) weather information, determined the optimal planting period of popular maize varieties for Madagascar, Malawi, Tanzania, Uganda, and Zambia.

Further analyses revealed significant spatial variability in maize yield potential, with notable gaps due to water in western Zambia and eastern Tanzania, while gaps due to nutrients were consistently wider across all regions.

These findings confirm that location-specific fertilizer recommendations are essential for optimizing nutrient use efficiency and productivity, as opposed to conventional blanket approaches.

GSSAT2 provides a promising framework for developing tailored recommendations to improve agricultural sustainability in sub-Saharan Africa.

3

Championing Sustained Impact

S2P championed sustained impact by elevating soil fertility management to continental policy level through support for action plans endorsed and outlined at the Africa Fertilizer and Soil Health (AFSH) Summit in May 2024 and coordination mechanisms at pan-African, regional, and national levels through the Soil Initiative for Africa (SIA), thus fostering systemic change and lasting transformation in African agricultural systems.

The S2P approach has also been recognized in the African Union's soil health implementation plans as a pathway from blanket to optimized recommendations.



FERTILIZER RESEARCH AND RESPONSIBLE IMPLEMENTATION (FERARI)

Ghana (2019–2024) | Budget: U.S. \$7.1million

Implementing Partners:

Mohammed VI Polytechnic University (UM6P), OCP, Wageningen University & Research (WUR), University of Liège, University of Ghana, Kwame Nkrumah University of Science and Technology, University for Development Studies, University of Energy and Natural Resources, Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Ministry of Food and Agriculture (Ghana), and research institutes of the Council for Scientific and Industrial Research

Donors: UM6P, OCP, and Institutional contributions

FERARI was an international public-private partnership that advanced science-based, site-specific fertilization approaches for improved food and nutrition security in Ghana. Over five years, FERARI demonstrated how research can inform on-the-ground implementation.

Moreover, the program supported the creation of the Fertilizer Platform Ghana (FPG) to align public and private sector efforts. FERARI conducted over 600 fertilizer response trials for maize, rice, and soybean, engaging more than 2,400 farmers and 30 extension officers. Though not directly focused on farmer outreach, participants in the program's demonstration plots saw yield increases of 20% or more and improvement in fertilizer use efficiency of more than 100%, contributing to a rise in household food security.

FERARI collaborated with seven Ghanaian universities and two national research institutes to train over 50 Ghanaian students, 13 African master's students, and six Ghanaian doctoral students. The program also helped launch a Fertilizer Science and Soil Health master's program and the International Modeling and Mapping Center at the University of Cape Coast. By developing advanced fertilizer recommendation models, including a site-specific 70:50:50+20S NPK formula for maize, FERARI delivered measurable agronomic and economic benefits and actively engaged policymakers, donors, and the scientific community.





CATALYZE FARM PRODUCTIVITY

The Soil Health Systems and Agricultural Productivity Department at IFDC has integrated soil health into market-oriented value chains, emphasizing grassroots-level participation of farming households in the selection and application of agroecologically adapted soil health solutions to sustainably boost productivity while safeguarding the environment.



ACCELERATING FARM INCOMES (AFI)

India (2019–2024) | Budget: U.S. \$2.5 million

Host Organization:

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

Donor: Walmart Foundation

AFI helped peri-urban farmers of Telangana State, India, take advantage of growing consumer demand for fresh produce in the Hyderabad metropolitan area. AFI fostered awareness and enhanced farmers' knowledge on improved technologies and good agricultural practices (GAPs) for increasing crop productivity and accelerating farming incomes in rice-based cropping systems of the semi-arid regions where it operated. AFI successfully concluded in February 2024 after making a significant impact across 324 villages. Throughout its duration, the project created 667 AFI Champions to promote GAPs and market access, reaching 55,708 farmers in 2023 alone. The project supported 30 farmer producer organizations, comprising 16,042 members, on scientific storage and electronic trading and helped 6,389 farmers (31% women) adopt safe vegetable production. Through enhanced market linkages, farmers were able to make transactions exceeding U.S. \$2 million. The project's capacity building efforts included 1,459 farmer field demonstrations on topics such as the use of drones in crop protection and application of GAPs in vegetables, cereals, pulses, and oilseeds. AFI also established soil testing labs, agro-input shops, and nurseries, while advancing the use of climate-resilient technologies, urea deep placement mechanization, and quality inputs to boost productivity and reduce post-harvest losses.

AGRICULTURAL PRODUCTION ACTIVITIES IN SIKASSO (APSA)*

Mali (2022–2025) | Budget: U.S. \$1.5 million

Implementing Partners:

RTI International (lead), Interchurch Organization for Development Cooperation (ICCO), Association of Professional Peasant Organizations (AOPP), Veterinarians Without Borders (VSF), Rural Polytechnic Institute of Training and Applied Research (IPR-IFRA), and the North Carolina Agricultural and Technical State University (NC A&T)

Donor: United States Agency for International Development (USAID)

APSA aimed to sustainably scale up the productivity of key value chains, leading to better consumption of nutritious food and resilience of farm households. This was achieved through a farmer-centered approach, which capitalized on existing producer organizations to transform the production ecosystem in the Sikasso area. Objectives included strengthening cooperatives, promoting climate-smart agricultural practices, and enhancing farmers' decision-making abilities – aligning with national policies to reduce poverty and improve food security. The project trained new village extension agents to support peer learning among smallholder farmers and introduced tailored technological and thematic packages to cooperatives in Bougouni, Koutiala, and Sikasso.

*This project is the subject of a termination notice issued by the U.S. Department of State/USAID on February 26, 2025.



ASSESSMENT OF STATE FERTILIZER SCENARIO AND PROMOTING EFFICIENT NUTRIENT MANAGEMENT (ASPEN)

India (2022–2024) | Budget: U.S. \$668,840

Implementing Partners:

Department of Agriculture, Government of Assam, and Assam Agricultural University

Donor: Assam Agribusiness and Rural Transformation Project (APART) – World Bank

The ASPEN project sought to improve nutrient use efficiency and reduce input costs for farmers in Assam State, India, through the introduction of an innovative seed-and-fertilizer drill. This strategy led to increased crop productivity and accelerated farming incomes in rice- and vegetable-based cropping systems. In collaboration with the national agriculture research system in Assam, ASPEN conducted more than 2,000 participatory research trials with farmers to evaluate mechanized fertilizer deep placement (FDP) in rice, mustard, tomato, and eggplant crops.



Over two years, these trials showed that mechanized FDP improved crop productivity by 26% in rice, 50% in mustard, 26% in tomato, and 21% in eggplant over the traditional broadcasting method, increasing profitability by U.S. \$305 to \$1,927 across different crops and agroecologies. After making such significant impact across 10 districts of Assam, ASPEN successfully concluded in March 2024.

BUILDING RESILIENCE AND INCLUSIVE GROWTH OF HIGHLAND FARMING SYSTEMS FOR RURAL TRANSFORMATION (BRIGHT)

Uganda (2022–2026) | Budget: €13 million
Implementing Partners:

Agriterra, Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), National Agricultural Research Organization (NARO), local government offices, and community-based organizations within the Mount Elgon, Kigezi, and Rwenzori regions

Donor: Embassy of the Kingdom of the Netherlands (EKN) in Uganda

BRIGHT aims to build the resilience of 106,560 households in the Mount Elgon, Kigezi, and Rwenzori highlands to be able to absorb, adapt, and transform amid socio-economic and climatic shocks and stresses. Using the farming systems approach, farming households are at the center of BRIGHT's interventions involving participatory integrated planning, which focuses on sustainable land use at plot and community levels as well as nutrition and market access. The BRIGHT project has empowered 232 communities and over 53,800 households to



adopt sustainable farming practices through participatory planning, infrastructure rehabilitation, and improved governance. Nearly 35,000 households have been trained by 7,352 farmer innovators and nutrition champions, promoting joint decision-making and resilience. Food security has risen from 60% to 79%, and adoption of climate-smart and soil and water conservation practices has significantly increased.

BRIGHT has also facilitated the restoration of 64 kilometers of roads, critical water points, and 15 micro-watersheds, while expanding market access and financial inclusion for over 23,000 smallholder farmers.

FEED THE FUTURE NIGERIA RURAL RESILIENCE ACTIVITY (RRA)

Nigeria (2019–2024) | Budget: U.S. \$1.5 million

Implementing Partners:

Mercy Corps (lead) and Save the Children International

Donor: USAID

RRA sought to lift 90,000 households out of chronic vulnerabilities and poverty. The program facilitated economic recovery and growth in conflict-affected areas by promoting systemic change in market systems. RRA championed interventions aimed at improving farm practices for increased productivity and incomes for farmers through engagement with value chain actors, public and private extension service providers, and others by ensuring appropriate technologies and practices were mainstreamed.



TRIPLE RESILIENCE (3R)

Mozambique (2023–2027) | Budget: SEK122million

Implementing Partners:

Norwegian People's Aid (NPA), Associação Kwaedza Simukai Manica (AKSM), LevasFlor Foundation (LFF), União de Camponeses de Manica (UCAMA), União Provincial dos Camponeses de Sofala (UPC), and the International Economic Cooperation Institute (ICEI)

Donor: Embassy of Sweden

The 3R program aims to build social, climate, and economic resilience in Mozambique by accelerating the shift from humanitarian aid to long-term sustainable development and increasing communities' ability to absorb, adapt, and transform in the face of recurrent shocks and stresses. The program is implemented in six districts of Sofala Province and three districts of Manica Province. In 2024, 3R made significant strides in strengthening Mozambique's agricultural market system. 3R created 509 jobs across the value chain, established seven partnerships with private sector actors, and engaged 1,657 entrepreneurs in production and processing activities. Additionally, 50 tree nurseries were set up to support reforestation and sustainable land management efforts, contributing to both environmental restoration and economic resilience.

more resilient and inclusive food and agriculture production system in Bangladesh. The project's primary goal was to sustainably improve the food and nutritional security of the rural population, decrease the incidence and severity of poverty among the rural poor, and better adapt agricultural systems to meet the threats and challenges linked to climate shift-related events, thus improving the efficiency of farming systems through climate-smart agriculture. With a special focus on social inclusion, the project worked to support inclusive development by mainstreaming women's participation in Bangladesh's agriculture sector.



FEED THE FUTURE BANGLADESH CLIMATE SMART AGRICULTURE ACTIVITY*

Bangladesh (2023–2025) | Budget: U.S. \$35million

Implementing Partner:

Action for Enterprise (AFE)

Donor: USAID

The Feed the Future Bangladesh Climate Smart Agriculture Activity aimed to facilitate farmers, firms, and public sector actors to increase sustainable productivity and crop diversity of smallholder farmers through a

*This project is the subject of a termination notice issued by the U.S. Department of State/USAID on February 26, 2025.



SOIL FERTILITY STEWARDSHIP PROJECT (PAGRIS)

Burundi (2020–2025) | Budget: €15.3 million

Implementing Partners:

Wageningen Environmental Research and
Twitezimbere

**Donor: Embassy of the Kingdom of the Netherlands
(EKN) in Burundi**

PAGRIS, or Projet d'Appui pour une Gestion Responsable et Intégrée des Sols, is an innovative project in Burundi that seeks to achieve ecologically sustainable land management. The project has facilitated research farmers to establish plots to demonstrate good agricultural practices and technologies based on integrated soil fertility management (ISFM). The research farmers have been trained to co-create integrated farming plans and test and implement land stewardship strategies and practices using the Participatory Learning and Action (PLA) approach. The demonstration plots aim to stimulate communities within 154 villages to replicate practices to address erosion and

restore soil fertility. More than 132,000 households have been taught to develop plans to improve landscape management, manage soil erosion, reach stewardship agreements, and implement ISFM practices through collective community action, covering a total of 28,000 hectares. In 2024, the project facilitated the distribution of 12,000 metric tons of lime to about 27,000 households to tackle soil acidity on about 6,800 hectares.

SUSTAINABLE NUTRIENT MANAGEMENT IN RICE- PULSE-VEGETABLE CROPPING SYSTEMS FOR IMPROVED FARM INCOME, FOOD, AND ENVIRONMENTAL SECURITY IN ODISHA (SNM-ODISHA)

India (2024–2026) | Budget: U.S. \$450,000

Host Organization:

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

Donor: Department of Agriculture, Government of Odisha, India

The SNM-Odisha project seeks to create awareness of and enhance farmers' knowledge on sustainable nutrient management through mechanized fertilizer deep placement (FDP) and good agricultural practices in rice-pulse-vegetable cropping systems to increase farm productivity and improve food and environmental security in Odisha, India.



In 2024, the project conducted 24 research trials across 30 acres on mechanized FDP: 12 trials on rice during Kharif season (June–October) and 12 on pulses and vegetables during Rabi season (November–April). Three briquetting machines, two rice transplanters with FDP applicators, two zero-tillage machines, and two GreenSeeker sensors (handheld crop sensors used to assess plant health) were also introduced. Ultimately, the rice trials showed a 10–16% yield increase using FDP over traditional practices. SNM–Odisha established collaborations with partners from the National Agricultural Research and Extension System for successful implementation and adoption of FDP technology in the state. Additionally, the project reached over 500 farmers through two awareness-raising programs, five field days, and one training event that covered the business model for service providers to manufacture and sell briquettes and offer mechanized FDP application to other farmers.

SOIL VALUES

Burkina Faso, Mali, Niger, and Northern Nigeria (2024–2034) | Budget: €100 million

Implementing Partners:

SNV, Wageningen University & Research (WUR), AGRA, World Agroforestry Center (ICRAF), International Institute for Tropical Agriculture (IITA), ISRIC – World Soil Information, and International Water Management Institute (IWMI)

Donor: Netherlands Directorate-General for International Cooperation (DGIS)

Soil Values aims to improve the soil fertility and productive capacity of 2 million hectares of farmland in Burkina Faso, Mali, Niger, and Northern Nigeria. The program will enhance the resilience and well-being of 1.5 million small-scale food producers, with a particular emphasis on women. Additionally, dialogue with bordering corridor countries Côte d'Ivoire and Ghana will ensure regional coherence in soil fertility management and food security. In 2024, Soil Values formalized strategic partnerships with coalition members and national stakeholders. The program also developed mechanisms

to ensure the correct economic and fertility valuation of soils, addressing spatial-temporal and stakeholder gaps in technical approaches, capacity, and strategic and policy frameworks. Nine pilot watersheds were selected based on agroecological, security, and partner presence criteria, and baseline studies were initiated across all countries to inform targeted interventions. Soil Values identified 57 technological innovations and selected 501 agricultural service providers for bundled public-private partnership service delivery in Niger and Nigeria. In addition, the program began consultations with financial institutions to design tailored products for smallholder farmers.



EMPOWERING FARMERS WITH SUSTAINABLE SOLUTIONS IN THE MIDST OF EL NIÑO

3R

FOCUS ON SUCCESS:

The lingering effects of El Niño extend far beyond mere weather patterns, imposing profound challenges on vulnerable communities, economic stability, and agricultural resilience. As anomalies in the Pacific Ocean's surface temperatures persist, the repercussions are being keenly felt throughout Mozambique.

However, amid this climate-induced turbulence, the steadfast resolve of the Triple Resilience (3R) program shines as a beacon of hope, offering support to farmers grappling with recurrent shocks that threaten the very foundation of Mozambique's agriculture sector. This initiative remains unwavering in its commitment to bolstering resilience and sustainability in the face of adversity.

Against a backdrop of uncertainty, the 3R program, with funding from the Embassy of Sweden, serves as a testament to the power of collaboration and strategic adaptation by targeting vulnerable groups, including women, youth, and internally displaced persons (IDPs), alongside small-scale farmers, in Manica and Sofala provinces. The project is casting a wide net of support – encompassing the regions of Sussundenga, Manica, Gondola, Dondo, Nhamatanda, Búzi, Chibabava, Muanza, and Cheringoma, the 3R program's reach is extensive and impactful.

In the midst of the formidable challenges posed by El Niño, the 3R program's strategic pivot toward sustainable solutions heralds positive change. Evidence suggests that farmers embracing these solutions are not only weathering the current shocks, but thriving in their wake.



Herculano Branquinho, a 27-year-old smallholder farmer and father of two children, epitomizes the transformative impact of the 3R program in Mandruzi Resettlement, Dondo, Sofala Province. Despite grappling with productivity losses due to El Niño-induced drought, Herculano found solace in the technological interventions facilitated by the program's inception phase.

Through the adoption of integrated production systems, he has diversified his crops, incorporating fruit trees, such as papaya and banana. By leveraging pigeon pea bands and mulching, he has reduced his dependence on fertilizers while enhancing soil health and crop yield. The multifaceted benefits of pigeon pea, acting as a windbreak, a nitrogen source through its leaves, and a food source through its beans, exemplify the 3R program's holistic approach to sustainable agriculture.

In contrast, neighboring farmers without access to such interventions have borne the brunt of El Niño's impact, experiencing heightened losses and vulnerabilities.

Herculano's success story is expected to inspire neighboring farmers to embrace sustainable solutions. As they witness firsthand the tangible benefits of these interventions, the path toward resilience and prosperity becomes increasingly clear. Through collective efforts and strategic partnerships, Mozambique's agriculture sector not only will weather the storms of El Niño, but will emerge stronger and more resilient than before.





MARKET SYSTEMS DEVELOPMENT

Through strategic partnerships and innovative strategies, IFDC has effectively merged research insights on soil health with our market systems development (MSD) initiatives, bolstering the resilience and productivity of farming systems. By embedding soil health management practices into market-oriented agricultural value chains, IFDC promotes sustainable production and empowers smallholder farmers, particularly women and youth, to thrive in dynamic markets. This integration has yielded tangible outcomes, such as increased yields, enhanced soil fertility, and improved market access, advancing broader agricultural development objectives.



TOWARD SUSTAINABLE CLUSTERS IN AGRIBUSINESS THROUGH LEARNING IN ENTREPRENEURSHIP (2SCALE)

Burkina Faso, Côte d'Ivoire, Egypt, Ethiopia, Ghana, Kenya, Mali, Niger, Nigeria, South Sudan (2019–2025) | Budget: €190 million (€62.5 million through public funding)

Implementing Partners:

BoP Innovation Center and SNV

Donors: Netherlands Directorate-General for International Cooperation (DGIS) and private sector and financial institution co-investment

2SCALE is an incubator and accelerator program that manages a portfolio of public-private partnerships for inclusive business in agri-food sectors and industries across Africa. The program offers support services to its business champions and partners, enabling them to produce, transform, and supply quality food products. These products go to local and regional markets, including base-of-the-pyramid consumers. In 2024, 2SCALE refined its approach by phasing out select partnerships while strengthening Inclusive Agribusiness Clubs across nine African countries. These clubs foster collaboration among knowledge institutions, private sector actors, and government agencies to advance inclusive agribusiness. 2SCALE hosted a Business Learning Event in The Hague, Netherlands, where business champions engaged with leading Dutch companies through field visits and B2B sessions, gaining insights into best practices. The event also featured the Food Soldiers: Promoting Inclusive Agribusiness with 2SCALE symposium, bringing together donors and stakeholders to discuss the future of inclusive agribusiness. The symposium marked the launch of the Food Soldiers documentary and 2SCALE's interactive magazine, showcasing the program's impact and lessons learned.

COMMUNAL APPROACH TO THE AGRICULTURAL MARKET IN BENIN – PHASE 3 (ACMA3)

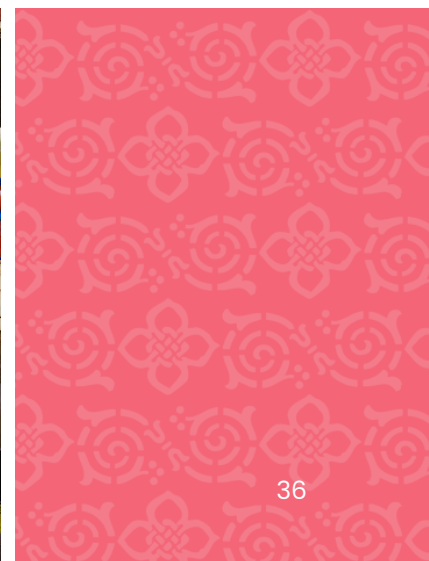
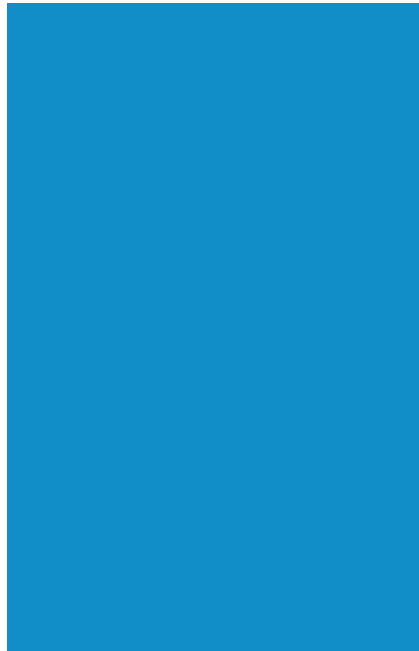
Benin (2022–2027) | Budget: €20 million

Implementing Partners:

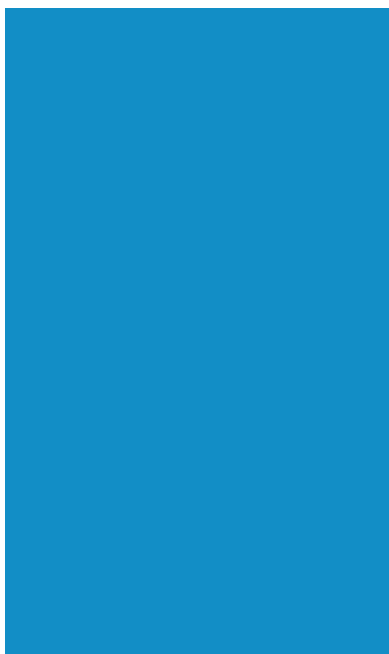
CARE International Benin-Togo and KIT Institute

Donor: Embassy of the Kingdom of the Netherlands (EKN) in Benin

ACMA3 operates in the Collines, Donga, and Borgou departments of Benin and aims to enhance food security, particularly for women and young people, by increasing income and creating jobs. In 2024, the program directly



reached 37,438 individuals, of whom 14,331 were women and 20,892 were youths. The project also facilitated access to over 2 billion CFA francs in credit to its target beneficiaries. ACMA3 trained 26,040 individuals on topics such as integrated soil fertility management (ISFM), good agricultural practices, climate change issues, entrepreneurship, digital finance and financial education, and land conflict management. As a result, 28,772 producers applied climate-smart agriculture technologies on 77,814 hectares of land. ACMA3 beneficiaries sold 28,138 metric tons of agricultural produce and inputs and earned 8.54 billion CFA francs. Increased revenue and the 1,039 jobs created through ACMA3 enabled households to improve food security for over 24,100 people.



ACCELERATING AGRICULTURE AND AGRIBUSINESS IN SOUTH SUDAN FOR ENHANCED ECONOMIC DEVELOPMENT (A3-SEED)

South Sudan (2020–2025) | Budget: U.S. \$10 million
Implementing Partner:

KIT Institute

Donor: Embassy of the Kingdom of the Netherlands (EKN) in Juba

A3-SEED supports the commercialization of the seed sector in South Sudan to transition from humanitarian relief to a commercial, sustainable, and adaptive agriculture sector. In 2024, the program trained 11,720 farmers – including 6,680 women and 2,550 youths – who adopted improved agricultural practices across 19,452 hectares. To promote the adoption of quality seed varieties, A3-SEED established 122 demonstration plots, while 16 public-private partnerships strengthened market linkages. Through 56 targeted outreach activities, vital knowledge and best practices were disseminated to farming communities. Additionally, 512 micro, small, and medium enterprises (MSMEs) enhanced their operations, contributing to the creation of 285 new jobs. Moreover, placing 1,461 hectares under adaptive farming techniques reinforced climate resilience. A3-SEED continues to catalyze agricultural transformation in South Sudan through strategic investment and strong stakeholder collaboration.

INTEGRATED SEED SECTOR DEVELOPMENT IN THE SAHEL (ISSD/SAHEL)

Mali and Niger (2020–2025) | Budget: €11 million
Implementing Partners:

IFDC (lead), Sasakawa Africa Association (SAA), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), and KIT Institute

Donor: Embassy of the Kingdom of the Netherlands (EKN)

ISSD/Sahel aims to enhance rural incomes, employment, and food security in Mali and Niger by developing a sustainable, market-driven seed sector. By integrating formal and informal seed systems, the project ensures smallholder farmers have access to quality seeds by fostering entrepreneurship, job creation for youth and women, and market expansion for Dutch seed companies while building local capacity. In 2024, 84 enterprises and cooperatives (60 in Mali, 24 in Niger) submitted business plans, surpassing the target by 125.7%. A total of 72.7 million CFA francs was secured from three financial institutions. Additionally, 3,540 farmers engaged in seed promotion activities, achieving 105% of quarterly targets. Three knowledge-sharing events strengthened regional integration. Through training and equipment, the project strengthened the capacity of seed companies and cooperatives to produce early generation seed (EGS) for sorghum, maize, and rice, helping bridge the gap between market demand and research institutions, which often lack sufficient land to produce the volumes of EGS companies require. ISSD/Sahel continues fostering sustainable seed production, financing, and cross-border collaboration to enhance agricultural productivity in the Sahel.

HORTINIGERIA

Nigeria (2021–2025) | Budget: U.S. \$10 million

Implementing Partners:

East-West Seed Knowledge Transfer, Wageningen University & Research (WUR), and KIT Institute

Donor: Embassy of the Kingdom of the Netherlands (EKN) in Nigeria

HortiNigeria aims to facilitate the development of a sustainable and inclusive horticulture sector that contributes to food and nutrition security in Kaduna, Kano, Ogun, and Oyo states in Nigeria. Since its launch, HortiNigeria has transformed the horticulture sector by empowering over 67,000 smallholder farmers and agro-dealers with knowledge on eco-efficient practices and business management. The program has piloted 21 innovations, benefiting 2,000 farmers, and achieved a 77% increase in productivity for tomato, pepper, onion, and okra, while reducing post-harvest losses by 83%. By promoting sustainable agriculture, HortiNigeria has introduced eco-friendly methods that have been applied on over 7,000 hectares of land. The program has also enhanced financial access by securing over €4 million in funding for farmers and MSMEs and has trained nearly 600 youth as spray service providers. Strengthening the horticulture value chain, HortiNigeria has established 90 B2B partnerships and contributed to key policy developments, including the National Seed and Tomato Policies, ensuring lasting sectoral impact.



RESILIENCE THROUGH AGRICULTURE IN SOUTH SUDAN (RASS)*

South Sudan (2021–2025) | Budget:

U.S. \$24 million

Implementing Partners:

DAI (lead), CARE International, and the Waterfield Design Group

Donor: U.S. Agency for International Development (USAID)

RASS served as a vital companion to the many humanitarian relief and recovery efforts in South Sudan. By layering, sequencing, and integrating development activities with humanitarian efforts, RASS aimed to improve food security, community and household recovery, and resilience in South Sudan. RASS used a “resilience pathways” approach to enhance local systems, empower community groups with gender-responsive and market-driven agricultural practices, and boost the production of diverse, nutritious foods by improving productivity.



PRIVATE SEED SECTOR DEVELOPMENT (PSSD)

Burundi (2018–2026) | Budget: €12 million

Implementing Partners:

KIT Institute and national public and private partners

Donor: Embassy of the Kingdom of the Netherlands (EKN) in Burundi

PSSD aimed to double the production and incomes of 178,000 farming households in Burundi by ensuring sustainable access to certified seeds and agricultural advisory services. In 2024, PSSD trained 303,775 smallholder farmers – 45% of whom were women – on good agricultural practices through 28,157 community-led learning and innovation plots. As a result of strong public-private partnership efforts, Burundi’s seed regulatory framework was improved, facilitating the registration of 107 new crop varieties, including 33 fortified organic bean varieties, along with 19 hybrid maize, 11 composite maize, 13 potato, nine rice, six banana, 11 sorghum, and five cassava varieties. As certified seed production and use steadily expanded, PSSD supported 462 private seed entrepreneurs in producing and selling 10,776.2 metric tons of certified seed to 390,784 farming households. Additionally, 3,649,707 mini-tubers – 53.7% designated for private sector use – were produced through public-private partnership initiatives, further strengthening seed availability and resilience in Burundi’s agriculture sector.



*This project is the subject of a termination notice issued by the U.S. Department of State/USAID on February 26, 2025.

POTATO VALUE CHAIN CAPACITY BUILDING (PCB)

Kenya (2018–2025) | Budget: €2.3 million

Implementing Partners:

Nyandarua County Government, National Potato Council of Kenya (NPCK), IPM Potato Group Kenya, Kenya Plant Health Inspectorate Service (KEPHIS), and Kenya Agricultural and Livestock Research Organization (KALRO)

Donor: Embassy of Ireland in Kenya

PCB aims to improve the livelihoods of small-scale farmers and families through the adoption of new technologies, including certified potato seed and new potato varieties. PCB trains farmers on good agricultural practices and improved farm management. The project also supports market access. In 2024, the PCB project advanced Kenya's agricultural systems through the development of a comprehensive communication strategy, 10 strategic priorities, and a monitoring framework to enhance stakeholder awareness and crisis preparedness. A key partnership with the Pesi Farmers' Cooperative Society included the construction of a 120 metric ton storage facility to reduce post-harvest losses and boost incomes. A multi-stakeholder forum with officials from 35 counties validated a joint implementation plan and roadmap focused on creating awareness, mobilizing resources, enforcing market standards, training inspectors, and registering growers and cooperatives – collectively strengthening food systems, accountability, and farmer livelihoods.



FOSTERING CHANGE THROUGH FINANCIAL SOLUTIONS

HORTINIGERIA

FOCUS ON SUCCESS:

Sa'idu Yakubu, a 45-year-old agro-dealer and farmer from Nassarawa Bagadawa in Kano State, Nigeria, is a shining example of how strategic partnerships can unlock potential and drive meaningful change. With only a primary school education, Sa'idu once saw farming as his sole path in life. However, his journey shows that, with the right support, even the most modest beginnings can experience a profound transformation.

For years, Sa'idu operated a small agro-input business, offering spraying services to fewer than 50 farmers annually. His income, only 200,000 naira (approximately U.S. \$120) per season, barely covered his family's needs, and opportunities for growth seemed out of his reach. Like many small-scale entrepreneurs, Sa'idu struggled with limited access to resources.

In 2023, HortiNigeria connected Sa'idu and his farmer group to LAPO Microfinance Bank, a partnership that marked the start of significant growth. Through LAPO, Sa'idu secured a loan of 800,000 naira (approximately U.S. \$480) during the dry season (November to March), enabling him to scale his agro-dealership and farming operations.

With this financial boost, he increased his inventory and began offering a wider range of fertilizers, seeds, and other essential inputs. This expansion not only strengthened his business but also positioned him as a reliable partner for farmers in his community.

The impact of the loan was immediate and far-reaching. Sa'idu's customer base grew by 300% within a year, and his annual revenue more than tripled to 700,000 naira (approximately U.S. \$420) per season.

The loan also allowed Sa'idu to diversify his income streams, bolstering his resilience during lean periods and ensuring he could consistently meet farmers' needs.



One of the most inspiring aspects of this journey is how Sa'idu used his newfound success to uplift others. Recognizing the challenges women farmers face in accessing loans, he extended his support by offering them inputs on credit. With this assistance, the women collectively increased their yields, fostering food and nutrition security in the community.

Sa'idu's connection with LAPO didn't just expand his business, it redefined his role in the community. Today, he employs three people, injecting cash into the local economy. His increased income has also allowed him to improve his children's education so that they have opportunities he once believed were out of reach.

Sa'idu's story shows the critical role financial institutions play in empowering small-scale entrepreneurs. By facilitating tailored financial solutions, HortiNigeria's partnership with LAPO Microfinance Bank has allowed Sa'idu to overcome barriers and scale his operations, creating a ripple effect of positive change in his community.





ENABLING **IMPACT**

Under IFDC's Enabling Impact pillar, the organization seeks to create a favorable environment for making profitable investments in fertilizer and soil health, with the aim of sustainably increasing agricultural productivity. Achieving this goal will translate to efficient markets, higher incomes, and improved food security, thus contributing to better lives for current generations of smallholder farmers while preparing to pass on healthier soils to future ones.



AFRICAFERTILIZER

Africa-wide (ongoing) | Budget: U.S. \$1.5 million

Implementing Partners:

African Union, Argus, Development Gateway: An IREX Venture, Food and Agriculture Organization of the United Nations (FAO), International Fertilizer Association (IFA), International Food Policy Research Institute (IFPRI), United States Agency for International Development (USAID), West African Fertilizer Association (WAFA), and the Nigeria private sector, among others

Donors: Gates Foundation, International Fertilizer Association (IFA), USAID, and the private sector

As the premier source of fertilizer statistics and information in Africa, the AfricaFertilizer initiative has been collecting, processing, and publishing fertilizer production, trade, and consumption statistics for the main fertilizer markets in sub-Saharan Africa since 2009. In 2024, AfricaFertilizer held 17 national Fertilizer Technical Working Group (FTWG) workshops to address trade and distribution challenges in the region. In Ethiopia, data-driven insights saved U.S. \$160 million on 2.8 million metric tons of fertilizer procurement. In Kenya, analytics supported a U.S. \$70 million subsidy program. In Nigeria, the private sector co-invested to enhance market intelligence, while the country's FTWG investigated ammonium sulfate trading. AfricaFertilizer published four editions of FertiNews, the eighth edition of the Fertilizer Manufacturing and Processing Facilities in Sub-Saharan Africa, and over 17 country overviews and fact sheets. The initiative also expanded the use of digital tools with the launch of Mozambique's Fertilizer Dashboard, supporting policy and business decisions. Additionally, the Fertilizer Watch, the initiative's crisis response and monitoring tool, tracked fertilizer market trends monthly across 17 countries, with plans for further expansion.

FEED THE FUTURE ENHANCING GROWTH THROUGH REGIONAL AGRICULTURAL INPUT SYSTEMS (ENGRAIS) PROJECT FOR WEST AFRICA*

Economic Community of West African States (ECOWAS) Member States, Chad, and Mauritania (2018–2025) | Budget: U.S. \$23 million

Key Partners:

ECOWAS, West African Economic and Monetary Union (UEMOA), Permanent Interstate Committee for Drought Control in the Sahel (CILSS), West and Central African Council for Agricultural Research and Development (CORAF), WAFA, and the Network of Farmer Organizations and Agricultural Producers of West Africa (ROPPA)

Donor: USAID/West Africa Regional Mission

EnGRAIS aimed to increase the availability and use of fertilizers that are appropriate and affordable for smallholder farmers. In 2024, the EnGRAIS team strongly contributed to IFDC's success at the Africa Fertilizer and Soil Health (AFSH) Summit in Nairobi, Kenya, bringing stakeholders from West Africa to share their



*This project is the subject of a termination notice issued by the U.S. Department of State/USAID on February 26, 2025.

experiences with other African regions. In addition, EnGRAIS has released numerous products, tools, and manuals, including the Fertilizer Cost Simulator, a mobile application for agricultural extension, the web-based Fertilizer and Seed Recommendations Map for West Africa (FeSeRWAM), training materials on fertilizer best practices through the 4R Principles of Nutrient Stewardship (right source, right rate, right time, and right place), a fertilizer blending guide, and policy briefs. Moreover, EnGRAIS jointly published the Fertilizer Watch, country fact sheets, and the West Africa Fertilizer Business Information Guide (WAFBIG) with AfricaFertilizer.

FEED THE FUTURE NIGER APPUI AU RENFORCEMENT DES INVESTISSEMENTS AGRICOLE (ARIA)*

Niger (2024–2025) | Budget: U.S. \$800,000

Implementing Partner:

Ministry of Agriculture and Livestock (MAG/EL)

Donor: USAID

ARIA aimed to increase agricultural productivity through the sustainable management of groundwater resources and improved availability and accessibility of quality inputs, with coordination by the state and increased investment from the private sector. The global objectives of the project included building the capacity of national institutions, promoting better coordination of inputs and groundwater resources, and encouraging private sector investment. Activities implemented in 2024 included holding a workshop for fertilizer, seed, and water resource stakeholders to validate the project's action plans as well as strengthening the organizational capacity of the Nigerien Association of Fertilizer Importers and Distributors (ANIDE).

FEED THE FUTURE SENEGAL DUNDËL SUUF PROJECT*

Senegal (2019–2025) | Budget: U.S. \$13 million

Implementing Partners:

Senegalese Institute of Agricultural Research (ISRA), National Agricultural and Rural Advisory Agency (ANCAR), producer organizations, and the fertilizer private sector organized under the Association of Fertilizer Professionals in Senegal (APESEN)

Donor: USAID

Dundël Suuf was implemented in Senegal beginning in 2019 to address issues related to the use of inappropriate fertilizer formulas, low adoption of improved fertilizer technologies, poor fertilizer quality control, and an ineffective subsidy program. In 2024, preliminary results of fertilizer tests carried out in collaboration with CERES-Locustox indicated a need for better quality control since levels of certain components in fertilizers on the market were lower than indicated on the bags. With the support of a local implementing partner, Dundël Suuf set up 36 demonstration plots for seven new fertilizer formulas: four for rice and three for peanuts.



*This project is the subject of a termination notice issued by the U.S. Department of State/USAID on February 26, 2025.



Six training sessions on microdosing (MD) and urea deep placement (UDP) technologies, as well as environmental safeguard measures, were conducted. A total of 2,633 people attended these sessions, including 1,621 women and 778 young people. Additionally, 31 exchange visits to demonstration plots were facilitated for 1,224 people, with 546 women and 363 youths participating. Further, a memorandum of understanding was signed between IFDC and the Ministry of Agriculture, highlighting Dundë Suuf's commitment to promoting productivity-enhancing technologies.

FERTILIZER SECTOR REFORM SUPPORT PROJECT IN NIGER (PARSEN)

Niger (2018–2024) | Budget: U.S. \$3,899,854
Donors: Millennium Challenge Corporation (MCC)/Millennium Challenge Account (MCA)–Niger and ANIDE

PARSEN aimed to increase smallholder farmers' access to affordable, appropriate fertilizers through a transparent, market-driven supply system and targeted subsidies for vulnerable farmers. In 2024, PARSEN continued supporting Niger's Fertilizer Sector Reform Plan, enhancing fertilizer supply through private sector engagement. Key achievements included operationalizing five multi-stakeholder bodies – Niger Fertilizer Market Observatory (OMEN), Technical Committee for Fertilizers in Niger (COTEN), Regional Fertilizer Technical Committee (CTER), Common Fertilizer Fund, and the Directorate of Fertilizer Inspection and Quality Control (DICE) – to improve fertilizer policies and create a transparent subsidy system. Six documents (decrees and laws) were adopted by the state to regulate and control the fertilizer trade in Niger.

Over 200 fertilizer suppliers were trained and authorized, and subsidized fertilizers were used on 24,250 hectares. Additionally, 51 inspectors and laboratory technicians were trained and appointed to ensure fertilizer quality. Digital tools, such as an operational system for monitoring fertilizer reference prices, and knowledge transfer activities strengthened the sustainability and long-term impact of the reform.

NIGER RICE VALUE CHAIN PROJECT

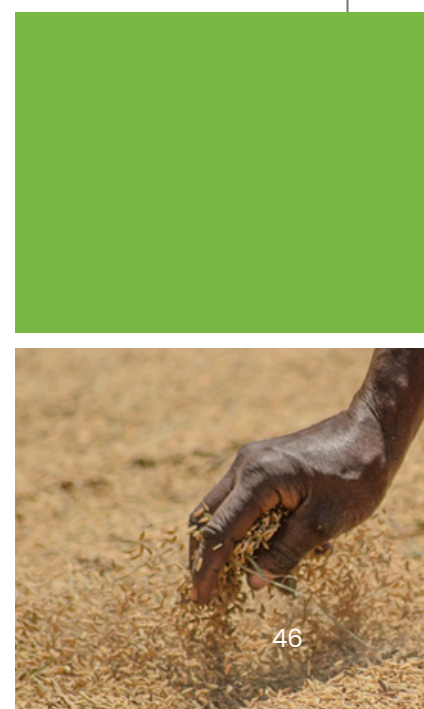
Niger (2019–2024) | Budget: U.S. \$730,125

Implementing Partners:

MAG/EL, National Office of Hydro-Agricultural Developments (ONAHA), National Institute of Agronomic Research of Niger (INRAN), Service Delivery Center (CSP), and farmer organizations

Donor: Islamic Development Bank (IsDB)

The Niger Rice Value Chain Project aimed to reduce rice imports and strengthen economic growth in the country by improving the production, processing, and marketing of rice. As a technical partner, IFDC provided support for project implementation by conducting farmer field schools on urea deep placement, training on good rice-growing practices, and establishing soil fertility maps and recommendations of new fertilizer formulas for rice fields in the regions of



Dosso, Niamey, and Tillabéry. As of 2024, 2,240 farmers (32% of whom were women) had been trained, 250 field plot demonstrations had been conducted using the farmer field school approach, and three soil fertility maps covering 17,500 hectares had been produced for the rice fields of Dosso, Niamey, and Tillabéry.

INTEGRATED RURAL DEVELOPMENT IN THE GAOUAL, KOUNDARA, AND MALI REGIONS OF GUINEA (PDRI/GKM)

Guinea (2019–2025) | Budget: € 830,000

Implementing Partners:

MAG/EL, Guinea Agronomic Research Institute (IRAG), Rural Promotion and Agricultural Extension Service (SERPROCA), and farmer organizations

Donor: IsDB

PDRI/GKM aims to increase agricultural production and build agricultural and rural infrastructure in the prefectures of Gaoual, Koundara, and Mali in Guinea. IFDC is a technical partner for the implementation of the project, and its interventions focus mainly

on building the capacity of stakeholders on integrated soil fertility management (ISFM) and agribusiness and training farmers in UDP technology through the farmer field school approach. As of 2024, 1,264 farmers (20% of whom were women) had been trained, and 30 farmer field schools had been established to demonstrate UDP technology.

RICE VALUE CHAIN DEVELOPMENT PROJECT (PDCVR-G)

Guinea (2019–2025) | Budget: U.S. \$943,100

Implementing Partners:

MAG/EL, IRAG, SERPROCA, National Soil Service (SENASOL), and farmer organizations

Donor: IsDB

PDCVR-G aims to reduce rice imports and boost economic growth by improving rice production, processing, and marketing in Guinea. As a technical partner, IFDC is providing support services for project implementation by conducting farmer field schools on UDP technology, training farmers on good rice-growing practices, and establishing soil fertility maps and recommendations of new fertilizer formulas for rice fields in Lower and Upper Guinea. As of 2024, a total of 1,350 farmers (20% of whom were women) had been trained and 48 demonstration plots had been established using the farmer field school approach.

AGRICULTURAL VALUE CHAIN DEVELOPMENT PROJECT (PDCVA-G)

Guinea (2021–2025) | Budget: U.S. \$350,000

Implementing Partners:

SERPROCA and farmer organizations

Donor: IsDB

PDCVA-G aims to reduce poverty and sustainably improve living conditions in the four natural regions of Guinea.



As an implementing partner, IFDC is involved in training producers on ISFM, UDP technology, and agribusiness. As of 2024, 90 people, including producers, traders, and processors, had been trained in these areas.

UKAMA USTAWI CLIMATE-SMART FOOD SYSTEMS ACCELERATOR (CFSA)

East and Southern Africa (2022–2025) | Budget: U.S. \$740,377

Implementing Partners:

CGIAR Research Centers: International Water Management Institute (IWMI), Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), WorldFish, International Livestock Research Institute (ILRI), International Institute of Tropical Agriculture (IITA), IFPRI, and International Maize and Wheat Improvement Center (CIMMYT)

Donor: CGIAR

Ukama Ustawi CFSA is a science-driven accelerator designed to support agribusinesses in scaling climate-smart innovations that address pressing challenges in the food systems of East and Southern Africa. By combining investment readiness with tailored science-based technical assistance, Ukama Ustawi CFSA provides agribusiness companies with the necessary tools and knowledge to become more commercially viable and sustainable. In 2024, Ukama Ustawi CFSA successfully empowered 41 agribusinesses (Acceleration Partners) with critical investment readiness tools, including financial modeling and pitch development and delivery. This support enabled these businesses to align their models with investor expectations, driving commercial scalability. Through targeted mentorship and training, the program has laid a strong foundation for the long-term success of the agribusinesses. As a result, \$23,557,000 in private investments has been secured, highlighting the

transformative role of development finance in attracting private capital and fostering sustainable agribusiness growth.

SUSTAIN AFRICA

Burkina Faso, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Tanzania, Uganda, and Zambia (2023–2025) | Budget: U.S. \$5 million
Implementing Partners:

African Fertilizer and Agribusiness Partnership (AFAP) and One Acre Fund

Donors: USAID, Rabobank, Gates Foundation, IFA, AFAP, and AGRA

Sustain Africa is a crisis response and resilience initiative that improves smallholder farmers' access to affordable fertilizers while promoting sustainable agricultural practices. By addressing fertilizer shortages and supporting soil health, the initiative helps mitigate food insecurity and strengthen agricultural systems in sub-Saharan Africa. As of 2024, Sustain Africa has made major strides in improving fertilizer access and food security by providing timely price relief to smallholder farmers amid high global costs, accounting for 63% of fertilizer consumption in Uganda and 42% in Madagascar. Sustain Africa has also reached 11.4 million people in farming households and strengthened agro-dealer networks, ensuring efficient delivery and minimizing market disruptions – key steps in enhancing agricultural productivity and resilience across the region.



BUILDING RESILIENCE THROUGH COMMUNITY ACTION IN UGANDA

FOCUS ON SUCCESS: BRIGHT

Every Thursday, residents living near the Nyakihanga-Kanyambaragasha watershed in western Uganda pause their daily routines to focus on a shared goal: restoring their degraded landscape. Armed with tools such as pickaxes and hoes, they work together to rehabilitate this critical watershed, which has suffered from severe erosion, leading to crop loss and damage to homes during the rainy season.

The watershed's degradation has led to a host of additional challenges for the community, including gully formation, mudslides, waterlogging, and declining soil fertility. These issues were identified during community-wide Integrated Farm Planning (PIP) meetings.

In response, the community, with support from the Building Resilience and Inclusive Growth of Highland farming systems for rural Transformation (BRIGHT) project, developed a plan to restore the watershed. This plan includes constructing soil and water conservation structures, such as trenches, to prevent further erosion.

More than 1,700 family households that grow crops are now actively participating in the restoration efforts.

Organized by the Village Vision Committee and working in social groups called *Ngozi*, the community has made significant progress.

Their efforts have reduced surface runoff and allowed farmers to resume cultivation on downslope plots, where flash floods had previously made farming impossible.



They create partnerships with the government, non-governmental organizations (NGOs), and the private sector to improve household incomes through sustainable agriculture, livestock, and entrepreneurship, enhancing financial inclusion through savings and credit schemes, facilitating market access for local products, protecting and restoring natural resources, and promoting good agricultural practices.

By supporting community-led initiatives, these groups promote sustainable development, social cohesion in households, environmental conservation, and agricultural production. All this is done through communal work with strict adherence to rules and regulations.

“Our vision is to make this landscape livable again, and we plan to plant coffee trees to enhance our income and help slow down the flow of rainwater. The community is fully committed to restoring this landscape with guidance from the BRIGHT project,” remarked landscape engineer Byamukama Simeo.

One committed member of this restoration effort is Scola Arinaitwe, a first-generation farmer from the village of Ndego. Her household, like many others within the landscape, is deeply invested in the restoration process because they are directly affected by the degraded environment.

“We were trained as a community by the Ngozi group about the impact of the degraded landscape and how it affects us all,” said Scola. “My family joined the restoration effort after receiving training on the PIP approach and sustainable land management practices. We developed a vision and action plan, which we are now implementing.”

The farmer-owned Muko Cooperative was established to enhance production and marketing.

This support enables farmers to invest in their agricultural ventures, helping them build resilience and secure their futures.

These connections, along with BRIGHT’s support for community-wide restoration projects such as the Nyakihanga-Kanyambaragasha watershed, improve yields, livelihoods, market conditions, and more.



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Gaihre, Y.K. 2024. "Developing Domain Specific Fertilizer Recommendation using innovative technologies in Nepal," International Conference on Soil Fertility and Precision Nutrient Management, Kathmandu, Nepal, September 29-October 2.

Gaihre, Y.K. 2024. "Improving Fertilizer Use Efficiency for Food Security and Environmental Sustainability," Kathmandu University, Panchkhal, Kavre, Nepal, December 26.

Gaihre, Y.K., K. Kaizzi, L. Nagarajan, G.K. Ezui, N. Regmi, and J. Wendt. 2024. "Optimizing Fertilizer Application Increases Maize Yields in Uganda," ASA, CSSA, SSSA International Annual Meeting, San Antonio, Texas, November 9-12.

Genga, Q., and H. Gichinga. 2024. "Development of Site-Specific Balanced Soil Fertility Recommendations in Kenya," IFDC Open Door Event, March 7.

Gondwe, B., B. Bester, M. Agness, M. Florida, K. Armedius, W. Leonardo, and L. Nagarajan. 2024. "Groundnut Yield Response Functions in Nutrient Application in Chipata and Katete Districts, Eastern Zambia," 13th African Crop Science Society Conference, Building Africa's Future: Crop Research and Innovation for Agricultural Transformation, Resilience, and Inclusion, September 16-19.

Kabwela, B., and M. Kelvin. 2024. "Gender and Household Yield Gap among Smallholder Farmers in Zambia: The Role of Plot and Household Factors," African Studies Network Conference, Australian National University, November 28-29.

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Pierre, J.F. 2024. "Importance of Technologies for Food Production in Agroecological Systems," 3rd Week of Formation (MDIII-3), 2023 Demand Social Program, Module III/2SF, Federal Rural University of Rio de Janeiro (UFRRJ), Instituto de Agronomia, Programa de Pós-Graduação em Educação Agrícola. Rio de Janeiro, Brazil, April 8.

Pierre, J.F., G.K. Ezui, L. Nagarajan, N. Bombana, W. Pavan, F. Bulo, U. Singh, and Z.P. Stewart. 2024. "Optimizing Maize Productivity in Uganda through Geospatial Crop Modeling: Bringing Yield Gaps and Improving Nutrient Use Efficiency," ASA, CSSA, SSSA International Annual Meeting, San Antonio, Texas, November 9-12.

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REPORTS

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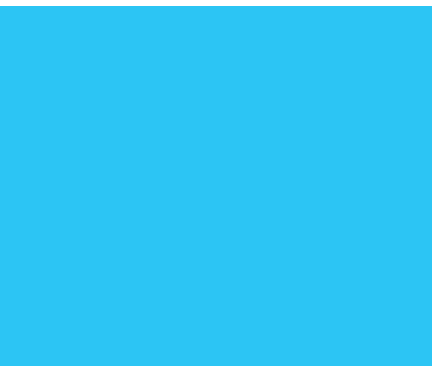
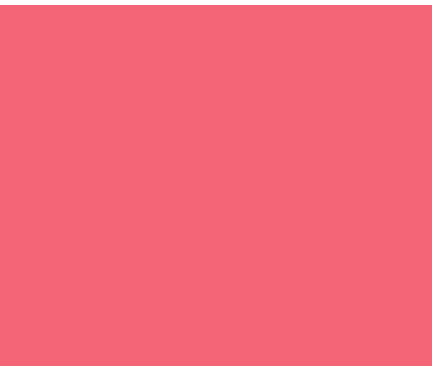
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2024 FINANCIALS

The external audited financials are not yet available (July 2025). A detailed breakdown of financial performance will be available in the digital version of this report as soon the external auditor signs off on this, following approval by the Board of Directors. The financials reflect IFDC's continued commitment to transparency, accountability, and impact-driven resource management.





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