



IFDC

A QUARTERLY MAGAZINE

Volume 39 • Number 4 • 2014 • An update on the work and progress of IFDC

MAKING

INNOVATION

COUNT



- ATT Project Brings Technology to Farmers
- For Innovation to Work, "Listen to the Farmer"
- Mobile Cinema Promotes Agriculture Innovations

IFDC Quarterly Magazine

© 2014, IFDC. All rights reserved.

The *IFDC Magazine* is a quarterly publication of the International Fertilizer Development Center (IFDC). Unless otherwise noted, printed material published in the *IFDC Magazine* is in the public domain and may be freely reproduced. Source acknowledgment and a copy of any reproduction are requested. Electronic versions in English and French are available at www.ifdc.org.

IFDC is a public international organization, governed by a board of directors with representation from developed and developing countries. The nonprofit Center is supported by various bilateral and multilateral aid agencies, private foundations and national governments. IFDC focuses on increasing and sustaining food security and agricultural productivity in developing countries through the development and transfer of effective and environmentally sound crop nutrient technology and agribusiness expertise.

EDITOR IN CHIEF

Sharon Singh

EDITOR

James Thigpen

GRAPHIC DESIGN/LAYOUT

Victoria L. Antoine

GRAPHIC DESIGN

Heather Gasaway

PRODUCTION COORDINATION

Donna Venable

DISTRIBUTION

Jane Goss and David Wright

WRITERS

Feyikemi Adurogbangba-Osho, Kelli Glasgow, Courtney Greene, Jared McCoy, Amit Roy, James Thigpen and Rieke Weel

CONTRIBUTORS

Alexander Fernando, Timothy Karera, Jean Pierre Kisamare, Jyldyz Niyazalieva and Ajay Varadachary

PHOTOGRAPHERS

Courtney Greene, Jean Pierre Kisamare, Jyldyz Niyazalieva, Albert Oppongansah, Meg Ross, James Thigpen, Ajay Varadachary and Rieke Weel

BOARD OF DIRECTORS

Jimmy G. Cheek (USA), Board Chair
Gerard J. Doornbos (Netherlands), Vice Chair
Mohamed Badraoui (Morocco)
Margaret Catley-Carlson (Canada)
Josué Dioné (Mali)
Agnes M. Kalibata (Rwanda)
Mark E. Keenum (USA)
Steven Leath (USA)
Mortimer Hugh Neufville (USA)
Rhoda Peace Tumusiime (Uganda)
Vo-Tong Xuan (Vietnam)

PRESIDENT AND CHIEF EXECUTIVE OFFICER

Amit H. Roy (USA), Ex Officio Member

SECRETARY TO THE BOARD/ LEGAL COUNSEL

Steve Baccus (USA), Ex Officio Member

IFDC DIVISIONS

EurAsia (EAD)
East and Southern Africa (ESAFD)
North and West Africa (NWAFFD)
Office of Programs (OP)

FREQUENTLY USED ACRONYMS

- **2SCALE** – Toward Sustainable Clusters in Agribusiness Through Learning in Entrepreneurship
- **AAPI** – Accelerating Agriculture Productivity Improvement
- **ACMA** – Approche Communale pour le Marché Agricole
- **AfDB** – African Development Bank
- **AGRA** – Alliance for a Green Revolution in Africa
- **AIMS** – Agricultural Input Market Strengthening
- **BoP Inc.** – Base of the Pyramid Incorporated
- **CATALIST-2** – Catalyze Accelerated Agricultural Intensification for Social and Environmental Stability
- **CSFS** – Commercialized Sustainable Farming Systems
- **DADTCO** – Dutch Agricultural Development & Trading Company
- **DGIS** – Directorate-General for International Cooperation (Netherlands)
- **EDF** – Economic Development Fund
- **FAO** – Food and Agriculture Organization of the United Nations
- **FTF USAID ATT** – Feed the Future USAID Agriculture Technology Transfer
- **GHG** – Greenhouse Gas
- **Global TraPs** – Global Transdisciplinary Process for Sustainable Phosphorus Management
- **ICRA** – International Centre for development oriented Research in Agriculture
- **IFA** – International Fertilizer Industry Association
- **ISFM** – Integrated Soil Fertility Management
- **MARKETS II** – Maximizing Agricultural Revenue and Key Enterprises in Targeted Sites II
- **NEPAD** – New Partnership for Africa's Development
- **NGO** – Non-Governmental Organization
- **PPP** – Public-Private Partnership
- **UDP** – Urea Deep Placement
- **USAID** – United States Agency for International Development
- **VFRC** – Virtual Fertilizer Research Center
- **WAFP** – West Africa Fertilizer Program

FEATURE

Making Agricultural Innovation Count



6

CONTENTS

ARTICLES

40th Anniversary

- 2 Timeline of IFDC's Fourth Decade
- 4 Innovation, the Fuel and Future of IFDC

Feature Article

- 6 Innovation That Counts

EAD

- 11 IFDC Conducts a National Workshop in Bangladesh on UDP and GHG Emissions
- 12 KAED Leaves a Legacy in Kyrgyzstan

NWAFD

- 15 ATT Project Brings Technology to Farmers
- 16 Innovation Strengthens Sesame Agribusiness in Mali
- 16 USG Included in Subsidy Scheme
- 17 Changing Youths' Perceptions of Agriculture

ESAFD

- 19 IFDC Strengthens Burundian Seed Sector
- 19 AIMS III Gets Better Fertilizers to Farmers
- 20 2SCALE Yields Flourishing Partnerships in East and Southern Africa

IFDC

- 22 IFDC Celebrates Forty Years of Feeding a Hungry World
- 24 IFDC Training Encourages Agricultural Innovation
- 26 Featured Blog: Listen to the Farmer
- 27 Mobile Cinema Promotes Agriculture Innovations in East Africa



BRIEFS

- 10 EurAsia Division Briefs
- 14 North and West Africa Division Briefs
- 18 East and Southern Africa Division Briefs



2005



Azerbaijan's agriculture sector triumphs.

From 2002 to 2005, the United States Agency for International Development (USAID) supported IFDC's Agricultural Input Market Development in Azerbaijan project, which improved agricultural input marketing and accessibility. By 2004, Azerbaijani farmers had produced crops valued at U.S. \$70 million. By 2005, the Azerbaijan Agri-input Dealers Association was supplying more than 42,000 farmers with farm inputs on a regular basis.

governments called for the elimination of all taxes and tariffs on fertilizer in the historic *Abuja Declaration on Fertilizer for an African Green Revolution*.



From Thousands to Millions (1000s+) project launches, validates CASE solution.

Using the competitive agricultural systems and enterprises (CASE) approach, the Directorate-General for International Cooperation (DGIS)-funded project was successful in stimulating trade, developing input and output markets and improving soil fertility. By the project's end, 700,000 farmers and over 3,500 small enterprises saw dramatic income increases with the benefit of collective purchasing and selling power.

manual by Steven J. Van Kauwenbergh, IFDC senior geologist (now leader of the Phosphate Research and Resources Initiative). The book consists of information that IFDC gathered on Africa's mineral resources that could be used to manufacture fertilizer.

2008



IFDC helps rebuild Bangladesh's agriculture sector after Cyclone Sidr.

In late 2007, Cyclone Sidr ravaged Bangladesh, killing thousands and destroying almost 660,000 hectares of crops. In Sidr's wake, IFDC and the Bangladesh Department of Agricultural Extension initiated the Improved Livelihood for Sidr-Affected Rice Farmers (ILSAFARM) project to help restore rice production with fertilizer deep placement (FDP).

2010



IFDC launches AfricaFertilizer.org.

AfricaFertilizer.org (AFO) was created as a response to Article 10 of the *Abuja Declaration*, which advocates for farmers' improved access to inputs and fertilizer-complementary practices. AFO sources, aggregates, filters and shares information on fertilizer through a web- and mobile phone-based platform.



IFDC creates the Virtual Fertilizer Research Center.

The Virtual Fertilizer Research Center (VFRC), a research initiative of IFDC, aims to transform fertilizer research so that development of novel fertilizers can be fast-tracked from the lab to the field.

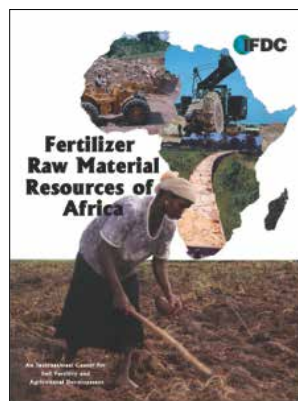
2006



IFDC organizes the Africa Fertilizer Summit.

The Summit was one of history's largest meetings to focus on Africa's agricultural issues. Heads of state and

2007



IFDC publishes *Fertilizer Raw Material Resources of Africa*.

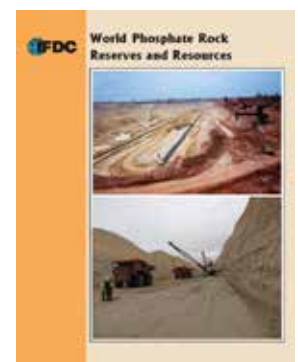
In 2007, IFDC published *Fertilizer Raw Material Resources of Africa*, a 440-page reference

2009



More than 1 million trained in a single year.

In 2009, IFDC field training programs reached 1,012,186 participants. The number of women enrolled in IFDC training programs more than tripled in 2009 – increasing from 92,843 in 2008 to 325,450, or 32 percent of the total number trained.



IFDC releases *World Phosphate Rock Reserves and Resources*.

World Phosphate Rock Reserves and Resources estimated the world's supply of phosphate rock concentrate at 60 billion metric tons. By this estimate,

phosphate-based products will be available for several hundred years, overshadowing (by 44 billion tons) previous estimates of the U.S. Geological Survey, which consequently independently revised its estimate.

2011



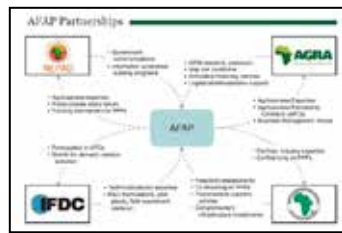
IFDC launches the regional Agricultural Input Market Information System (AMITSA).

A collaboration among IFDC, the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA), AMITSA was developed as a decision support tool to increase the use of fertilizer and provide timely data on agricultural input markets in East and southern Africa.



IFDC professionalizes South Sudan's agricultural market.

In light of a looming food crisis, IFDC and the Alliance for a Green Revolution in Africa (AGRA) began implementing the USAID Seeds for Development (S4D) project, which harnessed the locals' entrepreneurial spirit to commercialize and transform agriculture in the new nation from subsistence farming to a market-oriented, competitive and profitable system.



AFAP promotes sustainable fertilizer markets in Africa.

The African Fertilizer and Agribusiness Partnership (AFAP) was founded to bolster the markets that provide inputs to smallholder farmers and contribute to an African Green Revolution. AFAP is a unique partnership that utilizes specific areas of development expertise held by its founding members: New Partnership for Africa's Development (NEPAD), AGRA, IFDC and African Development Bank (AfDB).



The first Global TraPs forum is held in Switzerland.

In 2011, a forum was held in Zurich, Switzerland, to launch the Global Transdisciplinary Process for Sustainable Phosphorus Management (TraPs) project, a multi-stakeholder forum involving experts from many concerned parties. Its focus was to guide and optimize future phosphorus use by assessing current information and developing options for the way forward.



2012



New research assesses emissions resulting from fertilizer use in rice.

In 2012, USAID provided a research grant to quantify the amount of nitrous oxide and nitric oxide released from the soil during rice production. IFDC researchers and technicians developed mechanical greenhouse gas (GHG) measuring chambers that were first extensively tested under greenhouse conditions.



IFDC and its partners launch the pan-African 2SCALE project.

The Toward Sustainable Clusters in Agribusiness Through Learning in Entrepreneurship (2SCALE) project focuses on the development of competitive rural agricultural systems, viable agro-enterprises and public-private partnerships (PPPs). 2SCALE aims to develop a portfolio of 500 robust and viable agribusiness clusters and value chains. 2SCALE is implemented by a consortium of IFDC, International Centre for development oriented Research in Agriculture (ICRA) and BoP Inc.

2013



U.S. President Barack Obama promotes FDP.

During a USAID Feed the Future agriculture fair in Senegal, U.S. President Barack Obama promoted various agricultural technologies, including FDP. He insisted that while technical details of nourishing the hungry do not make headlines, these things are helping smallholder farmers rise out of poverty.

2014



IFDC celebrates 40 years of feeding a hungry world.

To commemorate the anniversary, IFDC held a commemoration event in Washington, D.C. Entitled "Nutrients' Role in Food Security," the event featured guest speakers and panelists such as former U.S. President Jimmy Carter, Rajiv Shah, USAID administrator, and Rudolf Bekink, Dutch ambassador to the United States. IFDC also released the book *Feeding a Hungry World: IFDC's First Forty Years*.

Experience IFDC's interactive historical timeline at <http://www.ifdc.org/about/history/>

In the mid-1970s, business as usual was leaving the world hungry. Oil and food prices soared. A concurrence of unfortunate events threw the world into economic chaos. As part of the solution to these events, IFDC was formed by a group of forward-thinking leaders who knew one thing: the world needed immediate innovative action. This would be IFDC's mantra. Forty years on, innovation is our legacy – and it is our future.

The year 2007 looked a lot like 1974 – spiking oil prices and all. By then, the world had a better idea of how the Earth's climate was changing, and these realizations only compounded the problems of reduced crop yields and rising fertilizer prices. Dr. Amit Roy, president and Chief Executive Officer (CEO) of IFDC, realized that this would not be the last time smallholders would have to bear the burden of rising input prices. An idea emerged. What if the brightest minds of the world were unified to develop novel fertilizers that not only increased yields but also were affordable, economically beneficial and not detrimental to the environment? The idea resulted in the formation of the VFRC in 2010, a research initiative

IFDC's Fourth Decade: Innovation, the Fuel and Future of IFDC

“Innovation distinguishes between a leader and a follower.”

– Steve Jobs



▲ An early IFDC board of directors reviews blueprints for IFDC facilities.

of IFDC committed to developing novel fertilizers to nourish plants and people.

The VFRC's approach recognizes that novel fertilizers will not be enough. The future threats posed by climate change, for example, demand innovation across the entire agricultural spectrum. Novel fertilizers are not developed in a vacuum but in unison with other solutions, such as new seed technology, improved access to credit and other integrated

approaches. Among other areas, policy, nutrition and education play an especially important role. The VFRC thus involves forward-thinking scientists, nutritionists and a host of other partners to develop solutions for the future.

Looking back, the past 40 years have been a testament to the power and success of IFDC's innovative approach. Not forgetting its previous successes and challenges, the organization reaches forward. By 2050, most of the world's climates will have drastically changed. The population will have grown by about 2 billion. Other issues we have not yet even imagined will need to be solved. IFDC and our partners must consider, what will be our engagement in the years leading up to then? While our

short-term goals may change, the fuel that drives those goals will not. Innovation will guide IFDC's future. 🌍





▲ *The 2015 VFRC Board of Advisors. From left to right: Amit Roy, Satish Chander, Marco Ferroni, Melissa Ho, Ruth Oniang'o, Rudy Rabbinge, Frank Franklin, Fu-Suo Zhang, Cheng-i Wei, Peter McPherson and Prem Bindraban.*



In 2008 Dr. Norman Borlaug wrote a letter to Dr. Roy that included a timely message: “the work of the Green Revolution is not yet finished.” Urging “a new round of technological advancement... and a lot of hard work,” Dr. Borlaug’s letter provided the impetus IFDC’s leader needed to create the Virtual Fertilizer Research Center in 2010.

Working within their partner institutions, this network of professionals collaborates to develop ways to instantaneously deliver nutrients to plants – and thereby people. “By starting from growth processes, plant biologists will guide chemists in fertilizer production (in an interactive process) to package and deliver nutrients in a form that is usable by the plant,” explains Dr. Prem Bindraban, executive director of the VFRC. The VFRC explores many advanced technologies involving bulk, fine and bio-chemistry; nano- and bio-packaging; and root, stem, leaf and fruit delivery systems. With these approaches, the research initiative aims to develop fertilizers that will become economically viable production factors to improve farm livelihood, revert agriculture’s negative contribution to climate change, unleash the power of nutrients to feed plants and nourish a growing population.

What if we
could feed
the world



INN



NOVATION

THAT COUNTS



Making Agricultural Innovation Count

While Fritz Haber watched ammonia slowly drip from his desktop prototype, global food security was still a far-off dream. It took half a century for Dr. Norman Borlaug's work in innovative breeding to become the engine by which Haber's invention could feed the world. The cliché is true – so far. There are no silver bullets for feeding the world, which raises a good question: how can those working to alleviate hunger innovate effectively?

First, as IFDC president and CEO Dr. Amit Roy noted recently in a blog, “[W]e must ask the question, ‘What can we learn from the smallholder farmer?’” Essentially, agricultural innovation “is not a one-way street.” We have to understand the needs of farmers. Borlaug sparked the “green revolution” in part by spending time in the field working with – and learning from – farmers.

The key: learning farmers' needs from the farmers themselves. This may vary by location, culture, etc. There is no single solution. “IFDC has always recognized the importance of integrating farmer knowledge into our strategy for improving agricultural production,” said Dr. Deborah Hellums, IFDC program leader, soil and plant nutrition. “This participatory approach has been fundamental to the success we have had in the field.” Many of IFDC's most successful projects in West Africa were born from this approach. IFDC scientists who first promoted

integrated soil fertility management (ISFM) based the approach on just this: farmers' knowledge can complement scientists' knowledge. Sustainable success comes from neither top-down nor grassroots approaches. “We meet them somewhere in the middle,” said Hellums.

the land they work, they are less willing to adopt costly ISFM applications. Recently, the Agricultural Input Market Strengthening (AIMS) III project introduced the commercialized sustainable farming systems (CSFS) approach, which gives farmers similar solutions but with a cost:benefit analysis approach to optimize farmer profits. An IFDC scientist once said, “Farmer adoption of new technology is the final test of the worthiness of a product.”



In addition, smallholder farmers must see value in innovative ideas and technologies. When IFDC introduced urea deep placement (UDP) in Bangladesh, for example, farmers saw the technology's benefits. It reduced costs, increased yields and multiplied profits. It made sense. On the other hand, some of the benefits from approaches such as ISFM are less obvious to farmers – particularly long-term benefits. While ISFM increases soil fertility, the long-term costs – often in terms of labor input – may be high. As many farmers may not own

Finally, successful innovation must be complementary to other approaches. IFDC and the VFRC approach research this way. Where IFDC focuses on solutions that can be taken into the field immediately, the VFRC looks at medium- and long-term solutions. For example, IFDC promotes UDP. The technology benefits farmers but sustains reliance on the Haber-Bosch process. UDP is a short-term solution. The VFRC complements short-term solutions by focusing on long-term solutions to plant nutrition: organisms that can fix nitrogen; bacteria that can enhance early root growth; and new nutrient “packaging” that can increase grain nutrition. While the VFRC delivers multiple intermediate and ever-improving fertilizer products along the way, arriving at a final long-



term solution could take a decade or more. But the time and effort spent pays off, as these solutions can greatly outperform (in both efficacy and sustainability) short-term solutions. Short- and long-term solutions work together to move farmers toward sustainable solutions.

IFDC and the VFRC complement each other in other ways as well. Where soil fertility drives IFDC's research, plant nutrition drives the VFRC's. Both are important. Both are necessary. In Mozambique, for example, IFDC has introduced improved fertilizer blends for maize that take maize's (and the soil's) micronutrient needs

into account. The VFRC sees this situation as an opportunity to explore collaborative interventions. Intermediate maize nutrition interventions such as foliar fertilizers and long-term solutions such as bio-nano-packaging of nutrients could sustainably boost uptake efficiency. These solutions complement the improved fertilizer blends promoted by IFDC. Innovative solutions that work together, such as the Haber-Bosch process and hybrid seeds, work best. While single solutions can work well, complementary innovations will change the world.

By no means do these examples prescribe perfection in making innovation count. Sometimes a lot of science takes a little luck. Other times, repetition is key. And sometimes, as the fictional quotation of Thomas Edison goes, an answer will not be discovered until we find "ten thousand ways that didn't work." Whatever the case, collaborative innovation should continue. According to Dr. Prem Bindraban, executive director of the VFRC, "Igniting the green revolution required both Haber's process and Borlaug's seeds. Only collaborative innovation can ignite it again." 🌱



BRIEFS



To promote UDP technology worldwide, IFDC and the VFRC have become a signatory of the United Nations (UN) Global Alliance for Climate-Smart Agriculture (CSA). Ishrat Jahan, chief of party for Accelerating Agriculture Productivity Improvement (AAPI), represented IFDC/VFRC at the 2014 UN Climate Summit. Speakers at the Summit focused on the triple win of CSA technologies – development, adaptation and mitigation of GHG emissions.

The Kyrgyz Agro-Input Enterprise Development project (KAED) hosted a close-out ceremony to highlight achievements in the Kyrgyz Republic's agriculture sector since the project began in 2001. Representatives of the Ministry of Agriculture and Land Reclamation of the Kyrgyz Republic, USAID representatives and project beneficiaries spoke about KAED's achievements.



The Fertilizer Sector Improvement (FSI) project in Myanmar, funded by USAID, has introduced smallholder farmers to the benefits of UDP technology through a series of trials across three regions. The early harvests are showing significant yield differences of 3 and 23 percent when UDP is used, compared with broadcast urea applications. There is unanimous acclaim for the technology. In the farmers' words, "The plants look better."

EAD-Supported Publications

- IFDC and the International Food Policy Research Institute published the brief, "The Role of Fertilizers in Transforming Agriculture in the Kyrgyz Republic," which outlines fertilizer use and issues in Kyrgyzstan over the past decade. The study found that fertilizer prices are highly dependent on costs accrued by road transportation, storage, handling, distribution and marketing.
- IFDC, in collaboration with Agribusiness and Rural Development Consultants Ltd., conducted a fertilizer policy evaluation of Myanmar. The evaluation examined the situation of Myanmar's fertilizer sector and made recommendations based on the findings.
- IFDC specialists visited Bangladesh to assess the feasibility of commercial-scale urea briquette production. The report, "Technical/Economic Study on the Commercial-Scale Production of Urea Briquettes," found that commercial-scale briquette production was only economically feasible when integrated with an existing urea plant. Otherwise, small-scale production is actually more profitable and less costly for the government while promoting a retailer market.



IFDC Conducts a National Workshop in Bangladesh on Urea Deep Placement and Greenhouse Gas Emissions

IFDC's AAPI project, funded by USAID, organized a two-day workshop on August 26-27, 2014, on the mitigation of GHG emissions through UDP. With UDP, a urea briquette is inserted into the soil, near the root zone of the plant; this provides the plant with nutrition throughout its growth cycle.

The workshop consisted of formal presentations and discussions on day one and a field trip to the GHG laboratory at the Bangladesh Rice Research Institute (BRRI) on day two, where scientists are facilitating IFDC's GHG experiments. The field trip allowed participants to observe UDP technology in action and how GHG emission measurements are conducted in the field.

About 250 participants attended the workshop, including scientists; officials from multiple ministries; directors of several organizations; foreign delegates and diplomats; representatives from development partners, government and non-governmental organizations (NGOs); and members of the media. The honorable Minister of Agriculture, Mrs. Matia Chowdhury and the Secretary of the Ministry of Agriculture, Dr. S.M. Njamul Islam, were special guests of the workshop.

During the workshop, both Secretary Islam and Minister Chowdhury expressed appreciation for IFDC's continued work in Bangladesh to expand the use of UDP in the country. Minister Chowdhury referred to UDP as a "win-win" technology that is reducing the amount of urea used and increasing rice yields.

Workshop presentations addressed the benefits of UDP technology, the process of determining the impact of UDP on GHG emissions, the role of AAPI in developing and disseminating UDP technology, the benefits of the alternate wetting and drying (AWD) technique in rice production and how UDP and AWD can be used together to maximize environmental impact. 🌱



At the beginning of the KAED project, the chief of party said, "Our vision is that by the end of the project there will be a developed, legal agribusiness sector organized into a trade association that will provide a reliable and high-quality supply of seeds, fertilizer and other agricultural inputs to farmers in southern Kyrgyzstan." KAED surpassed this vision, creating not only a strong agribusiness input sector but a varied output market as well. This success came through the project's main concentration: medium- and larger-sized progressive smallholder farmers willing and able to implement modern technology in crop and livestock production. IFDC's work with the successive projects ended just this year – 13 years after the original project began. Over that time, KAED became one of the most versatile programs in IFDC history.

When it began, the USAID-funded project followed the Albanian model of identifying entrepreneurs handling fertilizer, seed and crop protection products (CPPs) and organizing them into a trade association. Forming the Association of Agribusinessmen of Kyrgyzstan (AAK) in 2002 was key to the project's early success. The goal of AAK was – and still is – to support the development of agro-input dealers and increase production using improved seeds, fertilizers, CPPs and agronomic advice. AAK accomplished this goal through effecting policy change and developing retail farms stores and training programs. Dr. Hiqmet Demiri, KAED chief of party, said, "Among our most effective tools are training and mass communications. KAED is providing training not only on fertilizer but also about all aspects of farm management and business growth."

The development of public-private partnerships (PPPs) has been crucial to the success of KAED. One of the most successful PPPs was the relationship developed in 2010 between the KAED Follow-On and Oasis Agro, LLC. By providing farmers with training and access to key business resources, the partnership helped increase the amount of soybean acreage, improve production of high-quality soybean meal and edible sunflower oil and increase egg production. By the end of the project, the partnership had developed a sustainable poultry-feed industry and increased protein-based livestock feed in the country. Another PPP, with Eurasia Group – which includes Pioneer Seeds and John Deere –

KAED Leaves a Legacy in Kyrgyzstan

introduced 20,000 farmers to modern production technology for wheat and maize production, including cultivation techniques and other crop management.

In 2011, the project was selected to implement the \$20 million Economic Development Fund (EDF) on behalf of the United States and Kyrgyz governments. In the first component, KAED provided 34,000 farmers with improved seeds from private sector suppliers through an IFDC-designed and implemented voucher program. The program transformed selected seed farms into viable seed companies that developed a vibrant domestic seed-supply system. In addition to the development of the seed market, the project also introduced a market-friendly voucher system and revolving fund for the distribution of fertilizer.

EDF continued throughout the length of the project, with two new components. EDF II replaced obsolete equipment on selected seed farms and provided better seeds to renew and improve seed stocks available in the country. EDF II increased not only the availability of seeds but the profitability and competition among seed farms.

The final EDF component, EDF III, contributed to the modernization and productivity of Kyrgyzstan's livestock sector. The component aimed to help position Kyrgyzstan as an attractive source of livestock products for the region. Through EDF III, 235 head of cattle were transported from the United States to Kyrgyzstan. In tandem with the opening of the first Animal Reproduction Biotechnology Center in the Kyrgyz

Republic, these bulls and heifers will contribute to improved genetic material for artificial insemination.

One of the most significant aspects of KAED was the land rehabilitation program. Approximately 5,500 hectares of unused farmland were brought back into production. The object of this initiative was to prevent the



▲ Local aksakals, respected village leaders, give their blessings for the success of a land rehabilitation program.

degradation of agricultural land through the restoration of soil fertility and the rehabilitation of irrigation systems.

KAED breathed new life into the country's agriculture sector through the introduction of appropriate technologies, investing in marketing efforts and input supplies and providing strong support for the AAK. Farmers who could not fulfill domestic market needs a few years ago are now producing for the international market. The successes of KAED in the dairy, poultry and beef sectors have increased incomes for farmers, agro-input dealers and processors as well as increased food security throughout the country of Kyrgyzstan. According to Jigitaly Jumaliev, director of the Ministry of Agriculture's Department of Agricultural Development in Kyrgyzstan, "[T]he long-term assistance provided by [KAED] during the past 13 years has had a positive impact on the economy of the Kyrgyz Republic." 🌍



▲ An engineer from El-Dan seed farm receives a certificate for new equipment given by EDF II.



▲ A farmer joyfully receives seeds from the IFDC-designed voucher program.



- In 2004, KAED and the AAK lobbied successfully for the removal of the 20 percent value-added tax on fertilizer and CPPs.
- Because of the dealer network, the average distance traveled by farmers to buy inputs has been reduced to 2.5 miles.
- In 2007, the average incomes of AAK farmer customers increased by 48 percent versus 23 percent for non-AAK farmers.
- USAID named KAED II “the best agricultural project” in the Central Asian Republics in 2010.
- In 2013, Kyrgyzstan saw a nearly 500 percent growth in egg production on small poultry farms.
- KAED helped client farmers increase productivity by about 50 percent.



▲ Above: IFDC president and CEO Dr. Amit Roy examines a maize crop on a poultry farm in Kyrgyzstan.

▲ Left: Through rehabilitating irrigation systems, KAED brought approximately 5,500 hectares of land back into production.

BRIEFS



World Food Day Event in Nigeria

IFDC participated in Nigeria's 29th National Agricultural Show in October, which was held in tandem with World Food Day. During the event, IFDC showcased its current projects and increased awareness of IFDC's promotion of agricultural development in Nigeria. Mrs. Ibukun Odusote, the Permanent Secretary of the Federal Ministry of Agriculture and Rural Development, attended the event and visited IFDC's booth to learn about IFDC projects and technology.



ACMA Signs First Community Agreement

Mayors of seven municipalities in Benin that are close to the border with Nigeria signed the first ever community agreement on cross-border trade between Benin and Nigeria on October 3, 2014. This initiative, funded by the Royal Dutch Embassy in Benin, is part of IFDC's Approche Communale pour le Marché Agricole (ACMA) project, which aims to improve the income of farmers and rural entrepreneurs of targeted value chains through linkages with agricultural markets.



WAFP Provides Assistance to the Government of Ghana for Subsidy Tracking System

IFDC, through the USAID West Africa Fertilizer Program (WAFP), has partnered with the Plant Protection and Regulatory Services Directorate of the Ministry of Food and Agriculture in Ghana to provide a new electronic surveillance system that monitors agro-dealers' compliance with regulations of the fertilizer subsidy program. The initiative will address the challenges of the previous system, including cumbersome administrative processes, logistical constraints and uncontrolled activities of unregistered agro-dealers.



Drought Index Insurance in Benin and Mali

2SCALE has partnered with PlaNet Guarantee to support a crop index insurance initiative in Benin and Mali. This process is transparent and minimizes compensation negotiations. Local financial institutions are collecting premiums, managing accounts and paying compensations. The initiative has been expanded in 2014 to include more clusters, new financial products and easier methods of premium payment.

The Feed the Future USAID Agriculture Technology Transfer (ATT) project aims to increase the competitiveness of rice, maize and soya value chains to foster broad-based and sustained economic growth through the increased availability of agricultural technologies in Northern Ghana. The project will increase the role and capacity of private sector actors as well as agricultural research in developing, communicating and disseminating technologies, while at the same time increasing the efficiency and transparency of government functions to support seed, fertilizer and ISFM technology development, release and dissemination.



Maize Faster Shelling and Phone Charging

A maize sheller mounted on a bicycle is a creative solution to the time-consuming, and often laborious, process of shelling maize by hand. This technology removes grain from husks 40 times faster than

ATT Project Brings Technology to Farmers

hand shelling. The sheller also has a phone charging station, allowing producers to stay connected with agro-dealers and markets while they work. Global Cycle Solutions developed the sheller kit.

Bringing High-Yielding Varieties to Farmers



Many farmers in Ghana are switching to high-yielding varieties (HYVs) of maize. Recent project-supported demonstration plots have convinced farmers that the increased yields they can achieve by using HYVs are worth investing in. USAID ATT is working to strengthen and support HYV seed producers to ensure that farmers have reliable, affordable access to the seed they need.

Rice UDP Increases Farmers' Yields and Incomes



UDP technology is changing lives in Ghana. Brunya Anininaaba is one of about 3,000 farmers in Northern

Ghana that has embraced UDP. He reports, "I have no problem this term paying school fees and buying education materials because I only needed to spend half of the money I allocated to buy fertilizer." Demonstration fields and testimonies from farmers and agro-dealers are helping to expand knowledge and adoption of this innovative, transformative technology.

Soy Mechanical "Cow" Produces Quality Product



ATT is supporting the installation and use of soya cow machines. Soya cow machines are used in the production of soya milk and tofu from soya beans. Using the soya cow is labor-saving and more hygienic than traditional extraction practices, and leads to a higher quality product. This machine provides increased incomes for soya bean farmers and soya milk producers. Already, 8,000 women in Northern Ghana have registered to receive training on soya milk and tofu processing. The Canadian NGO Malnutrition Matters developed the soya cow and also provided technical support and training. 🌱

2SCALE is helping private agribusinesses become more competitive through innovation. One example is the partnership between 2SCALE and the Society for Promotion of Sesame in Mali (PROSEMA). 2SCALE and the Grassroots Development of Agribusiness Clusters in Mali (DEBPEA) project, both funded by the Government of the Netherlands, collaborated to provide support, technology and training to PROSEMA and its farmers. In just eight years, PROSEMA has become a market leader, buying sesame from a network of 13,000 smallholder farmers across the country. Seydou Doumbia, a sesame producer in Mali, recently said, "PROSEMA is our guarantee of a stable market every year."

With assistance from 2SCALE, PROSEMA is rolling out Mali's first traceability scheme for sesame, which will allow

Innovation Strengthens Sesame Agribusiness in Mali



buyers from around the world to trace every bag of sesame to the field in which it was grown.

In addition, the company is introducing a low-cost seed drill to its farmers. The drill shortens sowing time, reduces seed costs and improves germination. Through these innovations, 2SCALE has facilitated a five-fold increase in farm-gate prices. Furthermore, the typical agribusiness cluster member has expanded the size of his or her sesame field from a quarter hectare to two hectares.

Additionally, 2SCALE is helping PROSEMA to explore and develop new

markets, especially in Asia where sesame is becoming part of the daily diet. Support for this initiative comes from the Netherlands Foreign Ministry, the Dutch embassy in Mali, the Common Fund for Commodities, the Royal Tropical Institute in Amsterdam and the Syngenta Foundation. 🌍

Smallholder farmers must have access to innovative agricultural technologies in order to benefit from them. In response to this need, the government of Nigeria is including urea supergranules (USG), part of UDP technology, into its Growth Enhancement Support (GES) scheme. UDP technology involves the insertion of a USG briquette 7 to 10 centimeters beneath the soil, near the root zone of the plant. The briquette provides nutrition to the plant throughout its growth cycle, which leads to increased yields. UDP requires about one-third less fertilizer than the traditional broadcasting method. UDP technology aligns well with the objective of the GES scheme: getting innovative agro-inputs into the hands of smallholder farmers.

As part of the GES scheme, USG briquettes will be subsidized: each farmer in the target area will be provided with 40 kilograms

USG Included in Subsidy Scheme



(kg) of USG fertilizer in addition to 100 kg of NPK fertilizer at a 50 percent subsidy rate. Additionally, the GES program will include regional training for farmers in UDP technology and for USG briquette producers. It will reach 300,000 farmers in five states: Niger, Jigawa, Kano, Sokoto and Kebbi. The introduction of UDP technology will not only lead to greater food security in the region but will also provide jobs for briquette producers. Regional cooperation will increase to ensure that the beneficiary farmers have access to profitable output markets. This will be a collaborative effort of the Maximizing Agricultural Revenue and Key Enterprises in Targeted Sites (MARKETS II) project in partnership with USAID. 🌍

Many African youth believe that smallholder farming is a form of subsistence rather than a profitable career.

In Nigeria, many youths migrate from rural to urban areas hoping to find a job outside of agriculture in order to be more financially stable than their farming families.

Changing Youths' Perceptions of Agriculture

In an effort to address this need, IFDC's MARKETS II team worked to identify, train and link youths to Harvest Field (an agro-chemical company) in the states of

Cross-River, Ondo and Oyo. In 2014, more than 150 youths were trained on spraying services that will be offered to cocoa farmers.



Accessing spraying services is a major challenge for smallholder farmers. Even when services are available, the services provided may not be effective due to lack of technical know-how, leading to a poor yield. Female farmers experience these problems more frequently.

The team trained the young entrepreneurs on a range of topics: the concept of spray service providers, pest and plant disease for cocoa, integrated pest management for cocoa, types of pesticide for cocoa and how to read pesticide labels. Other topics included the different parts of a knapsack sprayer and the safe handling of pesticides.

Changing the perception of smallholder farming can provide job opportunities for youths and lead to increased food security in addition to boosting the national economy. According to Nigeria's Minister of Agriculture and Rural Development, Dr. Akinwumi Adesina, "Agriculture should be seen as a business and be treated as such in order to make money."

To help them learn good business practices, the project also provided training on record keeping and how to market their services to enable them to build their customer profile and have strong profits. Trainings such as these can ensure that the youth get involved – not only for profit but for global food security. 🌍



BRIEFS

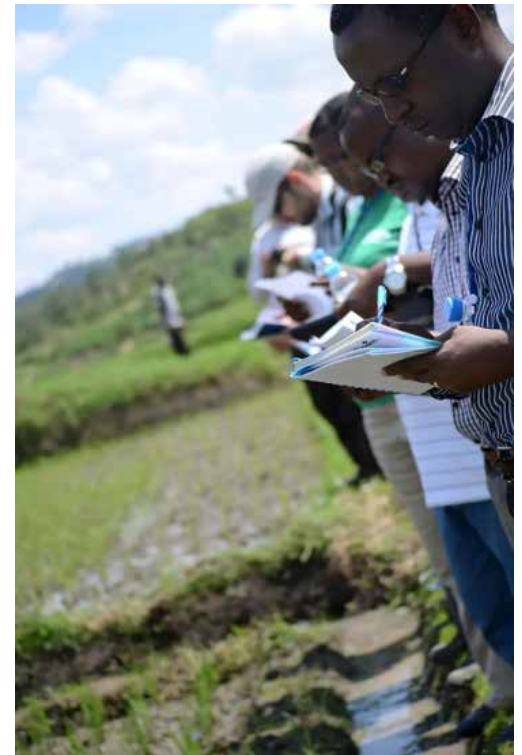


A new project with AGRA complements IFDC's ongoing cassava activities. The Up-Scaling the Cassava Value Chain in Mozambique (SCM) project works in sync with 2SCALE. SCM will increase access to improved planting materials, enhance cassava farmers' knowledge and business skills and develop profitable and sustainable farming systems and input-output market linkages.

Dr. Millie Gadbois has been appointed director of IFDC's East and Southern Africa Division. Gadbois brings a breadth of experience as an agricultural economist managing development activities in economic growth and agriculture, consulting experience in more than 20 countries in Africa and experience in senior management for USAID, NGOs and institutes.



The Study of the Relationship Between Farmer Savings and Sustainable Food Security (BASIS) project team presented the Impact Evaluation Results from the Ministry of Agriculture/FAO Voucher Subsidy Program in Manica Province, Mozambique during a one-day workshop. Farmers who received and used the coupons continue to use fertilizer, generate higher yields and enjoy higher household incomes two years after the end of the voucher program.



The Privatization of Rwanda's Fertilizer Import and Distribution System (PReFER) and Catalyze Accelerated Agricultural Intensification for Social and Environmental Stability-2 (CATALIST-2) projects are working with the Rwandan public extension program to field more than 30,000 micronutrient demonstrations in Rwanda.



mFarms, a web- and cellphone-based platform that facilitates linkages among agricultural stakeholders, was introduced in Rwanda through PReFER and has been scaled up to more than 800 agro-dealers and fertilizer and seed importers. This is double the number of beneficiaries that was originally expected.

Approximately five percent of Burundian farmers have access to quality seeds in Burundi. Despite efforts made by the government of Burundi and development partners, the quality seed sector remains relatively rudimentary, which hinders improvements in yield and agricultural production.

IFDC Strengthens Burundian Seed Sector

The existence of a viable and competitive private sector is a requirement for providing affordable improved seeds. The project plans

to engage 200 new seed enterprises to supply the market at both local and national levels. This volume of quality seeds produced and commercialized in Burundi will expand by approximately 500 percent.

Given the importance of the availability of quality seeds crucial to the development of a strong seed sector, IFDC and the Dutch embassy in Burundi proposed an Integrated Seed Sector Development (ISSD) project. In cooperation with the Ministry of Agriculture and Livestock, the Burundi Institute of Agronomic Sciences (ISABU), the Faculty of Agronomy and Bio-engineering of the University of Burundi (FABI) and partners in the seed sector, the project will increase access to quality banana, bean, cassava, maize and rice seeds at an affordable price.

ISSD Burundi will collaborate with the existing National Fertilizer Subsidy Program in Burundi (PNSEB), IFDC's CATALIST-2 project and other projects and initiatives to increase the number of farmers who have access to seed. PNSEB and CATALIST-2 will subsidize the cost of some seeds, thereby increasing accessibility, which will lead to increased production and improved food security. 🌱

The project adheres to three principles:

- ISSD recognizes the formal and informal seed systems.
- ISSD seeks a productive collaboration among public and private organizations.
- ISSD wishes to respond to the demand of producers, taking into account their needs and the quality and prices of seeds.



Until recently, Mozambique's farmers and agro-dealers struggled to find improved inputs, as only one fertilizer blend, an expensive 12:42:12 formulation, was available. The high cost resulted in a net loss for farmers as the costs of production were not negated by higher output prices. Farmers, therefore, reduced costs by using little or no fertilizer. Low-input, low-output farming was the norm.

AIMS III Gets Better Fertilizers to Farmers



Access to any fertilizer was extremely limited as only 15 full-time professional agro-dealers operated in Mozambique. Many of these were in major towns an average of 300-500 kilometers (km) from farmers. The high costs of transport resulted in producers paying three times the factory price, which highly increased the costs of production and significantly reduced profits.

The Agricultural Input Market Strengthening (AIMS) III project sought to increase access to improved fertilizer. AIMS III worked to develop agro-dealers and farmers through training and new technologies as part of the Platform for Agricultural Research and Technology Innovation (PARTI), a five-year USAID Feed the Future program.

After surveying crops selection and soil analysis, AIMS III tested several new fertilizer formulations that improve crop yields in a cost effective manner. Soil analyses indicate soils required fertilizer formulations that included micronutrients. AIMS III presented farmers with a cheaper and more effective fertilizer by making blends that excluded the less-needed (and more expensive) primary nutrients but included useful micronutrients.

In order to increase access to the new blends, the project improved the country's agro-dealer network. Through the provision of five years of business development and training,

the agro-dealer network expanded to more than over 300 agro-dealers in five provinces. The average distance to dealers decreased from as much as 500 km to 15 km, and as a result, fertilizer prices decreased by 50 percent in the project zone. With more affordable and efficient fertilizers, the PARTI-targeted farmers increased maize yields by 26 percent on average. 🌱

2SCALE Yields Flourishing Partnerships in East and Southern Africa

2SCALE works with farmers and small-scale entrepreneurs in nine countries in sub-Saharan Africa. The project forms public-private partnerships (PPPs) that develop networks to connect farmers, buyers and intermediaries, thereby enabling stakeholders to create and grow new businesses up and down the value chain. The project also enables private sector firms to find business opportunities for sourcing products from, or selling agro-inputs to, smallholder farmers.



Kenya

Scaling Up Sorghum

Sorghum, once an “orphan crop” in Kenya grown mostly by resource-poor families for home consumption, is becoming a premium-priced crop for farmers in three counties in Kenya, (Meru, Tharaka-Nithi and Kitui). With assistance from 2SCALE and Shalem Investments, a Kenyan commodities trading firm, these farmers have become commercial sorghum farmers.

Shalem Investments provides the finances to purchase the sorghum from producers for East African Breweries. Shalem purchases from more than 4,000 smallholder producers, offering remunerative prices to encourage quality and consistency. More than 8,000 tons of sorghum were purchased in the past three years.

2SCALE is establishing agro-input networks, improving aggregation efficiency and accelerating payments to these farmers. Farmer Field Schools (FFS), in which farmer groups jointly cultivate a demonstration plot using best agricultural practices, are also currently being established.

Two other partners, Capitol Sacco and Equity Bank, will provide access to agricultural credit. The loan program aims to reach more than 1,200 farmers this year.

Mozambique

More Cassava from Mozambique

2SCALE partnerships continue to create market opportunities for smallholder cassava farmers in Mozambique. Experts from the cassava processor DADTCO, beer manufacturer SABMiller and 2SCALE visited Inhambane and Nampula provinces in July, meeting with farmers, traders, suppliers of planting material and other market players to expand production, which has been concentrated in Nampula Province in northern Mozambique to Inhambane Province in the south.

Marketed production of cassava deliveries has increased substantially in the past year. With the availability of higher-yielding varieties (already developed, tested and available) and more extension support, volumes could increase even more.



DADTCO's processing facility in Inhambane currently operates at 90 percent of capacity, and will reach full capacity later this year. SABMiller is considering large-scale purchases of cassava cake for starch production, with the possibility of establishing a processing factory if supply is sufficient.

Two new partners, the government of Mozambique's pro-poor value chain development project in the Maputo and Limpopo corridors (ProSul) and the SNV-Malhalhe consortium, have joined 2SCALE discussions, and field visits in July and August helped identify each partner's roles, as well as synergies with other IFDC projects in Mozambique. Four improved sorghum varieties are available that yield 16 tons per hectare, which is significantly higher than the 3-4 tons from local varieties. The new varieties were developed by the Agricultural Research Institute of Mozambique (IIAM), a partner of 2SCALE. Plans are being finalized for multiplication and dissemination of these varieties in six districts in the Gaza and Inhambane provinces, using a combination of direct multiplication (at IIAM research stations) and on outgrowers' fields. A new cassava project launched in September 2014, funded by AGRA and implemented by IFDC, will add to the transformation of the cassava sub-sector. The AGRA project will work closely with 2SCALE on technology dissemination and the development of private sector linkages.



Uganda

Multiple Crops, Multiple Benefits

2SCALE works with the Gulu Agricultural Development Company (GADC) on sesame, sunflower, cotton and chilies, aiming to reach 25,000 farmers by the end of 2015. A formal agreement was signed in July, but joint field activities began even earlier. Halfway through the first season, results have far exceeded expectations (see below).

2SCALE's role is to assist in training and transfer of technology to farmer groups, and to provide technical assistance to GADC on institutional and marketing issues. GADC's next target is organic certification. The company already sells limited quantities of organic produce to European markets. Farmer registration for organic certification and contracting began in August and will be completed in October. The certification process will take several months, but once complete, it will significantly increase profits for both GADC and its farmers. 🌱

2SCALE Successes in Uganda

- Fifty producer groups have been formed. Every group is now officially registered, has elected a management team and has opened a bank account.
- Fifty field officers have been recruited and trained and have trained 678 "lead" farmers on planting techniques, pest management and other areas. In turn, the lead farmers will train over 5,000 farmers in the next few months.
- Lead farmers have established 222 demonstration plots of cotton, chili and sunflower. Field days at these plots have attracted over 5,000 visitors.

IFDC Celebrates Forty Years of Feeding a Hungry World

On September 29, 2014, IFDC held a 40th Anniversary Commemoration in Washington, D.C. The event, titled "Nutrients' Role in Food Security," featured guest speakers and panelists such as Rajiv Shah, USAID administrator, and Rudolf Bekink, Dutch ambassador to the United States. IFDC also released the book *Feeding a Hungry World: IFDC's First Forty Years*, written by Thomas Hager (*Alchemy of Air*), who spoke on his experience writing the book. To view more photos of the event, visit <http://bit.ly/IFDCis40>.



40th Anniversary Commemoration

(1) Dr. Amit Roy, president and CEO of IFDC, discusses the need for bringing innovation to smallholder farmers.

(2) Participants of the event socialize before the first dialogue.

(3) Dr. Agnes Kalibata, IFDC board member and interim president of AGRA, discusses fertilizer's role in food security with Taylor Pursell, CEO of NFT Industries, and Pradeep Paurana, managing director of ARM Cement, Ltd.

(4) Thomas Hager shares his experience writing *Feeding a Hungry World: IFDC's First Forty Years*.

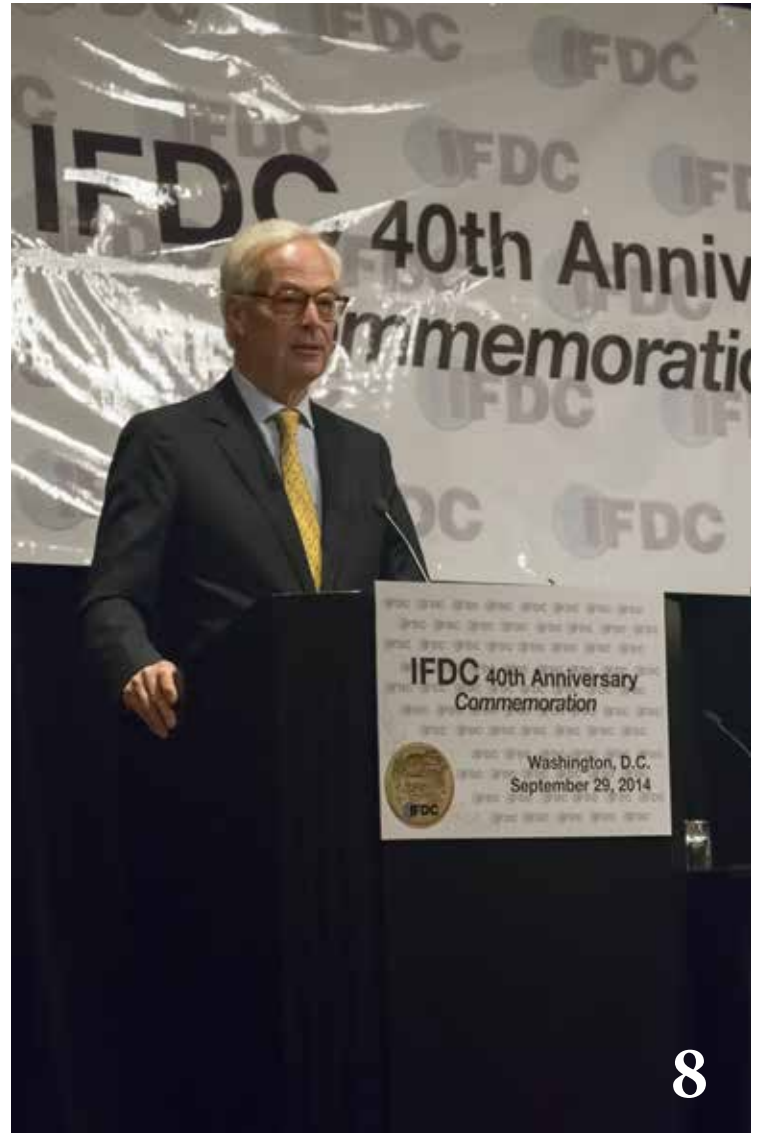
(5) Dr. Robert Bertram, chief scientist, USAID Bureau for Food Security, discusses smallholders' role in reducing hunger and malnutrition. Other panelists included (from left to right) Rudy Rabbinge, VFRC board chairman; Satish Chander, VFRC board member and managing director of the Fertiliser Association of India; H.E. Rhoda Peace Tumusiime, IFDC board member and African Union Commissioner for Rural Economy and Agriculture; and Fusuo Zhang, professor of Plant Nutrition and Dean of the College of Resources and Environmental Sciences at China Agricultural University, Beijing.

(6) William "Tip" O'Neill, president of International Raw Materials, Ltd., presents a question during the dialogues.

(7) Dr. Rajiv Shah, administrator of USAID, speaks on nutrient use and climate change.

(8) Rudolf Bekink, the Dutch Ambassador to the United States, gives the luncheon address during the event.

(9) Participants engage in a lively dialogue during the event.





To feed 9 billion people by the year 2050, IFDC believes that innovation will write the next chapter in food security. As IFDC president and CEO Dr. Amit Roy stated recently, “Future innovations in farming will need to be accessible to farmers and geared toward increasing yields and incomes while simultaneously reducing agriculture’s contribution to climate change.” But he added, “Innovation alone, however, is not the solution. We need to get it to those who would benefit from it.” Just as innovation fuels IFDC’s mission, technology transfer and training are key to making that mission sustainable.

Every year, seven to nine international training programs are organized to share with the participants the new technologies and skills needed to sustainably increase agricultural productivity. One of the international training programs held this year was a two-week training and study tour organized in the United States to help 28 participants coming from 17 countries learn technological innovations in agricultural production, water and nutrient management.

The program gave the participants an opportunity to visit and interact with 29 USA-based organizations, including small private farms, agricultural research centers, extension services, private fertilizer companies, education centers and non-governmental and governmental organizations. The organizations demonstrated technological advances in

IFDC Training Encourages Agricultural Innovation

five key agricultural commodities (corn, cotton, rice, vegetable and soybean).

Study tour participants enthusiastically learned more about innovations such as biotechnology, sensor-based

irrigation, smartphone applications, precision agriculture and remote sensing. All of these innovations can be applicable to both developing and developed countries. Technology transfer and training beget enthusiasm. Many participants pledged to take the knowledge they gained back to their own countries. This enthusiasm drives continued collaboration and makes IFDC’s mission to feed the world sustainable. 🌍



An Interview with Dr. Jimmy G. Cheek

During the 2014 IFDC board of directors meeting, the board elected Dr. Jimmy G. Cheek, Chancellor of the University of Tennessee, Knoxville, as its new chairperson. We sat down with him to talk about IFDC's future, agricultural innovation and helping smallholder farmers achieve prosperity.

As we are looking back and reaching forward during this anniversary year, what do you see as IFDC's greatest asset in the past 40 years – and how will that shape the organization's future?

I think IFDC has a strong record of having expertise in building the food, agriculture and natural resource systems in developing countries. I think that is something of which we can be very proud. While we have had 40 years of great work, we still have a lot to do to help farmers grow more food. I think one of our big success stories in the past that can be applied to other crops is UDP in rice production. The development of the VFRC follows this success and is an organization that will shape the future of fertilizer.

We talk a lot about innovation, but what is the best way to make innovative technology (e.g., climate-smart fertilizer, farming systems, etc.) practical for and available to smallholder farmers?

That is our challenge. As an example, in developed countries, there are very high production and nutrient-content standards. That gets much more difficult in developing countries. We are researching some processes that would help smallholders be able to better determine nutrient content in fertilizers. Using this we can ensure in Sub-Saharan Africa, for example, that farmers know the fertilizers they buy are indeed what they are supposed to be. Addressing specific needs such as this is key. We also need to make advances in fertilizer technology for developing countries.

What role do you see IFDC playing in helping smallholders mitigate and adapt to climate change?

The entire world is facing this challenge. Thinking about embracing and developing climate-resilient farming approaches and technologies is one of the areas that needs more work. It all goes back to appropriate use of fertilizers and implementing strategies such as improved seed varieties, agroforestry, intercropping, better livestock management, better manure management, etc. It is a challenge for us but one we are dedicated to alleviating.



Is there a memorable experience in your life that has influenced your approach to agricultural development?

My interest developed at an early age. My uncle and grandfather were in the farming and ranching business in Texas, and I developed an affinity for agriculture and natural resources through them. So in high school, I enrolled in agricultural education and Future Farmers of America, where I developed a keen interest in agriculture as a profession. I was taught at an early age that feeding people in a sustainable way matters – since then I have devoted most of my life to agricultural education and research.

How has your experience in education changed your outlook on IFDC's mission?

Building institutions that respond better to the peoples' needs is one thing that I have been involved with for my entire career. In regards to IFDC's mission of helping farmers improve their circumstances, this is key. Building institutions that address peoples' needs will support ongoing positive change. We cannot do everything on our own, so our collaboration with these institutions determines the impact and sustainability of the work we are doing. 🌱

The world's 500 million small farms are on the frontlines of climate change and other global challenges. These farmers are providing food for a population that is expected to grow to 9.6 billion by 2050. IFDC and others in the development community are asking themselves, "How can we help farmers grow more food under increasingly challenging conditions?" We must remember these farmers have been farming longer than we have been developing new technology. Only by listening to their circumstances will we bring about truly sustainable solutions that address what farmers actually need.

Instead we must ask the question: "What can we learn from the smallholder farmer?"

Farmers are entrepreneurs. They will adopt new technology only if it makes economic sense. When IFDC first introduced UDP technology to Bangladesh, it was not widely adopted. Why? Farmers could access cheap fertilizers highly subsidized by the government. The economic benefit did not outweigh the cost. Farmers adopted the technology when they were able to access it at more affordable prices. UDP requires one-third less fertilizer and increases yields by approximately 20 percent. These factors increase farm income by about U.S. \$130 per hectare. Now, UDP is profitable for farmers; thus adoption rates have been high.

Farmers are more successful when they collaborate with one another. Increasingly, farmers are organizing as communities that grow and sell their food together. These partnerships allow them to sell their crops for a higher price, increasing profitability. In Africa, IFDC projects build on this concept by connecting trained stakeholders from all parts of the agricultural value chain – networks that include banks, agro-dealers, storage facilities, processors and other

Featured Blog: Listen to the Farmer by Dr. Amit Roy

partners. Farmer groups link to private sector buyers in global food markets. Bringing the right partners together for collective, coordinated action boosts long-term food security.

Farmers need more than innovation. Introducing smallholder farmers to pioneering technologies will increase yields while mitigating climate change. But these technologies will not help smallholder farmers if they cannot afford or access them. Additionally, farmers' incomes won't increase unless they can get their products to a profitable market.

Achieving food security requires global, holistic solutions that no single organization can address. In addition to building relationships with farmers, we must build networks: with agro-dealers, scientists, companies, donors – those who can translate research into practice. Organizations are creating technologies that will complement better fertilizers, such as drought-resistant seeds, improved irrigation systems and better infrastructure. For example, IFDC's VFRC engages professionals from various fields, such as nutrition, chemistry, biology and finance, to make innovative fertilizer ideas a reality.

Creating new technology is not a one-way street. By learning from one another, farmers, researchers and donors can create solutions that are complementary, that work better and are sustainable. By listening to farmers, these solutions are made relevant. On World Food Day, let us resolve to not work alone.

Read more blogs at: http://www.ifdc.org/Media_Center/IFDC-Perspectives/

Featured Tweets



Henny Garner
@HennyGarner

By renting land for rice and productivity package via @IFDCNews, thousands of Ugandan women have now income.

Karlsruhe, Uganda



IFDC @IFDCNews · Nov 8
Join us the next few weeks to piece together the #Innovation puzzle.
New blog series: [bit.ly/1U8La1T](#)



CATALIST2 @CATALIST_2 · Nov 11
"PIC bags are very useful, they can store our harvest for many months!" -
Cleudonné Hibonimena #Innovation @CATALIST_2



Visit our
social media outlets:



facebook.com/IFDCNews



bit.ly/IFDCGPlus



instagram.com/ifdcgraphics



pinterest.com/IFDCGraphics



ifdcperspectives.tumblr.com



twitter.com/IFDCNews

Working on the CATALIST-2 project for IFDC in Rwanda, Burundi and the Democratic Republic of the Congo (DRC), we get to introduce exciting innovative technologies that have the potential to radically increase yields and incomes for farmers, while often at the same time improving working conditions. The direct paddy seeder, for example, allows farmers to sow rice seeds directly into the soil, rather than having to transplant. This innovation results in up to 20 percent higher yields, while using substantially fewer seeds and less labor. Another innovation promoted by CATALIST-2 is the FDP briquetting machine. These briquettes of fertilizer are inserted into the soil, which is better for the environment than broadcasting and results in up to 30 percent higher yields in rice.

However, no matter how game-changing and effective these new technologies are, simply providing a success story, in the hope farmers will jump to the opportunity to adopt them, can lead to disappointment. Social context, power relations, trust, risk management and gender roles, just to name a few, can greatly influence adoption rates. So how exactly can a project's communications team assist? One answer is Mobile Cinema.

At the beginning of the CATALIST-2 project, a "Development Communication" strategy was developed. This

Mobile Cinema Promotes Agriculture Innovations in East Africa



Rieke Weel, Regionable Development Communications Officer

strategy ensures strategic implementation of media and communications tools, for the purpose of positive (social) change and in support of achieving the project objective: "Viable Clusters in Agribusiness for Improved Farmers' Income and Food Security in the Great Lakes Region." As a communications team, we look for smart tools that, used together, can reach project beneficiaries with information, create dialogue, increase ownership and respect local realities.

Mobile Cinema is one of the tools identified in this strategy to sensitize farmers on good agricultural

practices and promote innovative tools. Mobile Cinema is an excellent tool for rural and remote areas, where people still have very little access to television and even electricity. With a screen that can be folded, a projector and a generator, a cinema can be built anywhere in no time! The Mobile Cinema allows us to bring audiovisual productions to large groups of people. By showing innovations through video, people see new technologies with their own eyes, implemented by people in their own region. Why trust the story of a stranger when you can hear from your neighbor how he was

able to increase his yield by using a direct paddy seeder or by working with FDP briquettes? Using simple videos made in the region makes mobile cinema movies inexpensive – yet effective – productions.

To ensure maximum participation, especially of female farmers, viewings are promoted on radio and often held during market days, a day on which farmers can leave their field and have some additional time after selling their crops. Viewings are followed by dialogue sessions, allowing farmers to share experiences, ask questions and raise concerns. These sessions are often broadcasted on community radio, substantially expanding the reach of our messages and dialogue.

The feedback coming from these sessions has allowed the project team to improve interventions and provide additional information upon request, increasing the adoption of these new technologies, the impact of the project and of course, in the end, the yields and livelihoods of agribusiness actors in the Great Lakes Region. So far CATALIST-2 has shown movies of new technologies to over 2,000 farmers in the region, received a large number of requests for acquisitions of the new technologies and received requests for many more viewings for the upcoming year. 🌱

PARTINGSHOT



The CATALIST-Uganda project helps commercialize smallholder farming through improving farm productivity and market access. Innovations such as this rice thresher save farmers both time and money.

IFDC Board of Directors Updates



Margaret Catley-Carlson

Margaret Catley-Carlson, patron of the Global Water Partnership and IFDC board member since 2006, moderated a panel discussion on “Water for Agriculture” during the World Food Prize Borlaug Dialogue International Symposium. VFRC board members **Marco Ferroni**, executive director of the Syngenta Foundation for Sustainable Agriculture, and **Ruth Oniang’o**, chair of the Sasakawa Africa Association, also participated in the Borlaug Dialogue.



Jimmy G. Cheek

Jimmy G. Cheek has been named chairman of the IFDC Board of Directors. Cheek, who will replace Peter McPherson, has been on IFDC’s board since 2012 and previously chaired the VFRC Board of Advisors.



Agnes M. Kalibata

Agnes Kalibata spoke at the 2014 Clinton Global Initiative annual meeting on confronting climate change. Kalibata has served on the IFDC board of directors since 2008 and currently serves as interim president of AGRA.



Mortimer Neufville

For leadership in higher education, the Institute of Caribbean Studies presented **Dr. Mortimer Neufville** with the 2014 Marcus Garvey Lifetime Achievement Award. Neufville, president of Coppin State University, has served on the board of directors since 2005.

VFRC Board of Advisors Updates



Satish Chander

Satish Chander, director general of the Fertiliser Association of India, recently published articles in the *Indian Journal of Fertilisers* and *Agriculture Today* and gave a presentation at the International Fertilizer Industry Association (IFA) Asia Pacific Crossroads 2014 conference in Singapore. His presentation considered the outlook for fertilizer demand in India.



Ruth Oniang’o

Ruth Oniang’o was featured in *Fortune’s* Top 25 list of The Most Innovative Women in Food and Drink for devoting most of her career to helping smallholder farmers in Kenya. Oniang’o has served on the VFRC board of advisors since 2010.



P.O. Box 2040
Muscle Shoals, AL 35662 USA

Phone: +1(256) 381-6600
Fax: +1(256) 381-7408
Website: www.ifdc.org
E-mail: general@ifdc.org
ISSN 0149-3434



PRINTED MATTER

Non Profit
U.S. Postage
PAID
Permit #3246
Birmingham, AL
35203