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A QUARTERLY MAGAZINE

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The Legacy of  
*Amit Roy*

# IFDC Quarterly Magazine

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## 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 au Bénin
- **AFAP:** African Fertilizer and Agribusiness Partnership
- **AGRA:** Alliance for a Green Revolution in Africa
- **AIMS:** Agricultural Input Market Strengthening
- **BAU:** Bangladesh Agricultural University
- **BRRI:** Bangladesh Rice Research Institute
- **CATALIST:** Catalyze Accelerated Agricultural Intensification for Social and Environmental Stability
- **CORIP:** Cocoa Rehabilitation and Intensification Programme
- **DPS:** direct paddy seeder
- **ECOWAS:** Economic Community of West Africa States
- **FBO:** farmer-based organization
- **FDP:** fertilizer deep placement
- **FSI:** Fertilizer Sector Improvement
- **GAP:** good agricultural practices
- **GHG:** greenhouse gas emissions
- **M&E:** monitoring and evaluation
- **MARKETS:** Maximizing Agricultural Revenue and Key Enterprises in Targeted Sites
- **NFDC:** National Fertilizer Development Center
- **PAMEFA:** Programme d'Appui a La Modernisation des Exploitants Familiales Agricoles
- **RSCs:** Rural Service Centers
- **SAA:** Sasakawa Africa Association
- **SAFE:** Sasakawa Africa Fund for Extension Education
- **UCP:** Ifangni District Producers Union
- **UDP:** urea deep placement
- **UEMOA:** West African Economic and Monetary Union
- **USAID:** United States Agency for International Development
- **VFRC:** Virtual Fertilizer Research Center
- **WAFP:** West Africa Fertilizer Program

# FEATURE



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# "IT'S ABOUT

A Final Interview with IFDC Pr



# TPEOPLE"

resident and CEO, Dr. Amit Roy

Dr. Amit Roy's 37-year career has been anything but ordinary. We sat down with him one last time to discuss some of his experiences and how they shaped his approach to development.

- **Albania was a turning point for IFDC right before you became CEO. What was it like visiting in the early years? How has IFDC's work had a lasting effect?**

*Albania had just come out of isolation. You could see in both the infrastructure and the people the remnants of that oppressive society. We stayed at Hotel Tirana International in the center of the city, where I had a room on the top floor. There was no heat, no hot water, nothing. I remember going to sleep in a toboggan, gloves and socks. In the hotel restaurant, they had a menu of all kinds of food. We tried ordering many things, but in the end, all they had was soup and bread.*



*The people, like in every other country, aspired to improve their current circumstances - excited and hopeful to pursue their interests.*

*When we held the initial fertilizer auction, many who showed up were poor. **But they were willing to take a risk.** These people eventually formed the Albanian Fertilizer and Agribusiness Dealers Association, which really helped the nation's agriculture sector become successful. A few months after our project started, we brought these dealers to the United States to show them how agriculture worked here. Many only had a couple pairs of pants, a few shirts. They came back a year later, wads of money in their hands, buying the most expensive perfumes and jewelry for their wives. **They were making tons of money.** I used to go to Albania every six months, and each time things were improving. The nation's economy reflected the success of the agriculture sector. One time, I visited one of the original dealers in Albania who had become a very successful businessman. He picked me up in this huge Mercedes and took me to his house - a palace! It was remarkable to see the transformation in these peoples' lives. Even now, they're competing with the other European countries in exporting fresh fruits and vegetables! Our work definitely has a lasting effect - **to this day, they still express gratefulness to IFDC.***

**“Until you understand the people and the cultural landscape, it will be very difficult to succeed.”**

- **Afghanistan is another case where we engaged in a new line of work - fertilizer vouchers. When you visited, what were you seeing? And what did we learn from that project?**

*I was the first person from IFDC that went there, I believe. When I arrived in Kabul, it was a totally devastating site - every house had bullet holes. Despite all this, there was already a functioning private sector. To strengthen it, we created a fertilizer voucher system to ensure farmers could get what they needed. Yields increased then; we only asked that farmers who used the vouchers give one in three bags of wheat to the village council to monetize it. **This helped rebuild the shattered infrastructure.** So you had two good things going on: increased yields and repaired infrastructure.*



What we learned is that **everyone has to be on board with development**. The technical solution was there: the farmers used fertilizer; they had knowledge; they had entrepreneurship. There was a really great foundation for a successful agriculture sector in Afghanistan. Once the political situation is taken care of, Afghanistan can feed itself - not a problem. That's what we learned there: **unless you have political stability, the development process becomes very difficult.**

- **How important is it to understand the cultural landscape of a country when attempting to bring about change?**

*It's necessary to understand the culture of a country - how to communicate, the key issues - if you want to bring change. While there are common needs - food, housing, education - every country is different. Until you understand how to communicate in the context of a peoples' culture, it will be very difficult to be effective. In one place, people may be very blunt and straightforward. In others, there is an unspoken trust factor - **you have to earn their confidence**. To build trust, you must have a "champion" for your message, such as a religious leader or other influential figure in the community. In the early days, we often just took technology directly to the field. Now, we want to ensure sustainability, and for that, we must have someone whom the people believe in to spread our message. These champions are the link to operating within each culture. **Until you understand the people and the cultural landscape, it will be very difficult to succeed.***

- **The development sector is very different from the way it was in the '70s. What would you say to young people just getting involved? What do you know now that you wish you knew when you started?**

*While the young people coming in now are bringing many new tools, it's important to remember the people you're trying to help also have knowledge. I've often said, "The solution is local." People know what to do, what they need - but they often don't have the tools to accomplish it. It's critical to understand how to package this information and put it out there. We must be careful not to impose solutions. Let them be adopted organically. **What I wish I had paid attention to is just that - the difference between imposing a solution and letting the people bring their own knowledge to the table.** We can't have an attitude of "I know best; here's what you need to do." Now, it is important to get the people you're trying to help engaged from the beginning.*

*A good example of this is urea deep placement. We took the science, but the evolution that has happened to make it much more efficient - from the briquetting machine to the applicator - these changes came from the people themselves. We can bring in a machine and say, "This thing is good for you." But they are concerned with other issues. For example, one farmer may have no labor except his son or wife. So the weight of the applicator comes into play. These problems need to be considered and solved, which is much easier when involving beneficiaries from the start. The farmers know what they need and what it takes to be economically successful. This is their focus.*

*I wish I had paid more attention to this when I started: that development and technology transfer require understanding the people you're helping and engaging them from the beginning.*

- **What is imperative for making an impact/changing lives in our line of work?**

*This is a very important question. You have to believe in the mission and have a passion for making a change. If you don't have that, this work is a drag. You're not going to be engaged. That's what gets me out of bed every morning. I think to myself, "I see this problem, and it's my job to find a solution." You have to believe in what you're doing, that you can make a difference. This is what energizes me every day. It all comes to fruition when you go to a country, and the people you've helped tell you personally, "This has changed my life." That's when I know it's worth it.*



*I asked one woman farmer in Vietnam, "What has UDP done for you?" She looked around the room, pointed to her belongings (TV, VCR, furniture, etc.) and said, "This is the difference. I've been able to afford this. I can send my children to school. I can have health insurance." It all comes back to people. In my position, there are so many things that could burn a person out: personnel issues, answering donors, etc. But when you look at it in the context of people, that's the fuel.*

*Personally, I've been lucky to have an understanding family. Without my wife and children being on board, I*

*couldn't have done it. I've seen in them not only an understanding but a shared value of giving, whether monetarily or of their time. We have an obligation to help those born in poverty. **This is much larger than simply a passion for IFDC or fertilizer. This is a passion for helping the less fortunate.***

- **How do we engage people outside the development community? What is it about our work that can touch people's emotions?**

*Really, sharing our vision and passion is imperative. Recently I was asked, "How do you answer people who point out the negative aspects of fertilizer?" I say, it depends on whom you ask. In developed countries, where we spend 10 percent or less of our income on food, we don't think about the value of fertilizer. You go to New York, London or any other big city in a developed economy, they'll point out the negative aspects*



of fertilizer such as pollution. **But you go to a developing country where people are spending up to 60 percent of their income on food – they know the value of fertilizer.** They say, “Without it, we could not eat.” So the engagement has to come from the developing countries, showing the world how these technologies are helping them. That’s how we ignite the passion.

This isn’t about the “flies in the eyes” marketing. If we want to engage those outside our community, **we don’t show the past – we show the future.** For example, in the recent documentaries on our work on UDP and in Africa, we see people whose lives have changed. They say, “We’re selling now! I’ve built a new house. My children are in school. I have hope for the future.” These are very powerful examples. These people are our spokespersons.

- **You’ve met many different people during your travels; tell me about a conversation or someone you met that had an impact on the way you think about development.**

I’ve met so many people over the years, but the person who really had the biggest influence on my thinking in regards to development was **the first chairman of the IFDC Board of Directors, John Hannah.** In 1987, I developed IFDC’s 10-year plan, presenting it at the executive meeting of the board. When I finished the presentation, Hannah came up to me and said, “Amit, always remember: **it’s all about the people.** Whatever you do, keep this in mind.” That was a very important conversation. It has resonated with me ever since.

Of course, my parents influenced my way of thinking very early in my life. They always taught that whatever we do, we must use our skills to make a difference in the lives of the less fortunate. We must treat everyone with respect, regardless of their social or economic status. They instilled this in us at a very young age. **It wasn’t just something they said. It was their way of life.** Often I would see them refrain from taking a trip or give up some other luxury to help someone else. However much or little, they always found a way. **When you get to the bottom of everything, it’s about people.**

**“This is much larger than simply a passion for IFDC or fertilizer. This is a passion for helping the less fortunate.”**



# ead briefs



## M&E Specialist Reviews AAPI's Progress

Recently, USAID's Bureau of Food Security sent a Monitoring and Evaluation (M&E) Specialist to Bangladesh to oversee how the Accelerating Agriculture Productivity Improvement (AAPI) project in Bangladesh is collecting data through its farmer and dealer surveys. Discussions with AAPI field officials included visits to farmers' vegetable fields and fertilizer briquette production shops to better understand how and why farmers are using fertilizer deep placement (FDP) technology.

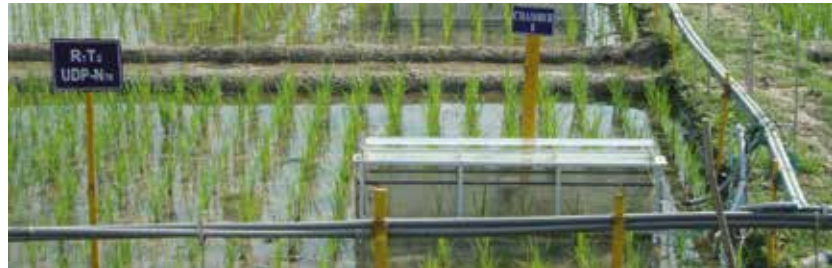


## Myanmar Begins Manufacturing FDP Machines

Myanmar has manufactured its own FDP briquetting machines. Two "Made in Myanmar" briquetting machines have been produced by Sanshar Engineering with help from the Fertilizer Sector Improvement (FSI+) project. This is the first commercial order, and project staff are actively seeking small businesses to invest in the commercial production of urea briquettes. A second engineering firm is also developing a briquetting machine prototype and will begin manufacturing soon.

## IFDC Hands Over GHG Emissions Lab

By September, IFDC will have officially handed over the primary operations of two greenhouse gas emissions (GHG) measurement labs to the Bangladesh Rice Research Institute (BRRI) and Bangladesh Agricultural University (BAU). However, IFDC will continue research for the next five years with laboratory maintenance and technical support. Negotiations are currently underway with partner institutes, and both parties are working out the details of the handover process.



## UDP Applicators Improved to Cut Labor Costs

Throughout 2011-2014, staff improved the design of the injector-type and a push-type single row urea deep placement (UDP) applicators. Researchers found these new models performed well, reduced labor requirements and were affordable to smallholder farmers. The applicators are being gradually adopted by farmers. An AAPI report discussing these findings will soon be published. Despite this, the team understands the greatest need is for a mechanized applicator. Efforts in this regard are underway. In Bangladesh, the AAPI team is working to produce a battery-powered version of the single row push-type applicator. While in India, White Swan Consulting Group - an earlier grantee of the Virtual Fertilizer Research Center (VFRC) - supported by TATA Chemicals, is preparing to launch a mechanized single-row applicator.

## Fertilizer Emission Trials Conducted in Bangladesh

Researchers from IFDC conducted field experiments at two locations in Bangladesh, the results of which were published on June 1, 2015, in *Geoderma*, a global soil science journal. The report confirmed the effectiveness of UDP technology in the significant reduction of NO and N<sub>2</sub>O emissions when compared to traditional urea broadcast methods.

FSI+ Farmers Secure Higher Gross Margin  
FSI+ farmers in Myanmar achieved a 60 percent gross margin increase from UDP use in the dry season. Demonstration site crop cuts exhibited higher yields - at varying levels - in all cases when UDP was used with transplanted rice, and in most cases when UDP was used with broadcasted rice.



# Training Yields Empowerment: Hazera's Success



Hazera Begum and her husband Anwar married young at the ages of 13 and 18. They both grew up in poverty. As they started a life together, they planned to no longer live that way. For their main source of income, the couple started a career in crop production. Initially their farm began as a means to support their family, saving a little each year to buy more land. Eventually they were able to purchase enough land to provide for themselves and earn extra income.

Believing in Hazera, Anwar encouraged her to join a local women's group. She began by attending her village's local gathering. Her journey towards success began when she became a community leader, frequently meeting with the women's group. Her influence and skills helped her be elected as a member of the local union council. She was elected twice, consecutively, and served a total of 10 years.

Hazera credits her success to the AAPI project. Project trainings helped her gain skills in UDP technology, which she used to boost crop production. She also purchased a briquetting machine through IFDC, jumpstarting her business. Her briquette shop has seen a steady rise in income as farmers from around the village increasingly purchase briquettes from her. "With the support of IFDC, I am now a rural entrepreneur and a fertilizer briquette producer," Hazera stated.

Hazera is now more confident in herself as a leader in her community. Many respect her as a mentor, providing help with the new technology and advice on rural entrepreneurship. Through UDP use and IFDC training, Hazera has become a prominent figure in her village. When she speaks, people listen. "To me, empowerment is my ability to work for others, controlling my own assets and people listening to me. When I invite 100 people to a meeting, all of them attend, and I consider that empowering," she stated.

Now, with a successful business and training in UDP, she no longer worries about tomorrow. She has a happy family. Because of her empowerment, her husband, son, daughter-in-law and grandchild can now look forward to a brighter future.



# FSI+ Launches

An Interview with COP Grahame Hunter

Using the success of the Fertilizer Sector Improvement (FSI) project in Myanmar as momentum, IFDC created FSI+ to increase the project's longevity by an additional two years (totaling five years) and strengthen its impact in the area. We reached out to Grahame Hunter, chief of party (COP), to answer some questions about the future of FSI+.

## **Can you briefly describe the purpose of FSI+?**

*[The goal of] FSI+ is to increase incomes and enhance food security for smallholder farmers in target districts in Myanmar.*

*FSI+ promotes the judicious application of balanced fertilizer with UDP as well as use of good quality seed and better water management practices. The project will encourage the efficiencies of demand and supply of agricultural inputs with an emphasis on the manufacture and sales of urea briquettes. In addition, it strengthens the capacity of fertilizer retailers to improve their business management and provide an advisory service to farmers.*

## **How many (estimated) farmers will we be reaching with this new project?**

*The project operates in three of the main rice-growing regions of Myanmar: Ayeyarwady, Bago and Yangon. An estimated 52,000 farmers will benefit from FSI+ through higher crop yields and gross margins. Thirty-five small businesses will share the cost of the machinery required to produce fertilizer briquettes and establish supply points to afford farmers access to UDP products.*

## **Can you talk about the impact of FSI?**

*In its first rice cropping season, which was the monsoon season 2014, the project laid out 11 UDP adaptation trials across the targeted regions (Ayeyarwady, Bago and Yangon). Their*

results concluded UDP gives in an 11.57 percent increase in yield when compared with farmer practice.

In its second cropping season, which was the irrigated dry season of 2014/15, the project continued its adaptation trials and started its extension program. Again, UDP gave an 11.16 percent increase in yield over farmer practice.

Through farmer training, field days and motivational field trips, the project counted 648 farmers using UDP on 56.66 hectares (ha). This shows a cautious start to the adoption of the technology, but those who tried were rewarded with a 19.24 percent increase in yield over those who continued to apply traditional practice – and their gross margins increased by 25 percent. These early adopters and many onlookers are now convinced of the merits of UDP and plan to adopt it in the coming season.

### **How has FSI contributed to the founding of FSI+?**

The project did not get on the ground until May 2014. Within two weeks, with a rapid assessment by an IFDC team, the project sites had been identified and protocols for adaptation trials written. This, plus the quick move to implementation of the trials in the field in the season that had already started, getting the briquette machines imported and making briquettes, gave the project a high degree of visibility in an environment that typically frustrates swift implementation. USAID [the donor] was impressed and called for a proposal to expand and extend FSI. This then became FSI+.

### **How many areas is the project expected to reach?**

FSI+ will include all the elements of FSI with the following exceptions and additions:

- It will focus on the rice-gram cropping system, although there are farmers who already apply UDP to vegetables on their own initiative.
- It will build the ability among fertilizer retailers to provide farm advisory services to smallholder farmer clients.
- It will build a capacity for contract service enterprises to supply services, particularly where machinery, labor or skill is required (e.g., land preparation, plant protection, UDP, harvesting).
- It will implement a pilot project in southern Shan State targeting maize production and in partnership with Syngenta.

### **What steps are being taken in the implementation of FSI+?**

FSI+ implementation has started.

- Two new staff positions advertised – one for business management who will work with the fertilizer retailers and briquette manufacturers and one farming systems specialist who will work with research and extension within the rice-gram cropping system.
- The wet season trials and extension program have started. By July 10:
  - o Thirty-seven batches of farmer training completed for 1,087 farmers (323 women) against a target of 50 batches for 1,500 farmers (50 percent women).
  - o Nineteen demonstration plots established against a target of 30.
  - o Two trials established against a target of 12.
  - o Sixteen metric tons (mt) of urea briquettes manufactured and sold.
  - o Two new briquette machines ordered.
  - o Twenty-nine push-type and 10 injector-type applicators distributed.

We would like to thank Grahame Hunter for taking the time to answer these questions.

# esafd briefs



## Supermoms on Tricycles

In July, Ethiopian firm GUTS Agro launched Supermom's, an affordable, highly nutritious corn-soya blend for young children and expectant and nursing mothers. The product is made from maize and soybeans produced by farmer groups working with the Toward Sustainable Clusters in Agribusiness through Learning in Entrepreneurship (2SCALE) project. Supermom's is fortified with more than 20 vitamins and minerals. 2SCALE played a major role in the product's design, branding, packaging and distribution model. The product is sold door-to-door by saleswomen on tricycles. The women offer nutrition education to consumers.

## CATALIST-2 Exceeds Target Households in Rwanda

The Catalyze Accelerated Agricultural Intensification for Social and Environmental Stability (CATALIST-2) project focuses on agricultural value chains using a "mega-cluster" approach. More than 180,000 households in Rwanda are members of these clusters, surpassing the project's goal (29,000) by sixfold. CATALIST-2 has reached 72,000 households in Burundi and 57,000 farmers in the Democratic Republic of Congo. The project is funded by the Netherlands Embassy in Rwanda and the Swiss Agency for Development and Cooperation.

## Sorghum Soars in Kenya

Sorghum production in Kenya is set to expand rapidly, following a recent government decision to roll back taxes on sorghum beer. In June, 2SCALE hosted a meeting of industry stakeholders to create business linkages and introduce enterprise-management tools to increase the efficiency of the sorghum value chain. The meeting, held in Nairobi, brought together East African Malting (a major sorghum buyer), aggregators and financial institutions. It provided a platform to discuss market requirements, contracting mechanisms, delivery schedules, financing and other issues.



## IFDC Africa Committee Meets in Uganda

The Africa Committee meeting of the IFDC Board of Directors was held in Uganda during May 25-27, 2015. Participants included H.E. Rhoda Peace Tumusiime, African Union Commissioner for Rural Economy and Agriculture, and H.E. Tress Bucyanayandi, Uganda's Minister of Agriculture, Animal Industries and Fisheries. Minister Bucyanayandi acknowledged IFDC's contributions to agricultural development in Uganda and noted the opportunities to expand collaboration further. The Committee visited field sites to view project activities and interact with farmers and implementing partners.



## Theories of Change

2SCALE launched a new action research program in collaboration with the Partnerships Resource Centre (PrC, a joint project of the Rotterdam School of Management and Wageningen University in the Netherlands). PrC-2SCALE teams are applying the idea of a "Theory of Change" to 25 agribusiness partnerships. This involves identifying and monitoring the change processes generated by partnerships and, where needed, modifying the terms of inclusion of smallholder farmers, small businesses or low-income consumers. The goal is to create effective partnerships between farmer groups and private firms leading to inclusive development.



# CATALIST-Uganda

## Improves Rice Production and Incomes

Rice farmers in Eastern Uganda are expanding production and profits thanks to technologies and market linkages through the Netherlands-funded CATALIST-Uganda project. The four-year project has been raising smallholder incomes and enhancing food security by improving productivity and market development since 2012. Using the accelerated agribusiness cluster development model, the project develops integrated cropping systems for several value chains, including rice.

Rice was not widely grown in CATALIST-Uganda's target districts before the project was implemented. Traditional planting techniques hampered farmers' success. However, project interventions, such as introducing new high-yielding varieties and training on proper techniques, resulted in doubled or tripled yields. Now, more than 6,000 farmers - 45 percent being women - grow rice for the market in Eastern Uganda.

Project partners include several agro-dealers and small- and medium-scale rice processors that provide a range of agricultural inputs and a guaranteed market for rice. Extension services and a drying yard are provided free of charge by the company. Storage facilities are offered at affordable rates, permitting farmers to delay sales until prices improve. Farmers are linked to a private sector agro-input supplier, which, with project support, provides free extension services. These linkages and growing sales encouraged the agro-input company to quadruple its staff to 20 full-time extension officers.

Farmer training has been provided on nursery establishment, good agricultural practices (GAP), water management, fertilizer and herbicide application and post-harvest management. Field trials began in 2013 with 50 farmer groups and now involve over 500 groups, each with 25-50 farmers. CATALIST training has enabled 12 farmer groups in the Tororo district to improve yields and profits, form savings associations and access loans.

Members of the community-based organization SWODEPRO have increased yields four- to fivefold. Rose Akello, SWODEPRO chairwoman, praised her organization's newfound productivity: "Now we sell as a group and get much better prices. We know how many kilograms we have and how much money we can expect to make. And we spend less on transport because IFDC has linked us to a buyer nearby."

CATALIST-Uganda will conclude activities in 2016. By that time, an estimated 110,000 smallholders will have doubled yields, achieved a 50 percent increase in incomes and produced annual marketable surpluses of 200,000 mt. These surpluses will contribute to increased rural incomes and trade in Uganda and higher regional food security.



# Food for Thought

Interview with an Ethiopian Entrepreneur

## **What is Supermom's and how is it made?**

*It's a highly nutritious blend of maize and soybeans, developed for low-income consumers. It provides the extra energy and protein needed by young children and expectant and lactating mothers. We source grain from small-scale farmers and produce and package Supermom's at our factory in Hawassa. It reaches consumers through a network of women entrepreneurs who use "tricycles" to deliver products to the customer's doorstep. We call this distribution model Likie, meaning "just the right size for me."*

## **The Likie distribution model - where did you get the idea?**

*We asked IFDC's 2SCALE project for help with last-mile distribution. A market study commissioned by the project, and the discussions that followed, generated several options. We chose Likie for several reasons - not least because it creates employment for women. The tricycles make their task easier, and customers take the "Likie Ladies" more seriously when they have transport and uniforms. We were also looking for something we could scale out easily, so tricycles were clearly the best choice.*

## **Supermom's is available in 200-gram packets. How did you decide on this size?**

*Normally, you use the cost-plus model. You estimate production costs, add margins and so on. But this is a product for low-income families, so we asked ourselves: How much can people afford? What can we deliver for this price? I think we found the right answer. If you have 10 birr (about 50 U.S. cents), you can have a good snack. A 200-gram packet is enough for four people, and it's ready in 10 minutes.*

## **Agribusiness - is it about markets or development, or both?**

*Agribusiness is part of development. Any company has to make profits, but humanity, community, these things are important too. I live in Addis; my factory is 300 km away. It is the local community that keeps our business alive. We don't do Corporate Social Responsibility for show. We provide water to the community. We recruit locally - for example, we don't select our security guards. They are nominated by the community, we pay for their training and then employ them. This is not just altruism - tomorrow, they will become customers for my products!*

▲ *Engidu Lagesse's company, GUTS Agro, specializes in low-cost, nutritious food products. In July, the business launched Supermom's, a corn-soya blend for young children and mothers-to-be. Lagesse spoke to IFDC about his ideas and company. A sample of his interview is below. The complete version is available on our website at [bit.ly/GUTSagro](http://bit.ly/GUTSagro).*

# AIMS III Farmer Benefits from Good Agricultural Practices

For years, Pinto Mofate sold charcoal to supplement the low yields he received from his maize plots. Farming simply could not pay all the bills, much less put enough food on the table for his family of 12. Mofate realized it was time to change the way he farmed.

During the 2014-15 cropping season, Mofate offered to host a demonstration plot for the Agricultural Input Market Strengthening (AIMS) III project. He and 10 other farmers set up 300 m<sup>2</sup> plots that AIMS III used to highlight the benefits of improved seed varieties and proper land preparation, herbicide application, plant spacing and fertilizer application - all part of a strategy called good agricultural practices (GAP).

Being an innovative farmer, Mofate planted the extra seed in a larger plot just to see for himself if GAP actually worked. Without the help of project staff, he followed what he had been taught.

"I used pieces of string to make straight lines in the field, measured the row distance in the plot set up by the staff and used the exact same measurements," he said. Mofate tended the fields throughout the season, hoping each day the extra work and new techniques would pay off with high yields.

When harvest time came, Mofate could not believe his eyes. Using traditional practices, his yields were often low, at about 500 kilograms (kg)/ha. But with GAP, Mofate now harvests an average of 1.5 tons/ha - six times more than before. "My first experience [using GAP] was really good," says Mofate. "I harvested 250 kilograms of maize from my own experimental GAP plot. When you come back next season, you will see my entire field planted in lines. No more traditional practices."

**"My first experience [using GAP] was really good," says Mofate. "I harvested 250 kilograms of maize from my own experimental GAP plot."**

- Pinto Mofate, USAID AIMS III Farmer



Stories like Mofate's are common in the AIMS III project area. Improved skills and technologies are empowering farmers in Mozambique. These men and women will be the driving force for increased agricultural gross domestic product (GDP) and food security in the country. Funded by the United States Agency for International Development (USAID), AIMS III concluded in July 2015.

# nwafd briefs



## ACMA Facilitates Trade Between Benin and Nigeria

Approche Communale pour le Marché Agricole au Bénin (ACMA) is promoting trade between Beninese palm kernel producers and the Nigeria-based company Comfort Oil. ACMA facilitated a pilot trade between Ifangni District Producers Union (UCP) and Comfort Oil. In June 2015, UCP reached an agreement with Comfort Oil on a pilot contract for the commercial sale of 100 tons of palm kernel. Trade is expected to expand between the two organizations.

## PAMEFA Begins Operations in Burkina Faso

The Family Farm Modernization Program (PAMEFA) seeks to increase food security and revenues of rural farming households in Burkina Faso. The program, funded by the Swiss Agency for Development and Cooperation, will improve vegetable and rice production, traditional cattle breeding, agricultural input supply and advocacy of farmers' organizations in favor of family farming. Through 2017, PAMEFA will assist input suppliers to ensure a steady supply of quality and affordable inputs will be available to agricultural producers.

## CORIP to Publish first Cocoa Agro-Input Handbook for Farmers

The Cocoa Rehabilitation and Intensification Programme (CORIP) is publishing its first agro-input handbook for cocoa farmers, agro-dealers and extension workers in Ghana. The €14 million program, funded by the Dutch Embassy in Ghana, provides support services to cocoa farmers through improvements in the cocoa production system, establishment of Rural Service Centers (RSCs) across the cocoa belt and hosting training workshops. The handbook will be part of that effort to empower and professionalize the operations of individual cocoa farmers, who have struggled with low yields and lack of technical support.



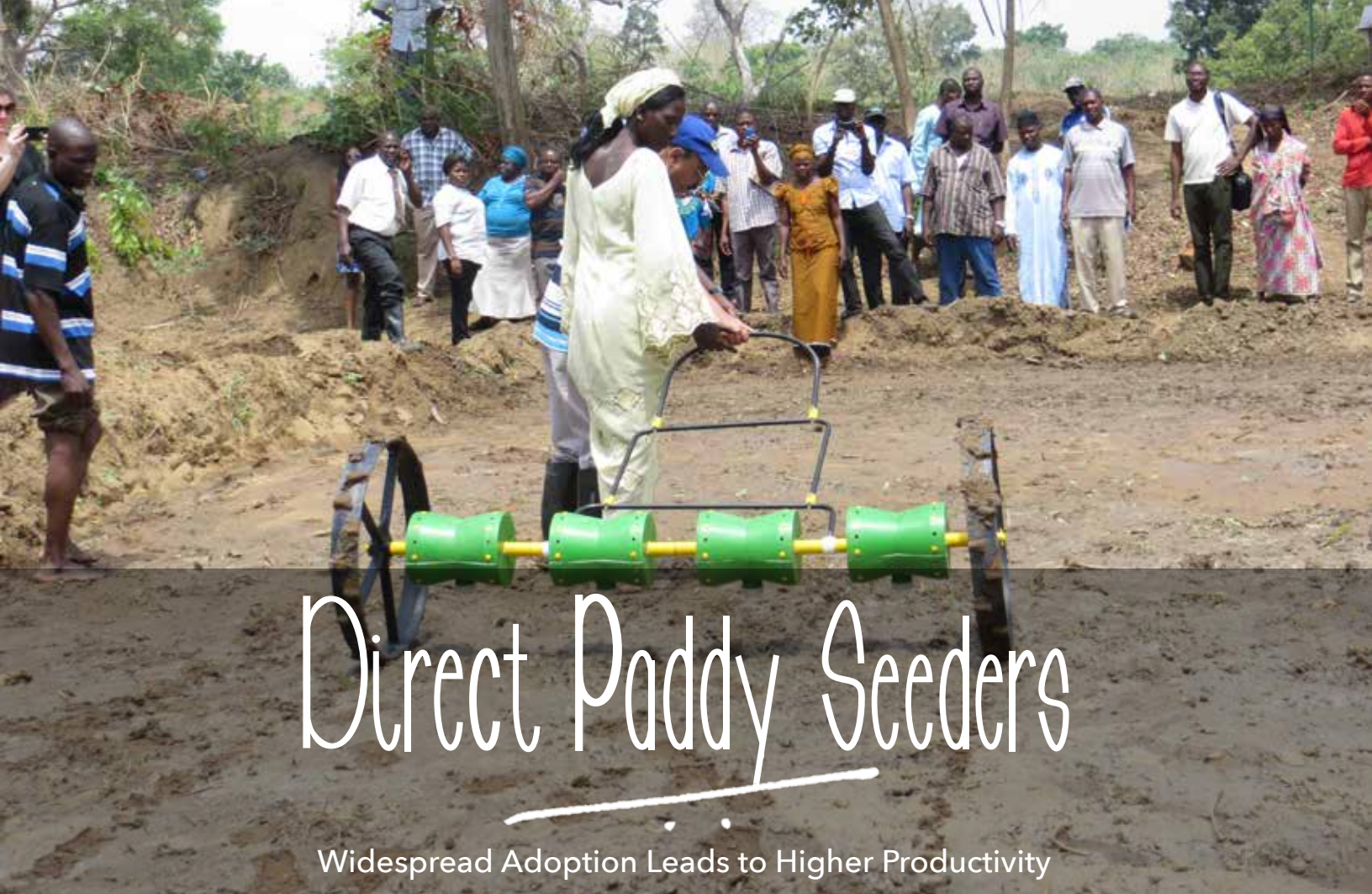
## Input Market Strengthening Initiative Launches in Nigeria

The Feed the Future Nigeria Agro-Inputs Project is working to build a robust input value chain. The USAID-funded project strengthens the capacities of agro-input dealers through trainings, linkage to financial institutions and building networks between agro-input manufacturers and distributors. The project will identify and mobilize women and youths in order to harness their production potential.



## Women Farmers Receive Multi-Crop Planters

A total of 100 women farmers in the Upper West region of Ghana have received multi-crop planters. This will modernize agricultural practices in the region and empower female farmers who play a crucial role in the welfare of their communities. The Feed the Future Ghana Agriculture Technology Transfer project presented the technology to the women as part of the project's larger initiative to inspire agricultural innovation in the region.



# Direct Paddy Seeders

## Widespread Adoption Leads to Higher Productivity

The Maximizing Agricultural Revenue and Key Enterprises in Targeted Sites (MARKETS) II project is introducing direct paddy seeders (DPS) to smallholder rice farmers to help increase productivity and lower labor costs. IFDC has been promoting the DPS as a complementary piece of technology for good agricultural practices.

The DPS, a device that drops seeds as it is pulled or pushed across the field, saves farmers time both in planting and weeding. Transplanting a hectare of rice can take 10 farmers five days to accomplish, but with the DPS, a farmer can plant a hectare in just one day. The DPS plants in-line, reducing the drudgery and costs associated with fertilizing, weeding and applying pesticides/herbicides later on.

The design of the DPS complements the use of UDP technology. As each seed is spaced 20 centimeters (cm) from the next (both vertically and horizontally), spacing between plants fits exactly with application of urea briquettes. For optimal results, urea briquettes are placed in the center of four rice plants at a depth of about 7 cm. Since the DPS eases line planting without having to transplant, farmers can more easily adopt the new fertilizer technology. As the DPS plants 25 kg/ha of seed (against the 75 kg recommendations), farmers who also adopt UDP save money on both seed and fertilizer – as UDP reduces fertilizer use by about 30 percent.

Though the DPS is far from perfect, improvements are always being made to increase the efficiency of the new technology. With older models, farmers faced several obstacles, including increased land preparation and the loss of pre-germinated seeds due to pests and unexpected rainfall/flooding. However, newer models are currently in development that will address these issues.

The MARKETS II project, funded by USAID and led by Chemonics (2012-2017), is increasing agricultural incomes and sales and reducing food insecurity for Nigerian farmers and their families. IFDC supports the project through promotion of fertilizer deep placement (FDP) and crop protection technology.

# USAID West Africa Fertilizer Program Charts New Way Forward



The USAID West Africa Fertilizer Program (USAID WAFP) is intensifying its impact on fertilizer supply and use in West Africa. For the remainder of the project, the five-year initiative (2012-2017) will focus on implementing the Economic Community of West African States (ECOWAS) fertilizer policies and regulations and encouraging private sector investments in fertilizer value chains across the region. While WAFP's goal

remains sustainably improving agricultural productivity, its strategic objective has transitioned toward providing regional leadership on fertilizer policy and facilitating efficient supply and distribution systems.

"We envision a region where quality fertilizer circulates freely and efficiently to reach every farmer," says Dr. Kofi Debrah, WAFP chief of party.

WAFP will have a regional approach to implementing key interventions, with emphasis on USAID Feed the Future countries – Ghana, Mali, Liberia and Senegal. The project will also target fertilizer industry stakeholders in Benin, Burkina Faso, Côte d'Ivoire and Nigeria, which account for about 70 percent of fertilizer consumption in West Africa.

## Key Intervention Areas

As a regional program, WAFP is structured to deliver impact through three key sets of activities. First, WAFP will support ECOWAS Member States in the implementation of regulations governing fertilizer trade and quality control in the region. Second, the project will provide thorough analyses and evidence-based information for policymakers. The assessments will evaluate fertilizer subsidy programs based on lessons learned in other countries. The analyses will cover subsidy exit strategies and program sustainability, which are closely related to private sector investment and value chain participation. To facilitate the free movement of fertilizers, WAFP will assist countries in establishing fertilizer inspections and analytical procedures. "Best-bet" fertilizer formulations will be developed using soil data across multiple countries and locations.

Finally, WAFP will empower the private sector to increase fertilizer supply and distribution. This will be achieved through capacity building, and improved access to finance and market information to stimulate investments in the supply chain. WAFP will establish partnerships and linkages among fertilizer suppliers, farmer organizations and financial institutions.

WAFP works in close collaboration with regional institutions and USAID bilateral programs, including ECOWAS, West African Economic and Monetary Union (UEMOA), West and Central African Council for Agricultural Research and Development (CORAF/WECARD), African Fertilizer and Agribusiness Partnership (AFAP) and Permanent Interstate Committee for Drought Control in the Sahel (CILSS). The project is forging strategic partnerships with relevant private sector entities that play key roles in fertilizer trade and use across the region.

With the approval of USAID and in consultation with ECOWAS, WAFP will have an advisory board with representatives from key stakeholders and partner institutions. Chaired by the ECOWAS Commissioner for Agriculture, Environment and Water Resources, the committee will provide strategic direction and guidance to project implementation.

# Ghana Project Hosts Farmer-to-Farmer Training

As part of the effort towards promoting urea deep placement (UDP) technology, lead farmers from the four major irrigation schemes of Northern Ghana had the opportunity to learn better agricultural practices in lowland rice production from their Burkinabé counterparts. The farmer-to-farmer exchange program featured participants from Tono and Veve in the Upper East and Botanga, as well as Gologing in the Northern Region.

The farmers were introduced to UDP technology and other nutrient-efficient practices through field demonstrations and learning centers, which were established during the previous dry seasons by the Feed the Future Ghana Agriculture Technology Transfer project.

The visiting farmers interacted one-on-one with experienced farmers and participated in the field work at Bama and Di Irrigation Schemes. During this, they were challenged to practice field leveling to help with water management, line transplanting to attain the right crop population and weeding to increase yields.

"The use of draught power for land preparation and leveling demonstrated by the host farmers was an eye-opener for us because I learned that in the absence of tractors I can carry out the activities through other means," said Ayine Justice Atoribisco, a rice farmer from the Veve Irrigation Scheme.

He also observed the importance of farmers organizing into farmer-based organizations (FBOs) and cooperatives to enhance the efficiency of farm activities such as procurement of inputs, land preparation and marketing of agricultural produce.

Lydia Akazagse, a female rice farmer from Koramia, Tono, noted that the absence of a UDP applicator for larger scale rice farms creates an opportunity for the youth, especially women, to be trained in UDP application and transplanting as a service to farmers. They can be paid for this service, thus making it a source of income and increased employment.

The Ghanaian farmers planned to identify and mentor 20 farmers who did not participate in the learning session. This knowledge transfer is key to the sustainability of agricultural training.

"The message I am taking home is that we need to be better at organizing effective FBOs for us to succeed in rice production and our farming work. I am sure with the good practices learned from Ghana and our Burkinabé colleagues on UDP technology, we can produce even higher yields than what we see this season," said Chief James Adawine of Tono Irrigation Scheme.



## Transitioning Mindsets from Volume to Value

In 1974, a group of visionaries formed IFDC to develop fertilizers and fertilization practices for tropical and sub-tropical agriculture and get it into farmers' hands. IFDC answered this call. The organization helps millions use products and practices suited for their regions, soils and plants. But now there is a new need. The current suite of fertilizers were developed more than four decades ago and are inappropriate for today's cropping patterns and climate. In addition, they are prone to high losses and environmental harm. The last big innovation occurred nearly 50 years ago - when 4 billion fewer people needed food. It's time to get serious about feeding the world. To do that, research organizations - teaming with visionary industry leaders and others - must thoughtfully revisit their perspective on fertilizer: no longer as a volume-based commodity but as a value-adding necessity for food security.

The voices championing improved fertilizer technologies represent a global minority. The industry dedicates a mere 0.2 percent of its budget to new product research and development. Meanwhile, other agriculture sub-sectors, such as the seed and pharmaceutical industries,

**It's time  
to get  
serious  
about  
feeding  
the  
world.**

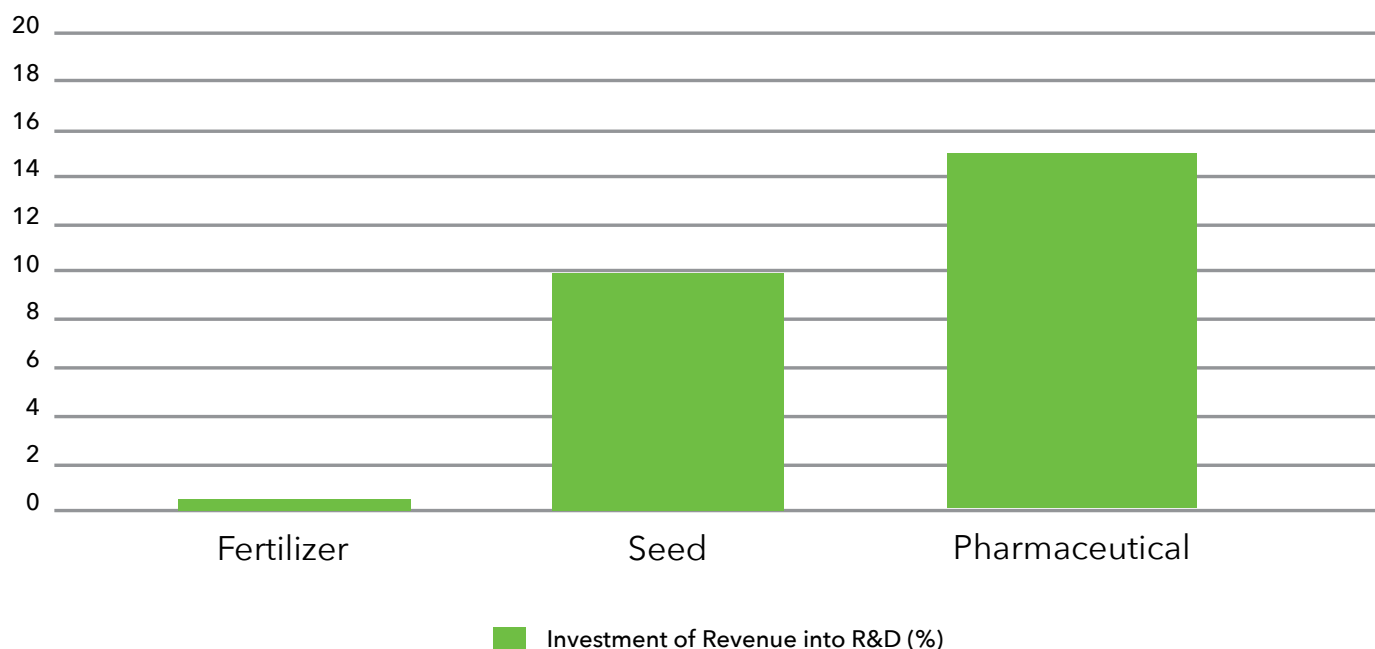
allocate around 10 percent and 15 percent of their budgets, respectively, to developing new varieties and seeds, and new medications. Increased investment and public-private partnerships would yield exciting new products and drive innovation to increase global food security. The Tennessee Valley Authority's National Fertilizer Development Center (NFDC) successfully demonstrated this model in the United States.

The NFDC accomplished great research strides from 1933 to the 1980s. Employing a non-biased research model, the organization essentially gave novel technologies to the fertilizer industry, which then manufactured the new products. To ensure sustainability, it set up nationwide extension services to train farmers to use the new products along with good agricultural practices. In this way, the NFDC and its private partners empowered the farmers of the United States to create a powerhouse out of North American agriculture.

By replicating a similar model, global agriculture can reach its full potential. IFDC established the Virtual Fertilizer Research Center (VFRC) as a collaboration initiative to foster the development of next-generation fertilizer products. The organization is forming a baseline of information on plant-nutrient interactions to underpin future novel fertilizer development efforts. Along with publishing these findings, the VFRC invites and fosters partnerships with and between the public and private sectors.



# R&D Investment as a Percentage of Revenue

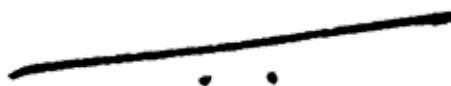


Source: Prem S. Bindraban, Christian Dimkpa, Latha Nagarajan, Amit Roy, Rudy Rabbinge, 2015. "Revisiting Fertilisers and Fertilisation Strategies for Improved Nutrient Uptake by Plants". *Biology and Fertility of Soils* 51 (5): xx-xx. <http://link.springer.com/article/10.1007/s00374-015-1039-7>.

Currently, cooperation is sporadic between the industry, governments and research organizations. Industry and academia could collaborate to solidify the basis for the development of products, but forward motion will only be accomplished by continued efforts. The industry must take this research to the next step. This requires a firm commitment to manufacturing value-based fertilizers tailored to location-, plant- and farmer-specific needs.

Finally, with collaboration between government extension services, non-governmental organizations, research institutes and the private sector, new technologies can be disseminated to farmers in developing nations. Knowledge transfer between producers and these organizations is a necessary component. Participatory training responds to the direct needs of smallholders and drives experiential learning for them and for organizations. In this way, agro-entrepreneurs take ownership of the new knowledge. The back-and-forth conversation between farmers and the global partnership generates a process that refines and tailors innovation for local needs.

We have about 35 years to get this right. It is expected that by 2050, a 2.4-billion-stronger population will stress global food production. The NFDC accomplished great things in only a few decades. That success can be replicated through commitment to novel research and public-private collaboration to make the research a global reality. We must learn from each other and shift our goals from volume-focused production to a system geared towards nourishing the entire world by 2050. Value-focused products remain the most foundational - and, therefore, most vital - solution to the agricultural challenges of the future. Advocating judicious fertilizer use is a worthy task. If we are not progressing, we are falling behind. This has been the case for the last 50 years. If we expect to feed a world of 10 billion, we must press on.





# VFRC

## VFRC Publishes “Signature” Paper

The Virtual Fertilizer Research Center (VFRC) recently published a conceptual paper in the journal *Biology and Fertility of Soils* arguing the need for innovative fertilizers as a global necessity. The paper, “Revisiting Fertilizers and Fertilization Strategies for Improved Nutrient Uptake by Plants,” highlights fertilizers’ contribution to increased agricultural productivity, but notes they come at high economic and environmental costs. Current management solutions such as the 4Rs (i.e. the Right source of fertilizers applied at the Right time, Right amount and Right place) contribute to increasing fertilizer efficiency but fail to curtail the negative side effects. In this light, the authors call for a paradigm shift in fertilizer technologies and fertilization strategies. The paper can be accessed at [bit.ly/VFRCpaper](http://bit.ly/VFRCpaper).

### Call for a Paradigm Shift

For their normal growth, plants require 14 nutrient elements in different amounts at different times. Under natural biology, nitrogen (N) for plant growth is obtained from bacteria that live in symbiosis with legumes and convert inert atmospheric N<sub>2</sub> into a reactive (usable) form. Phosphorus (P), potassium (K) and micronutrients become available only through slow soil weathering. The productivity of plants under these natural conditions remain at levels known from the most advanced ancient civilizations, such as in China and Latin America, and around 1900 in Europe. These natural processes could sustain food volumes for about 2-3 billion people on earth.

Human ingenuity led to the development of processes to convert nutrient molecules from inert to reactive forms to fertilize plants. These breakthroughs set the pre-conditions for feeding all 7 billion people today, along with complementary technologies such as improved varieties, crop protection agents and mechanization. However, fertilizers are made by chemists, following physico-chemical principles, primarily to meet property standards that facilitate industrial production processes, transportation handling and mechanical application, while minimizing transportation costs. Such chemical packaging of nutrients is often incompatible with the crop’s need for specific nutrients.

“A renewed ‘biological’ focus is needed to arrive at novel ways of packaging and delivering nutrients to plants, based on the integration of plant physiological processes related to demand-based uptake, metabolism, transportation and internal efficiency of plant nutrients,” says Dr. Prem Bindran, the principle author of the paper. Accordingly, the authors present an overview for revisiting fertilizers, highlighting several potential research opportunities as well as novel fertilizer interventions.

### Basic Concepts

#### Nutrient-Nutrient Interactions

In composing fertilizers, antagonistic and synergistic interactions among nutrients during plant use have to be accounted for. Specific nutrient composition influences the overall nutrition of plants and uptake efficiency urging to combine compatible nutrients that leverage synergism and prevent antagonism.

### **Soil-Plant Relations**

Soil properties largely dictate the responses of crops to nutrients. Often fertilizers are applied to soil without proper consideration of its characteristics or the effects the fertilizer has on soil properties, such as pH, precipitation of nutrients, relative availability of nutrients and demise of soil micro-organisms – all affecting uptake. Systematic research linking plant-soil interactions is lacking, especially in the light of designing new crop-specific fertilizers and fertilization strategies.

### **Trait Identification**

Plant breeding has focused on improving the general hardiness of plants, as well as increasing the harvestable portions of major grains. Recent efforts are made towards lower P requirements and for enhancing iron and zinc nutritional quality, but breeding for plant anatomical, morphological and metabolic traits to enhance nutrient uptake and utilization has remained largely untouched.

### **Assessments and Diagnostics**

While diagnostic and modelling tools benefit the identification of macronutrient requirements, they often fail to account for complex soil-nutrient and nutrient-nutrient interactions, especially among micronutrients. Geospatial analysis could complement this approach, allowing for analysis of further soil-nutrient and nutrient-nutrient interactions with regards to yield, and to specify where to apply which fertilizer.

### **Recycled Fertilizers**

Nutrients taken up by plants and consumed by humans or animals end up as waste. Recycling them from waste water, manure and offal helps to recapture nutrients for plant uptake. Recycled fertilizers may possess added value of containing micro-nutrients, but care is needed to prevent chemical and microbial contamination. As with mineral fertilizers, however, chemical packaging should be tuned to plant nutrient demand, rather than recycled fertilizers being the result of purification processes only.

## **Fertilizer Interventions**

### **Seed Nutrient Content/Coating**

Guaranteeing good crop performance begins with the selection of quality seeds. By coating a seed in specific nutrients that would normally be available in insufficient amounts, the growth of a plant can be enhanced, and might result in a more vigorous and nutritious crop.

### **Foliar Fertilizers**

Most nutrient-limiting processes such as antagonism among nutrients, extreme pH, and other complex chemistries occur in the soil to a greater extent than in the plant. Circumventing the soil by applying nutrients through aerial plant parts as foliar application may prevent such problems. The potential of foliar application in conjunction with basal NPK application to increase yields and enhance nutrient content should be exploited.

### **Beneficial Micro-Organisms as Crop Inoculants**

Beneficial soil microbes contribute to the nutrition of plants through a number of processes, ranging from increased nutrient solubility to the production of growth-inducing compounds and the biocontrol of pathogens. Opportunities exist to systematically deploy specific plant-beneficial microbes as part of ex-situ fertilizer production and in-situ crop fertilization strategies. Due to the complexity of their interactions, however, microbes vary greatly in beneficial impacts, implying targeted application.

### **Nanotechnology**

While nutrients are taken up as ions, they can also be taken up in nano- and micro- particulate forms, coined “micno-bits” by VFRC. “Available evidence indicates that the chemical and physical attributes of micno-bits can be exploited to achieve useful benefits in crop fertilization, often to a greater extent than with the equivalent dose of the same mineral nutrient presented in ionic or bulk fertilizer form,” says Dr. Christian Dimkpa, the paper’s second author. Potential undesirable effects on non-target organisms need to be addressed to benefit from the immense opportunities.



## Amit Roy Receives 2015 Francis New Medal

The Council of the International Fertiliser Society (IFS) awarded Dr. Amit Roy the 2015 Francis New Memorial Medal in recognition of his commitment to world food security and the global fertilizer industry. The Medal acknowledges outstanding contributions to the fertilizer community in topics ranging from production and distribution to fertilizer use and the environment.

Roy delivered the Francis New Memorial Lecture during the IFS Technical Conference on June 23 in London. His topic was "Global Fertiliser Industry: Transitioning from Volume to Value." Roy reviewed the history of the manufactured fertilizer industry, highlighting its achievements and present-day limitations.

"Fertilizers are key to feeding an expanding global population projected to reach more than 9.5 billion by 2050," said Roy. "However, given land, water and environmental constraints, we must innovate beyond traditional NPK products." Roy's address encouraged more investment in research to develop new, innovative fertilizers that increase yields and improve nutrition.

According to Roy, the world needs disruptive technologies that boost food production and build markets in developing nations. But no "new" more efficient fertilizer has been developed in the past 40 to 50 years. To keep pace with increasing plant food needs and climate challenges, fertilizer technology must move past traditional products and application practices.

"New, economically viable products must be developed with nutrient-release properties matching plants' requirements," wrote Roy in a paper presented to IFS. "To develop innovative fertilizers, investment in research is critical. Yet the fertilizer industry invests very little in research compared with the seed industry. A few companies are developing new products, changing their business models from 'volume to value' - selling smaller quantities of more effective and profitable fertilizers."

IFS was established in 1947 for individuals who have a professional interest in any aspect of fertilizer production, marketing and use. It serves as a forum to discuss the technical, economic and agronomic aspects of fertilizer production. Dr. Francis New served as the organization's first Secretary. He was awarded the Order of the British Empire (OBE) in 1956 for his services to the fertilizer industry.

# Uganda Hosts 2015 IFDC Africa Committee Meeting

The IFDC Board of Directors held its 2015 Africa Committee Meeting in Kampala and Mbale, Uganda. The committee discussed host-country priorities, identified areas where IFDC experience can be applied and, in consultation with partners, designed interventions to meet these goals. The meeting was chaired by H.E. Rhoda Peace Tumusiime, African Union Commissioner for Rural Economy and Agriculture, who analyzed how emerging issues will shape IFDC's Africa strategy. She noted two pillars of IFDC's approach: soil fertility management and input/output market strengthening. Special guest H.E. Tress Bucyanayandi, Uganda's Minister of Agriculture, Animal Industries and Fisheries, acknowledged IFDC's contributions to agricultural development in Uganda.

▶ *Dr. Amit Roy provides H.E. Bucyanayandi a copy of Feeding a Hungry World: IFDC's First Forty Years.*



◀ *Dr. Okasai Opolot, Director of Crop Resources, Ugandan Ministry of Agriculture, Animal Industries and Fisheries, outlines a framework for agricultural development in Uganda.*

▶ *Committee members inaugurate a new gravel road rehabilitated by the CATALIST-Uganda project. The road will reduce farmers' transport costs by an estimated 80 percent.*



◀ *The group visits an irrigation system with improved gates to control water flow.*

## IFDC Profiled by the Visionaries









*The Visionaries*, a U.S. public television series that highlights the work of nonprofit organizations around the world, profiled IFDC for one of its episodes this season. Hosted by actor Sam Waterston, who is best known for his work on *Law and Order*, the show followed IFDC from its headquarters in Muscle Shoals, Alabama, to sub-Saharan Africa, documenting IFDC’s work linking farmers to agricultural technologies, training and markets, and demonstrating agriculture’s critical role in boosting global economic growth. The full documentary can be accessed at [vimeo.com/133485011](http://vimeo.com/133485011).

## Featured Tweets



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## Timothy Karera: Cultivating Knowledge into Skill to Change Lives



IFDC's success hinges on one thing: sustainability. Any intervention - whether strengthening market linkages or introducing innovative technologies - will fail if it cannot be supported in the future. That is where training comes in. IFDC holds training to be a key pillar of agricultural development. Because of this, we train nearly 1 million people in about 40 countries every year. Our reach does not stop there, though. Through specialized international trainings, IFDC influences beyond the project level. Those who have benefited from these trainings exceed 11,000 farmers, private sector investors, professionals from international development agencies, researchers and government officials. Innovations and knowledge do not change lives in a vacuum. Investing in people is key. Training taps into their potential, empowering them to catalyze global development.

IFDC trainings are more than learning sessions. Every year our trainers bring the newest knowledge and ideas. In addition, many of our attendees are well-versed in topics such as linking farmers to markets and the global fertilizer supply chains. But training

connects this knowledge to action - to the ability to make a difference in one's personal endeavors as well as the world.

An important part of unlocking potential resides in the relationships formed through the common ground of the training session. Well-educated officials from ministries of agriculture, entrepreneurs, university professors and the world's leading agricultural researchers engage on a level plain with farmers, input dealers and others who are "on the ground" every day. In this setting, relationships are formed in which knowledge is not simply shared in a top-down manner but in a peer-to-peer experience. Trainers and attendees bounce ideas back and forth. Both ask questions of the other, and knowledge is not simply transferred; it is cultivated.

Skill comes from cultivation of knowledge. Like innovations in a vacuum, undeveloped knowledge is dormant. Through our training programs, we focus on taking that knowledge and evolving it into skill - and skill into action. Many attendees have found just the inspiration they needed to go back to their home countries and start a learning farm, take the next big step in improving their technological capacity or simply pass on their new knowledge to other members in their communities and cooperatives.

Because we see trained people as catalysts for development, we believe participatory training is vital for sustainable agricultural development. Enabled stakeholders benefit their families, communities, countries and their planet. In the long-run, any development organization can only have a limited impact on the communities it serves, but training allows the continuation of our development efforts long after our short-term development projects end.

# PARTING SHOT

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From all staff past and present, thank you, Dr. Roy, for your service. You guided this organization through good times and challenging times, pressed on with us through setbacks and success and paved the way for our future endeavors. For all this, we are forever grateful.

# IFDC and VFRC Board Updates



Margaret Catley-Carlson



Agnes Kalibata



Mark Keenum



Rhoda Peace Tumusiime



**Margaret Catley-Carlson**, an IFDC board member since 2006 and patron of the Global Water Partnership, spoke at the Canadian Water Summit in June on the depletion of water sources around the world. She presented an illustration showing how quickly water reserves are disappearing. Summit participants discussed water conservation efforts and methods to combat water scarcity.



**Agnes Kalibata**, IFDC board member since 2008 and president of the Alliance for a Green Revolution in Africa (AGRA), wrote an op-ed published by *The Guardian* in June on the power of agriculture in propelling Africa forward. In July, she spoke at the UN's Third International Conference on Financing for Development about the future of Africa's growth and the importance of investing in the agriculture sector. She also participated in the 2nd Africa Ecosystem-Based Adaptation for Food Security Conference.



**Mark Keenum**, president of Mississippi State University and IFDC board member, recently published a column on the essential role of research programs to meet global food security challenges in *AgriPulse* and the Chicago Council's monthly series on U.S. agriculture. In July 2014, Dr. Keenum was appointed to serve as a board member of the congressionally authorized Foundation for Food and Agricultural Research (FFAR) by Secretary of Agriculture Tom Vilsack and has been elected Vice Chairman of the Board.



**Rhoda Peace Tumusiime**, African Union (AU) Commissioner for Rural Economy and Agriculture, joined the AU Chairperson and commissioners in welcoming U.S. President Barack Obama to AU Headquarters in July. At the Milan Expo 2015, she launched a partnership between the AU, *Scienza per Amore* and *Hyst* for value chain technologies for semi-arid areas of Africa. She also chaired a meeting of the governing council of the Africa Fertilizer Financing Mechanism. In June, Tumusiime spoke at the Second African Union High-Level Panel on Gender Equality and Women's Empowerment.



Satish Chander



Ruth Oniang'o



**Satish Chander**, director general of the Fertiliser Association of India and VFRC board member, gave a presentation on "Priorities of FAI for Communication and Public Advocacy" during the 83<sup>rd</sup> International Fertilizer Industry Association (IFA) annual conference in Istanbul, Turkey. He also contributed an article on "Challenges and Opportunities of the Indian Fertiliser Sector" to the magazine of the Standing Conference of Public Enterprises (SCOPE), an apex body of Indian Public Enterprises.



**Ruth Oniang'o**, Chairperson of Sasakawa Africa Association (SAA) and the Sasakawa Africa Fund for Extension Education (SAFE), attended and made presentations at a number of meetings. She gave the keynote address at a food processing conference held by SAA in Ethiopia in June, highlighting Africa's food security and nutrition challenges; she chaired a panel on biofortification at *Planting Seeds for the Future of Food*, June 1-3, 2015, in Geneva, Switzerland, organized by the Nestle Company. Oniang'o previously served on the IFDC board of directors.



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# 2015 International Training Calendar

Phosphate Fertilizer Production Technology with IFA	Berlin, Germany	October 5-9
Promoting Innovative Composting Alternatives of Agricultural and Municipal Waste	Accra, Ghana	November 2-6
Fertilizer Policy and Marketing Strategies in Africa	Arusha, Tanzania	November 16-20