

an update on  
the work & progress at  
IFDC—An International Center for Soil  
Fertility and Agricultural Development

[www.ifdc.org](http://www.ifdc.org)

## IFDC Looks Forward... Our 5-Year Strategy at a Glance

IFDC has developed a new 5-year strategy to better address the global food crisis and the factors that have caused it: rising energy and production costs, population growth, new demand for biofuels, and drought. Ironically, income growth, which has increased meat consumption in emerging economies, is also a factor.

Today's heightened global commitment to food security, poverty alleviation, and agriculture also offers new opportunities for IFDC to have large-scale impact. The new strategy sets forth IFDC's vision of how to best meet new challenges and fulfill our original mandate of focusing on fertilizer issues to improve food security.

The new brochure "IFDC Looks Forward..." describes IFDC's Strategic Framework for 2009–2013. The Framework outlines IFDC's approach to research and development and improving efficiency and productivity across the agricultural value chain.

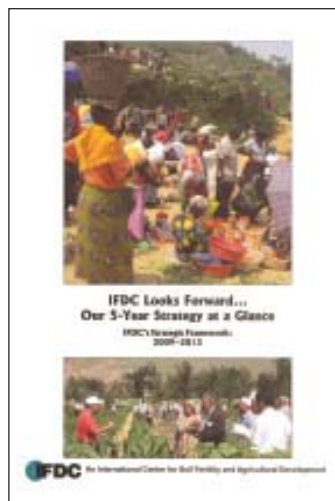
The Framework describes programs to improve the *efficiency* and *productivity* of:

- Key inputs, including nutrients, fertilizer products, and water.
- Markets for both inputs and outputs.

The Framework also introduces three IFDC *initiatives*:

- Nitrogen Efficiency Initiative.
- Phosphate Efficiency Initiative.
- Africa Productivity Initiative.

The IFDC Strategic Framework brochure can be ordered—free—from [www.ifdc.org](http://www.ifdc.org).

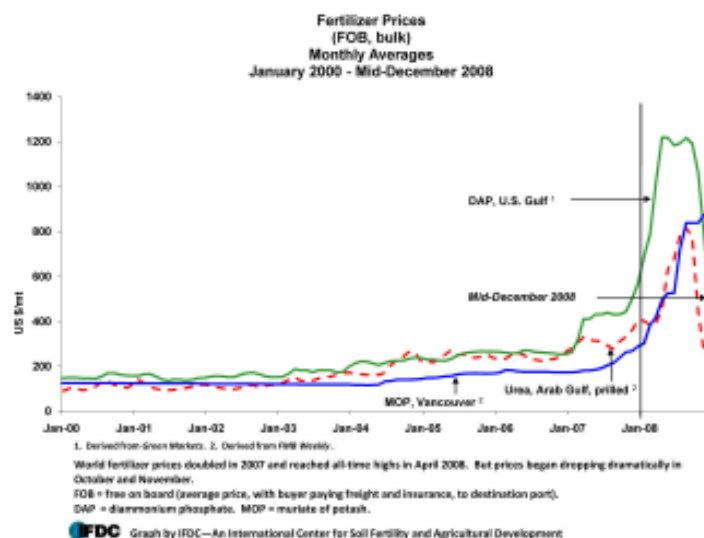


## World Fertilizer Prices Drop Dramatically After Soaring to All- Time Highs

World fertilizer prices began dropping dramatically in late 2008 after reaching all-time highs around April.

The price of urea, the world's most common nitrogen fertilizer, rose from about \$280 to \$405 per ton in 2007 and reached \$452 in April 2008. The price then soared to \$815

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## IFDC Report

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## World Fertilizer Prices Drop Dramatically After Soaring to All-Time Highs

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per ton in August—but plunged to \$247, lower than before the price spiral began, in mid-December.

The price of diammonium phosphate (DAP) increased by five times—from \$262 to \$1,218 per ton—from January 2007 to April 2008, but had fallen to \$469 per ton in mid-December.

Potash is the only fertilizer whose price is still rising. Standard grade muriate of potash, the most common source of potassium, sold for \$172 per ton in January 2007 and \$875 per ton in mid-December.

### Why Fertilizer Prices Spiked: A “Perfect Storm”

“Fertilizer prices started rising rapidly in October 2007, and the price spike lasted for almost 12 months,” says Ian Gregory, IFDC Agribusiness Specialist.

“Numerous factors converged simultaneously to cause fertilizer prices to soar, then suddenly collapse. Some have compared the series of events to ‘a perfect storm.’”

Prices were essentially driven up by an imbalance between supply and rapidly expanding demand, especially in Asia, Gregory explains. Fertilizer demand reached a level that supply could not match. Demand was particularly strong in China and India. Another factor was increased demand for fertilizers to produce biofuels in the United States, Brazil, and Europe. Increased livestock production created still more demand for grain and thus for fertilizers. Grain reserves became historically low and prices rose sharply.

Further worsening the situation were China’s imposition of high tariffs on fertilizer exports and the weakness of the U.S. dollar in 2007 and 2008. Energy prices peaked, causing an increase in the price of natural gas—essential for nitrogen fertilizer production. Phosphate prices were also driven up by a huge increase in demand and prices for sulfur, vital for production of the popular DAP and other high-analysis phosphate fertilizers. The supply of quality phosphate rock also became tight.

### Why Prices Then Plunged Rapidly

Gregory explains why fertilizer prices fell so rapidly in late 2008. “The high fertilizer prices caused ‘demand destruction.’ Farmers were unable or unwilling to pay two or three times the prices of early 2007.” Collapse of the global credit market, a trade recession, and slowdown in world economic growth worsened the situation. Demand for fertilizers fell and stocks accumulated. Fertilizer manufacturers cut back on production.

“But potash prices have stayed high due to its shortage and difficulties in transporting Russian potash because of an enormous and expanding sinkhole near the Silvinit mines,” Gregory says. “Demand for potash increased from 2006 through 2008, and potash inventories are now 37% lower than over the past 5 years.”

Price movements will probably be volatile for at least the next 2 years, until new production facilities open and the current lower prices for nitrogen and phosphate recover, Gregory says.

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## Urea Tanks on Diesel Trucks—That’s the Law in the United States Starting in 2010

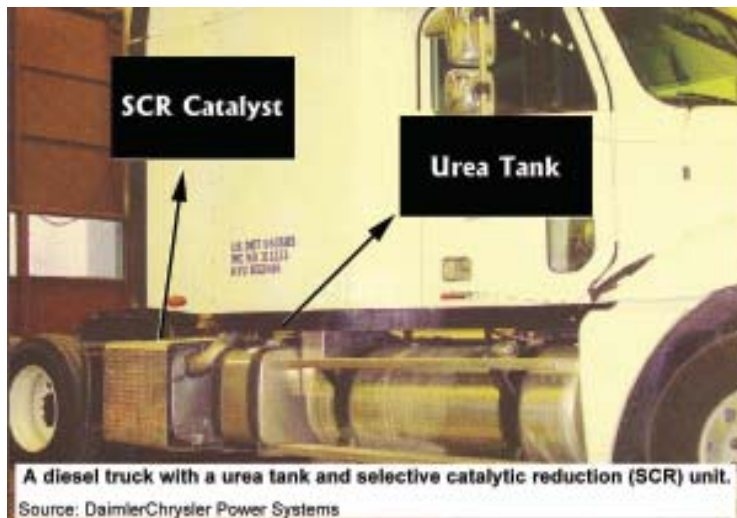
### Automotive Grade of World’s Most Widely Used Nitrogen Fertilizer Used to Meet New U.S. Environmental Regulations to Cut Air Pollution

Urea tanks will be standard equipment for most new diesel trucks, buses, cars, and sport utility vehicles (SUVs) manufactured in the United States after Jan. 1, 2010. An automotive grade of urea will be injected into the vehicles’ exhaust stream to “scrub” nitrogen oxide (NOx) from the diesel exhaust.

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## Urea Tanks on Diesel Trucks— That’s the Law in the United States Starting in 2010

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NOx, a major air pollutant, contributes to smog, which causes asthma and respiratory and heart diseases.

The system, *urea SCR* or “urea-based selective catalytic reduction,” is the only technology available that can remove enough NOx from diesel exhaust to comply with strict new limits imposed by the U.S. Environmental Protection Agency (EPA), says Glenn Kedzie, Environmental Counsel for the American Trucking Associations.

The automotive urea, called “diesel exhaust fluid” (DEF) in the United States and AdBlue, a trademarked name in Europe, reduces NOx by as much as 90% alone. The product can take NOx to near-zero levels when used in combination with diesel particulate filter technology, says Kim Doran, spokesperson of the newly formed North American SCR Stakeholders Group and editor of FactsAboutSCR.com.

DEF and AdBlue are an aqueous urea solution 32 (AUS 32), a clear 32.5% nitrogen solution of high-purity urea in demineralized water. The urea solutions are safe to handle, manufacturers claim. AdBlue can be bought in bulk in Europe or by the liter at some service stations.

The advent of DEF and AdBlue is creating a new demand for urea, the world’s most widely used nitrogen fertilizer. Some are concerned that the new use will drive fertilizer prices higher. Others think it will be an incentive for manufacturers to increase production and thus, lower prices.

“We know about diversion of traditional food crops such as corn or

sugarcane to biofuels like ethanol—but now urea, a basic *input* for food production, is also going into fuel,” says Dr. Amit Roy, IFDC President and CEO.

“Ironically, cleaning our environment is a key reason for both technologies.”

### Manufacturers Adopting Urea SCR Technology

More than half a million diesel trucks in Europe now use urea SCR and the fleet is growing by about 25,000 trucks per month, according to Integer Research, a London-based market analysis firm specializing in urea SCR.

Doran says that SCR technology is being adopted by passenger car and light truck manufacturers serving the United States including Audi, BMW, Hyundai, Jeep, Kia, MiniCooper, and Volkswagen. Mercedes-Benz is introducing three new diesel-powered SUVs that use urea SCR technology into the United States in late 2008. Urea SCR is also used in Japan and Singapore and will soon be used in China.

Manufacturers in the commercial trucking industry adopting SCR include Freightliner, Kenworth, Mack, Peterbilt, and Volvo. Leading engine manufacturers using SCR include Cummins and Detroit Diesel Corp.

### Future Demand

Consumption of the urea solution is about 3% of the diesel consumption. Diesel trucks average 6.5 miles per gallon (2.8 km/liter). An average diesel truck will need to refill its 20-gallon tank of DEF every 4,000 to 6,000 miles (76 liters every 6,400 to 9,600 km).

Urea to reduce NOx emissions now consumes 0.3 to 0.4 million metric tons (mt) of urea in Western Europe, says Stephen Zwart, Licensing Manager of Netherlands-based Stamicarbon, the world’s largest licensor of urea plant technology. In 10 years the current truck fleet in Western Europe will have been replaced, and urea use will be 3 to 4 million mt.

Future urea demands generated by SCR technology in the United States have been calculated by Dr. Carlos Baanante, IFDC Agricultural Economist.

In 2003, 213 billion liters of diesel fuel were used for transportation in Europe and 146 billion liters in the United States, according to *EarthTrends*, an initiative of the World Resources Institute (<http://earthtrends.wri.org/index.php>).

Baanante assumes that only 7% of the diesel trucks in the United States will use urea SCR in 2010—the new trucks purchased that year.

“U.S. urea consumption for transportation will probably be the urea fertilizer equivalent of about 210,000 tons in 2010—but will be at least double that amount in 2011 and will increase rapidly afterward as older trucks are replaced with newer models that carry urea tanks,” Baanante says.

The estimates assume that a liter of the solution weighs about 1 kg and the urea fertilizer contains 46% N, Baanante explains. Thus, 1 kg of urea solution would consume the N needed to produce 0.7065 kg of urea fertilizer. A conversion factor of 0.7065 is used to calculate urea solution consumption in terms of mt of urea-fertilizer equivalent.

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## Urea Tanks on Diesel Trucks— That's the Law in the United States Starting in 2010

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“More than 90% of the world’s urea production is for fertilizers—but new demands for urea SCR may change that,” Baanante says. Urea is also used in animal feed, plastic and glue manufacture, highway de-icing, cloud seeding to induce rain, and tooth-whitening products.

### Stringent New EPA Exhaust Emission Rules

Kedzie says that diesel-powered vehicles manufactured in the United States in 2010 can emit no more than 0.2 grams of NOx per brake horsepower hour—90% less than current emissions. The new EPA regulations will not apply to vehicles manufactured before 2010.

Tractors, bulldozers, and other non-road vehicles must meet the new EPA standards by 2015. The U.S. timetable

for ships and locomotive engines has not yet been set.

### Need for Higher Production and More Efficient Use of Urea

“The new demands for urea to treat diesel exhausts will make research to improve the efficiency of its use as a fertilizer even more important,” says Ramon Lazo de la Vega, IFDC Senior Engineering Specialist. “IFDC works in three main areas to increase the efficiency of urea use: through deep placement of urea briquettes, especially in irrigated rice fields; through controlled-release fertilizers; and through nitrification and urease inhibitors that decrease nitrogen losses to the air through volatilization and to groundwater through leaching.

“New urea plants are also being built. For example, two large urea plants are opening in Iran and one each in Egypt, Nigeria, Oman, and Russia.”

IFDC’s Roy says, “Most basic fertilizer products used today—including major improvements of farm-use urea—were

developed by the fertilizer program of the U.S.-based Tennessee Valley Authority (TVA) in the 1950s to 1970s when energy seemed cheap.<sup>1</sup> With current manufacturing technology, the energy equivalent of four barrels of oil is used to convert ‘free’ atmospheric nitrogen to 1 ton of urea.

“The new demands emphasize the need for research to develop a new range of more energy-efficient technology—not only for food but now for use with fuel,” Roy says.

Note: A more detailed feature on the use of urea to scrub NOx from diesel exhaust has been posted on *IFDC Focus on Fertilizers and Food Security*: <http://www.ifdc.org/focusonfertilizer10.html>.

<sup>1</sup> See IFDC Focus on Fertilizers and Food Security: <http://www.ifdc.org/focusonfertilizer5.html>

## AGRA and IFDC Launch Agro-Dealer Program in Nigeria

### New Initiative Will Improve Farmer Access to Quality Seeds and Fertilizers

The Alliance for a Green Revolution in Africa (AGRA) and IFDC launched a \$3.5 million Nigeria Agro-Dealer Support (NADS) project on Oct. 7 in Abuja, Nigeria. NADS will provide credit and support to 1,400 rural agro-dealers across Nigeria.

“These agro-dealers are the primary contacts for smallholder farmers in remote areas to purchase seeds, fertilizers, and other farm inputs critical for increasing productivity and incomes,” says Scott Wallace, IFDC Country Representative for Nigeria.

Agro-dealers will be trained in safe handling and efficient and environmentally sound use of farm inputs. They will then transfer the knowledge to smallholder farmers who comprise the overwhelming majority of agricultural workers in Nigeria.

The NADS project supports the commitment of the Nigerian Government to make agriculture and rural development priority areas for reducing poverty, Wallace says.

“Use of modern seeds and fertilizers in Nigeria is estimated to be less than 15% of the market potential,” Wallace says. “Fertilizers and improved seeds are not readily available in most rural areas. Farmers must often pay high costs to travel to towns to buy needed agri-inputs—only to find that stores lack them or high prices make them unaffordable.”

Certified seed production in Nigeria is only 5,000 metric tons per year, and fertilizer use is only 8 kilograms per hectare. Yields are low and most soils are badly depleted of nutrients. Nigerian farmers have little access to extension services and little or no access to financing.

“Although Nigeria has at least 10,000 agri-input dealers, only about 500 have been trained in modern business practices,” Wallace says. “Worse, few agro-dealers have access to formal credit.”

Joe DeVries, Director of AGRA’s Program for Africa’s Seed Systems, says, “New crop varieties are the engine of growth for a Green Revolution in Africa. Without fertilizers and improved seeds, farmers will not be able to produce the yields needed to transform smallholder agriculture. The NADS program will provide a spark for this engine of growth.”

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## AGRA and IFDC Launch Agro-Dealer Program in Nigeria

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Through NADS, AGRA will work with IFDC Nigeria and local partners to build capacity and strengthen technical and business knowledge, DeVries says. NADS will support current trade associations and help agro-dealers access investment capital for business development through risk-sharing arrangements. Shop owners will also be trained in providing services like field demonstrations, soil testing, and teaching of best management practices to farmers.

“What is needed is a well-designed and holistic program to develop a cadre of entrepreneurs in rural Nigeria that have the means and incentives to supply farm inputs and related technology transfer where and when the farmers need them,” Wallace says.

Wallace points out emerging technology such as newly established seed companies that can help Nigeria meet its food challenges. “Nigeria will soon become the largest urea producer in Sub-Saharan Africa, with the privatization and re-opening of the huge Notore fertilizer plant in the Niger Delta,” Wallace says. “That will lower prices and make fertilizers more available—a boon to both agro-dealers and small farmers.”

Dr. Akin Adesina, AGRA Vice President for Policy and Partnerships, says, “There is no reason why Nigeria cannot become a breadbasket to help feed Africa and the rest of the world. The government needs to unlock the potential of agriculture. If Nigeria can achieve a Green Revolution, it will lead the way for the rest of Africa.”

## Cocoa Abrabopa Association Makes Ghanaian Farmers “Part of the Winning Team”



Participants at the Abrabopa celebration included agri-input dealers and traditional Ghanaian leaders.



Farmers wore matching white t-shirts and green caps to the celebration.

Hundreds of cocoa farmers gathered in Dunkwa, Central Ghana, on Sept. 18 to celebrate the success of the Cocoa Abrabopa Association (CAA). (Abrabopa means “cocoa for a better life” in Twi, a local Ghanaian language). Also represented were agri-input dealers and importers, government officials, partner organizations, and traditional Ghanaian leaders.

CAA activities began in 2006 when Wienco Ghana Ltd., Ghana’s main agri-input importer, started supplying inputs to cocoa farmers on credit. Since December 2007, the Netherlands Embassy in Ghana has supported CAA through the IFDC-coordinated project Establishment of the Cocoa Abrabopa Association. CAA’s membership now includes more than 10,000 Ghanaian cocoa farmers.

“CAA is an intermediary between farmers and partner organizations, and trains members in technical aspects of cocoa,” says Manon Dohmen, IFDC Project Coordinator. “The project builds on successful collaboration among public and private organizations.”

One partner, Wienco Ghana, provides agri-inputs. Another, TechnoServe, organizes business and management training. The Cocoa Research Institute (CRIG) develops fertilizer recommendations, and IFDC builds CAA capacity in integrated soil fertility management, or ISFM.

Henry Wientjes, founder and former Executive Director of Wienco, said, “Cocoa is not purely business—it’s a way of life. We can be enormously powerful if we are well organized and strengthen our numbers. That requires honesty and discipline. Discipline can improve our lives.”

Alex Asante Afrifa, CRIG Soil Scientist, explained that, “Cocoa has been grown here for more than a century by mining nutrient reserves from the forest land, using no fertilizer. Before Abrabopa, production was going down. Farmers were harvesting only 250 to 450 kilograms of dried cocoa per hectare—far less than the potential of 800 kilograms per hectare with the introduction of the cocoa high-tech package including fertilizers.”

The project increases cocoa production through farmer adoption of the “Abrabopa package”—cocoa fertilizers, chemicals to control diseases and pests, spraying equipment, extension services, and farm management training. CAA members get their inputs on credit and pay a yearly fee for training in business and product knowledge.

The slogan of the cocoa media campaign, *Be Part of the Winning Team*, was prominently posted across Dunkwa during the celebration.

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## Cocoa Abrabopa Association Makes Ghanaian Farmers “Part of the Winning Team”

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“Isaac Nartey of Assin Fosu is definitely part of the ‘Winning Team,’” Dohmen pointed out. Nartey started using the Abrabopa package last year on his 2-acre [0.8-ha] farm. “I harvested 18 bags [a bag = 63 kg] of cocoa, where I formerly got 5 to 7 bags. This year I may reach 25 bags,” he said proudly. “I don’t need to borrow money from friends anymore and I can regularly pay my children’s school fees.”

The Abrabopa package has brought significant change to Mary Nyako’s 3-acre [1.2-ha] cocoa field. “The main problem was how to get the money to

buy inputs,” said Nyako, a member of the Ankwagya Farmer Group. “I learned of CAA and the Abrabopa package by radio. I joined CAA and tried the package 2 years ago. My production has risen from 4 to 10, even 15 bags. Now I can take better care of my children and my pocket is a little heavier.”

Patrick Adompreh, a farmer in the Volta Region, attributes his success to the input package and business training that CAA offers. “The program has taught me to keep production records and treat cocoa farming as a business,” he said. Last season, Adompreh harvested 21 bags of cocoa on his 2-acre [0.8-ha] field.

Eliseus Opoku-Boamah, CAA’s Executive Secretary, said, “Cocoa

production is the most important economic activity of rural Ghana and is one of the highest contributors to Ghana’s domestic product. Progress has been significant—but much more remains to be done.”

Lidi Rimmelzwaal, Ambassador of the Netherlands to Ghana, said, “Cocoa has certainly been an important binding element in Ghana-Netherlands relationships. The Netherlands is the destination of 60% of Ghana’s cocoa production. Rotterdam is famous as a ‘cocoa port.’

“I hope that in due course, Cocoa Abrabopa will develop as a model for farmer-based organizations—not only in Ghana but across West Africa,” Ambassador Rimmelzwaal added.

## Retired Board Member Ruth Oniang’o Says “IFDC’s Future Is Already Here”

Professor Dr. Ruth Oniang’o retired early from IFDC’s Board of Directors to devote herself to rebuilding the Rural Outreach Program (ROP), an NGO she founded in Kenya. The ROP Center was destroyed during civil unrest in Kenya last year.

### What changes have you seen at IFDC during your 7 years as a Board Member?

I have seen IFDC grow from a small organization to one that can compete with large international NGOs. I have seen IFDC assume a very important position in Africa’s agriculture. The budget has grown. The governance and culture of the organization have remained uniquely strong.

### How do you see IFDC’s role in the future?

IFDC’s future is already here. Its niche is in the fertilizer area. Fertilizer has been taken for granted for years. There has been no new research in many years and no new products have been developed. IFDC should provide leadership in this area because of its expertise. IFDC should spearhead training and research and encourage private-public partnerships that favor development of affordable and environmentally friendly new products.

Research should focus on products that are energy efficient—both to produce and to use. New fertilizer products should not only be affordable, but also compact, to reduce transport costs. This might be achieved by new technology—nanotechnology, a future manufacturing technology that would make fertilizers lighter, cleaner, less expensive, and more efficient.



Prof. Dr. Ruth Oniang’o bids IFDC staff farewell at the annual Board of Directors dinner in September.

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## Retired Board Member Ruth Oniang'o Says "IFDC's Future Is Already Here"

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### You have resigned your place on IFDC's Board of Directors; what are your plans for the future?

I left the Board prematurely to reorganize my NGO and to work more effectively with IFDC to fulfill its mandate. I want to spread good practices throughout East Africa. When I first joined IFDC, I did not know much about fertilizer. As a food and nutrition scientist, I now compare the soil's need for fertilizer to the body's need for nutrients. We cannot be productive without nourishment. Likewise, soils cannot produce without inputs. African farmers do not use much fertilizer, yet African soils need fertilizer more than anywhere in the world. Working with the rural community over the past 18 years has taught me what poor farmers need—consistent technical support. Our center provided many needed veterinary services to about 400 women dairy

farmers. Rebuilding the small milk processing plant, which produced yogurt, is essential to those farmers. ROP also helped food crop farmers. Recently, a widow told what ROP had done for her at a community meeting: "I thank you, ROP, for teaching me how to use inputs. Now my small plot produces eight bags of maize instead of the two that I produced without inputs."

ROP also operates early childhood development centers and provides services to orphans, widows, and the elderly. Needy students have also benefited from our scholarship fund.

### How do you see Kenya's current situation in regard to farmers?

Kenya's post-election violence hit at the heart of farming in the Rift Valley and Western Province during land preparation time. The area was not cultivated and the farmers were in "internally displaced person" camps. Many still are. The few who planted did not use fertilizer for two reasons: fertilizer was not available because of the violence

and fertilizer prices had skyrocketed worldwide. The planting time was over when the fertilizer reached the farmers. The government promised to subsidize the inputs, but logistically it was impossible to move the inputs quickly from the port of Mombassa to the other side of Kenya where they were needed most. It is therefore not surprising that food production for 2008 is estimated to be about 30% less than other years, and pockets of serious famine are being reported. The violence lasted for 2 months and showed us how vulnerable we are; we do not have food stocks to last a mere 2 months. We must employ modern farming methods, build our food reserves, and address the entire food chain through research, policies, and practical implementation. I will continue working with our farmers. After serving in Kenya's Parliament, I fully understand how policies can be influenced and I can work in that area to make improvements.

## Agrometeorologist Raji Reddy Visits IFDC, Validates Decision Support System for Rice and Maize

### Visit Strengthens IFDC Cooperation with Indian Scientists

A top Indian agrometeorologist recently spent 1 month as Visiting Scientist at IFDC Headquarters to strengthen linkages among Indian agricultural research agencies, fertilizer manufacturers, and IFDC.

Dr. Raji Reddy, Principal Scientist (Agrometeorology) at Agromet-Cell of the Agricultural Research Institute, Acharya N.G. Ranga Agricultural University (ANGRAU) in Hyderabad,



Photo by Mike Thompson

Dr. Raji Reddy (left) talks to Neal Isbell about his cotton crop at Isbell Farms near Cherokee, Alabama.

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## Agrometeorologist Raji Reddy Visits IFDC, Validates Decision Support System for Rice and Maize

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Andhra Pradesh State, India, worked from Aug. 18 to Sept. 20 with Drs. Upendra Singh, Paul Wilkens, Joaquin Sanabria, and with Ms. Flavia Rey de Castro.

Reddy specializes in agrometeorological research/resource characterization, crop weather modeling, remote sensing, drought studies, and rice production with less water. He has also studied weather-based forecasts of animal diseases for the World Bank's National Agricultural Technology Project.

The visit will strengthen cooperation among IFDC, ANGRAU, Nagarjuna Fertilizers and Chemicals Ltd., and other agencies.

"One purpose of my visit was to validate the model of the Decision Support System for Agrotechnology Transfer [DSSAT] for rice and maize and its application in risk analysis under various climate change scenarios," Reddy said.

DSSAT software integrates the effects of soil, crop phenotype, weather, and

technology options into standard formats. It helps researchers, extension workers, and farmers validate crop model results and compare simulated outcomes with observed results. IFDC scientists were part of a collaborative group that developed the DSSAT software in 1993. DSSAT has been used in more than 100 countries.

At IFDC, Reddy tested the validity of a MarkSim weather generator for use in Andhra Pradesh. MarkSim computer software simulates weather data for crop modeling and risk assessment. It is especially useful in the tropics and tailored for DSSAT users.

IFDC arranged for Reddy to visit renowned climatologist Dr. John Christy at the University of Alabama, Huntsville, and Dr. Gerrit Hoogenboom, Professor of Biological and Agricultural Engineering at the University of Georgia, Griffin. He also visited Alabama A&M University, Huntsville, and the University of North Alabama, Florence.

India grows more than 9 million hectares of cotton annually, so IFDC arranged a visit to Isbell Farms near Cherokee, Alabama. The Isbell family grows cotton and corn with cutting-edge technology and farm equipment,

including the latest satellite technology. Farmers from across the southeastern United States attended demonstrations of precision agriculture in July 2008 at the Isbell farm. (See link.)

<http://www.timesdaily.com/article/20080711/NEWS/807110321/1011>

India is the world's second-largest rice producer after China. Reddy learned of the success of urea deep placement (UDP) in rice in Bangladesh and plans to explore its use in India.

"The early UDP trials in India were successful, but due to non-availability of briquettes, the technology was not popularized," Reddy said. "But India should focus more on this technology because more than 70% of the urea that farmers apply is wasted."

Wilkens says, "Dr. Reddy's visit gave us an opportunity to expand our knowledge on climate variability in Andhra Pradesh and to develop stronger ties with scientific colleagues in India. Proposals were developed for increased collaboration, including an international workshop in Hyderabad tentatively set for October 2009."

## KAED Helps Supply Improved Wheat Seeds to Kyrgyz Farmers



KAED/IFDC staff visiting wheat plots on a demonstration wheat farm.

IFDC will continue to help increase the production of two staple foods in Kyrgyzstan—wheat and milk—through a 2-year extension of the Kyrgyz Agro-Input Enterprise Development (KAED) project granted by the U.S. Agency for International Development (USAID).

"KAED II will teach Kyrgyz farmers improved techniques that will increase wheat productivity and develop a market-oriented process for distributing improved wheat seeds," says Dr. Hiqmet Demiri, IFDC Agribusiness Specialist and KAED Chief of Party.

Kyrgyzstan has an annual deficit of 400,000 metric tons (mt) of bread wheat. Yields are low because of outdated wheat varieties, poor quality seeds, and improper management.

"The lack of high quality seeds accounts for about 16,000 mt of Kyrgyzstan's wheat deficit, according to a KAED survey," Demiri says. "KAED will implement a USAID-funded seed program that will help about 35,000 farmers produce quality seeds by the fall of 2009."

The seed program's two objectives are to strengthen Kyrgyzstan's seed sector and to improve farmer access to quality seeds. The main focus is to improve food security through increased wheat production.

USAID allocated US \$300,000 to buy 275 mt of winter wheat seeds from the

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# IFDC 2009 Training Programs

## **Improving Agricultural Productivity Among Smallholder Farmers: Methods and Results**

Date – March 2–6, 2009

Location – Maputo, Mozambique

## **Decision Support Systems, Experimental Design and Analysis of Data**

Date – April 20–24, 2009

Location – Bamako, Mali

## **Nitrogen Fertilizer Production Technology Workshop (with IFA)**

Date – June 15–19, 2009

Location – Penang, Malaysia

## **Linking Farmers to Markets in Africa**

Date – August 10–14, 2009

Location – Arusha, Tanzania

## **Phosphate Fertilizer Production Technology Workshop (with IFA)**

Date – October 19–23, 2009

Location – Marrakech, Morocco

## **Developing Fertilizer Supply Strategies for the Future**

Date – November 2–6, 2009

Location – Capetown, South Africa

### **KAED Helps Supply Improved Wheat Seeds to Kyrgyz Farmers**

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Krasnodar Research Institute of Agriculture in Russia through the International Center for Agricultural Research in the Dry Areas (ICARDA). The seed arrived in Kyrgyzstan in October 2008.

KAED is distributing the seed for further multiplication on seed farms with the help of the Association of Agribusinessmen of Kyrgyzstan

(AAK), the Seed Association of Kyrgyzstan, and the Cooperative Union of Kyrgyzstan.

KAED will sell the seeds at subsidized prices—about 25% lower than the local market price. Funds from seed sales will go to a revolving fund that will be sustainable long after the project ends.

KAED will establish more farm stores to help farmers access inputs. KAED has already helped open 35 farm stores.

“We’ll also help improve livestock feed and dairy cow care to reduce livestock

deaths and increase milk production,” Demiri says. “The farm stores will make veterinary vaccines, medicines, and information more readily available.”

## Lomé Conference Explores Solutions to High Fertilizer Prices in West Africa

Finding sustainable solutions to the fertilizer crisis in West Africa, especially in Togo, was the focus of a conference on *Fertilizer, Fuel for Agricultural Development* held on Oct. 20 in Lomé, Togo. The 200 participants included representatives of government agencies, farmer groups, agri-input dealerships, research institutions, NGOs, and international agencies. The conference was convened by the IFDC Africa Division under the patronage of Togo's Ministry of Agriculture, Fisheries, and Livestock.

"Every cropping season we are faced with that same haunting question: how to make the right type of fertilizers accessible to farmers, at the right time, and at the right price," said Kossi M. Ewovor, Togo's Minister of Agriculture.

"Fertilizer prices have more than doubled in recent years, forcing African governments to implement emergency measures such as subsidies," Ewovor said. "But these are only palliative measures. We must find sustainable solutions to the problem of inadequate agri-inputs."

The Togolese Government has developed a strategy to guide efforts to boost the agricultural sector and an emergency action plan for 2008–2010, the Minister stated.

"IFDC has been one of Togo's most solid partners since its regional headquarters was established in Lomé in 1987," Ewovor added.

Dr. Amit Roy, IFDC President and CEO, pointed out, "Our current fertilizer products and application methods are wasteful."

Roy focused on phosphorus, a vital plant nutrient that is mined as phosphate rock, which is a non-renewable resource. "Phosphate will be a great concern in the next decade. Research is urgently needed to improve the effi-



Mensanh Agbo (left), a winner of the photo contest on *A Green Revolution in Africa Now*, receives his award from Dr. Amit Roy, IFDC CEO.

ciency of phosphate processing and the direct application of phosphate rock to fields without processing.

"Togo's phosphate could be processed locally into fertilizers for farmers not only in Togo but across the region," Roy said. He suggested that neighboring countries like Benin, Burkina Faso, Côte d'Ivoire, and Ghana organize themselves into a market that can justify large-scale production of fertilizers from Togolese phosphate.

Robert Groot, Director of the IFDC Africa Division, spoke of IFDC's rapidly growing presence in West Africa. "IFDC has about 170 employees in seven West African countries: Benin, Burkina Faso, Chad, Ghana, Mali, Nigeria, and Togo," Groot said. "IFDC's ambition for the next 5 years is to increase the production of millions of small producers by 50% to 100% and increase farming households' incomes by 30% to 50%."

Dr. Marjatta Eilittä, Leader of the IFDC Agribusiness Program, explained IFDC's approach to input market development. "On the supply side, we support the development and professionalization of dealer networks through capacity and association building," she said. "We also facilitate the development of effective fertilizer policies and regulations at national and regional levels.

"On the demand side, the voucher system gives farmers the purchasing power needed to buy fertilizers, using coupons, from agro-dealers. We work across the entire value chain to ensure that farmers have access to markets through proper contacts with purchasers and links to processing facilities."

Dr. Abdoulaye Mando, Leader of the IFDC Natural Resource Management Program, said, "The main causes of low fertilizer use are high costs, low crop response to fertilizer, unfavorable value:cost ratios, production risks, and price fluctuations.

"To alleviate these constraints, IFDC uses a systems approach with simulation models that integrate ecologic, socioeconomic, geographic, and meteorologic data to make site-specific recommendations for staple crops. Through participatory methods, farmers strengthen their capacities to innovatively solve problems and exploit opportunities within the framework of integrated soil fertility management, or ISFM, strategies."

Theophile Atchou of the Afagnan Farmer Group, said, "The farmers' main concern is to produce at the lowest possible cost. We need more choices in fertilizer use. In most

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## Lomé Conference Explores Solutions to High Fertilizer Prices in West Africa

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markets, farmers can find only urea and 15-15-15 NPK. Single fertilizers could reduce our costs by allowing us to give our soils the exact types and quantities of fertilizer they need.

“We are now a group of indigenous trainers who go and teach other farmers

how to care for their soils to get better yields,” Atchou added. “And the demand is strong!”

Adou Rahim of the Togolese Institute for Agricultural Research (ITRA) pointed out that fertilizer recommendations exist only for maize. Recommendations are also needed for other crops. “A 3-year initiative will be launched in 2009 to update and extend fertilizer recommendations for all staple crops in

Togo,” Rahim said. “IFDC will certainly be involved.”

The conference ended with a presentation of awards to winners of a photo contest on the theme *A Green Revolution in Africa Now*. Thirty-two professionals and amateurs participated.



## Africa Division Holds Staff Retreat in Ghana

Fifty-two staff members participated in the first IFDC Africa Division Staff Retreat Oct. 21–23 in Sogakope, Ghana.

The IFDC Africa Division, established in 1987 in Lomé, Togo, now has 170 staff in 7 West African countries: Benin, Burkina Faso, Chad, Ghana, Mali, Nigeria, and Togo.

“There was an increasing need for the staff to come together to take stock of our progress and look to the future,” says Robert Groot, Africa Division Director.

The main objectives were to reflect on implications of IFDC’s 2009–13 strategy on field programs, and on IFDC’s strengths and weaknesses in West Africa, Groot says. Other objectives were to develop recommendations for implementation of IFDC’s new strategy and to foster team spirit.

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