

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

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

## Vouchers Turn Farmers Into Market Participants

Voucher programs can help smallholder farmers access and buy affordable fertilizer and other inputs in sufficient quantities while strengthening the role of rural agro-dealers. IFDC has used vouchers in successful technology transfer programs in Malawi, Afghanistan, Kyrgyzstan, and Nigeria and is currently helping the governments of Mozambique and Nigeria implement voucher programs.

“Vouchers are coupons that farmers use to buy agricultural inputs at subsidized prices while maintaining or strengthen-

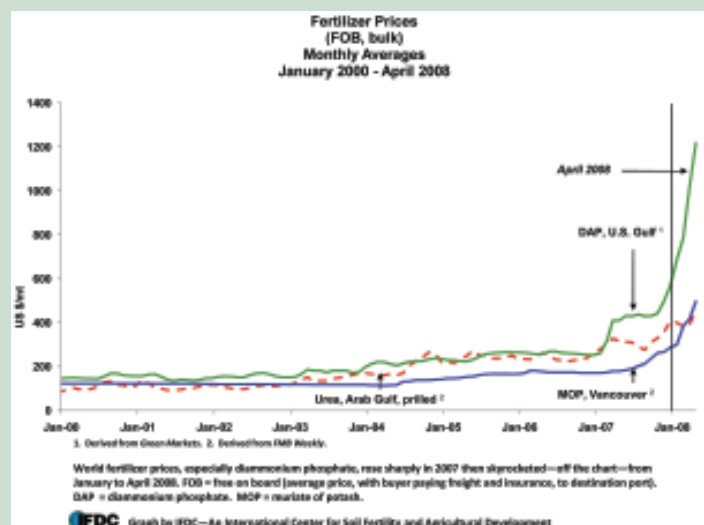


Afghan farmers exchanging vouchers for fertilizer.

(Continued on page 2)

## World Fertilizer Prices Continue to Soar as Scientists Stress Need to Increase Fertilizer Efficiency

World fertilizer prices doubled in 2007—but the price of phosphate fertilizers then doubled again, and all fertilizer prices rose, in the 3 months from February through April 2008. The effects on global fertilizer prices of the devastating May 12 earthquake in Sichuan Province, China—a major production area for nitrogen and phosphorus fertilizers—are yet to be determined.



(Continued on page 3)

## IFDC Launches New Communication Initiative: Focus on Fertilizers and Food Security

IFDC has launched a new feature on the IFDC Web site: *IFDC Focus on Fertilizers and Food Security*. A link is at the bottom of the home page ([www.ifdc.org](http://www.ifdc.org)).

IFDC Focus will identify fertilizer issues, especially as they relate to the rapidly changing world food situation, including: trends in fertilizer prices and production, announcements of new plants, availability of fertilizer raw materials, and the influence of energy issues on fertilizer availability. Related items such as improved methods of fertilizer use, need for research on fertilizer efficiency and the development of new products, infrastructure improvements, and agricultural policies will also be addressed.

Focus will also include analyses of the implications and possible impacts of such issues on world fertilizer production and use and food availability.

### In This Issue

Vouchers Turn Farmers Into Market Participants .....	1
IFDC Launches New Communication Initiative: <i>Focus on Fertilizers and Food Security</i> .....	1
World Fertilizer Prices Continue to Soar as Scientists Stress Need to Increase Fertilizer Efficiency .....	1
The Haber-Bosch Process .....	4
ISFM Fosters “Soil Doctors” Through Farmer-to-Farmer Training in Togo .....	5
IFDC Helps Strengthen the Cocoa Arabopla Association in Ghana .....	6
Announcements .....	7
Fourth Annual “Silk Road AgroExpo” Links International and Regional Agro-Dealers .....	7
IFDC 2008 Training Programs .....	8

## IFDC Report

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Thomas R. Hargrove

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Donna W. Venable

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## Vouchers Turn Farmers Into Market Participants

(continued from page 1)

ing the private sector,” says Dr. Amit Roy, IFDC President and Chief Executive Officer.

Organizers of programs to intensify agricultural production provide vouchers to targeted farmers. The farmers then redeem vouchers for products through private agro-dealers who in turn collect payment from the program organizers or financial institutions.

Vouchers can also be used as a form of crop credit, in which farmers pay back the value of the voucher at harvest.

“Vouchers are called ‘smart subsidies’ because they supply inputs to selected farmers without disrupting the commercial market,” Roy says. “In fact, vouchers can *build* both local markets and purchasing power for poor farmers.

“Voucher programs must be designed specifically for a particular country. One thing to look out for is fraud. We must use security measures such as watermarks, expiration dates, and serial numbers to ensure that the farmers who need vouchers most are the ones who receive them.”

Scott Wallace, IFDC Country Representative for Nigeria, says, “The beauty of voucher programs is that they tackle both the immediate need of helping targeted farmers and the long-term need of building the private sector.”

Ian Gregory, IFDC Agribusiness Specialist, says, “Technical assistance and training are integral to voucher programs. Agro-dealers are trained to introduce new technologies and teach their farmer customers how to correctly use inputs. This sets farmers on the road to increased productivity—the route out of the poverty trap.”

IFDC implemented a pilot voucher program in Nigeria in 2004 and has initiated a follow-up program in 2008.

“The federal government of Nigeria subsidizes fertilizer by 25%,” Gregory says. “IFDC is working with the government to provide an alternate delivery plan that provides improved access to the subsidized fertilizer for smallholder farmers. We’re



Scott Wallace, IFDC Country Representative for Nigeria, center, discussing the importance of fertilizer with villagers in northern Nigeria.

trying to show that vouchers are a means to directly target small farmers.”

Wallace has helped introduce the new voucher program to rural farming communities in northern Nigeria. “A typical complaint among farmers was the limited quantity of subsidized fertilizer made available to rural smallholders,” Wallace says. “For example, one farmer told us that last year their village received only 100 bags of fertilizer through the government subsidy. Thus, farmers received only about 4 to 5 kg each, but they need at least 100 to 150 kg/ha to apply to crops. In many Nigerian states, 75% or more of the subsidized fertilizer goes to large farms or political patrons, leaving very little for smallholder farmers who need it most.

“The state governments sell subsidized fertilizer for as low as 1,000 naira [US \$8.55] per bag—a price that the private sector can’t compete with. Because the rural input dealer network is extremely weak, farmers who want more fertilizer must travel long distances to buy from government warehouses.

“To complement the voucher program, the Agro-Dealer Network Development (AND) project will work to train about 900 agro-dealers across 9 Nigerian states in product knowledge, input safety and handling, business management, and new input technologies.” AND is co-funded by the National Programme for Food Security (NPFS) and the National Food Reserve Agency (under the Federal Ministry of Agriculture and Water Resources).

IFDC introduced vouchers in Afghanistan in 2002 to provide post-conflict emergency

(Continued on page 3)

## Vouchers Turn Farmers Into Market Participants

(continued from page 2)

assistance to about 200,000 farmers, who repaid for inputs provided through the vouchers to their local villages at harvest. The villages then spent the money on infrastructure investments such as improved irrigation systems, feeder roads, and market stands. IFDC trained more than 800 fertilizer traders in input handling and use, agronomy, and marketing. IFDC expanded the voucher program in Afghanistan for the 2005/06 season, issuing about 600,000 vouchers.

In 2003, IFDC gave vouchers to 100,000 subsistence farmers in Malawi in exchange for 1 month of labor each on village feeder roads. Farmers used the vouchers for improved seeds and fertilizer for growing maize.

“The Malawi program worked well,” Gregory says. “Roads were improved, giving better access to markets. Agro-dealers earned more income and reinvested in more stock for the next year.”

Dr. Balu Bumb, leader of the IFDC Policy, Trade, and Markets Program, says, “More significantly, it reduced the hungry period from 4 months to 1

month in a year for participating households.” (The hungry period is the time families had to rely on food aid.)

Gregory says, “Voucher programs bring farmers and dealers together. We’re trying to make smallholder farmers active market participants.”

Bumb says, “During this period of soaring fertilizer prices, smallholder farmers need support. The targeted voucher system provides the most viable instrument to help the poor without distorting the market, because it kills two birds with one stone: poverty alleviation and market development.”

## World Fertilizer Prices

### Continue to Soar

(continued from page 1)

China had already imposed dramatic new export duties on fertilizer, to keep it in the country, effective April 20. New tariffs on nitrogen fertilizers are 130% through September. Tariffs on diammonium phosphate (DAP) and other phosphorus fertilizers are now 135% and will continue through December.

“Soaring fertilizer prices affect the rural poor the most, especially in Sub-Saharan Africa, the world’s poorest region,” says Dr. Amit Roy, IFDC President and CEO.

“High commodity prices allow commercial farmers in developed countries to cope with high fertilizer prices. But rising food prices generally hurt subsistence farmers, particularly in Africa. Those farmers consume most—or all—of their meager harvests.

“Those farmers desperately need fertilizers not only to feed their families but also to replenish their nutrient-depleted soils. The current fertilizer situation emphasizes that we need more research to increase fertilizer efficiency.”

### Soaring Prices

The price of DAP increased by five times over the past 15 months. DAP sold for about US \$252 per metric ton (mt) in January 2007, then almost tripled to \$688 by January 2008—and doubled again, to about \$1,230/mt over the past 3 months.

The price of muriate of potash (MOP), the most common source of potassium,

rose from \$172 to \$288/mt in 2007. By late April 2008, MOP sold for \$500/mt.

The price of urea, the world’s most common nitrogen fertilizer, rose from about \$277 to \$405/mt in 2007 and is now about \$672.50/mt.

### Raw Materials for Fertilizer Production

Fertilizers are combinations of the nutrients that plants must have to grow. The most essential elements are nitrogen, phosphorus, and potassium.

Prices of phosphate and potash fertilizers are rising more steeply than the price of nitrogen-based urea because production sources are more limited, Roy explains. Most of the world’s phosphate for fertilizer is mined and thus, an unrenewable resource.

Phosphate fertilizers are manufactured mostly in the United States, Morocco, and along the Baltic Sea. All potash, the source of potassium, is mined. Canada produces 40% of the world’s annual 44 million tons of potash, followed by Russia and Belarus.

The air around us is 80% nitrogen. Energy, mainly natural gas, is used to convert atmospheric nitrogen to usable

*The effect of the earthquake in China on global fertilizer prices is uncertain. Even before the earthquake, China had imposed 130%–135% tariffs on fertilizer exports.*



**A woman farmer in Togo applies urea fertilizer to her crop. Hardest hit by the current high prices of food and fertilizer are hundreds of millions of small farmers in developing countries who live on less than \$1 a day. Most could not afford fertilizers even before the current price increase.**

forms such as ammonia and urea. Natural gas is also the main raw material resource to provide hydrogen needed in urea production. That’s why urea plants are dispersed in oil-producing regions worldwide.

### Integrated Soil Fertility Management (ISFM) Offers More Efficient Fertilizer Use in Africa

IFDC is developing and implementing application technologies to increase the efficiency of fertilizers for smallholder farmers.

(Continued on page 4)

## World Fertilizer Prices Continue to Soar

(continued from page 3)

“IFDC has pioneered in the development of Integrated Soil Fertility Management, or ISFM, as a tool to improve the efficiency—and thus the profitability—of fertilizer use for smallholder farmers in Sub-Saharan Africa,” says Dr. Henk Breman, IFDC Expert Adviser, Environment and Agronomy, based in Rwanda.

In ISFM, both organic and inorganic sources of plant nutrients, including mineral fertilizers, crop residues, phosphate rock, and lime, are combined as soil amendments to produce higher yields. ISFM has improved soil fertility for 150,000 farmers in West Africa and is being expanded to reach 1 million farm families or 10 million people.

### Urea Deep Placement in Bangladesh

Amit Roy points out urea deep placement (UDP), or the insertion of large briquettes of urea fertilizer into the root zone of transplanted rice, as a technology to increase efficiency of fertilizer use.

“Most rice farmers in Asia broadcast urea directly into the floodwater,” Roy says. “Two of every three bags are lost to the air as greenhouse gases or become pollutants of groundwater.”

IFDC directed pioneering research to develop UDP and introduced it into Bangladesh in the 1980s. By 2006, more than half a million farmers in Bangladesh had adopted UDP and were reducing urea use by 40% while increasing yields by 25%: about 1 ton/ha. Their net return is \$188/ha more than farmers who broadcast urea. UDP has saved 15,000 tons of urea, as yields have increased, reducing government fertilizer subsidies by \$7.5 million.

The Government of Bangladesh is expanding UDP to another 1.6 million Bangladeshi farm families on almost 1 million ha. IFDC has also introduced UDP technology to Cambodia, Vietnam, Nepal, Nigeria, Mali, Togo, and Malawi. Discussions are ongoing with entrepreneurs in Nigeria, who are interested in manufacturing briquette machines.

## The Haber-Bosch Process The Most Significant Invention of the 20<sup>th</sup> Century?



Ammonia is still synthesized through the Haber-Bosch process. Dr. Fritz Haber (left) and Dr. Carl Bosch (right) each earned a Nobel Prize in Chemistry for their work.

The Haber-Bosch process? Few have heard of it. But the little-known technology—by which ammonia is synthesized from nitrogen and hydrogen—was the most significant invention of the 20<sup>th</sup> century, according to Dr. Vaclav Smil, professor, University of Manitoba, Canada, and other energy specialists.

Smil has described the Haber-Bosch process as the past century’s most important discovery in the prestigious journals *Nature* and *Scientific American*.

The Haber-Bosch process made possible the dramatic increase in world population, Smil wrote. Population grew from 1.6 billion in 1900 to 6.6 billion in 2008. The process is the main method of synthesizing ammonia for fertilizer and feeds 40% of today’s global population. Little mineral nitrogen fertilizer was produced in the early 1900s. But, today, about 87 million metric tons (mt) of nitrogen fertilizers are produced annually, according to the International Fertilizer Industry Association.

Developed by professor and chemist Dr. Fritz Haber in 1909 and commercialized by Dr. Carl Bosch, the Haber-Bosch process combines nitrogen and hydrogen, in the presence of a catalyst, under extreme pressure and high temperature to produce ammonia, which is key in manufacturing not only mineral fertilizers but also explosives.

The Haber-Bosch process is the only discovery for which two Nobel Prizes were awarded. Haber received the 1918 Nobel Prize in Chemistry for synthesizing ammonia, and Bosch shared the 1931 Nobel Prize in Chemistry with Friedrich Bergius for developing the high-pressure technology that made large-scale production possible.

“As population grew around the turn of the 20<sup>th</sup> century, the need for more food became evident,” explains John Shields, Interim Director of IFDC’s Research and Market Development Division. “Until then, most fertilizer was low grade, derived from mined sodium nitrate or organic materials such as guano and animal manure.”

Most of the world’s usable nitrate deposits were in Chile—far away from Europe and North America—and organic farming could not produce enough food to sustain the growing population. A better way to provide plant nutrients was needed.

“Justice von Liebig’s Law of the Minimum states that, to improve growth, application of the plant’s scarcest nutrient should be increased,” Shields says. In most cases, nitrogen is the most limiting—and important—nutrient for plant growth. It helps plants form protein and increases crop yields. Nitrogen makes up 78%–80% of the atmosphere, but not in a form that plants can use.

(Continued on page 5)

## The Haber-Bosch Process

(continued from page 4)

Smil writes that the synthesis of ammonia from nitrogen and hydrogen “became one of the holy grails of synthetic inorganic chemistry” in his book *Enriching the Earth: Fritz Haber, Carl Bosch, and the Transformation of World Food Production*.

After Haber’s 1909 synthesis of ammonia, the German chemical company Badische Anilin- & Soda-Fabrik (BASF) bought the patent.

Shields says, “Haber’s work had been done on a small to mid scale. Bosch, a BASF chemist, transformed it into a commercial operation to produce ammonia in large quantities,” Shields says.

BASF built the first ammonia synthesis plant in Oppau, Germany, in 1913. The plant produced 7,200 mt of ammonia yearly. Today, BASF’s ammonia plant

in Ludwigshafen, Germany, produces 875,000 mt annually.

“Synthesizing ammonia was crucial not only for intensifying agriculture but also for producing munitions,” Shields says. “The Germans were especially interested in this because World War I was looming.”

Germany had previously manufactured munitions from nitrates imported from Chile, but in 1914 allied forces blocked Germany’s access to the nitrates. In 1917 BASF built an ammonia plant in Leuna, Germany, for wartime production. Germany’s increased ability to produce explosives delayed its defeat in WWI.

Meanwhile, the U.S. government initiated a crash program to build the world’s first two ammonia synthesis plants outside of Germany in Muscle Shoals, Alabama, U.S.A. Those plants later provided fertilizer for the Tennes-

see Valley Authority (TVA) project, initiated in 1933 by President Franklin Delano Roosevelt. TVA’s National Fertilizer Development Center (NFDC) became known worldwide for advances in fertilizer technology, production, and use. Developing countries increasingly called on NFDC to advise on their fertilizer programs.

IFDC, the International Fertilizer Development Center (now generally called the International Center for Soil Fertility and Agricultural Development), eventually grew out of NFDC. In 1977, IFDC was designated as a public international organization with the objective of increasing and sustaining food and agricultural productivity in developing countries through the development and transfer of effective and environmentally sound plant nutrient technology and agribusiness expertise.

## ISFM Fosters “Soil Doctors” Through Farmer-to-Farmer Training in Togo

“I consider myself a soil doctor,” says Atchou Théophile, President of the Gbenodou Union, a union of farmer groups in Afagnan, Togo. (Gbenodou means “mutual understanding.”) “The soils have had little secrets for us since we’ve become involved in participatory learning on Integrated Soil Fertility Management [ISFM] with IFDC. Now, we want to share this knowledge with other farmers so that they can question their soils and find the right combinations of medicine to heal them.”

IFDC-trained farmers are training other farmers in the Maritime Region of Togo. This marks a turning point in farmer empowerment, a process initiated through the ISFM approach developed by the Natural Resource Management (NRM) program of IFDC-Africa and partners with funding from the International Fund for Agricultural Development (IFAD).

ISFM improves soil fertility by optimizing synergies from the combined use of

mineral fertilizers and locally available organic amendments (crop residues, compost, and green manure). This contributes to IFDC’s mission to sustainably increase agricultural productivity and profitability in Africa.

The strategy involves developing carefully selected communities into ISFM “knowledge centers” that will extend successful ideas and practices through methods such as farmer-to-farmer training.

“The farmer-to-farmer facilitation encourages farmers to conduct their own field studies and share knowledge and experiences,” says Francis Tamelokpo, IFDC Agronomist. “Farmer-led training fosters farmer empowerment. IFDC facilitates the learning process and provides assistance and support from a distance.”



Ms. Adjoa Akouavi presents a module synthesizing crop performance indicators and the results of farmers’ observations.

For the 2007 cropping season, the NRM program assessed farmers’ capacities as trainers and signed a training contract with the Gbenodou Union.

“The outcome was an outstanding success and we will replicate the experience with other farmer group unions in the 2008 cropping season,” Tamelokpo says.

(Continued on page 6)

## ISFM Fosters “Soil Doctors” Through Farmer-to-Farmer Training in Togo

(continued from page 5)

Members of the Gbenodou Union benefited from the participatory learning and research-action process introduced in the Djakakopé village in 2003–2004. Producers validated the results in 2005–2006 in the villages of Djakakopé and Djonokouvé with the support of IFDC and partners.

“To encourage widespread farmer adoption of ISFM practices, we implement a ‘technology plus’ approach that integrates human capacity building with technology and institutional development,” says Dr. Jean Sogbedji, Coordinator of the IFAD project. “Farmers’ involvement in research and extension is crucial to ensure that the ISFM options are technically feasible, socially acceptable, and economically sustainable.”

Seven trainers from the Gbenodou Union trained 30 farmers on 12 plots (0.4 ha each) that the owners offered for participatory learning. Through hands-on practices, farmers learned to diagnose the soil nutrient status and determine the types and dosages of nutrients needed to optimize yields, based on results of simulation models developed by IFDC for the maize-cassava system in southern Togo.

Outcomes of the farmer-to-farmer training were showcased in a workshop organized by the Gbenodou Union in Attikplè, Togo, in December 2007. The

workshop provided a platform for about 300 farmers representing 9 farmer group unions<sup>1</sup> as well as producers, researchers, fertilizer dealers, government agents, NGOs, private enterprises, and the media to discuss problems and explore solutions.

The trainees’ spokespersons presented a series of modules on three basic components: the site knowledge, the concept and installation of diagnosis plots, and protocol for evaluation of ISFM options.

“We’ve learned to put on paper the description of the village, the types of soils and cultures, and the cropping calendar,” says Ms. Sossi Tata, a trainee. “This helps us better plan our activities over the entire cropping season.”

Ms. Sodohouin Ketika, another trainee, adds, “Before, we knew only two fertilizers: urea and NPK, 15-15-15. Now, with the diagnosis plots, we can question our soils to know precisely which elements of N, P, or K they need most to produce more.”

The evaluation and comparison of ISFM options showed that N and K were the most limiting factors in the village’s soils. Use of NK fertilizer produced 3.6 metric tons (mt)/ha of maize and NPK, 3.8 mt/ha. The use of PK produced only 2 and NP, 2.3 mt/ha. This means that investment in only P in the village would provide little return.

<sup>1</sup>A union represents 10–30 villages.

Farmers were also trained to use “resource flow mapping” to analyze nutrient flows and improve resource use efficiency. Farmers compared the financial returns per hectare for three ISFM options on maize-cassava farms: (1) the no fertilizers-no mucuna option yielded FCFA 190,000 (US \$462); (2) mucuna-no fertilizers, FCFA 230,900 (\$562); and (3) fertilizers and mucuna, FCFA 637,900 (\$1,551).

“The outcomes of this workshop show that farmers are ready and capable of holding the reins of their development affairs,” Sogbedji says. “The demand for farmer-to-farmer trainings is strong. Five farmer group unions have submitted site-specific training proposals, which the NRM program is considering for the 2008 cropping season.”



Thirty farmers received participation certificates and 24 prizes were awarded to the trainers and farmers who successfully applied ISFM options on their own.

## IFDC Helps Strengthen the Cocoa Abrabopa Association in Ghana

IFDC is helping cocoa farmers in Ghana triple production and manage their farms more efficiently through a new 3-year project called the Establishment of the Cocoa Abrabopa Association. The project will provide technical assistance and training in business skills, association building, and input use to members of the Cocoa Abrabopa Association (CAA). (Cocoa Abrabopa means “cocoa for a better life.”)

IFDC will work with Wienco, TechnoServe, and the Cocoa Research Institute of Ghana to make CAA sustainable and effective. The Netherlands Embassy in Ghana funds the project, which began in 2008.

“IFDC’s role is to train farmers in integrated soil fertility management, update fertilizer recommendations, and provide overall management of the project,” says Manon Dohmen, IFDC Project Manager for the Abrabopa project.



Staff of the Cocoa Abrabopa Association in Ghana.

(Continued on page 7)

## IFDC Helps Strengthen the Cocoa Arababopa Association in Ghana

(continued from page 6)

IFDC will also adapt existing training manuals for the cocoa sector.

Wienco Ghana Limited, a private fertilizer and agri-input company, tested and developed a package of agri-inputs and farm practices in 2003. The “Abrabopa package” increased yields from 3.3 bags to 7 bags per acre (from 510 to 1,081 kg/ha) after the first year of testing, and 15 bags (2,317 kg/ha) after the third year.

Wienco then established the CAA, which was officially registered as an

association with more than 10,700 cocoa farmer members in 2008. Members must register for the association in groups. Member groups can buy the Abrabopa package on credit and receive technical and business training.

“Cocoa Arababopa has been good for my crop,” says Hannah Ebbah, Chairperson of the “Bo Woho Modin” (meaning “force yourself”) group and CAA member. “I used to yield 6 to 7 bags of cocoa per acre [927 to 1,081 kg/ha]. Now, I am getting up to 18 bags [2,780 kg/ha].”

“I learned to treat cocoa farming like a business and safely apply and store products.

“Before Arababopa, I couldn’t support my children, but now I am saving for their future.”

Nano Owusi, Chairperson of the “Sika Nti” (meaning “because of money”) group and CAA member, joined CAA to buy fertilizer on credit. Now, his cocoa crop yields 12 bags per acre (1,853 kg/ha).

“People who see how successful my farm has been want to join the association as soon as possible,” Owusi says.

## Announcements

**Ms. Lindsey Ryan** joined IFDC as Analyst – Laboratory in the Research and Market Development Division (RMDD) effective April 14, 2008. Ms. Ryan earned a B.S. degree in chemistry from the University of North Alabama. She previously served as a research assistant to the Chair of UNA’s Chemistry Department. Ms. Ryan’s office number is 174, her telephone extension is 321, and her e-mail address is [lyryan@ifdc.org](mailto:lyryan@ifdc.org).

**Dr. Yashpal Singh Saharawat** joined IFDC June 1, 2008, as Postdoctoral Scientist— Social Science/Agronomy in the Research and Market Development Division (RMDD). Dr. Saharawat will be posted in New Delhi, India, and will travel extensively to the FARMS project in Afghanistan. Dr. Saharawat earned a Ph.D. in soil science from the University of Hohenheim, Stuttgart, Germany, and a Master’s degree in soil science from the CCS Haryana Agricultural University, Hisar, India. His previous work experience includes serving as soil scientist, International Rice Research Institute, New Delhi, India; consultant, International Center for Agricultural Research in the Dry Areas/CAC—Tashkent, Uzbekistan; research associate and senior research fellow, Department of Soil Science, CCS HAU Hisar, India. Dr. Saharawat’s e-mail address is [ysaharawat@ifdc.org](mailto:ysaharawat@ifdc.org). The office number for the project in Afghanistan is 93 75 200 4959.

### Departures:

**Dr. Dennis K. Friesen** completed his assignment as Coordinator of the Quality Protein Maize Development project in Ethiopia effective March 31.

**Mr. Raphaël Vogelsperger** completed his assignment as Private Sector Development Expert and Deputy Project Coordinator of the MIR project in Burkina Faso effective May 21.

**Mr. Manfred Smotzok** completed his assignment as Chief of Party – FARMS, Afghanistan, effective May 28.

**Mr. Geoffrey Livingston** completed his assignment as Chief of Party for the Catalyze Accelerated Agricultural Intensification for Social and Environmental Stability (CATALIST) project effective May 31.

## Fourth Annual “Silk Road AgroExpo” Links International and Regional Agro-Dealers

The fourth annual “Silk Road AgroExpo” agricultural exhibition was held in Kyrgyzstan’s Osh Province, February 27–29, 2008. Hosts were the USAID-funded Kyrgyz Agro-Input Enterprise Development (KAED) project and the Association of Agribusinessmen of Kyrgyzstan (AAK). KAED is an IFDC project that has worked to increase agricultural productivity in Kyrgyzstan since 2001.

Silk Road fostered linkages between the international agricultural sector and regional agro-dealers to improve commercial relations in the Ferghana Valley of Kyrgyzstan, Uzbekistan, and Tajikistan.

“Dealers were able to buy inputs at better prices before the planting season started, which allowed them to have better margins,” says Dr. Hiqmet Demiri, IFDC Agribusiness Specialist and KAED Chief of Party. “This was also beneficial to the farmers, because inputs were available on time.”

Participants also learned successful business management practices. More than 200 people attended training sessions on establishing cooperatives, organizing exhibitions, and veterinary laws. Entrepreneurs established \$100,000 in business contracts during the exhibition.



Participating in the event’s opening ceremony are Ahmatjan Mahamadov, Deputy Minister of Agriculture, Water Resources, and Processing Industry; Azizbek Madmarov, Ambassador of the Kyrgyz Republic in the Republic of Uzbekistan; Daniyar Ilebaev, USAID Project Management Specialist; and Bolot Burgoev, Deputy Governor of Osh.

Photo: AAK, Djahongir Djumabaev

(Continued on page 8)

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## **IFDC 2008 Training Programs**

### **Strengthening Regional Trade in Agricultural Inputs in Africa: Issues and Options**

Date – July 1–4, 2008

Location – Lusaka, Zambia

### **Overview of Fertilizer Production**

Date – July 14–23, 2008

Location – Muscle Shoals, AL and Tampa/Orlando, FL, U.S.A.

### **Agro-Input Dealer Development in Africa**

Date – September 22–26, 2008

Location – Arusha, Tanzania

### **Fourth Annual “Silk Road AgroExpo” Links International and Regional Agro-Dealers**

*(continued from page 7)*

“Silk Road was a unique opportunity to distribute information about my store and establish new business contacts with suppliers of seeds and crop protection products,” says private entrepreneur Habbibula Halikov, AAK member and owner of the farm store “Orunbai” in Osh. This was Halikov’s first time to participate in the event. He sold 50,000 soms (US \$1,370) of products, and about 250 farmers expressed interest in doing business with his store.

More than 2,000 people visited the exhibition, including 43 companies from Germany, Ukraine, Iran, Kazakhstan, Netherlands, Russia, India, Uzbekistan, and Kyrgyzstan. Participants included international donor organizations, financial institutions, and producers and suppliers of agri-inputs, seeds, crop protection products, and agricultural equipment.

### **Application of Decision Support Tools for Fertilizer Recommendations and ISFM**

Date – October 6–17, 2008

Location – Accra, Ghana

### **Fertilizer Granulation and Micronutrients**

Date – November 3–7, 2008

Location – Bangkok, Thailand



**Habbibula Halikov (left),  
private entrepreneur and  
farm store owner.**

*Photo: AAK, Djahongir  
Djumabaev*