IFDC Report

Volume 34, No. 2
Summer 2009
ISSN 0149-3434

An update on the work and progress at IFDC

www.ifdc.org

IFDC pioneers voucher programs for agricultural inputs

IFDC has helped more than 1.2 million farmers and nearly 1,500 agro-dealers through its past and present voucher (coupon) programs for such agricultural inputs as fertilizers and improved seeds. IFDC continues to pioneer the implementation of voucher programs through projects in Nigeria, Rwanda and Mozambique. Past programs were implemented in Malawi, Afghanistan and Nigeria.

"Voucher programs provide smallholder farmers access to agricultural inputs while simultaneously building business for rural agro-dealers," says Dr. Amit Roy, IFDC president and chief executive officer. "Vouchers are often called 'smart subsidies' because they supply inputs to farmers without disrupting the commercial market."

Organizers of programs to intensify agricultural production provide vouchers to targeted farmers. The farmers then redeem the 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 that farmers pay back after their harvest.

"The advantage of voucher programs is that they tackle both the immediate need of helping targeted farmers and the long-term need of strengthening the private sector," Roy says.

IFDC voucher programs provide training and technical assistance to both agro-dealers and farmers. "Agro-dealers are trained to introduce new technologies and teach their farmer customers how to correctly use inputs," says Ian Gregory, an IFDC agribusiness specialist. "This sets farmers on the road to increased productivity — the route out of the poverty trap."

Voucher programs designed by IFDC also include an exit strategy. As farm incomes increase, the value of vouchers can be gradually reduced to zero or become a vehicle for providing crop production credit.

Roy says, "Successful programs must be designed specifically for a particular country and the circumstances present at the time the voucher program begins. Each country uses security measures such as watermarks, expiration dates and serial numbers to protect against fraud and to ensure that

(continued on page 2)

Discussing the 2002 voucher program in Afghanistan with a fertilizer dealer.

IFDC featured in *Thicket Magazine*

IFDC was featured in the 2009 summer issue of *Thicket Magazine…Alabama Redefined.* The article, written by Todd Keith with photos by Jason Wallis, is entitled "Laboratory Lifeline: Alabama's International Center for Soil Fertility and Agricultural Development." The article can be found at http://thicketmag.com/content/?p=581.

In this issue

IFDC Report

Editor:
Scott Mall
Reporters:
Ketline Adodo, Daniya Baisubanova, Manon Dohmen, Courtney Greene, Ishrat Jahan, Danielle Mbesherubusa and Lisa Thigpen
Layout/Design:
Donna W. Venable

IFDC Report is a quarterly publication of IFDC, Muscle Shoals, Alabama, U.S.A. Telephone: 256-381-6600, Telefax: 256-381-7408, E-Mail: general@ifdc.org, Web Site: www.ifdc.org. Unless otherwise noted, printed material published in the *IFDC Report* is in the public domain and may be freely reproduced. Source acknowledgment and a copy of any reproduction are requested. Subscriptions are free. A French language edition of the *IFDC Report* is available from IFDC.

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

Change of Address:
To avoid missing copies, allow six weeks for change of address. Send details to: *IFDC Report*, P.O. Box 2040, Muscle Shoals, Alabama 35662, U.S.A.

IFDC pioneers voucher programs for agricultural inputs (continued from page 1)

vouchers are in the hands of farmers who need them the most."

IFDC first introduced vouchers in Malawi in 2002. Farmers provided one month's labor improving feeder roads in exchange for seeds and fertilizers. The rehabilitated roads provided better access to markets so that farmers could sell their surplus production. The improved infrastructure also made it easier for residents of villages served by the roads to access public services such as hospitals and schools.

"The program reduced the 'hungry period' from four months to one month for participating households," says Dr. Balu Bumb, principal scientist and leader of IFDC's Economics, Policy, Trade and Markets Program. (The 'hungry period' is the amount of time that families had to rely on food aid.)

Agro-dealers were also able to increase their incomes. About 80 percent of dealers' increased profitability was reinvested in higher levels of stock for the next year.

IFDC also implemented a voucher program in Afghanistan in 2002 to provide post-conflict emergency assistance. After the harvest, farmers paid back the value of the vouchers to their local village organizations for infrastructure investments. The seeds and fertilizer distributed generated about 78,000 metric tons (mt) of wheat, which fed 436,000 people for a year at a 180-kg per capita consumption rate.

IFDC expanded the Afghanistan voucher program in 2005/06, issuing about 600,000 vouchers. The vouchers were mainly for wheat production but also included seed and fertilizer for potato and onion crops. Seeds and fertilizers were procured from private sector agro-input dealers. This approach enabled dealers to expand their businesses and build relationships with sub-dealers throughout Afghanistan. The wheat yield in the program's activity area was 200,400 mt — enough to provide more than one million people sufficient grain for a year.

IFDC implemented a small voucher program in Nigeria in 2004 and an ongoing follow-up program in 2008. IFDC is now delivering subsidies through the voucher program to targeted farmers in Nigeria and helping develop a private enterprise fertilizer distribution system.

"The federal and state governments of Nigeria subsidize fertilizer to farmers, but less than 30 percent reaches the targeted beneficiaries," says Paul Makepeace, an IFDC senior marketing specialist. "Most of the subsidized fertilizer goes to political patrons or civil servants, who often sell it on the black market. There, it is often adulterated and sold back to farmers at inflated prices, or taken out of the country.

"In our program, however, the subsidy is delivered through vouchers that are distributed directly to the targeted farmers. Many beneficiaries said that this is the first time in years that they have had access to state and federally subsidized fertilizer. For some, this is the first time in 10 years that they have even seen fertilizer, because there haven't been distribution systems in place that reach the more remote areas."

In 2008 IFDC designed and helped implement the voucher component of Rwanda's Crop Intensification Program, an initiative of the Ministry of Agriculture to help the country become self-sufficient in food production. Vouchers are distributed to farmers through nongovernmental organizations and farmer cooperatives. Farmers use the vouchers to buy urea and diammonium phosphate fertilizers and improved wheat and maize seeds.

About 5,500 mt of fertilizers will be distributed through the five-year program to fertilize 65,000 hectares (ha) of maize and wheat crops. Assuming an average farm size of 0.75 ha, more than 80,000 farmers will gain access to mineral fertilizers.

"Many of these farmers are first-time users," says Dr. Deborah Hellums, IFDC's coordinator of field projects. "Adding mineral fertilizer to their management practices is estimated to provide nourishment for more than 70,000 additional people annually."

More than 17,000 vouchers were distributed during Rwanda's first cropping season of 2009. Maize yields of farmers guided by IFDC's CATALIST project rose by 2.5 mt/ha, and wheat yields rose by 1.5 mt/ha.

IFDC is currently designing a voucher program to help increase production of food crops for about 25,000 maize and rice farmers on 12,500 ha of land in Mozambique. IFDC will choose and train the agro-dealers involved and ensure that they have access to the amount of inputs that farmers need. In addition, farmers will be trained in how to use the inputs.

The program will be conducted in the 2009/10 cropping season, with planting in October/November 2009 and harvesting in April/May 2010.

G-8 leaders pledge $20 billion — a $5 billion increase — for food security assistance

Leaders of the Group of 8 (G-8) nations agreed to increase their commitment to the fight against world hunger from the current $15 billion to $20 billion over the next three years. This announcement was made on July 10 at the end of the three-day Summit in L'Aquila, Italy.

L'Aquila was chosen as the site of the Summit in tribute to the lives and property lost during an April 2009 earthquake in central Italy. The G-8 Summit is a yearly forum for eight leading industrial nations — Canada, France, Germany, Italy, Japan, Russia, United Kingdom and the United States.

The Summit attracted leaders from about 40 nations, representing nearly 90 percent of the global economy, including the five "emerging" countries — Brazil, China, India, Mexico and South Africa — and various international organizations.

For the first time in G-8 history, the 2009 Summit focused on agriculture and world food security. Also key to the Summit was G-8 Africa, a dialogue between African nations and the G-8, designed to strengthen and promote the continent's economic and social development. African heads of state and government leaders were first invited to the G-8 Summit in 2001 to present the *New Partnership for Africa's Development (NEPAD)* initiative.

Obama's plan leads to shift in international approach to food shortages

G-8 leaders accepted a plan drawn up by U.S. President Barack Obama that could change the international approach to food shortages, according to the *London Telegraph* Web site on July 10.

"Instead of focusing on giving food to the hungry, often at times of famine, the G-8 committed itself to investing in ways to increase developing countries' capacity to grow and store food," the report said. An important component of this approach is assistance that prosperous nations will provide to poor farmers in developing countries, allowing them greater access to improved seeds and fertilizers.

"The agreement marked a fundamental shift in rich countries' approach to food aid in the developing world," said Dr. Kanayo Nwanze, head of the U.N. International Fund for Agricultural Development. "It is a shift from food aid — which is like providing medication after the child is ill — to providing assistance to help the countries put in place the right policies to be able to produce food by themselves."

Farmers will also be encouraged and assisted in establishing regional trade pacts, allowing them to sell more of their crops, according to the *Telegraph*.

The *London Times* reported on July 10 that, "The Aquila Food Security Initiative will be one of the biggest aid shifts in decades…" A senior G-8 source said the emphasis should be on "helping Africa feed itself."

One-fourth of all food harvested in Africa is never eaten because of inadequate storage and transport facilities, the *London Times* said, citing the U.K.'s Department for International Development.

Some aid groups responding to the G-8 approach to food assistance said that direct aid to the poorest must continue. A spokesperson for Save the Children said, "More agricultural production does not necessarily mean fewer hungry people. Many of the poorest families have very little land and have to buy food from markets to survive."

The *Telegraph* also reported that a spokesperson for an anti-poverty campaign said that most of the money being pledged is not new money and will come from countries' existing aid budgets.

Another spokesperson, Paul Cook of Tearfund, said that the $20 billion in assistance is not enough. "Rich nations should 'dig deep' and commit an additional $30 billion a year for five years."

Visiting during the G-8 Summit in Italy on July 9 are (left to right) Germany's Chancellor Angela Merkel, Russia's President Dmitry Medvedev and U.S. President Barack Obama. (Xinhua/Reuters photo)

Global Food Security Statement adopted

G-8 leaders adopted the Global Food Security Statement, expressing concerns about food security. They were particularly concerned about the impact of the world financial crisis and last year's spike in food prices on the countries least able to respond to increased hunger and poverty.

"The combined effect of long-standing under-investment in efficient agriculture and food security, price trends and the economic crisis have led to increased hunger and poverty in developing countries, plunging more than an additional 100 million people into extreme poverty and jeopardizing the progress achieved so far in meeting the Millennium Development Goals," according to the Statement. "The number of people suffering from hunger and poverty now exceeds 1 billion."

Through their joint Statement, leaders stressed an urgent need for decisive action to free humanity from hunger and poverty — and to keep food security,

(continued on page 4)

G-8 leaders pledge $20 billion — a $5 billion increase — for food security assistance (continued from page 3)

nutrition and sustainable and efficient agriculture a priority on the political agenda. "It will be addressed through a crosscutting and inclusive approach, involving all relevant stakeholders at global, regional and national levels," according to the Statement.

Food security and economic growth critical

Food security is closely connected with economic growth and social progress as well as with political stability and peace, according to the Global Food Security Statement. "The food security agenda will focus on efficient agriculture and rural development by promoting sustainable production, productivity and rural economic growth. Our attention is also focused on promoting access to health care and education in rural areas to contribute to productivity and economic growth."

Access to adequate and affordable nutritious food is a critical aspect of food security, according to the Statement. "Emergency assistance will remain an important means through which national authorities, supported by WFP [the U.N. World Food Program] and other specialized agencies, funds and programs, along with nongovernmental organizations, provide help to people facing acute hunger."

The Statement recognized the importance of continuing delivery of cash and vouchers through effective emergency assistance and national safety nets and nutrition initiatives, such as food and cash for work.

Open trade and efficient markets needed

In the Statement, G-8 leaders agreed that open trade flows and efficient markets can help strengthen food security. "National and regional strategies should promote the participation of farmers, especially smallholders and women, into community, domestic, regional and international markets. To this end, we aim at an ambitious, comprehensive and balanced conclusion of the Doha Development Round and call for renewed, determined efforts to bring it to a timely and successful conclusion."

"We are committed to improve access to information, promote conducive business environments and investments in rural infrastructure, such as transportation, processing, storage facilities and irrigation schemes."

The G-8 leaders also called for the strengthening of global and local governance for food security because it is key to defeat hunger and malnutrition, as well as to promote rural development, according to the G-8 Web site. "Improved global governance should build on existing international organizations and international financial institutions, making use of their comparative advantage, enhancing their coordination and effectiveness and avoiding duplications. To this end, we support the U.N. High Level Task Force on the Global Food Security Crisis."

Leaders also reaffirmed support of FAO, the Committee on World Food Security, the Consultative Group on International Agricultural Research and the Global Forum on Agricultural Research.

Partnership critical in food security

The G-8 Food Security Statement calls for continuing and increased partnership efforts among worldwide stakeholders. "We can together design and implement an effective food security strategy, with priority on the world's poorest regions. We agree to support a global effort whose core principles are country ownership and effectiveness. We pledge to advance by the end of 2009 — consistent with our other actions aimed at improved global governance for food security — the implementation of the Global Partnership for Agriculture and Food Security."

This Partnership will count on a reformed and effective Committee on World Food Security involving governments, international and regional organizations, civil society, farmer organizations, the private sector and the scientific community, according to the Statement.

AfricaFertilizer.org — A global Internet portal site to catalyze African agriculture

IFDC plans to launch www.AfricaFertilizer.org in 2009. AfricaFertilizer.org is a global Web portal site to disseminate and exchange information necessary for agricultural intensification, including the development of fertilizer and commodity markets, across Africa.

The interactive site has search engines and provides for discussions.

"AfricaFertilizer.org will contribute toward the African Green Revolution that the continent needs," says Patrice Annequin,

Joel Dossoumon, database/Web officer, IFDC Ghana office, prepares for the launch of www.AfricaFertilizer.org.

***AfricaFertilizer.org*—A global Internet portal site to catalyze African agriculture (continued from page 4)**

IFDC market information specialist. Annequin provided leadership in establishment of the portal site.

AfricaFertilizer.org will help its ultimate clients — smallholder farmers across Africa — mainly through stakeholders in the development of Africa's agriculture. These include farm organizations, researchers, policymakers, extension specialists, the agri-input industry, the private sector, the media and donors and funding agencies.

The concept for AfricaFertilizer.org grew out of the Africa Fertilizer Summit held in June 2006 in Abuja, Nigeria. The initiative is partly funded by the Strategic Alliance for Agricultural Development in Africa (SAADA), which is supported by the government of the Netherlands.

The EADN training participants display their new training certificates. Course coordinator Philip Karuri is standing in the second row, second from right. Trainer Manon Dohmen stands to Karuri's left and trainer Herman Louw sits in the front row (no certificate).

East and Southern Africa Division

IFDC/EADN project conducts training for agro-input dealers

Contributed by Manon Dohmen, coordinator – special projects, NWAFD

The Extending Agro-Input Dealer Networks (EADN) project in East Africa aims to improve access to and use of modern production technologies — fertilizers, improved seeds and crop protection products — for smallholder farmers in Kenya, Tanzania and Uganda. The main focus is to strengthen the capacity of agro-input dealers and expand dealer networks to better serve farmers.

EADN activities are conducted in selected agricultural areas in 30 districts of the three countries. Activities focus on strengthening the capacities of input dealers and establishing linkages among farmers, dealers, extension agents and other key members of the input value chain. EADN initiatives will reduce transaction costs, improve the availability and quality of essential inputs, increase farmer demand for such inputs and strengthen dealer advisory services to farmers. The International Fund for Agricultural Development (IFAD) provides funding for EADN.

Training agro-input dealers in Kenya, Tanzania and Uganda is one of the main objectives of the EADN project. A training program for 27 potential trainers (18 men, nine women) from the three countries was held March 9-20, 2009, at the headquarters of the African Insect Science for Food and Health (ICIPE) in Nairobi. The participants were from local government agencies, ministries of agriculture, the private sector and training institutes.

Week One emphasized "training of trainers" (ToT). The first part of the ToT program covered preparation of a training program; adult learning; training methods, aids and skills; evaluation; and follow-up. In the second part, each participant organized a 20-minute training session on agro-inputs.

The second week focused entirely on technical knowledge of fertilizers, pesticides, seeds and agro-input marketing.

Most topics were completely new to the participants, even though many had training experience and some had participated in previous training programs. Thus, most participants were highly motivated. Knowledge gained was evaluated through pre- and post-course tests and during individual lessons. A few participants scored higher than 90 percent on the written test.

EADN will continue to conduct capacity building and training in collaboration with other stakeholders involved in the agro-dealer development activities. Training activities and technology transfer demonstrations will be done jointly with ongoing IFDC projects in the East Africa region.

Expected outputs of the project include:

- More than 500,000 farmers will increase their use of modern inputs, productivity and incomes by an average of 35 percent.
- 1,900 primary dealers will improve their services to their clients.
- 27 training workshops will be held in 2009.

IFDC's CATALIST project hosts conference on regional fertilizer market

Contributed by Danielle Mbesherubusa, CATALIST communications and translation officer

On July 1, 2009, Rwanda and Burundi joined the East African Community (EAC) Customs Union. To analyze how this new affiliation will impact the regional flow of agricultural inputs and commodity outputs, IFDC's CATALIST project hosted a conference on "Opportunities and Challenges in a Single Regional Fertilizer Market," July 28-29, 2009, in Bujumbura, Burundi.

The conference was held in collaboration with the Burundi Ministry of Agriculture and Livestock, Burundi Chamber of Commerce and Industry, Burundi Association of Fertilizer Dealers and the Private Sector Federation of Burundi. The conference's 70 participants included officials from the Burundi government; representatives from the EAC and Common Market for East and Southern Africa (COMESA); major fertilizer manufacturers, importers and distributors; government, cooperative and private buyers; policymakers and advisers; financial institutions; private sector federations; and transporters.

"Through the event, IFDC brought decision-makers and politicians to the same table with fertilizer producers and importers," says Bruce Smith, CATALIST's deputy chief of party. "The conference also included country-specific case studies of fertilizer policies and options. Representatives of the EAC and COMESA discussed regional initiatives to develop a common fertilizer policy."

Objectives of the conference were to assess current regional fertilizer production, showcase new fertilizer technologies and products and provide networking opportunities for regional fertilizer buyers and sellers. The conference included an analysis of the world fertilizer supply and demand situation and its implications for the region. The fertilizer economy has experienced significant change and innovation over the past few years. Most dramatically, prices spiraled in 2008. Urea, the most common form of nitrogen fertilizer, started 2008 at $400/mt, reached $820/mt in August and ended the year at $250/mt. The widely fluctuating price of fertilizers added market stress to the region, which has experienced a rise in fertilizer use.

In his speech opening the Conference, Burundi's Minister of Agriculture and Livestock, the Honorable M. Ferdinand Nderagakura, emphasized that fertilizer use is the only way to ensure increases in agricultural productivity and thus improved food security.

The keynote speaker was M. Anup Modha, managing director of Minjingu Mines and Fertilizer in Tanzania. He discussed initiatives taken by African countries to help make fertilizers a "commodity without borders." Modha also discussed the African Union's 2009 Sirte Declaration on investing in agriculture for economic growth and food security and the decision made at the G-8 Summit in L'Aquila, Italy, to fund African agriculture with up to US $20 billion.

Laurence Mukamana, national coordinator of CATALIST in Rwanda, explained IFDC's role in helping the Rwandan government make its Crop Intensification Program (CIP) a success. The CIP involved procurement and distribution of mineral fertilizers and increased production and distribution of improved seeds. She said that with IFDC's support, the CIP led to a 16.4 percent increase in the use of fertilizers and seeds on Rwanda's major crops.

At the request of Minister Nderagakura, the following recommendations were made to participating government officials:

- To establish a clear strategy identifying the role of the government and the private sector and an implementation plan.
- To establish a common fertilizer strategy with the EAC.
- To support the African Development Bank in its study to identify regional resources and fertilizer production facilities.

Audience members listen to analysis of the world fertilizer supply and demand situation and its implications.

Lake Kivu on Rwanda-Democratic Republic of Congo border

A potential source of nitrogen fertilizers for Sub-Saharan Africa?

The deep and dark blue waters of Lake Kivu, on the border of Rwanda and the Democratic Republic of Congo, contain huge amounts of dissolved gases — mostly carbon dioxide and methane — that increase in concentration with the lake's depth.

Methane is the desired feedstock for the production of nitrogen fertilizers. Fertilizers are particularly expensive in Rwanda and neighboring countries, partly because almost all are imported through ports in Kenya and Tanzania. Exploiting indigenous resources of landlocked countries can make fertilizer cheaper for smallholder farmers.

IFDC has proposed, and the Rwandan government has agreed, that production of nitrogen fertilizer from gases of Lake Kivu should be considered.

Lake Kivu — a potential source of nitrogen fertilizers for Sub-Saharan Africa?

Preliminary technical assessment confirms the feasibility of producing ammonia and urea for Rwanda and neighboring countries from Lake Kivu gases. But before deciding on this option, further study is needed on potential markets, economics of production and potential environmental impacts.

North and West Africa Division

Urea deep placement makes its way to Africa

The Niger experience

Leaders of 15 cooperatives representing nearly 10,000 rice farmers took a guided tour of urea deep placement (UDP) experiments in rice fields in the western Niger village of Karma on April 25, 2009.

How UDP came to Africa

"We knew that farmers in Bangladesh were increasingly adopting UDP because it cuts urea use by about 40 percent while increasing yields by 20 percent or more," said Dr. Abdoulaye Mando, program leader of the IFDC Natural Resource Management Program.

"African farmers face many of the same problems as Bangladeshi farmers. So we organized the tour to introduce African agricultural leaders to their Bangladeshi counterparts who shared their positive experiences using UDP."

A West African team of scientists, policymakers, business entrepreneurs and extension workers toured Bangladesh to see UDP for themselves in September 2008. Development workers from Burkina Faso, Mali, Nigeria and Togo interacted with Bangladeshi scientists. Bangladeshi manufacturers of urea briquette machines also made business contacts with potential African dealers.

IFDC then began introducing UDP technology in Burkina Faso and Mali in 2008 and in Madagascar, Niger, Nigeria, Senegal and Togo in 2009.

Dr. Marjatta Eilittä, director of IFDC's North and West Africa Division, said,

Farmer in Niger displays UDP briquettes.

(continued on page 8)

Urea deep placement makes its way to Africa (continued on page 7)

"IFDC's experience in Bangladesh helps us understand the bio-physical and socio-economic environments where UDP might work in Sub-Saharan Africa. We're now experimenting in a few pilot areas and hope to adapt and spread the use of UDP technology in many areas of Africa."

While visiting UDP rice fields in his country, Chaibou Abdou, secretary general to Niger's Minister of Agriculture, said "Spiraling food prices in 2008 spurred the government decision to boost local rice production and reduce costly imports. The price for a 50-kg bag of rice reached FCFA 20,000 to 30,000 [US $41.45 to $62.17] in February and March of 2008. Ordinarily, the most expensive rice would cost no more than FCFA 15,000 [$31.09] a bag.

"Niger has 30,000 hectares (ha) of land that has potential for rice production. With modern technology it could supply 30 percent of our needs. But farmers now plant improved rice varieties on only 8,500 ha."

Dr. Bidjokazo Fofana, coordinator of IFDC's UDP programs in Sub-Saharan Africa, explained the selection process: "UDP pilot areas are selected by criteria such as potential for increased rice production, comparative advantage in terms of farmers' organizations and openness to change, and local entrepreneurs who might invest in briquette production."

"Something different is happening"

Abdou Morou, secretary general of the Karma Cooperative, said, "Farmers who visit the UDP fields are intrigued. They know that something very different is happening!

"We're especially motivated because of the food crisis. Even our livestock went hungry! Before, we didn't know the importance of rice husks — but we now know they make good animal feed."

Ten of the 539 UDP farmers in Karma participate in IFDC's adaptive research program, and 10 manage demonstration plots.

UDP trials in Niger will soon involve 2,500 farmers in three irrigated areas — Daiberi, Karma and Koutoukale — covering 700 ha.

Machinery needed?

"Farmers can use UDP on plots of a quarter-hectare — but its high labor intensity might cause problems on larger plots," said Ali Mossi, director of the Service Provider Center, which follows up on UDP field activities and provides support to farmer cooperatives. "I suggest that IFDC develop a machine to make placement of the urea briquettes easier."

IFDC plans to extend UDP technology to 25,000 – 30,000 African farmers in the next three years, Fofana said.

Government of Benin and IFDC sign a Memorandum of Understanding

Contributed by Ketline Adodo, Coordinator – information and communications, NWAFD

Cotonou, Benin — On April 16, 2009, the government of Benin and IFDC signed a Memorandum of Understanding (MOU) that provides a legal framework for IFDC's project activities in the country. The Minister of Foreign Affairs was represented by Mr. Desire Adadja, Minister of Communication and Information Technology. He stated, "The Benin government considers IFDC a strategic ally in its efforts toward food security and poverty reduction.

"I would like to express the appreciation of President Boni Yayi and the Beninese people for the technical and financial support that IFDC brings to

From left, Dr. Marjatta Eilittä, director of IFDC's North and West Africa Division; Pascal Assogba Oude, Benin's ambassador to the U.S.; and Desire Adadja, Minister of Communication and Information Technology, at the signing of an MOU providing the legal framework for IFDC's work in Benin.

(continued on page 9)

Government of Benin and IFDC sign a Memorandum of Understanding (continued from page 8)

our national agricultural development efforts," Adadja said.

Signing on behalf of Dr. Amit Roy, IFDC's president and chief executive officer, Dr. Marjatta Eilittä, director of IFDC's North and West Africa Division, said, "I am convinced that this agreement will contribute to the achievement of the Green Revolution, which President Yayi has set as a top development priority."

Highlighting IFDC's mission and its interventions in Benin, Eilittä said that current production levels in Benin do not provide an adequate supply of agricultural products for the country's population and emerging agro-industries. At the same time, without adding nutrients through fertilizers, soils are becoming increasingly exhausted due to continuous cultivation.

According to Gregoire Houngnibo, IFDC's representative in Benin, "IFDC is recognized in Benin as an expert in soil fertility management and cotton sector and input market development owing to its achievements and flagship activities."

Gaston Dossouhovi, former Minister of Agriculture, who was present at the signing ceremony, said "IFDC is helping to find sustainable responses to the cotton crisis. This agreement between the Beninese government and IFDC is the achievement of ongoing efforts since 2004. Those who played a role in the process are very pleased to see this day."

Minister Adadja concluded, "The signing of this agreement marks the beginning of a new partnership between IFDC and the Beninese government. This partnership should focus on four strategic areas: agricultural reforms; access to agricultural inputs and supply systems; institutional development; and integrated soil fertility management."

CropLife and IFDC sign new MOU for additional five-year term

Accra, Ghana, June 3, 2009 — Dr. Rudolf Guyer, executive president of CropLife Africa Middle East, and Dr. Marjatta Eilittä, director of IFDC's North and West Africa Division, signed a Memorandum of Understanding (MOU) for a renewable five-year term. This partnership will build on the previous accomplishments of the first MOU (signed in April 2004) between CropLife and IFDC. The partnership will provide support for farmers involved in agro-processing.

"We are pleased to work with IFDC toward global agricultural sustainability based on the targets put forth by the United Nations Commission for Sustainable Development," Guyer said. "Substantial progress has been made in bringing the theme of agriculture back to the development agenda."

"The original collaboration with CropLife five years ago came from the shared conviction that the safe and appropriate use of inputs is the key to increasing agricultural productivity in Africa," said Eilittä.

Some highlights of the previous five years include:

MOU renewed between CropLife and IFDC June 3, 2009. Left to right, Dr. Kofi Debrah, IFDC's country representative in Ghana; Dr. Marjatta Eilittä, director of IFDC's North and West Africa Division; Dr. Rudolf Guyer, executive president, CropLife Africa Middle East; and Mr. Bama Yao, CropLife West and Central Africa Hub coordinator.

- Eight master trainers were trained to facilitate Training of Trainers (ToT) in English, French and Arabic in Cameroon, Côte d'Ivoire, Egypt, Ghana, Madagascar, Namibia, Nigeria and Tunisia.
- 13 ToT and follow-up courses were facilitated.
- A ToT manual and an agro-dealer manual on the safe use of crop protection products and integrated pest management were developed.
- Input dealer associations were strengthened.
- There was collaboration on the harmonization of regulations at the regional level.

(continued on page 10)

CropLife and IFDC sign new MOU for additional five-year term (continued from page 9)

Plans for the future partnership include:

- One IFDC staff member will work 50 percent of the time for CropLife as an association specialist to coordinate training programs, evaluate training efforts, coach master trainers and assist in starting Integrated Pest Management courses in Africa and the Middle East.
- IFDC will support national CropLife associations to be more active in the Africa Stockpile Program (ASP). The ASP is a multi-stakeholder initiative that aims to clean up obsolete pesticide stockpiles in Africa, prevent future toxic threats from such stocks and protect livelihoods and the environment. Partners include participant countries, CropLife International, the United Nations Food and Agriculture Organization, PAN-Africa, PAN-United Kingdom, the World Bank and the World Wildlife Fund.

Guyer expressed his thanks to Rob Groot, IFDC's director for East and Southern Africa, and CropLife's Yves Demeure, who pioneered the initial cooperation. Appreciation was also expressed to Bama Yao of CropLife and to IFDC's Manon Dohmen.

Eurasia Division

KAED II demonstrates new agricultural technologies

Contributed by Daniya Baisubanova, IFDC/ KAED public relations/outreach specialist

The Kyrgyz Agro-Input Enterprise Development Project (KAED II) recently held two events in the Chui province of Kyrgyzstan to showcase yield-enhancing technologies — modern agricultural machinery and new varieties of wheat seed. KAED is implemented by IFDC and financed by the U.S. Agency for International Development (USAID) in cooperation with Kyrgyzstan's Ministry of Agriculture, Water and Processing Industry.

Harvesting techniques using wheat combines were demonstrated during the wheat demonstration field day.

Agricultural machinery

KAED held an agricultural machinery forum on June 3, 2009, at the "Almaz" farm (which means "diamond" in Russian and Kyrgyz) in the village of Romanovka to demonstrate modern technology's role in cultivating cereals and feed crops. The forum was organized in collaboration with Manas Samatov, a representative from the machinery company AMAZONE. Small-scale machinery, including mowers, mineral fertilizer distributors, spraying machines and seeding machines, was displayed during the forum.

"The mechanization of agriculture is a key to increasing productivity of staple food and feed crops," says Dr. Hiqmet Demiri, KAED's chief of party. "We demonstrated agricultural machinery that performs cost-effective field operations in compliance with the highest agronomic demands."

New wheat seed varieties

KAED organized a field day on a large-scale wheat demonstration farm in the village of Krasnaya Rechka on July 8, 2009.

"The goal of the field day was to demonstrate yield results of the new winter wheat seed varieties 'Starshina' and 'Krasnodar 99,'" Demiri says. KAED originally imported the improved seeds into the country in the fall of 2008 through USAID's Emergency Seed Assistance Program for Kyrgyzstan.

New varieties of wheat were planted on 65 ha of farmland for the demonstration. Other advanced cropping technologies such as proper seeding rates, fertilizer management, weed control and modern irrigation techniques were also featured.

"Field day participants learned that in addition to increasing yields, the new wheat varieties are resistant to disease and tolerant to lodging," Demiri says. (Lodging occurs when a crop's stem bends near to the ground, causing decreased yields.)

Iskender Aidaraliev, Kyrgyzstan's Minister of Agriculture, Water and Processing Industry, attended both events. Other participants included farmers and representatives of USAID in Kyrgyzstan, local government, agricultural cooperatives, financial institutions, international organizations, rural advisory services, farm stores and service-providing companies.

UDP ensured food security of widow's family

Contributed by Ishrat Jahan, IFDC resident representative and team leader, Bangladesh

Sreemoti Usharani Gossami, a 55-year-old Bangladeshi widow from Atapur village in Debidwar upazila, Comilla district, supports her family by cultivating rice on less than an acre of land.

Life was easier when her husband was alive. He was a very progressive farmer and the family owned a shallow tube well, which provided additional income from the sale of water to other farmers. They had eight bighas (2.64 acres) of rice land, which adequately fulfilled the food requirements of the family.

Due to village politics, they lost five bighas of their rice land and faced extreme poverty, including food insecurity. The three remaining bighas (about one acre) did not produce enough rice to feed the family. She and her husband had to miss one to two meals almost every day and then her husband died in 2006. After his death, someone stole their shallow tube well, which made the situation even more dire.

Usharani was very concerned about how she would feed her children. She was concerned about whether it was proper for her to work in the field, but she knew she must for the survival of the family. In 2007 she and her daughters started growing rice on her small piece of land.

During the 2008 Boro paddy season, she learned about urea deep placement (UDP) technology, also called Guti, from IFDC's field officer and an agriculture officer from the Department of Agricultural Extension (DAE). Both of them encouraged Usharani to use UDP to increase paddy yield and to save urea. She received UDP training conducted by IFDC in collaboration with DAE under the USAID-funded project "Expansion of Urea Deep Placement Technology in 80 Upazilas of Bangladesh during Boro 2008."

After receiving training, Usharani and her daughters deep-placed Guti urea in all of their paddy land. And then they waited for harvest. She said that due to the application of Guti urea, the Boro paddy yield in their field increased by 200 kg per bigha using 23 kg less urea per bigha. As a result, she received an additional 600 kg of paddy yield from her land.

She was so encouraged by this additional grain for her family that she also applied Guti urea during the Aman paddy season and the result was the same. Now she is harvesting an additional 1,200 kg of paddy rice from her small plot of land annually.

She is also excited that UDP does not require using as much urea as she previously used. "I have the magic technology, which I never dreamed of," Usharani said. "Happy days have returned. I can feed my children and myself three times a day now. This technology has changed my life; I now have hope and the means to live much better tomorrow." Because of her success, Usharani has been able to build a new tin house and pay for her children to go to school.

She is the pioneer in expanding UDP technology in her village. Because of Usharani's success, other farmers have been motivated to use Guti urea. Consequently, about 80 percent of paddy land in that village has been fertilized using the UDP technology.

Research and Development Division – Headquarters

IFDC scientists develop new regional crop modeling tool

The assessment and management of agricultural risk centers on two main sources of annual variability: the weather and the cost of agricultural inputs and outputs. To address and quantify these risks, the Climate Information Analysis Simulation Tool was developed by IFDC scientists Dr. Upendra Singh, senior scientist – Systems Modeling (Soil Fertility), and Dr. Paul Wilkens, scientist – programmer.

Crop modeling was first developed in the early 1960s. Scientific crop growth simulation models are used to address research problems, to increase knowledge on crop growth, development and yield and to answer questions. Researchers work closely with state climatologists to gather the latest techniques in weather forecasting. Crop modeling software helps farmers respond to and prepare for particular weather phases.

The new Climate Information Analysis Simulation Tool is a fully functional geographic information system (GIS) linked with the Cropping System Model (CSM) in the Decision Support System for Agrotechnology Transfer (DSSAT). Integration of climate and geospatial soil databases allows a wide range of crop management options to be simulated and analyzed. Together with a seasonal analysis tool, crop management can be optimized based on both price/cost structures and climate variability.

With the addition of phosphorus and potassium dynamic modules, this flexible tool has been used for testing cropping system management in many at-risk cropping areas around the world. In the last year, the system has been used to optimize crop management with the goal of minimizing risk

(continued on page 10)

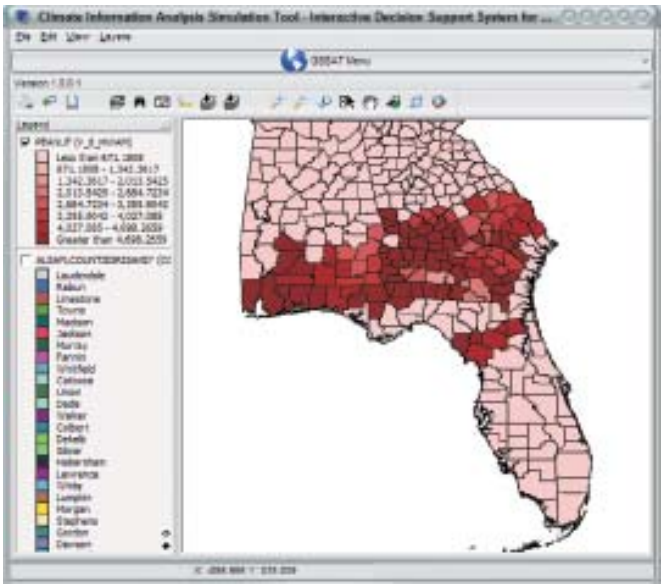
IFDC scientists develop new regional crop modeling tool (continued from page 11)

and maximizing profits in India, the southeastern United States and on the African continent, particularly in Morocco and Benin.

The demand for modeling workshops around the world continues to increase as research and other organizations turn to systems analysis to improve nutrient use efficiency and to minimize risk. Many researchers are focusing on the use of crop models to quantify impacts and develop mitigation strategies based on climate variability and climate change.

IFDC researchers participated in several workshops to train scientists in crop modeling, including:

- DSSAT workshop in Griffin, Georgia, U.S.A., in May 2008.
- ISFM workshop in Accra, Ghana, in October 2008.
- Near East North Africa (NENA) project workshop in Damascus, Syria, in February 2009.
- Crop modeling/ climate change workshop at Universiti Kebangsaan Malaysia in April 2009.
- DSS/ISFM workshop in Ouagadougou, Burkina Faso, in July 2009.



Example of how the crop modeling software works — peanut yield in the southeastern United States.

IFDC embarks in new direction

As IFDC approaches its 35th anniversary, the organization is undergoing changes that will help it to better address the global issues of food security, poverty, hunger, environmental degradation and the promotion of economic development and self-sufficiency while catalyzing agricultural productivity in the developing world.

IFDC was created in October 1974 in Muscle Shoals, Alabama, U.S.A., to alleviate worldwide food shortages through improved fertilizer production and use. Since its early focus on fertilizer research, IFDC's programs have broadened to help improve the efficiency of the agricultural value chain in developing countries. This includes increasing farmers' access to agri-inputs (fertilizers, seeds, crop protection products and water) and developing output markets to help farmers increase their economic well-being through the sale of surplus crops. As its mission became broader, IFDC established its Africa Division in Lome, Togo, and Asia Division in Dhaka, Bangladesh, in 1987.

In January 2009 IFDC began implementing a new five-year strategy, which centers on achieving sustainable food production and reducing environmental impact while still fulfilling its original mandate of creating more effective fertilizers. As Dr. Norman Borlaug, recipient of the 1970 Nobel Peace Prize (and a former member of the IFDC Board of Directors), stated, "We cannot lose sight of the enormous job before us to feed 10 billion people, 90 percent of whom will begin life in a developing country, and probably in poverty. Only through dynamic agricultural development will there be any hope to alleviate poverty and improve human health and productivity…"

IFDC's president and chief executive officer, Dr. Amit Roy, says, "IFDC initiated its new strategic framework for 2009 to 2013 to re-evaluate the most effective ways to improve the lives of both the rural and urban poor. Today's heightened global commitment to food security, poverty alleviation and agriculture offers new opportunities for us to have a large-scale impact."

To best implement this strategy, IFDC has reorganized its structure and hired new staff members.

Reorganization

Because the scope of IFDC's work in Africa has continued to expand, the organization's former Africa Division has been divided into the East and Southern Africa Division (ESAFD) and the North and West Africa Division (NWAFD). ESAFD is headquartered in Nairobi, Kenya, and conducts operations in Burundi, the Democratic Republic of Congo, Kenya, Mozambique, Rwanda, South Africa, Tanzania, Uganda and Zambia. ESAFD is led by J. J. Robert Groot, the former director of the Africa Division. Groot has more than 20 years of experience in

(continued on page 13)

IFDC embarks in new direction (continued from page 12)

international agricultural development, with a primary emphasis on agricultural intensification in Sub-Saharan Africa. He holds a master's degree in biology and agronomy from the Netherlands' Wageningen University.

NWAFD's regional office continues to be located in Lomé, Togo. The division currently has projects ongoing in Benin, Burkina Faso, Chad, Ghana, Mali, Niger, Nigeria, Senegal and Togo. NWAFD is led by Dr. Marjatta Eilittä, formerly IFDC's agribusiness program leader. Eilittä has conducted extensive work on soil fertility management on smallholder farms. She received a bachelor's degree in the history of science from Harvard University, Cambridge, Massachusetts, U.S.A.; a master's degree in crop production from the University of Helsinki; and a doctorate in agronomy from the University of Florida, Gainesville, U.S.A.

IFDC's former Asia Division is now the Eurasia Division, reflecting work across both Europe and Asia. IFDC projects that are under the purview of the Eurasia Division include those being implemented in Afghanistan, Albania, Bangladesh and Kyrgyzstan. The projects focus on a range of issues directly related to improved agricultural productivity and improved farmer incomes. The Division is led by John Allgood, a 32-year veteran of IFDC and most recently the Director of the Finance and Administration Department. Allgood is experienced in evaluating, planning and developing fertilizer marketing systems in Asia and Africa. He earned a bachelor's degree in marketing from Florida State University and a master's degree in business administration from the University of North Alabama, Florence, U.S.A.

"Reorganizing our international presence better positions IFDC to help meet agricultural development challenges around the world," says Roy.

New personnel

IFDC has recruited new staff members to lead the growing institution. Among the new hires is Charles (Corky) Snipes, Jr., director of operations. Snipes joins IFDC following a 35-year career at the Tennessee Valley Authority (TVA) in Muscle Shoals, where he held several senior management and engineering positions. Most recently, he was TVA's senior manager of resource management. Snipes has extensive experience in project management, strategic planning and leading organizations through changing business environments. He holds a master's degree in business administration from Vanderbilt University in Nashville, Tennessee, U.S.A. He also has a bachelor's degree in engineering from Mississippi State University, Starkville, U.S.A.

Timothy Karera, IFDC's new director of training and workshop coordination, relocated from his native country of Rwanda to work at IFDC's headquarters. Karera was previously a rural development and finance specialist with USAID. He also held training, agricultural development and senior managerial positions at the Rwanda Development Bank and Inades Formation, a Pan-African nongovernmental organization. Karera's 20-year career took him to 30 countries and he worked on short- and long-term assignments in 25 of these countries. He led teams in multicultural settings during his international career. Karera earned a master's degree in business administration (specializing in finance) from the Maastricht School of Management in the Netherlands. He also has an engineering degree in agronomy, a bachelor's degree in philosophy and social sciences and a professional diploma in organizational management.

Scott Mall, from Atlanta, Georgia, U.S.A. joins IFDC as coordinator of information and communications. Mall specializes in media relations, public affairs, marketing communications and change management communications. He was the principal consultant for Mall Strategic Communications and held senior corporate communications and marketing positions at Ryder System, Inc. and AutoNation. Mall was also director of communications for the Atlanta Committee for the Olympic Games. He earned a bachelor's degree in journalism from the University of Georgia, Athens, U.S.A. and completed all coursework for a master's degree in journalism and public relations from the University of Southern California.

IFDC is hiring these new subject-matter specialists to help redefine the organization and further its work in the developing world. "Although the organization is evolving, its ultimate mission remains unchanged: To increase sustainable agricultural productivity through the development and transfer of effective and environmentally sound crop nutrient technology and agricultural marketing expertise," according to Roy.

KAED II helps rehabilitate abandoned farmland through USAID-Kyrgyzstan's Southern Initiative

Contributed by Daniya Baisubanova, IFDC/KAED public relations/outreach specialist

KAED II is helping rehabilitate abandoned land for agricultural use through USAID-Kyrgyzstan's Southern Initiative, which was launched in late 2008 in Markaz Ail-Okmotu of Batken Oblast in southern Kyrgyzstan. In addition to KAED, collaborators of the initiative include the Land Reform Project implemented by Chemonics International, Water Users Association Project implemented by Winrock, and the Central Asian Micro Finance Alliance implemented by Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance (ACDI/VOCA).

(continued on page 14)

KAED II helps rehabilitate abandoned farmland through USAID-Kyrgyzstan's southern initiative (continued from page 13)

Thirty-five hectares were auctioned in early 2009. The next day, the renters began irrigation work, gathering and removing stones from the field, and smoothing the roughness of the plots. Plowing, harrowing in two traces, furrowing, cultivation, and digging of ditches were also done.

KAED has worked closely with the local government, making sure that the community plays an active role in the rehabilitation. The work was done in collaboration with farmers on a cost-share basis, in which KAED invested $15,000, and farmers invested $2,500. KAED II plans to invest $40,000 until the end of the growing season.

High-quality varieties of barley and alfalfa were purchased from farm stores run by the Association of Agribusinessmen of Kyrgyzstan (AAK). The seeds were planted, and sprouts of barley and alfalfa have already surfaced.

KAED established a demonstration field on forage crops on 1 ha of irrigated arable land and will conduct field days, seminars, and training sessions on forage crop cultivation and methods of land fertility improvement.

KAED is spending about $400/ha to bring the degraded land into full production. It is estimated that 30,000 ha of agricultural land is degraded. Rehabilitation will directly contribute to Kyrgyzstan's food security.

In April 2009 Pat Shapiro, USAID country representative to Kyrgyzstan, visited Markaz and was able to see KAED's role in the land rehabilitation initiative.

Irrigating the land in Markaz, Kyrgyzstan.

Pat Shapiro (second from left), USAID country representative, during her visit to Markaz.

Alchemy of Air author Thomas Hager to be Travis P. Hignett memorial lecturer during IFDC's annual board meeting

Author Thomas Hager will deliver the Travis P. Hignett Memorial Lecture during IFDC's annual board meeting in September. His latest book, *The Alchemy of Air,* was named by Kirkus Reviews as one of the "best books of the year" and "science writing of the first order." Hager will speak on Wednesday, Sept. 16 at 3 p.m. at the Tennessee Valley Authority auditorium in Muscle Shoals. Hager's Hignett Lecture is entitled "Feeding a Hungry World: The Triumph of Synthetic Fertilizers." The public is invited to attend.

The Alchemy of Air recounts how Dr. Fritz Haber and Dr. Carl Bosch, recipients of the Nobel Prize in Chemistry, changed history with perhaps the most significant invention of the 20th century. According to Hager, "My book is the first to describe in detail the work of these pioneers, who developed a method to pull the element nitrogen out of the air and put it into fertilizers for growing food." According to the *Washington Post Book World* the book is "a Faustian tale of pride, vanity and ambition…Haber and Bosch are fascinating if troubled personalities, brought by Hager compellingly to life."

As Hager describes their discovery, "two men found a method in 1909 to **turn air into bread** (this is a bit poetic, but is actually how their work was described at the time and is a fair description of its essential effect). Their discovery, built into factories the size of small cities, today burns about one percent of all the energy on earth, and keeps alive almost half the people who inhabit it." According to the Portland *Oregonian*, Hager's book is "a page-turner...it make[s] the scientific process as suspenseful as a good whodunit," while *Discover* magazine states, "this scientific adventure spans two world wars and every cell in your body."

Hager is the author of several other books including *The Demon Under the Microscope; Linus Pauling: Scientist and Peacemaker; Force of Nature: The Life of Linus Pauling; Staying Young*; and *Aging Well.*

Raised in Portland, Oregon, U.S.A., Hager earned a master's degree in medical microbiology and immunology from the Oregon Health Sciences University and a second master's in journalism at the University of Oregon. He worked as a freelance medical writer, a contributor to *American Health* and as a West Coast news correspondent for the *Journal of the American Medical Association* before getting into editing and publishing. He was the founding editor of a scientific trade publication and then edited *Oregon Quarterly*, the oldest and largest circulation magazine in Oregon, for 10 years. He also held the position of director of communications and marketing at the University of Oregon.

The Travis P. Hignett Memorial Lecture Series was initiated by IFDC in 1994 to honor a distinguished chemist, chemical technologist and developer, author and administrator. After a 35-year career with the Tennessee Valley Authority's fertilizer program, Hignett (1907–89) served as a special consultant at IFDC for more than a decade. Often referred to as the "Father of Fertilizer Technology," Hignett held 15 patents and was the author of nearly 150 publications.

He received global recognition and many awards during his 50-year career, including the Francis New Memorial Medal from the Fertilizer Society of London in 1969.

IFDC
P.O. Box 2040
Muscle Shoals, Alabama 35662
U.S.A.

PRINTED MATTER

NONPROFIT
ORG.
U.S. POSTAGE
PAID
FLORENCE, AL
PERMIT #525