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IFDC report

An update on the work and progress of IFDC

U.S. Official Visits Key Kyrgyz Seed Farm

50th Anniversary of the African Union

U.S. President Barack Obama Promotes FDP and Other Agricultural Technologies

Grain from the Green Belt

Innovate for Global Food Security

IFDC

IFDC*report*

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

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Daniel Rosenblum, U.S. State Department coordinator of American assistance to Europe and Eurasia, is shown on a New Holland® harvester during his visit to the Atalyk Group seed farm in Kyrgyzstan.

U.S. Official Visits Key Kyrgyz Farm

On July 9, Daniel Rosenblum, coordinator of U.S. assistance to Europe and Eurasia within the State Department's Bureau for European and Eurasian Affairs, visited the Atalyk Group seed farm in the village of Novopokrovka, which is located in Issyk-Ata *rayon* (district), Chui *oblast* (province) in northern Kyrgyzstan. Atalyk Group, established in 2008, is one of the largest agricultural enterprises in the Kyrgyz Republic; total acreage is 2,450 hectares (ha). It produces and processes wheat and corn seed, thus helping improve farmers' access to high-quality and affordable varieties. In 2009, the farm was awarded a diploma for best agricultural enterprise in Issyk-Ata *rayon*.

Atalyk Group is one of 14 beneficiary seed farms under the $7.4 million Economic Development Fund (EDF) Phase II Seed Investment Support Program. The EDF II program was jointly designed by the governments of the U.S. and Kyrgyzstan and was implemented through IFDC's USAID Kyrgyzstan Agro-Input Enterprise Development (KAED) Follow-On project and the Kyrgyz Ministry of Agriculture and Land Reclamation. The program provided selected seed farms with modern agricultural machinery and equipment as well as technical and management training. This assistance helped equip these seed farms to better serve their domestic customers and also increased capacities to export high-quality field and forage crop seeds to regional markets. Through the EDF II program, Atalyk Group received nine pieces of equipment including a John Deere® tractor, New Holland® harvester and Petkus® seed cleaning line.

At the seed cleaning facility, Rosenblum observed the operation of the Petkus® equipment. Seeds are cleaned, graded and prepared for distribution to approximately 70,000 farmers in Chui Valley, maximizing the impact of the U.S. Agency for International Development's (USAID) intervention.

Rosenblum also visited the Atalyk Group's livestock farms – two cattle farms and one horse farm with a total of 1,020 head of cattle and 110 horses. Among the improvements the Atalyk Group made were a modern milking shed with automatic milking equipment and a walking yard for the horses. The financial aid to Atalyk Group is in line with USAID's approach to support enterprises that are able to invest on a cost-sharing basis, thus significantly increasing the return on investment and benefits.

Turat Ukubaev, the head of Atalyk Group, made a presentation highlighting the farm's achievements and challenges, and the significance of the EDF II program's contribution to the development of the farm and the

regional farming community. He also credited the Atalyk Group's association with the USAID KAED project.

Other distinguished guests in attendance were: Mark Hannafin, USAID interim country representative to the Kyrgyz Republic; Turdubek Andashev, head of the Agricultural Rural Development Department of Issyk-Ata *rayon*; Dmitri Ten, chairman of the National Variety Testing Committee; Vyachaslav Rudenko, director of the Kyrgyz Republic State Seed Inspection; Jigitaly Jumaliev, director of the Ministry of Agriculture's Department of Agricultural Development; and Almaz Asipjanov, project management specialist/mission environmental officer.

In addition to taking part in the event, participants also discussed areas for possible future cooperation between the U.S. and the Kyrgyz Republic, including land rehabilitation and soil fertility restoration, additional fertilizer supplies for Kyrgyz farmers, market opportunities and institutional strengthening.

▲ *Rosenblum (center) at Atalyk Group facilities with Kyrgyz officials and KAED staff. KAED Chief of Party Dr. Hiqmet Demiri is second from left, back row.*

USAID KAED Project Helps Kyrgyzstan to Become Self-Sufficient in Egg Production

Eggs from hens recommended by Oasis Agro have a distinctive pale pink color.

In 2010, Oasis Agro LLC and IFDC formed a public-private partnership (PPP) to promote poultry and high-value feed crops in Kyrgyzstan through the USAID KAED Follow-On project. The PPP involved the cultivation of 600 ha of soybeans and the production of 900 metric tons (mt) of processed soybean meal. The PPP helped generate $540,000 for farmers and processors. Since then, Oasis Agro and IFDC have provided poultry farmers with subsidized feed and training on poultry management. Oasis Agro's continued commitment to training Kyrgyz poultry farmers has helped the country's poultry sector grow and become more professionalized.

Small-scale commercial poultry production can accelerate the pace of poverty reduction and increase incomes. As a result, the number of small poultry farms (farms with less than 5,000 birds) is on the rise. Kyrgyzstan has seen a nearly 500 percent growth rate in egg production on small poultry farms within the last year.

Also, more farmers are adopting modern poultry farming practices after attending KAED-supported classes provided by Oasis Agro and another private sector company, Natural Agro. These businesses are encouraging poultry farmers to buy better breeds of hens, such as Hy-Line Brown, Coral and Novogen Brown, which produce almost twice as many eggs as indigenous birds. Oasis Agro and Natural Agro are also helping poultry farmers access more and better feed for their hens. Increasing egg production largely depends on the breeds of laying hens and the quality of feed given to hens. Consequently, soybean farmers have also experienced increased sales to poultry feed manufacturers.

These capacity building efforts enabled Kyrgyz poultry farms to produce 126.7 million eggs during the first half of 2013 – an 8.6 percent increase over the same period in 2012. In addition, the Kyrgyz poultry market imported fewer eggs. During the first quarter, only 4.2 million eggs were imported, 89 percent fewer than the first quarter of 2012. Higher production resulted in a 95 percent market share for locally produced eggs during the first four months of 2013. These numbers demonstrate the rapid growth of Kyrgyz poultry farms and their increased market success fostered through the creation and strengthening of more formal value chains by KAED.

"Our efforts over the last four years to help grow a fast-emerging poultry sector are paying off – Kyrgyzstan is almost self-sufficient in egg production," said KAED Chief of Party (CoP) Dr. Hiqmet Demiri. "The poultry farms' achievements are a great success story for IFDC's work in Kyrgyzstan."

Assuming that egg production continues to rise, Kyrgyz farmers may soon have a new source of revenue. "We are now embarking on a new phase – exporting Kyrgyz eggs to regional markets, mainly Uzbekistan, which faces constant shortages of meat and eggs," Demiri explained. Farmers who could not fulfill domestic market needs a few years ago will now be producing for the international market.

Oasis Agro recommends that farmers buy better breeds of hens, such as Hy-Line Brown, Coral and Novogen Brown. The hens shown here produce almost twice as many eggs as indigenous birds.

USAID KAED Follow-On Project Partners with Kumtor Gold Company

▲ *The USAID KAED project and Kumtor Gold Company organized a launching ceremony for their joint land rehabilitation project.*

Since its inception, staff members of the USAID KAED Follow-On project have promoted collaboration with the private sector, using it as a driving force to develop the Kyrgyz agriculture sector. The project has created numerous opportunities to build private sector capacity. In 2009, the project signed a memorandum of understanding (MoU) with Eurasia Group LLC Switzerland to increase production of corn and sunflower crops. Over time, the program has expanded, and more than 10,000 farmers have benefited.

In 2013, KAED Follow-On initiated a PPP with Kumtor Gold Company, the largest gold-mining company in Central Asia, operated by Canadian producer Centerra Gold Inc. As part of its corporate social responsibilities, Kumtor invests resources to help local communities improve their agricultural productivity and profitability.

In April, KAED and Kumtor signed a $370,000 land rehabilitation agreement. Kumtor's cash contribution is $200,000; KAED and local farmers will invest an additional $170,000 in expertise and labor. The objective of this joint project is to prevent degradation of agricultural land through the restoration of soil fertility and the rehabilitation of irrigation systems on two sites with a total acreage of 2,000 ha in the Ak-Dobo and Lipenka rural councils of Issyk-Kul *oblast* in northeastern Kyrgyzstan.

In late spring, the Follow-On project conducted a tender among contractors for the rehabilitation work. Two companies, Alban and Jeti-Oguz Kurulush, were selected. Rehabilitation work includes reconstruction of the Samat-Kol Dam, installation of transformer sub-stations and a pump station, reconstruction of irrigation channels in Lipenka rural council and cleaning of a 25,000 cubic meter capacity run-off pond in Ak-Dobo rural council.

A press conference with representatives of Kumtor, KAED and local governments was organized by the Lipenka rural council to launch the project. Douglas Grier, Kumtor director of sustainable development, and Alisher Kasymov, KAED general manager, briefed the audience on the planned rehabilitation activities. Deputy Governor Roza Kayipova of Issyk-Kul *oblast* expressed gratitude to Kumtor and the USAID KAED project. She noted that the initiative will contribute to long-term sustainable development in the region. Attended by a large number of media, the event generated nationwide publicity.

The project will draw on successful examples of earlier IFDC work in southern Kyrgyzstan, including rehabilitation of irrigation and drainage systems, agronomic activities and active involvement of rural communities and local governments. KAED rehabilitated five sites in southern Kyrgyzstan and brought back into production 1,700 ha of degraded land. Project agricultural specialists demonstrated increased soil fertility and the productivity of abandoned lands through improvements to irrigation systems, proper drainage, use of advanced growing techniques, weed and erosion control and new seed varieties. This work was done in close cooperation with local governments and communities.

The PPP with Kumtor Gold Company will help facilitate technology introduction, develop business linkages and foster foreign and private sector investment in Kyrgyz agriculture.

▲ *Local* aksakals *(respected senior village leaders) give their blessings to the success of this project.*

Farmer Achieves Dream Through Feed the Future Voucher Program

Hoji Nuridinov Safar heads Ayon Farm in the Qubodiyon district of Tajikistan's Khatlon Province. Khatlon is one of the 12 target zones of a USAID Feed the Future (FTF) initiative. Safar has worked on farms all of his life, first as an agricultural machine operator and later as a foreman on a collective farm when Tajikistan was under Soviet rule. After the collapse of the Soviet Union, he received 55 ha of land with 50 shareholders. While his 13-member family depended heavily on this land for food, most of it was used to grow cotton. He usually harvested 1,500 kilograms (kg)/ha of cotton, but, like other farmers in Khatlon Province, Safar consistently faced problems of dwindling yields and declining cotton prices. Cotton prices had fallen so dramatically over time that Safar could not even cover the cost of production. As his losses continually increased, Safar could hardly afford to plow or adequately irrigate his land.

Safar found hope in 2011 when he attended a meeting hosted by the USAID Productive Agriculture Project. It was there that he began to participate in the voucher program for early onions and learned alternative ways of increasing income by investing in non-cotton target crops. The voucher program helped him get started, allowing him to purchase discounted certified agricultural inputs instead of uncertified products that may be cheaper but are potentially harmful and/or ineffective.

Safar planted the certified onions on 2 ha of land, receiving help from project staff members who taught him best practices in planting and harvesting. He participated in farmer field days and pest management training and learned how to maximize yields from his land. Safar's 2 ha produced 120 mt of high-quality onions weighing 600-900 grams each. After taking samples of his onions to display at an agriculture fair in Danghara, he sold his entire harvest to buyers who were impressed with the quality of the onions. With an average price of TJS 1/onion (approximately $0.20), Safar's early onion harvest earned him TJS 60,000 (approximately $12,000).

Safar says his quality of life has improved greatly. He has been able to renovate his home, contribute to his daughter's medical school education, donate TJS 3,000 to three disabled neighbors, buy a tractor with support from the USAID project and achieve his lifelong dream of attending Hajj with his wife. "I want to thank USAID for providing more opportunities for farmers by introducing new onion productivity-enhancing technologies and assistance in obtaining new farm machinery that increases yields and incomes," Safar said gratefully. "Before, we could not imagine how large our yields would be from growing early onions instead of cotton and other crops."

> *Because of the USAID Productive Agriculture Project, Hoji Safar has an onion crop that makes him proud and gives his family a better life.*

USAID Creates Loan Program for Purchase of Farm Machinery in Tajikistan

Farmer Kholov Behruz (right) and his father are pictured with his new tractor, provided with the help of the USAID Productive Agriculture in Tajikistan Project.

Access to machinery is essential for efficient and profitable agricultural production. A 2010 study by the International Finance Corporation using 2008 data found that the number of tractors in Tajikistan had fallen to 43 percent of the 1991 level.

Kholov Behruz is a young farmer from the Vakhsh district of Khatlon Province in southwestern Tajikistan, the target area for a USAID FTF initiative. He and his family have been farming for over 10 years, and it is the main source of their income. He owns 25 ha of land and employs more than 90 people on his farm. Due to inadequate agricultural machinery, Behruz faced many challenges. He had an old tractor in very poor condition; frequent repairs were costly. Therefore, many farming operations were done manually, which increased the costs to farm the land and reduced his profits. Behruz thought he might have to give up farming and go to Russia to find work, as many other young men have had to do.

Fortunately, in 2012 Behruz learned about the USAID Productive Agriculture in Tajikistan Project, implemented by ACDI/VOCA and IFDC through a non-governmental organization (NGO) project partner. He soon became a member of the project's onion and tomato voucher program. Through this program, he obtained high-quality certified inputs at a 30 percent discount. Later, he became aware of the project's loan program, and he immediately applied for a tractor loan.

In October 2012, Behruz and other recipients received the keys to new tractors during a special distribution event organized by the USAID Productive Agriculture Project and the Tajik government. U.S. Ambassador Susan Elliott and Regional Deputy Chairman Abdurahmon Qodiri

opened the event and presented keys to Behruz and owners of 10 other *dehkan*[1] (private) farms.

To facilitate the purchase of tractors, the USAID Productive Agriculture Project, in collaboration with Imon International and Eskhata Bank, used a financing mechanism enabling farmers to access two-year loans to purchase tractors. The tractors were bought with a combination of cash and credit from the Madadi Tursunzoda farm machinery dealership. In addition, the USAID Productive Agriculture Project provided a grant of about 20 percent of the total cost of each tractor.

After receiving the tractor, Behruz immediately started to use it on his farm and also rented his services to nearby farms. The new tractor made farm operations much easier. He reported that between the end of October 2012 and the beginning of March 2013, he earned a net income of over TJS 18,300 (approximately US $3,800) by contracting to use the tractor on 28 farms. Requests from other farms continue; for example, he anticipates earning approximately TJS 10,000 ($2,000) by using his tractor for three days to harrow 80 ha on a nearby farm. His farm's harvest and the tractor are the main sources of income to feed his family. Because of the additional income from his work on other farms, he is able to pay the bank loan and cover the tractor's future costs. "I am thankful to the USAID Productive Agriculture Project for providing this opportunity to me and other Tajik farmers," Behruz said.

[1] Dehkan farms cultivate more than 60 percent of the agricultural land in Tajikistan, averaging about 20 ha in size (compared with less than 2 ha in household plots).

"In order to earn an average of $4,000 per year, many young people are going to Russia to work. I can earn more money in a shorter period of time working on my farm and being with my family. I am thankful to USAID for giving me such an opportunity."

– Kholov Behruz

The USAID Productive Agriculture in Tajikistan Project presented 10 other farms with keys to new tractors.

A Simple Tool Makes Enormous Contributions in Bangladesh

The *Boro* 2013 block and crop cut surveys conducted by the Accelerating Agriculture Productivity Improvement (AAPI) in Bangladesh project show that more Bangladeshi farmers are adopting fertilizer deep placement (FDP) technology. In at least two areas, AAPI has exceeded its targets and is currently working to meet and/or exceed additional targets. With FDP adoption growing so rapidly, more farmers want to learn how to maximize the technology in order to increase their yields and profits and to decrease the time and effort put into deep-placing briquettes. AAPI staff members and project partners from the Bangladesh Department of Agricultural Extension (DAE) are currently promoting the use of several types of FDP applicators. A number of farmers have invested in these applicators and are reporting reduced fertilization time.

One such farmer is Keramat Mawla, a 56-year-old medium-scale farmer from the village of Bhabanipur in the Rajbari Pouroshova block of Rajbari Sadar *upazila* (sub-district) in central Bangladesh. He has been involved in the AAPI project for several years and has hosted demonstration plots to teach other farmers the benefits of using IFDC's FDP technology and improved agricultural practices.

▲ A Bangladeshi farmer utilizes the increasingly popular self-loading FDP applicator.

Two of Mawla's full-time farm workers would manually transplant rice plants in his paddy, as well as deep-place fertilizer briquettes. They were so skilled at deep-placing briquettes by hand that neighboring farmers began to hire them to deep-place fertilizer in their rice fields. When the AAPI project started promoting the use of FDP technology for vegetable production, Mawla leased land for vegetable cultivation and began deep-placing fertilizer in these fields as well. His trust in the AAPI staff led to his adoption of the technology they recommended, and when it came to the promotion of an injector-type applicator, he had to try it.

Mawla gave single row applicators to his workers to test in a 2-ha plot during the 2012 *Boro* season. Though he was not immediately satisfied with the applicator's performance, the results were outstanding. His workers, who were extremely skilled at deep-placing briquettes, used the applicator and completed deep-placing briquettes three days faster than before. They enjoyed using the new applicator, noting that it eliminated issues such as dropping briquettes and trying to deep-place wet briquettes. Needless to say, they no longer wanted to deep-place briquettes by hand. Because of the time saved using the applicator, Mawla was able to give the workers other chores to do on his farm.

Two other laborers from a neighboring block, Golam Ali and Islam Mridha, were as skilled as Mawla's workers at deep-placing fertilizer by hand, but now they are also using the injector applicator. Ali and Mridha were hired to deep-place briquettes in a rice field in their block, and together the pair covered 0.5 ha in six hours. Prior to using the applicator, it took them eight hours to deep-place fertilizer by hand in the same area. An applicator is a time-saving tool for both farmers and laborers – the farmer gets the job done faster, and the laborer has time to take advantage of other opportunities.

AAPI staff members report that of the 80 ha in the Rajbari Pouroshova block used for *Boro* rice, 77 ha have been cultivated using FDP technology. On about 11 ha of that land, fertilizer was applied with an applicator. Staff members are confident that in the future, deep-placed fertilizer will be applied primarily with applicators.

Block Survey Results for *Boro* 2013 Exceed End-of-Project Goal

▲ *Farmers in the AAPI area collectively have saved Tk 1.1 billion ($14 million) by using FDP instead of the broadcast method of fertilization (shown here).*

▶ *Opposite: Data from* Boro *2013 Block Survey.*

This means that farmers are reaping significant savings on the cost of inputs. If a farmer is broadcasting urea, he or she would spend Tk 5,200 ($67.53)/ha. Using FDP, the farmer would spend only Tk 3,840 ($49.87)/ha. Extrapolating these figures, farmers in the AAPI area collectively have saved Tk 1.1 billion ($14 million) by using FDP instead of the broadcast method of fertilization. At the national level, this translates into significant urea subsidy savings for the Government of Bangladesh.

The crop cut survey reported a consistent yield improvement of 13-14 percent when FDP is used. Combined, the *Boro* 2013 block and crop cut survey results confirm that FDP generates greater yields and increases savings for farmers.

AAPI project staff members plan and implement block demonstrations with groups of farmers who operate land next to one another. In this way, the demonstration area can be quite large (up to 5 ha). Block demonstrations present a strong visual impact and involve working with a group of 10 to 15 farmers.

The results from block and crop cuts for *Boro* 2013 show that AAPI exceeded its target for FDP coverage in both FTF and Mymensingh and Sherpur (M&S) districts, with 105 percent and 116 percent, respectively, of the target area being cultivated using FDP. AAPI is also excelling in area coverage of high-yielding variety (HYV)/hybrid seeds. Overall, 72 percent of the HYV/hybrid-planted area is also using the FDP technology. Since the end-of-project target is for 80 percent of the HYV/hybrid-planted area to use FDP technology, the AAPI team expects to meet or exceed its goal. The only variation in yield across the districts is due to some lower income districts, such as Barguna and Patuakhali, which have smaller amounts of land to cultivate; however, these districts are not major rice-producing districts during the *Boro* season.

The block survey also reported that, overall, the amount of urea fertilizer saved is above average at 36 percent. On average, farmers are broadcasting 260 kg of urea/ha but only using 167 kg of urea/ha when they use the FDP technology.

Urea Used Versus Urea Saved

District	FDP kg/ha	Prilled Urea kg/ha	Urea Saved	
			kg/ha	%
FTF Districts:				
Bagerhat	166	264	98	37
Barguna	166	243	77	32
Barisal	165	242	76	32
Bhola	166	280	114	41
Chuadanga	166	267	101	38
Faridpur	167	292	125	43
Gopalganj	167	256	89	35
Jessore	166	272	106	39
Jhalokati	167	226	60	26
Jhenidah	166	266	100	37
Khulna	167	236	68	29
Madaripur	166	283	118	42
Magura	166	260	93	36
Meherpur	168	257	89	35
Narail	169	270	101	37
Patuakhali	166	225	59	26
Pirojpur	166	229	63	27
Rajbari	167	243	75	31
Satkhira	166	248	82	33
Shariatpur	166	265	100	38
FTF Average:	**166**	**263**	**96**	**37**
M&S Districts:				
Mymensingh	167	252	85	34
Sherpur	168	251	83	33
M&S Average:	**167**	**252**	**85**	**34**
AAPI Average:	**167**	**259**	**93**	**36**

Source: Boro 2013 Block Survey, AAPI.

FDP Use on Vegetables Increases

▲ *An FDP demonstration plot of cabbage in a 10-decimal area in Sadullapur village, Bagherpara* upazila*, Jessore district.*

IFDC's AAPI project continues to promote FDP technology use for an ever-growing variety of crops. For various vegetable crops, farmers are generating 10-20 percent higher yields while using 10-20 percent less fertilizer (particularly urea).

AAPI began promoting FDP technology for use with five vegetable crops (cabbage, cauliflower, eggplant, maize and potatoes), bananas and tomatoes during the 2012-2013 winter season. The project also conducted 151 demonstrations on fruits and vegetables through March 2013, providing training to farmers on production techniques and organizing field days to show the results of fertilizing these crops with FDP.

With funding from AAPI, the Bangladesh Agricultural Research Institute (BARI) conducted research trials on other vegetables such as cucumbers, bitter gourd and taro. The BARI research results were presented during a national workshop jointly organized by the Bangladesh Agricultural Research Council (BARC) and AAPI. The research results indicate that using FDP on these vegetables increases yields by 15 to 36 percent and reduces the use of the nitrogen, phosphorus and potassium (NPK) fertilizer blend by 10 percent, compared with broadcast application of NPK. The gross margin of yield also increases when using FDP instead of broadcasting fertilizers.

Cucumbers and bitter gourd are planted during the same period, twice each year – from February to March and from August to November. The total length of the crop cycle is 90-135 days, depending on varieties. In the case of taro, planting takes place either from February to April or from mid-October to mid-November, with a crop cycle of up to seven months. The study recommends that when fields have been plowed and leveled during the final tilling, well-decomposed cow manure, triple superphosphate (TSP), muriate of potash (MOP), gypsum, zinc sulfate heptahydrate ($ZnSO_4 \cdot 7H_2O$) and boric acid

in solid form (H_3BO_3) should be mixed with the soil in appropriate doses. TSP and MOP are not needed if NPK briquettes are used. In the coastal areas of the country, it is not necessary to apply H_3BO_3 for these vegetable crops.

AAPI has proven repeatedly that FDP can play a key role in Bangladeshi farmers' success. FDP use on rice has proven effective for higher yields with less fertilizer; AAPI has exceeded its area to be planted in rice under FDP goals, and the project is still making great strides.

The project will continue its research on best FDP practices for more vegetable and fruit crops, and a greater number of farmers will be able to efficiently grow more crops to feed their families, improve their livelihoods and advance the Bangladesh economy.

▲ *The farmers of Barinagar, Jessore, achieve increased cauliflower production (above) using FDP technology. FDP has also increased yields of eggplant (top right) and tomatoes (bottom right).*


H.E. MRS. RHODA PEACE TUMUSIIME
COMMISSIONER FOR RURAL ECONOMY
AND AGRICULTURE

Her Excellency AU Commissioner Rhoda Peace Tumusiime answers questions at a press conference. As an avid proponent of CAADP, Tumusiime works toward the goal of "seeing Africa truly becoming a breadbasket." Photo courtesy of African Union Commission.

50th Anniversary of the African Union

In recognition of its 50th anniversary, the African Union (AU), formerly the Organization of African Unity (OAU), has designated 2013 as the Year of Pan-Africanism and African Renaissance. The AU works to promote the accelerated socioeconomic integration of Africa to lead the continent to greater unity and solidarity among African countries and peoples. The organization began the celebratory year during the 21st AU Summit in Addis Ababa, Ethiopia, on May 25-27. United Nations (UN) Secretary-General Ban Ki-moon, Brazilian President Dilma Rousseff and U.S. Secretary of State John Kerry, among others, joined in celebration with representatives from each of the Union's 54 states and leaders from each of its organs. Welcoming representatives, leaders and guests, AU Chairperson and Ethiopian Prime Minister Hailemariam Desalegn proclaimed that the AU's 50th anniversary celebration represents "a great leap forward in the pan-African quest for freedom, independence and unity."

Debates, press conferences and speeches at the Summit focused on spurring Africa's nations and peoples to a renaissance, reviving in them intellectual and economic achievement and vigor. Dr. Nkosazana Dlamini-Zuma, chairperson of the African Union Commission (AUC), honored past proponents of African freedom in urging Africa to continue its forward progress. "We pay tribute to the pioneers of Pan-Africanism, on the continent and in the Diaspora, and to the founders of the OAU for their wisdom and foresight to lay the foundations for the unity and solidarity of Africa…We pledge to take our destiny into our own hands, because power resides in hard work, scientific investigations, intellectual curiosity, creative greatness and freedom, in the fullest exploration of our human powers and in the truest independence."

During the Summit, the AU focused on a new vision for Africa in 2063 – the 100th anniversary year of the formation of the OAU – by adopting a strategic plan for 2014-2017 that aims to accelerate progress toward an integrated, prosperous and inclusive Africa.

Some media outlets complained that creating a new vision was just another of the AU's passive reactions to Africa's needs. In response, Stephen Hayes, president and CEO of the Corporate Council on Africa, remarked, "The African Union, in essence, is a body of persuasion, not coercion, and persuasion for change often requires years not days."

And yet to say change is nonexistent on the African continent is to overlook that six of the 10 fastest-growing

economies in the world are in Africa and that international trade has increased dramatically in recent years. For example, Africa has increased trade five-fold with Brazil since 2002. Concurrent with the celebrations, the Latin American country cancelled much of the $900 million debt that it is owed by African nations.

The 2014-2017 strategic plan outlines eight priority areas for the 2063 vision, including agricultural development, which is supported by Rhoda Peace Tumusiime, AU commissioner for the Department of Rural Economy and Agriculture (DREA) and member of the IFDC board of directors. At a press conference during the celebration, Commissioner Tumusiime called for "an Africa that is not demanding, which is not hungry. We would like to see a confident and proud Africa in 2063."

Tumusiime has dedicated herself and DREA to eradicating poverty in Africa through increasing agricultural efforts and empowering women. To date, she has been instrumental in encouraging 24 African nations to sign Comprehensive Africa Agriculture Development Programme (CAADP) compacts.

During the press conference, Tumusiime explained CAADP's role in the AU's new strategic plan: "We want to see CAADP driving the transformation agenda so that in 2063 we have a transformed agriculture sector that produces surplus and rewarding trade… Africa's land is like gold; we must ensure that we get the best out of it by strengthening our capacities." And with an abundance of around 600 million ha of uncultivated arable land in Sub-Saharan Africa (SSA), the investment is worth it. The Ewe people of Ethiopia have a saying, "Land never disappoints. Invest in it, and you will have your returns."

In conjunction with the New Partnership for Africa's Development (NEPAD), which is leading the AU's program of pan-African socioeconomic development, IFDC is helping a number of African nations invest in the wealth of their land by fulfilling their CAADP goals.

In closing the ceremonies, Desalegn quoted former Ethiopian Prime Minister Meles Zenawi, "Africa is rising indeed. The African Renaissance has begun, and it is within our means to keep it going. It is within our means to create a new pole of global growth in Africa, to fully stabilize our continent, and to make sure that it takes its rightful place in the global scheme of things." Celebrations commemorating the AU's 50th anniversary are planned to continue throughout 2013, with each month's celebrations themed to address specific areas of progress and challenges on the continent.

IFDC and the AU

IFDC's history with the AU dates back to 1982 when the OAU selected IFDC to execute planning, formation, implementation and operation of the African Centre for Fertilizer Development (ACFD). The ACFD was tasked with improving and stabilizing African agriculture through proper production techniques and wider use of fertilizers by maximizing the use of indigenous materials and resources. Since its establishment, the ACFD and IFDC have worked together on several projects, including early integrated soil fertility management (ISFM) experiments and COMESA's Regional Agricultural Inputs Program (COMRAP), which successfully trained over 7,000 agro-dealers and agro-dealer agents and led to the launching of the Regional Agricultural Input Market Information and Transparency System (AMITSA), a web- and mobile-based market information system (MIS) focused on agro-inputs for eastern and southern Africa. AMITSA is implemented in conjunction with Esoko, COMESA and the East African Community.

In 2010, IFDC and the AU signed an MoU that formalized the collaboration between the organizations and focused on their mutual goal of transforming African agriculture. The organizations agreed to work together on technical assistance missions dealing with policy and market development and to exchange information on agricultural, economic and social development issues. Since then, IFDC and the AU have worked together to coordinate projects and training workshops to promote agricultural and rural development and ensure food security for Africa.

(1982) David Hopper, vice president of the World Bank's South Asia Region (and a member of the IFDC board of directors from 1980 to 1997 and chairman from 1990 to 1997), signs an agreement to provide partial funding for the ACFD. Left to right are: Donald McCune, IFDC managing director; Hopper; A.O. Williams, executive secretary of OAU/STRC; and John Hannah, president emeritus of Michigan State University and chairman of the IFDC board of directors.

IFDC's President and CEO Dr. Amit Roy and AU Commissioner Rhoda Peace Tumusiime sign an MoU in 2010 formalizing collaboration between IFDC and the AU.

U.S. President Barack Obama Promotes FDP and Other Agricultural Technologies

On June 28, IFDC participated in the 2013 USAID FTF Agricultural Technology Marketplace in Senegal, which showcased several West African businesses, farmers and NGOs that demonstrated how the FTF initiative is improving the lives of smallholder farmers. During the marketplace, IFDC representatives discussed the benefits of FDP with President Obama.

"I know that…fertilizer doesn't always make for sexy copy," remarked Obama, standing in front of IFDC's FDP-themed booth. He insisted that though the technical details of nourishing the hungry do not make headlines, people should know that their hard work and generosity are helping Africa rise out of poverty. "[T]his money [that is funding Feed the Future] is not being wasted – it's helping feed families."

FDP, developed by IFDC nearly 40 years ago, is the deep placement of a 1- to 3-gram fertilizer briquette into the soil near a plant's root zone, either by hand or by mechanical applicator. The technology increases farmers' crop yields and incomes, requires less fertilizer overall and reduces nutrient loss and environmental impact. FDP technology is utilized in a number of USAID projects in Asia and Africa.

FDP in Africa

IFDC began its FDP initiative in Africa in 2009, targeting 13 countries. The objective is to use a market-driven approach to significantly increase rice yields through the use of FDP, hybrid rice varieties and improved water management practices. Farmers who plant two rice crops per year using FDP are receiving about $400 in additional annual income per hectare versus farmers using traditional practices. And while FDP has been used most widely on rice, initial field trials indicate that the technology is well-suited to vegetable and cereal crops that are dependent on nitrogen.

◂ *Opposite: U.S. President Barack Obama and USAID Administrator Rajiv Shah discuss fertilizer deep placement technology with Dr. Bidjokazo Fofana, agronomist and coordinator of IFDC's fertilizer deep placement initiative in Africa. Fofana (right) shows President Obama and Administrator Shah a mechanical applicator that decreases the labor required to deep-place fertilizer briquettes. Photo courtesy of USAID.*

▴ *Above: (1) Fertilizer briquettes are much larger than conventional fertilizer granules; (2) Farmers in Burkina Faso hand-place fertilizer briquettes in a rice paddy; (3) Prilled urea is poured into a briquetter which produces fertilizer briquettes; (4) A prototype mechanical applicator is tested in Burkina Faso.*

AfricaFertilizer.org

A Tool to Help Fuel the African Green Revolution

AfricaFertilizer.org Partners with IFA to Improve Market Analysis in Africa

The IFDC-managed website AfricaFertilizer.org (AFO) is partnering with the International Fertilizer Industry Association (IFA) to conduct market analysis under IFA's new strategy to help further develop Africa's agriculture sector.

At less than 10 kg/ha, fertilizer use in SSA is the lowest in the world. Moreover, there is not enough organic material in SSA to adequately fertilize crops. Therefore, mineral fertilizers are critically important, supplying the nutrients that crops need for healthy growth. However, most African smallholder farmers – who comprise the majority of the farming population – cannot access or afford them. In addition, more than 40 percent of Africa's 220 million ha of farmland are losing at least 30 kg/ha of nutrients yearly, leading to annual losses of more than $4 billion. Consequently, SSA is the only region in the world in which per capita food production has decreased over the past 30 years.

Statistics on fertilizer trade, production and consumption are necessary for the development of a sustainable and profitable agriculture sector in Africa. However, those statistics have generally been unavailable or unreliable. Therefore, IFDC launched AFO in 2010 to collect, process and share data on the African fertilizer market through a web-based portal (www.africafertilizer.org). Since 2012, AFO has broadened its focus from publishing existing fertilizer data to supporting partners that improve the scope and quality of such information. The initiative coordinates partnerships and data-sharing mechanisms that provide information in two primary areas:

- Fertilizer statistics, such as production, trade, consumption, prices, production capacities and fertilizer use per crop.
- Fertilizer market intelligence, including fertilizer policies and regulations, subsidy programs, business and product directories, publications and news.

Fertilizer demand on the continent is growing by 3.1 percent annually – the fastest growing market in the world.

– International Fertilizer Industry Association

"Nonetheless, there is great potential to substantially increase agricultural production in Africa," said Patrice Annequin, IFDC senior market information specialist. Fertilizer demand on the continent is growing by 3.1 percent annually – the fastest growing market in the world, according to IFA. The Food and Agriculture Organization (FAO) of the United Nations estimates that fertilizer demand in Africa will increase by 160 percent by 2050.

The compilation of primary market data and the provision of high-quality market analysis are among IFA's principal missions. In order to improve the quality of African fertilizer statistics and the number of countries covered, IFA is expanding financial support to AFO and providing human resources to train African statistical agencies.

"To speed up the process, IFA has established a task force on Sub-Saharan Africa fertilizer consumption statistics that brings together the main fertilizer suppliers active in the region," Annequin said. "This partnership will allow us to collect more accurate and timely data on fertilizer consumption."

AFO Activities

In 2012, AFO began collaborating with FAO CountrySTAT, a web-based information system that manages food and agricultural data from a variety of national sources. AFO and CountrySTAT formed national Fertilizer Technical Working Groups (FTWG) that share data, market intelligence and best practices. Comprised of statisticians, customs officers, private importers and fertilizer experts, the working groups are already active in 11 SSA countries. Ethiopia, Nigeria and Senegal will be added to the network during 2013, which will then cover the countries that use more than 80 percent of the fertilizer in SSA. An Africa Fertilizer Statistics Working Group, with representatives from FAO, IFA and IFDC, also will be created this year to help national CountrySTAT teams validate their fertilizer statistics.

AFO also has focused on improving the collection and dissemination of consumption statistics per product. Consumption sources and data available from AFO and CountrySTAT are being compiled, reviewed, edited and consolidated. Studies on fertilizer use by crop will be carried out in Ghana, Mozambique and Tanzania.

In addition, AFO is currently developing an Africa Fertilizer Business Directory. The directory will include information on up to 2,000 key fertilizer stakeholders, including fertilizer producers and blenders, importers and exporters, national traders, local associations, government ministries in charge of fertilizer issues, quality control labs and research institutions. Maps and tables will be developed to make the data more accessible and relevant to users.

Features available on AFO's web portal include searchable statistics, market news, detailed country pages and policy information. The initiative also utilizes social media platforms (Facebook and Twitter) to disseminate information to a wider audience. IFDC's AFO partners include IFA, the African Fertilizer and Agribusiness Partnership (AFAP), FAO and NEPAD.

▲ *This Zambian farmer can access up-to-date fertilizer prices at AfricaFertilizer.org.*


ATM

The CEO of the Savannah Accelerated Development Authority cuts the opening ribbon for the Input and Equipment Fair at the second annual Northern Ghana Preseason Networking Forum.

AVCMP Hosts Meeting/Networking Forum for SMEs

Ghanaian farmer-based organizations (FBOs) and small and medium enterprises (SMEs) are gaining access to and participating in domestic, regional and international markets through the Agricultural Value Chain Mentorship Project (AVCMP). The project targets 34,000 farmers, 680 FBOs, 50 SMEs (including aggregators, marketers, processors, etc.) and 400 agro-dealers. AVCMP is funded by the Alliance for a Green Revolution in Africa (AGRA) and the Danish International Development Agency and is implemented by IFDC, the Ghana Agricultural Associations Business and Information Center and the Savanna Agricultural Research Institute. IFDC's role is to increase participating maize, rice and soybean farmers' access to output markets by building the entrepreneurial and technical capacities of SMEs. Recently, the project organized a meeting and an agricultural forum to better position the SMEs with output markets.

Promoting Agribusiness

The meeting brought together 20 aggregators – businesses that buy produce from multiple farmers in a certain district and sell the aggregated amount – to interact one-on-one with two large buyers. Stemak Ltd. and Food Transactions Ltd. are based in Accra and deal in maize, rice and soybeans. During the meeting, Stemak Ltd. agreed to buy 20,000 mt of Grade 2 soybeans during the first three months of the business relationship, and 5,000 mt/month afterward. Stella Owusu-Aouad, CEO of Stemak Ltd., said, "I find that most people are very impressed, just as I was, when I describe the project being undertaken by the AVCMP team in promoting agribusiness with aggregators and marketers. The linkages will continue to be developed, and I look forward to corresponding with those not able to attend."

Representatives of Food Transactions Ltd. were impressed as well and took aggregators' product samples for future business deals. The company is fulfilling current supply orders from its customers and can only make purchases when those transactions are completed. However, contact information was exchanged with the aggregators who sell large quantities of maize.

AVCMP also organized the second annual Northern Ghana Preseason Networking Forum in preparation for the 2013 production season. The goal was to establish effective and sustainable linkages among agricultural value chain participants and create a platform for increased productivity. The event emphasized the use of quality inputs with the theme "Quality Inputs. Better Yields. More Profit." and brought together various stakeholders; about 500 participants represented links in the value chain, from equipment and machinery dealers to seed and fertilizer dealers. Fifty percent of the participants either established business contacts with interested parties or negotiated future business deals. The AVCMP team is providing assistance to the forum participants to help them follow up with contacts and complete business negotiations.

WAMIS-NET/RESIMAO Launches New Platform with IFDC Support

In order to ensure better dissemination of agricultural information in the Economic Community of West African States (ECOWAS), the Network of West African Market Information Systems (WAMIS-NET) developed a new web-based platform, which was launched on July 3 at the ECOWAS Commission headquarters in Abuja, Nigeria. Deployed to replace a less robust system, www.resimao.net is a modern platform with new options that integrates information on both agricultural products and agro-inputs from about 500 West African markets. It is one of the building blocks of the ECOWAS regional agricultural information system (ECOAGRIS).

WAMIS-NET unveiled its action plan for 2014-2018, which focuses on improving understanding of how agricultural product and input markets function in order to facilitate trade and ensure food and nutritional security in West Africa.

About 100 participants, including representatives of national MIS from the network's 10 member countries (Benin, Burkina Faso, Côte d'Ivoire, Guinea, Guinea Bissau, Mali, Niger, Nigeria, Senegal and Togo) attended the event. In addition, representatives of financial and technical partners such as IFDC, ECOWAS, the Permanent Interstate Committee for Drought Control in the Sahel, DGIS and USAID participated in the launch.

Resimao.net is designed to provide information to agriculture sector stakeholders to enable better decision-making. According to Alain Sy Traoré, interim director for the ECOWAS Directorate of Agriculture and Rural Development, "The aim of the platform is to ensure better dissemination of agricultural information in the ECOWAS region and it particularly seeks to facilitate commercial decision-making by providing stakeholders with access to strategic market information through effective data management and communications systems."

Osei Tutu Agyeman-Duah, acting director of the ECOWAS Community Computer Center, also spoke at the platform launching ceremony. "West Africa should be proud of it and make sure that all its citizens benefit from quality information for informed decision-making."

Dr. Marc Lapodini Atouga, ECOWAS commissioner for Agriculture, Environment and Water Resources, commented on the network prior to its launch. "This platform is being deployed at the right time to address the challenges of limited information that most farmers, agro-dealers and other stakeholders are often confronted with in West Africa. Henceforth, even in the most remote villages, one needs only to have access to the Internet to get timely information on the availability of agricultural products and inputs."

Salifou Diarra, coordinator of WAMIS-NET/RESIMAO, and his colleagues are grateful for the technical and financial support provided by the MIR Plus project (a joint ECOWAS-UEMOA project implemented by IFDC). "We can now fulfill our role with all stakeholders in the agriculture sector – that of collecting, processing and disseminating quality agricultural information in order to contribute to food security in West Africa," he declared.

Support from the MIR Plus project has been based on an annual RESIMAO-IFDC work plan. In addition to the development and launch of the new RESIMAO platform and adoption of the five-year action plan, the main achievements of this support include consensus on data collection methodology, including price variables to be collected, list of products to be monitored and locations to collect prices. This was achieved through 22 technical meetings followed by stakeholders' roundtables in several countries. Another important achievement is the development of a data collection network in these countries through 22 capacity building trainings of agro-dealers, national public MIS agents and members of RESIMAO on the methodology of data collection and use of related tools, as well as the publication of 232 monthly national reports and four quarterly bulletins on regional agro-input prices.

The launch was followed by a two-day training of national administrators as part of capacity building efforts to ensure regular updating of the platform with current and quality data. The launch also was an opportunity for WAMIS-NET/RESIMAO to present information to decision-makers and agricultural and food chain stakeholders and to technical and financial partners. The network is also requesting support from all stakeholders for the implementation of its five-year action plan.

WAMIS-NET/RESIMAO was created in April 2000 during the second West Africa Conference on Agricultural Outlooks. It is made up of national MIS with regional coordination. The number of MIS network members has increased since its inception and reached 10 in 2013. The leadership of the Network hopes to eventually cover all ECOWAS member states.

"This platform is being deployed at the right time to address the challenges of limited information that most farmers, agro-dealers and other stakeholders are often confronted with in West Africa."

– Dr. Marc Lapodini Atouga, ECOWAS Commissioner for Agriculture, Environment and Water Resources

Opposite: Francis Dabiré, NWAFD communications specialist, interviews Salifou Diarra, coordinator of WAMIS-NET/RESIMAO, on the future of the platform.


USAID
Seeds for Development
IFDC
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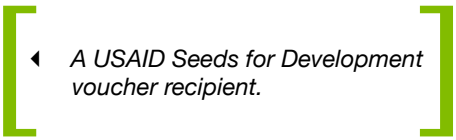
IFDC



A USAID Seeds for Development voucher recipient.

Grain from the Green Belt

Lessons from USAID Seeds for Development in South Sudan

The USAID Seeds for Development project, implemented by IFDC and AGRA, ended in July. The project introduced modern agro-inputs into South Sudan for the first time, benefiting over 16,000 farmers.

What lessons were learned? Where should future programs focus? Development expert Allan Mansfield, who has worked for the private sector, development NGOs and public sector agricultural organizations in Afghanistan, Australia, South Sudan and Zimbabwe, provided information to help answer these questions.

Project Impacts

USAID Seeds for Development targeted 10 counties in the states of Central Equatoria and Eastern Equatoria in the country's Green Belt. In less than two years, more than 16,000 farmers received hybrid maize seeds and two types of fertilizers (urea and diammonium phosphate, or DAP) – the first time these agro-inputs were widely used in South Sudan. Maize yields increased two- to three-fold when the seeds and fertilizer were utilized properly.

Farmers who registered for the program received vouchers entitling them to purchase the agro-inputs at subsidized prices. Inputs were distributed in three planting seasons – summer 2012 and spring and summer 2013. In 2013, 14,070 farmers received vouchers; 13,400 farmers (over 96 percent) paid cash to exchange their vouchers for agro-inputs.

Empowering the Private Sector

The project used a private sector-led approach in a country where the private sector is just forming. In the first season, with very little local expertise to rely on, IFDC took responsibility for all aspects of the project – from importation of agro-inputs to their distribution to farmers. In the second season, project staff encouraged the private sector to take charge. While this slowed the process, it was important to create private sector capacity for future programs. The effort was largely successful.

Implementation Challenges

A major challenge in South Sudan is transportation. There are very few paved roads, and even the roads connecting the largest towns are sometimes impassable during the cropping season. There is only a single vehicle bridge over the Nile River, and one entry point (Nimule) for seed imports. This makes the truck route long and inefficient; a single breakdown may cause a two-week delay.

Temperatures can be very high in some areas, causing seeds to deteriorate in transit. Some project areas had no cellular telephone coverage, which meant planning and monitoring required frequent visits to distant areas.

Another set of challenges involved the nascent private sector. South Sudanese firms are usually small, with limited financial resources. They are often unable to mobilize resources to overcome the frequent problems that can occur. For example, many cannot afford to hire a replacement truck when the regular truck breaks down. They seek to minimize cash flow by operating on credit and delay successive implementation steps until they receive payment for earlier work. They may share transport arrangements with other firms, reducing costs but increasing delays.

Institutions and procedures are still developing. For example, a letter of credit – without which suppliers will not ship goods – can take more than two months to obtain, partly because multiple levels of approval are required.

Voucher Program Management

Vouchers are an efficient way to deliver subsidized agro-inputs to smallholder farmers, and IFDC has successfully implemented voucher programs in several countries. In the USAID Seeds for Development project, different components of the voucher program were managed by different partners. Century Seeds (a local private sector company) was responsible for importation, clearance and distribution of agro-inputs to agro-dealers. AGMARK, an NGO, assisted with farmer mobilization and identification of agro-dealers. EDENRED, a multinational private firm, designed and printed the vouchers, kept records and monitored voucher flows. IFDC provided overall coordination, financial management, technical support and training.

Ensuring Sustainability

The South Sudanese Ministry of Agriculture, Forestry, Cooperatives and Rural Development was a key project partner and will continue to evaluate and promote the technologies used during the project. This was reflected in official statements made at the end-of-project workshops. IFDC, USAID and national policymakers are discussing how best to continue activities post-project. Government officials are committed to improving crop production and food security and are fully aware that seeds, fertilizers and other agro-inputs are vital. However, there are staff and budgetary limitations and many competing priorities in the young country. While the public sector must play a major role in promoting agro-input use, the effort should be led by the private sector.

Subsidize Today, Grow Tomorrow

Can smallholder farmers in South Sudan afford to pay full market price for fertilizers? Most cannot at this time. Farmers know they will obtain excellent returns on their investment, but most simply do not have the financial resources. Past IFDC experiences have shown that subsidies are usually necessary when a new technology is being introduced and that subsidies are justified on

- Some seed lots, although certified by phytosanitary authorities in two countries, were infested with weevils. This should be addressed through prior inspection (in the country of origin) by IFDC specialists, in addition to the normal regulatory procedures.
- The project established numerous demonstration plots, allowing farmers to see first-hand the benefits of using modern agro-inputs. Sharing information can be made even more effective by strengthening extension services (more staff, more farmer training) related to the demonstration plots.

economic as well as equity grounds. The USAID Seeds for Development vouchers were subsidized at a rate of 90 percent (farmers paid only 10 percent of the inputs' cost). The challenge will be to determine a subsidy level that the government can afford and that also provides farmers with sufficient incentives.

Policies to Spur Agro-Input Use

Policy changes that encourage output marketing will also encourage agro-input use. One option is government procurement – specialized public sector agencies would procure farmers' surplus crops and sell to traders, processors and other private firms. Another option is for the government to set a 'floor price.' Farmers could sell grain to the government at the floor price, but would be free to sell to other buyers if better prices are offered. Both options are used in other countries in Africa and Asia.

Lessons Learned

The USAID Seeds for Development project had an experienced project team that was prepared for challenges. However, some of these challenges were greater than anticipated. Future IFDC projects in South Sudan will factor in the experiences of this project:

- Timely distribution of agro-inputs is critical. Distribution can be improved by improving cash flow for the private sector partner, or by working with larger partners with greater financial resources.
- Opening a second border post would significantly improve the flow of agro-inputs. This would require the cooperation of government agencies.
- Operations were planned two to three months in advance. Until government and financial institutions' policies and processes are improved, longer-term planning is essential.

Building on Success

The USAID Seeds for Development project created a solid platform that can be built upon. Most importantly, it introduced a culture of co-payment, not donations. It was the first development project in South Sudan in which beneficiaries paid part of the cost, rather than receiving free inputs.

The project also created a network of trained agro-dealers who are able and willing to invest to grow their businesses. For the first time, they have seen farmers demanding to buy inputs. They can now answer questions such as: What products will sell? Where can I get them? When should I buy inventory? As more projects use this market-led approach, agro-dealers will be encouraged to deal in a wider range of products and services – agrochemicals, farm implements, tractor rentals, etc.

◂ *Opposite top: Transportation infrastructure is a major challenge in South Sudan. There are few paved roads; even those connecting the largest towns are sometimes impassable.*

◂ *Opposite bottom: South Sudanese maize farmer Christopher Warren (right) has increased his crop yield due to the USAID Seeds for Development voucher program and technical advice provided by IFDC and DoubleMan Sohare (left), a government extension officer.*

▲ *Above: USAID Seeds for Development staff use demonstration plots to show farmers the higher crop yields that result from the proper use of fertilizers and improved seeds.*

Minister Kalibata Urges Farmers to Increase Productivity with Fertilizer

▲ *Dr. Agnes Kalibata, Minister of Agriculture and Animal Resources, shows farmers the difference in maize grown with fertilizer (left hand) and without fertilizer (right hand).*

The Rwanda Development Organization (RDO), a local NGO, is partnering with IFDC to implement CATALIST-2 project activities in Rwanda's Eastern Province. RDO recently organized a farmers' day to showcase the project's success in increasing agricultural productivity and improving access to markets and finance.

During the event, more than 3,000 farmers (primarily from Nyagatare District) gathered. Eugene Rwibasira, the RDO coordinator, explained that Nyagatare Farmers' Day was organized to give farmers the opportunity to celebrate their successes, share experiences and learn from one another.

"In the recent past, our people had to go to the neighboring country of Uganda to look for food such as maize, flour and bananas. But today the situation has changed. Our people are now food-secure and our farmers even produce surplus food for the market. These tremendous achievements are due to the introduction of modern farming techniques and the use of fertilizer and other inputs," Rwibasira explained.

Among the activities that took place, farmers used traditional dances and poems to explain how new agricultural technologies have transformed their lives for the better. The farmers celebrated their successes as well as their increased yields and incomes.

Winnyfred Mukakigeri is one of two male members of the *Abibumbye Rwimiyaga* cooperative, which was founded to improve the socioeconomic conditions of its 64 members (62 women). The CATALIST-2 project and RDO contributed significantly to the cooperative's development by educating its members about ISFM and other agricultural technologies.

Mukakigeri said, "Before the arrival of the CATALIST-2 project in our village, nobody believed that agriculture could be profitable. In this area, most people did not choose agriculture as a profession; many people thought that breeding cattle was the only activity that could lead to wealth. But now many of us have changed our minds! We began to cultivate maize and beans using improved seeds and fertilizer; production has increased significantly and we earn enough money from our crops to help us meet our daily needs."

Minister Kalibata visits an exhibit where farmers display their harvests.

Dr. Agnes Kalibata, Minister of Rwanda's Agriculture and Animal Resources (who is also a member of the IFDC board of directors), was the guest of honor at the event. She called upon Nyagatare farmers to use fertilizer and other inputs to boost agricultural yields and urged them to work in cooperatives and engage in collective marketing and management of their resources. She also promised to help farmers to overcome the challenges they are still facing, such as high post-harvest losses that result from poor storage infrastructure.

In recent years, the Government of Rwanda has invested heavily in the agriculture sector and the results are now tangible. As one of the key partners of the Ministry of Agriculture and Animal Resources (MINAGRI), IFDC (through CATALIST, CATALIST-2 and other projects) has played an important role in educating farmers about ISFM and modern agricultural practices. The national government, MINAGRI and its partners have worked together with the nation's farmers to end the chronic food shortages that plagued the country in the past. CATALIST-2 is currently working to link farmers to financial services and connect them to post-harvest markets.

A farmers' representative gives a speech during Nyagatare Farmers' Day.

Sesame is Big Business in Ethiopia

Growing Sorghum in Rotation with Sesame Helps Sustainability

Ethiopia is the world's second largest exporter of sesame – exports are currently U.S. $300 million per year and expected to increase to $500 million in the next two years. Ethiopian sesame farms employ over 500,000 workers during the peak season. Production has doubled in the past five years, but farmers still face a number of challenges – low yields, declining soil fertility, lack of collective action (e.g., cooperatives), poor access to credit, etc.

A new multi-partner initiative launched in June 2013 will help the sesame business in Ethiopia grow even larger and will work to solve the remaining issues. The initiative brings together two consortia – the Sesame Business Network Support Program (SBNSP) and the 2SCALE project – to offer technologies, training, market linkages and other support to small-scale sesame farmers in Ethiopia. Both consortia are funded by the Government of the Netherlands. SBNSP is led by Wageningen University in the Netherlands and the Humera and Gondar Agricultural Research Centers in Ethiopia, together with other partners.

2SCALE

SBNSP targets six *woredas* (districts) in the Tigray and Amhara regions, which together produce 70 percent of Ethiopia's sesame. Nineteen sesame-focused agribusiness clusters (ABCs) are involved, as are several thousand farmers growing high-quality white sesame that is sold for export. Baseline surveys (supported by 2SCALE and SBNSP) have been completed, providing detailed information on cropping patterns, production constraints and opportunities for farmers and agro-entrepreneurs in each target area.

Bringing Farmers Together

The new partnership was launched at a workshop in Gondar that attracted over 150 participants – farmers, crop scientists, extension agents, policymakers and entrepreneurs – from government agencies, NGOs and other organizations.

The discussions highlighted the fact that although many ABCs and their participants face similar challenges, farming systems, institutional support and priorities for improvement can differ widely from one group to another. By implication, better information sharing (within and among ABCs) will lead to substantial improvements.

The workshop also raised a number of interesting issues. For example, Ethiopia exports unprocessed sesame with little or no value addition; only 5 percent of sesame exports are graded. The obvious solution is to sort and grade the sesame prior to export. However, 60 percent of the exports go to China – which wants low-cost, unsorted sesame that can be sorted and processed there.

The workshop's primary objective – linking sesame producers to potential partners – was clearly met. "Every person involved understands that their power is generated from cooperation; no single one of them could make it without the other," one participant said. "We are now like one big family."

Synergies with Sorghum

In addition to expertise in agribusiness and agro-input market development, the 2SCALE project brings in another element – sorghum technologies that can make sesame farming more sustainable.

Sesame and sorghum are grown in rotation by some farmers – sesame for cash, sorghum for food. Most crop rotations are beneficial; sorghum-sesame is particularly

so because of the crops' complementary nutrient requirements, similarities in adaptation and good fit in growing cycles. The synergies between the two crops could be further enhanced with new varieties and better crop management. The problem is that there is a strong market for sesame but almost none for sorghum at this time. As a result, farmers are reluctant to expand sorghum cultivation beyond their families' food needs and only a very small portion of the area in which sesame is grown is rotated with sorghum.

IFDC is working with Advanta Ltd., a private seed company, to introduce a new sorghum hybrid into sesame-based systems. The hybrid, PAC 537, is a high-yielding, drought-tolerant, low-tannin, white-seeded variety. It is ideal as a rotation crop. And it's not just a food crop – the grain can be sold to breweries and to poultry feed producers. In addition, the crop's stalks can be fed to livestock.

PAC 537 has been extensively field-tested by the Ethiopian Institute of Agricultural Research. In the coming season, demonstration plots will be set up at 15 locations to allow sesame farmers to see first-hand the benefits the new hybrid offers. IFDC and Advanta are also working with government agencies to develop plans for sorghum seed production.

Larger Harvests, Increased Revenue

The partnership between 2SCALE and the SBNSP will help build profitable, sustainable sesame ABCs linked to input and output markets, with access to new production technologies for sorghum and sesame. The technologies will include higher-yielding, drought-tolerant varieties, better pest and disease control (with packages for both conventional and organic farming), more efficient weeding and harvesting techniques and low-cost methods for value addition.

The key to broad-based success will be effective dissemination and training. Community-based facilitators have been recruited and will coordinate technology transfer, information sharing and implementation monitoring. Other full-time field staff will supplement government extension agents, providing training and advisory services throughout the season.

The sesame-sorghum initiative is only a few months old. But with its breadth of partnerships and strong government backing, smallholder farmers in Ethiopia can expect to cash in on the booming sesame market while improving soil quality, food production links to new markets and sorghum rotations.

▲ Sesame is packaged for sale and export at Selet Hulling PLC. *(See related article on page 48.)*

GLOBAL TraPs

TRANSDISCIPLINARY PROCESSES FOR SUSTAINABLE PHOSPHORUS MANAGEMENT

1st Global TraPs World Conference

The goal of the Global Transdisciplinary Processes for Sustainable Phosphorus Management (Global TraPs) initiative is to build and exchange knowledge in order for humanity to transition to more sustainable phosphorus use. Since it was established in 2010, Global TraPs has studied phosphorus production, use, management and sustainability from a supply-demand chain perspective through a transdisciplinary process involving engaged experts from the public (government, academia) and private (industry, farmers) sectors and other concerned parties (non-governmental, development and environmental organizations). Dr. Amit Roy (IFDC) and Professor Dr. Roland W. Scholz (Fraunhofer IWKS) are co-leaders of Global TraPs.

The interest in sustainable phosphorus is driven by six complex, global and societally relevant issues:

1. Phosphorus is essential to current and future food security (no other mineral element can be substituted for it). While the supply of phosphate rock raw material is adequate for hundreds of years, it is finite.
2. Excess phosphorus can cause negative critical environmental impacts, particularly in freshwater and coastal marine ecosystems. Conversely, too little phosphorus contributes to land degradation.
3. There are significant inefficiencies in phosphorus recovery from ore and from waste streams.
4. In regard to economic and trade impacts, more effective and efficient technologies for use in the phosphate mining-processing-use-recycling chain must be developed.
5. There are greater opportunities for phosphorus recycling from manure and sewage; the reuse of food residues and food waste can be improved to close the anthropogenically induced phosphorus cycle.
6. Smallholder farmers' limited access to phosphorus has a detrimental impact on food production and requires consideration from a social equity perspective.

The key outcomes anticipated from Global TraPs revolve around the identification of robust orientations to improve sustainable phosphorus use based on information from primary stakeholders engaged in the supply-demand chain. Multidisciplinary stakeholders are well-placed to incorporate their experiences and know-how regarding the constraints faced in promoting or preventing more efficient phosphorus use. Knowledge from practice experts is complemented by scientists who provide technological, natural science and social science expertise to ensure that the proposed new orientations will be representative of state-of-the-art science. All participants are challenged to think about and to share their experiences in the various nodes (Exploration, Mining, Processing, Use, Recycling and Dissipation and cross-cutting issues such as Trade and Finance). In this multi-stakeholder forum, Global TraPs is defining: 1) current information on phosphorus and its use, as well as new information necessary to

ensure sustainability; 2) new technologies needed to better process, use and reuse phosphorus; and 3) the key policy areas to ensure sustainable phosphorus use in the future.

Building on the 2012 workshop held in El Jadida, Morocco, and its theme "Defining Case Studies, Setting Priorities," the first Global TraPs World Conference took place in Beijing, China, on June 18-20. Its theme, "Learning from Cases – Exploring Policy Options," opened a new phase of transdisciplinary discourse on sustainable phosphorus management. The conference intensified the mutual learning process among key stakeholders from the global phosphorus supply-demand chain and top scientists who conducted research on different aspects of phosphorus use. Based on the critical questions identified at El Jadida, the first day of the conference offered Mutual Learning Sessions (MLS) in which small groups of 12-20 practitioners and scientists dealt with selected case studies to gain a better understanding of how answers to these critical questions are being developed and what means may be taken in each case (recognizing specific constraints) to improve phosphorus use. There were MLS on China-specific issues (e.g., smallholder farmers' phosphorus use, recycling of phosphorus from sewage plants, sustainable mining) and international issues (e.g., over- and under-use of phosphorus by smallholder farmers in Vietnam and Kenya, assessment of phosphorus pollution in Manila Bay).

Further, there were some topics which required open discussion. Examples include: *What policy means may be necessary for promoting recycling of phosphorus?; What environmental standards should be applied for different recycling options?; How should the supply security of phosphorus be judged and how may phosphorus insecurity be avoided?*; and *What are the impacts of fertilizer subsidies on agriculture?* To help answer these questions, the conference offered Dialogue Sessions (DS) in which policy options were discussed and explored. Both MLS and DS follow certain rules which are obligatory for transdisciplinary processes. For instance, MLS and DS are 'protected discourse arenas,' meaning that nothing formulated or discussed during these preliminary sessions may be cited or externally communicated.

The use of phosphorus as a nutrient for intensified agriculture is a major focus with the caveat that transitioning current phosphorus use patterns to sustainable use must be seen in relation to nitrogen and potassium as well as secondary and micronutrients. In recognition of the importance of balanced nutrients, the second and third days of the World Conference were held jointly with the 5th Conference of the United Nations Environmental Programme's (UNEP) Global Partnership for Nutrient Management (GPNM). Presentation highlights included:

- Despite significant increases in agricultural production during the last 30 years, China is a net importer of animal feed and human food. In addition, it has widespread eutrophication problems resulting from poor management practices including soil erosion and nitrogen and phosphorus over-fertilization. China is not only the world's largest producer of phosphorus-based fertilizers, but it uses 30 percent of annual global production. This rapid growth has resulted in significant overuse in some regions.
- Discussions of the UNEP publication "Our Nutrient World" (2013) underlined that food security and environmental issues are key elements of global sustainability. The need for improved nutrient use efficiency was noted and supported by examples of substantial costs associated with nutrient losses ranging from natural resource degradation (surface waters) and losses along the food production-consumption chain to the absence of recycling technologies.
- Phosphate fertilizer use has increased over the last decade. Projected growth is expected to be about 1.9 percent per year over the next five years. Phosphate production capacity is also expected to increase, with approximately $23 billion estimated to be in the investment pipeline over the next five years.
- Industry adoption or lack of adoption of technological innovations related to mining and processing phosphate rock to finished phosphate fertilizers was discussed at length. Participants exchanged information on the

◂ *Opposite: MLS participants at an outdoor forum on a farm near Beijing.*

▴ *Produce is grown using recycled phosphorus from animal waste at a farm near Beijing.*

industry's advances in controlling pollution but noted major sites where pollution poses a threat to the environment and human health.

- Issues surrounding natural resource supply security need to consider primary (mined) and secondary (recycled) resources, the role of state intervention and policy and the distinction between reserves (economically exploitable) and resources (uneconomic at this time). A need for increased transparency regarding phosphate reserves and resources was noted.
- Many different factors affect fertilizer prices, but for developing countries, additional transport costs are critical. The merits of infrastructure investments versus fertilizer subsidies were discussed.
- Methods of phosphorus recovery from sewage sludge, slag, wastewater and via incineration were shared, resulting in recommendations for case studies that would produce cost:benefit analyses of implementation of the various technologies at the local level.
- As a result of concentrated livestock operations, manure management is becoming a major issue on a global scale. Technologies to address the issue, ranging from livestock/crop integration to biogas production and the role of subsidies, were discussed.
- Policy orientations need to be science-based but will also have to be attractive from a socioeconomic standpoint. There are lessons to be learned from various government policies in place or under consideration.

The conference marked an important transition point for the Global TraPs initiative. Partnerships have been built, critical questions identified and case studies to address knowledge gaps launched. The early stages of the identification of policy orientations for efficient phosphorus use, which will reflect input from all key stakeholders, begin now. The ultimate goal is to positively influence science-based decisions by policy-makers in key countries.

For more detailed information regarding the Global TraPs World Conference and the UNEP Global Partnership on Nutrient Management Conference (including copies of the various presentations and other materials), please visit the Global TraPs website (www.globaltraps.ch).

The Weijia sewage plant in Beijing.

Opposite top right: Greg Crosby (USDA), Anjan Datta (UNEP), Patrick Heffer (IFA), Xiangzhao Gao (Chinese Ministry of Agriculture), Arnoud Passenier (Netherlands Ministry of Infrastructure and Environment), Amit Roy (IFDC) and Roland Scholz (Fraunhofer IWKS) pose following a panel discussion.

Middle left: Reyes Tirado (Greenpeace) at the podium.

Middle right: Xuefeng Ziu (China Phosphate Industry Association) provides information to attendees.

Bottom left: Cargele Masso (IITA) makes a point during his presentation.

Bottom right: Terry Roberts (IPNI) addresses the conference.

GLOBAL CONFERENCE ON NUTRIENT MANAGEMENT

"Learning from Cases and Exploring Policy Options to Ensure Food Security and Environmental Sustainability"

FAO Working Group Projects Fertilizer Demand Growth Through 2017: Looks to Africa for Increase in Use

▲ *Offloading fertilizer in the Port of Mombasa, Mozambique.*

FAO hosted the annual meeting of the international Fertilizer Working Group (FWG) in June. The group comprises representatives of international organizations such as IFDC and FAO, and members of the fertilizer industry, such as IFA, The Fertilizer Institute (TFI) and the Fertiliser Association of India (FAI). The purpose of the meeting is to review the prospects of future fertilizer production, consumption and trade to determine five-year forecasts of world and regional fertilizer supply and demand and to identify the potential balance/imbalance between the two in the future.

The FWG focuses on medium-term global supply and demand projections for the three key crop nutrients – nitrogen, phosphate and potassium. According to the group, global demand for nitrogen, phosphate and potassium fertilizers combined is expected to increase at an average rate of 1.8 percent annually during 2013-2017. Of these primary fertilizers, potassium is expected to experience the highest average annual increase (3.0 percent), followed by phosphate at 1.7 percent and nitrogen at 1.4 percent.

Dr. Porfirio Fuentes, IFDC senior scientist - trade economics, represented the Center and later described how IFDC's market research efforts brought much-needed insight to the fertilizer situation in SSA.

"Due to recent in-depth fertilizer market assessments conducted on behalf of USAID in several Feed the Future focus countries in Africa, IFDC was particularly well-positioned to provide current and projected supply and demand data," stated Fuentes. "These assessments have been used by AFAP to develop plans to help build the fertilizer industries in those countries."

Fertilizer Demand and Supply

The FWG determined that overall demand and supply (D/S) will yield a global positive fertilizer D/S balance throughout 2017, with nitrogen experiencing an average D/S balance increase of 34 percent annually (from 3.7 to 16 million metric tons [mmt]). Phosphates will average an increase of 18 percent (from 2.4 to 5.4 mmt), while potassium will see a 10.6 percent average increase (from 7.4 to 12.2 mmt). These positive nutrient balances correlate with an anticipated increase in raw material availability, which will feed N, P and K fertilizer production increases through 2017.

This expected increase will be driven by new fertilizer manufacturing facilities that are expected to go into operation within that period along with the expansion of existing facilities.

Focus on Africa

Africa was a particular area of focus throughout the session. "Because of IFDC's extensive work across the continent and its development of AfricaFertilizer.org, the FWG continues to rely on the Center to fill in the data gaps that exist in Africa," said Fuentes. "FAO's goal is to develop the most accurate picture possible of the market in SSA due to the growing demand for fertilizer, and IFDC will continue to fully support that objective."

According to Fuentes and the FWG, Africa will be a key driver in future fertilizer demand and consumption. Parts of the Americas will experience low to nearly stagnant demand for the major fertilizers over the next five years, while Asia and Europe will experience moderate increases. In SSA, the nutrient demand is expected to increase at a combined average annual growth rate of 3.11 percent.

> **"FAO's goal is to develop the most accurate picture possible of the market in SSA due to the growing demand for fertilizer, and IFDC will continue to fully support that objective."**
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> **– Dr. Porfirio Fuentes, IFDC senior scientist - trade economics**

▲ *Mozambique Fertilizer Company blending and packaging facility in Gondora.*

Sustainable Supply of Fertilizers Requires Efficient Policies in Africa

An international training workshop on Fertilizer Policy and Marketing Strategies in Africa was held in Arusha, Tanzania.

To meet the targets set in the 2006 *Abuja Declaration on Fertilizer for an African Green Revolution*, the use of fertilizer in SSA must increase five-fold from its current average rate of 10 kg/ha in order to accelerate food production and agricultural growth. It is vital that government policies and investments support a competitive private sector-led fertilizer industry in order to encourage an increased and sustainable supply of fertilizers. It is also important that this increase be implemented in an efficient and environmentally sound manner.

For these reasons, IFDC recently conducted an international training workshop in Arusha, Tanzania, entitled "Fertilizer Policy and Marketing Strategies in Africa," co-sponsored by the AU's DREA.

The objectives of the workshop were to: identify sound policies for promoting fertilizer use in SSA; discuss key public policies (e.g., subsidies) and their impact on fertilizer markets in various countries; explore the viability of alternative fertilizer supply paths; discuss marketing strategies suitable to country-specific situations; equip participants with the necessary analytical and operational skills to implement sound policies and sustainable marketing strategies; and strengthen business and policy linkages among stakeholders across Africa.

To reach these objectives, the workshop content was guided by six thematic areas and consisted of eight sessions and 27 presentations, including 10 country presentations. The thematic areas were marketing and market development strategies; policies and market development; risk management in agricultural development; innovative ways of building capacity along the supply chain and linking farmers to markets; expanding input markets internationally; and global perspectives on food security challenges.

There were 49 participants (including 11 women) from 10 countries (Ethiopia, Kenya, Madagascar, Nigeria, Rwanda, South Africa, South Sudan, Tanzania, Uganda and Zambia) representing 29 organizations. The majority (63 percent) were officials from ministries of agriculture; the remaining participants represented international development agencies (16 percent), the private sector (14 percent) and academic institutions (6 percent).

During the week, 12 external speakers shared their knowledge and experience with the group. There was also a field trip to Minjingu Mines & Fertilisers Ltd., where the group observed fertilizer manufacturing and blending.

On their evaluation forms, 80 percent of the participants judged the overall program as "very good" to "excellent." They rated particularly high how well the objectives met their needs, knowledge gained, value of field trips and quality of discussions.

Participants on a field trip to Minjingu Mines & Fertilisers Ltd.

2013 Nitrogen Fertilizer Production Technology Workshop in China

▲ *An international training workshop on Nitrogen Fertilizer Production Technology was held in Sanya, China.*

Through biennial events since 2001, IFA and IFDC have conducted nitrogen fertilizer production technology workshops to share knowledge and exchange information with fertilizer industry representatives regarding different production technologies. The workshops have been successful due to their unique scope. Unlike other industry training programs, IFA-IFDC workshops are not process product-specific but combine all nitrogen-based fertilizer processes.

The 2013 workshop took place in Sanya, China, attracting nitrogen fertilizer production engineers and other specialists from around the world. Holding the workshop in China added value to the technical content because it has become the world's largest producer of nitrogen fertilizers – one-third of the world's production occurs in China.

Objectives of the five-day workshop were to: provide engineers and other specialists in the fertilizer industry with an in-depth overview of nitrogen fertilizer production technologies and identify future trends and needs; examine the status of the most recent nitrogen fertilizer production technologies; improve participants' technical knowledge across a broad range of nitrogen production techniques, including understanding the best available technology options, economic factors impacting the sector, energy-use scenarios and the best approaches to safety and environmental management; enhance participants' analytical and troubleshooting skills in order to better identify and resolve operational inefficiencies at their facilities; and provide an opportunity to exchange ideas on a range of production topics with leading technology experts and workshop participants.

The workshop was attended by 44 participants from 27 private sector organizations from 11 countries (China, Egypt, India, Indonesia, Jordan, Myanmar, Poland, Qatar, Russia, Saudi Arabia and the United Kingdom). Fifteen external speakers from around the world shared their knowledge and expertise.

China BlueChemical Ltd. prepared invitation letters for participants and speakers to use in their visa applications, provided marketing assistance for the program, secured a translator for the training and served as a liaison with the large group of Chinese attendees.

The company also provided transportation and lunch during the field visit to the Hainan Fudao ammonia urea facility, one of the most energy-efficient nitrogen fertilizer producers in China. The Fudao facility has two ammonia production lines with 520,000 and 800,000 mt annual capacity. Unlike other nitrogen fertilizer facilities in China (which use coal as the feedstock for ammonia production), the Fudao facility uses natural gas. IFA and IFDC expressed their appreciation to China BlueChemical Ltd. for invaluable assistance that contributed to the workshop's success.

On the evaluations, 68 percent of participants judged the overall program as "very good" to "excellent," in regard to the technical delivery, program content and methodology, as well as administrative aspects. The eighth edition of this workshop will take place in 2015.

Linking Farmers to Markets in Africa Relies on Agribusiness Clusters

Building on the success of three previous training programs on "Linking Farmers to Markets in Africa" (each with more than 50 participants), IFDC conducted the 2013 program in Nairobi, Kenya. The AU's DREA co-sponsored the training.

The program had 46 participants (including 12 women) from 18 countries – Burkina Faso, Burundi, Democratic Republic of Congo, Ethiopia, Kenya, Lesotho, Liberia, Malawi, Mozambique, Nigeria, Rwanda, South Sudan, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. The majority (52 percent) were employees of international organizations, while the remaining participants were public officials (30 percent) and representatives of the private sector (11 percent) and agricultural research centers (7 percent).

The objectives of the program were to: discuss the theory of the different components of farmer-to-market linkages and draw on lessons and best practices of IFDC and partner organizations in SSA; demonstrate how to make theory successful in practice; improve capacities to analyze farmer-to-market linkages within the context of specific agricultural environments and their input and output markets; develop project approaches that allow for effective farmer-to-market linkages; and create a network to facilitate future exchanges, joint proposal development, mainstreaming of farmer linkage approaches and long-lasting, professional relationships.

To reach the objectives, the program was divided into seven key areas including a focus on IFDC's Competitive Agricultural Systems and Enterprises (CASE) approach. CASE develops ABCs that consist of well-organized groups of farmers and related enterprises, integrated into specific commodity value chains and supported by local financial, business development and extension services.

Another focus was agribusiness association development, in which lessons learned from existing agribusiness associations were shared and the determinants of their successes were discussed. The third area was ABCs, in which participants discussed case studies of agricultural value chains and markets in Ghana, Kenya and Nigeria.

On the third day, participants went on a field trip to Nakuru District to observe the fourth area – the workings of farmer-to-market linkages at the grassroots level and the warehouse receipts system (also known as the inventory credit system) that offers farmers safe crop storage and easier access to credit. The fifth area focused on "Infrastructure: Services for Market Access," in which MIS (to improve transparency in agricultural markets), IT platforms (to accelerate cash payments to farmers) and innovative agriculture financing tools and policy issues were discussed. In the sixth focus area, a panel discussion of experts with a variety of backgrounds and opinions answered questions raised by the participants regarding agribusiness association development and input and output market issues.

Participants also had the opportunity to apply lessons learned through a work project in which five regional groups developed a proposal on linking farmers to markets based on a country-specific situation of their choice.

On the participant evaluation forms, 71 percent rated the overall program as "very good" to "excellent," taking into consideration the technical delivery, program content and methodology, as well as the administrative aspects.

This training will be conducted in French in 2014 (details will be announced when IFDC publishes the Center's 2014 International Training Calendar).

▲ *An international training program on "Linking Farmers to Markets in Africa" was held in Nairobi, Kenya.*

IFDC Launches Updated Website

IFDC has updated its website (www.ifdc.org) in advance of the Center's 40th anniversary in 2014. The revised website more fully showcases IFDC's capabilities through the increased use of graphics and photographs and through more user-friendly navigation.

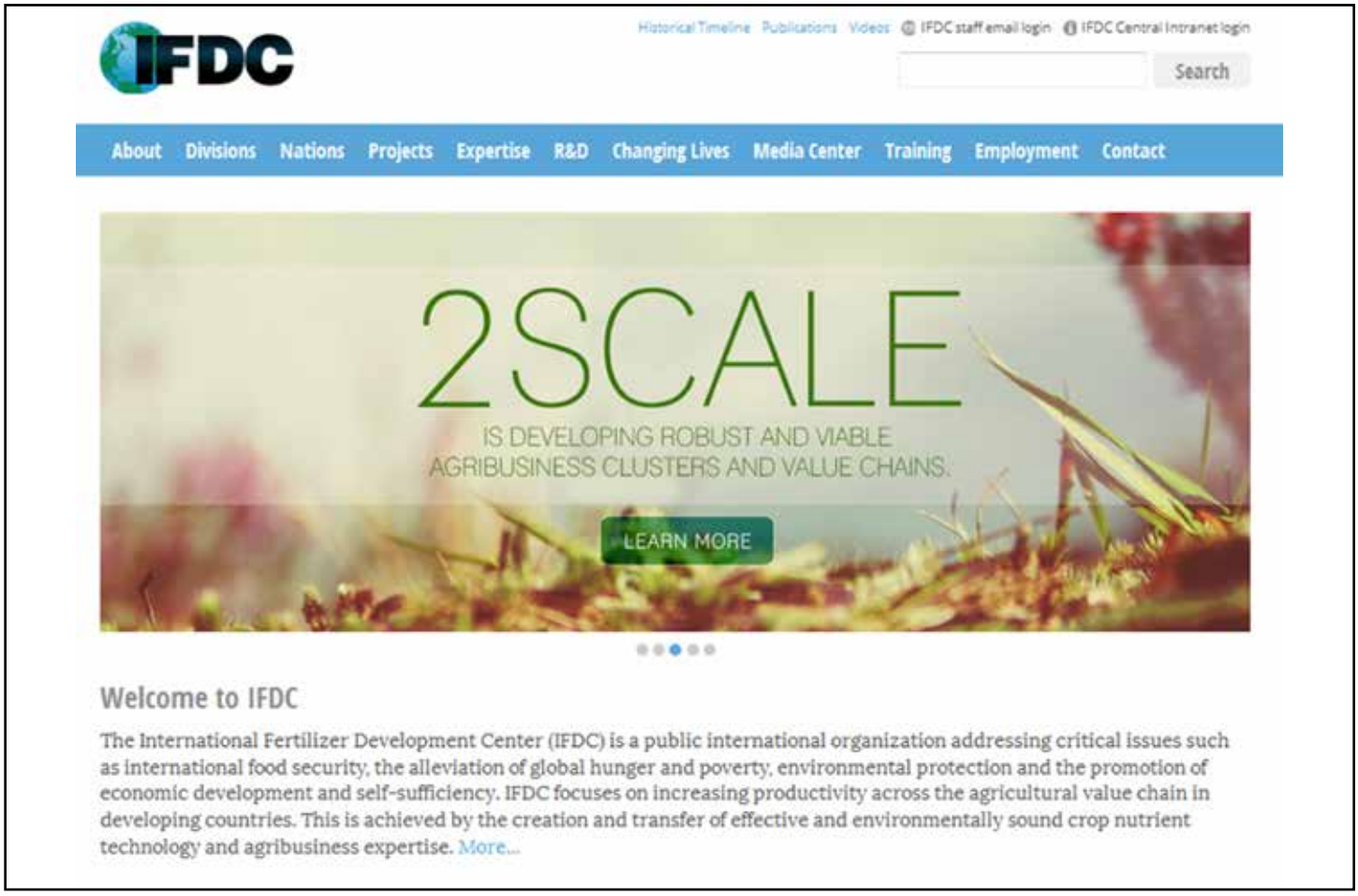
"With an ever-increasing number of people accessing news and information online, the website is our most valuable tool to communicate the results and impact of our work to stakeholders," said Dr. Amit Roy. "IFDC is packaging information in a more creative way by using more infographics, videos, photography and interactive features."

One such feature is an interactive historical timeline (www.ifdc.org/About/History) that traces the history of the Center to its founding in 1974. The timeline documents the most significant events in the organization's efforts to improve agricultural productivity, alleviate hunger, increase economic development and protect natural resources through fertilizer research and agricultural market development across the developing world.

The website also emphasizes research and development efforts (www.ifdc.org/R-D/) within IFDC's Office of Programs. The new R&D section demonstrates to visitors the multi-disciplinary research associated with fertilizer technology, fertilizer production and use and fertilizer market development.

In order to give website visitors a more visual experience, a major new feature is the use of infographics, which present complex concepts and data in an engaging and informative manner. People retain only 20 percent of what they read; however, 90 percent of information transmitted to the brain is visual. IFDC will regularly develop infographics on both broad topics such as food security and specific IFDC technologies such as ISFM and FDP.

"We want the public to understand better what we do – to be more knowledgeable about the importance of fertilizer technology and how it can be used as an economic 'change agent' for entire regions of the world," said Roy. The redesigned website – which will be updated with new and interesting information on an ongoing basis – is an ideal platform to tell IFDC's story.



Innovate for Global Food Security

▲ *Dr. Amit Roy (left), IFDC president and chief executive officer, discusses food security issues on SYMPHOS TV.*

IFDC President and CEO Dr. Amit Roy was interviewed during the 2nd International Symposium on Innovation and Technology in the Phosphate Industry (SYMPHOS) on the event's web-streamed SYMPHOS TV. SYMPHOS is an industrial and technical symposium, organized and sponsored by *Office Chérifien des Phosphates* (OCP), a world leader in the mining, processing and marketing of phosphate and its derivatives. The event was held in Agadir, Morocco, with more than 1,000 producers, consumers, traders, market analysts, engineers and expert technicians in attendance.

"SYMPHOS is an excellent forum for people from the industry… to come together to share knowledge," noted Roy. "For us to achieve [food security] goals and feed the people, we have to continuously innovate. This SYMPHOS has been exceedingly good because here we see people from the same industry… competitors… in the same forum sharing their knowledge and experiences."

According to Roy, that sharing of knowledge is the fastest track to true innovation. And innovation is certainly needed in the phosphate industry. According to a forthcoming publication, *Sustainable phosphorus management: a transdisciplinary challenge*, authored by Roy, Dr. Roland Scholz and Dr. Deborah Hellums as part of the Global TraPs initiative, the global production of phosphate fertilizer is rife with inefficiency and waste. Among other production and processing issues, the authors point to the wet processes involved in producing the most popular phosphate fertilizers, such as TSP. "These wet processes are acid-based and are linked to high amounts of waste, energy use and water consumption. In its basic sense, the wet process is more than several decades old…"

Further complicating the question of production innovation and nutrient use efficiency are rapid population growth and urbanization. According to Roy, as the population grows to 9.6 billion over the next 40 years and developing economies begin to prosper, these countries will experience mass migrations to urban centers.

"During this critical period," he states, "there will be additional demands for phosphorus due to an increased demand for meat and other dietary changes… As phosphorus is a cornerstone of food production, world phosphorus management will be a challenge in the coming decades."

> **"To achieve [food security] goals and feed the people, we have to continuously innovate."**
>
> **– Dr. Amit Roy, IFDC President and CEO**

As the world's cities continue to grow, they will also consume what was once semi-urban farmland. This scenario puts tremendous pressure on rural farmers to supply not only their needs but those of the growing cities as well – generally on the same amount of land.

But as Roy pointed out, such an eventuality can be overcome with the proper planning and tools. He cited IFDC's work in Bangladesh, noting that with the use of the Center's FDP technology, the once-struggling nation is now food secure and is growing about 300 percent more rice on the same amount of land that was cultivated in the mid-1970s.[1]

[1]In 1975, 9.8 million ha of paddy rice were cultivated, producing 11.1 mmt. In 2011, 10.5 million ha were cultivated, producing 50.63 mmt of paddy rice. Source: BRRI.

From a financial perspective, cities such as Dhaka have boomed, and Bangladesh now exports a limited amount of rice.

"People take fertilizer for granted," said Roy. "People do not realize that 40 to 60 percent of agricultural productivity is related to fertilizer."

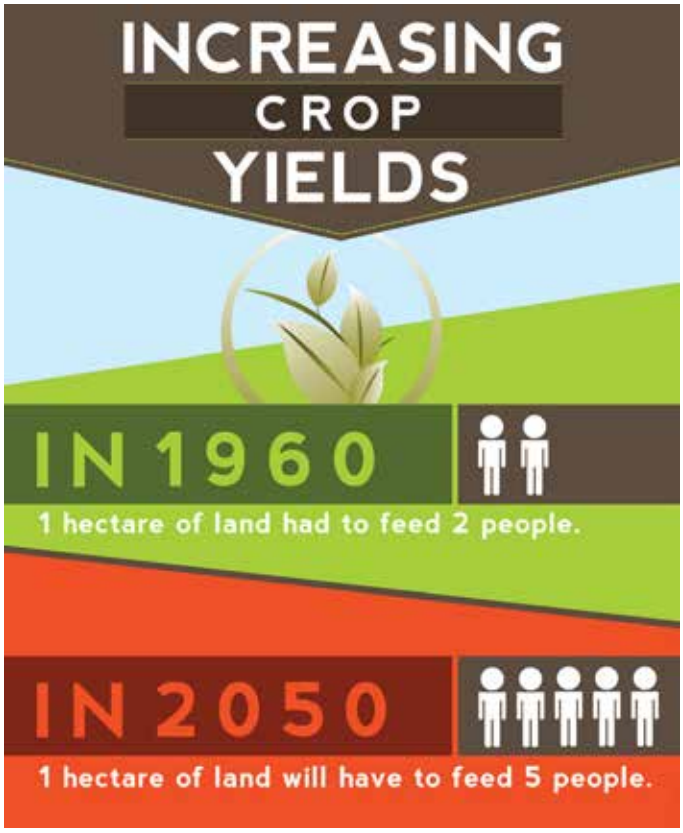
Roy asserted that because of the widespread availability of fertilizer in many parts of the world, few in the sector are asking the important question – how can we make it more efficient, effective and reactive to changing agricultural and environmental conditions – all while remaining affordable for those most in need of the nutrients – the smallholder farmers in the developing world.

Roy stressed the need for innovation and entrepreneurship in new fertilizer technology and agricultural methods. "There is a cultural bias to innovation in the developing world," he noted, emphasizing that if young farmers, extension agents, marketers and would-be scientists were exposed to what is scientifically possible in the modern age, this expanded mind-set would drive greater innovation in developing countries.

When questioned about IFDC's own technology innovation efforts, Roy pointed to the Virtual Fertilizer Research Center (VFRC). Explaining the concept of the VFRC, Roy noted, "Our idea is that nobody has a [singular] hold on innovation. It is a global problem; we need global intellect to find the solution. The idea is to connect the best minds in the world to come up with new products."

The VFRC was established in 2010 by IFDC as a coordinating research initiative – operated in a virtual setting – to foster the creation of the next generation of fertilizers and production technologies. The VFRC brings together universities, public and private research laboratories, the fertilizer industry, individual scientists and entrepreneurs to cooperate on rapidly deployable agricultural production solutions.

Roy's message throughout the half-hour interview was one of optimism; that despite the challenges, rapid advancement in food security is possible through the use of modern farming techniques and new, 'smarter' fertilizer products. He noted dramatic successes already achieved in South America, Eastern Europe and parts of Asia. "If you look at food production over the last 40 years, there was once this idea that South Asia… would always rely on



hand-outs from the western countries. Today, [many of the countries in that region] are self-sufficient."

IFDC's leader believes that similar strides are being made in SSA and in other parts of the world where the Center operates. But tempering that notion, Roy cautioned that even countries that have made great strides in food security still face a number of issues. According to Roy, even successful agricultural market development can be fragile. He stressed the importance of good national governance, enabling policy and investments in infrastructure as critical tools to support these advancements. He also noted that PPPs are critical to agricultural development efforts.

According to Roy, government-supported incentives and partnerships that will continue to engage and advance the livelihoods of the hundreds of millions of participants along these agricultural value chains are also important.

The interview can be viewed at: www.ifdc.org/videos/23418. For more information on FDP, visit www.ifdc.org. For VFRC information, visit www.vfrc.org.

"People take fertilizer for granted. People do not realize that 40 to 60 percent of agricultural productivity is related to fertilizer."

– Dr. Amit Roy

October 15th: UN International Day of Rural Women

▲ *Maleka Begum harvests her rice paddy in Barisol, Bangladesh.*

The UN International Day of Rural Women celebrates and honors the role of rural women on October 15. It recognizes rural women's importance in enhancing agricultural and rural development worldwide.

The first International Day of Rural Women was observed on October 15, 2008. This international day, established by the UN General Assembly, recognizes "the critical role and contribution of rural women, including indigenous women, in enhancing agricultural and rural development, improving food security and eradicating rural poverty."

IFDC supports this global observance by focusing on gender, social and financial equity, female farmer and agro-dealer training, land use rights and policy reform through its projects and initiatives. IFDC makes a special effort to reach women, who often do not have the opportunity for training in agricultural technologies, even though they are critical to the success of smallholder farming. In 2012, the proportion of women trained by IFDC training programs increased from 32 percent to 34 percent, the highest percentage in the last four years.

Women play a critical role in the rural economies of both developed and developing countries. In most parts of the developing world, women participate in crop production and livestock care, gather food, water and fuel for their families and engage in off-farm activities to advance their families' livelihoods. In addition, they carry out vital functions in caring for their children, as well as older and/or ill family members.

AAPI Project in Bangladesh

AAPI is empowering women in Bangladesh's agriculture system. The project is achieving a 20 percent participation rate by women in its rice cultivation activities; that number is estimated to increase to 50 percent for vegetable production and nearly 100 percent for homestead gardens. AAPI promotes the education of women farmers in modern agricultural technologies and ensures that women have equal access to these tools and their financial benefits. Project leaders insist that if men and women have equal access to information, share in farming decisions and work together, then food security will be dramatically increased.

The AAPI project is also facilitating business opportunities for women, who are being encouraged in micro-enterprise development, such as owning briquette production machines. Interest in this type of entrepreneurial opportunity has increased due to the success of other women who have worked with AAPI and other IFDC projects in Bangladesh.

"In Bangladesh, women comprise half of the rural population. But inaccessibility to and lack of control of resources, services and decision-making often inhibit female participation in development project activities. These agricultural activities, access and control patterns are shaped by structural factors (demographic, economic, legal and institutional) and also by cultural, religious and attitudinal factors," said Ishrat Jahan, AAPI project coordinator and IFDC resident representative in Bangladesh. "Despite these constraints, AAPI has succeeded in bringing a large number of women into IFDC project activities."

FTF-USAID-ATT Project

The FTF USAID Agricultural Technology Transfer (FTF-USAID-ATT) project in northern Ghana focuses on three main project components – developing the seed sector, improving soil fertility management and increasing research. IFDC and its partners will assist multiple organizations and collaborators to overcome the constraints that currently inhibit growth and development of agricultural productivity and increased food security.

Cross-cutting issues such as gender mainstreaming and women's participation (not only in crop production and marketing but also in the downstream links of the marketing chain) will be implemented in project activities. Reducing the incidence of improper child labor used in agricultural production and associated practices will also be emphasized.

IFDC recognizes the critical role that women play in agriculture around the world. In recognition of these women, IFDC, through its projects and initiatives, will continue to focus on gender equity, female farmer and agro-dealer training, land use rights, social and financial equity and policy reform.

▲ *Bangladeshi women farmers use IFDC's FDP technology to hand-place fertilizer briquettes in their fields, a job formerly done only by men.*

◀ *IFDC encourages women farmers to participate in trainings and farmer field schools alongside men to learn more about improving crop production.*

Africa Committee Meets in Ethiopia

The annual meeting of the IFDC board of directors' Africa Committee was held June 2-5 at the AU complex in Addis Ababa, Ethiopia. Use of AU facilities was arranged by Rhoda Peace Tumusiime, AU commissioner of DREA (and a member of the IFDC board of directors and its Africa Committee). Meeting participants included committee members, AU leaders and staff, senior Ethiopian government officials, the USAID mission director for Ethiopia and IFDC staff members.

▲ *African Union Commission Deputy Chair H.E. Erastus Mwencha spoke at the opening session of the IFDC Africa Committee meeting. (Photo courtesy of the AUC)*

Opening session speakers included: H.E. Erastus Mwencha, deputy chair of the AUC; Dr. Agnes Kalibata, Rwanda's Agriculture and Animal Resources Minister (and chair of the Africa Committee); Professor Tekalign Mamo, advisor to the Ethiopian Minister of Agriculture (with the rank of state minister); Khalid Bomba, CEO, Ethiopian Agricultural Transformation Agency (ATA); and Dr. Amit Roy of IFDC.

Mwencha highlighted the need for improved technologies and greater use of agro-inputs to help feed the continent's growing population. "Agricultural development is a major priority of the AU," he stated. "We need to develop agriculture in order to develop national and regional economies. Essential to this are partnerships with IFDC, USAID and others to identify projects that the AU can support. What happens in this room will find a place in national policies and facilitate people to work together for agricultural development."

Minister Kalibata said the presence of the deputy chair reflected IFDC's strong partnership with the AU. She also noted that Ghana and Ethiopia, which hosted the previous and current Africa Committee meetings, have achieved outstanding results in agricultural development, and provide lessons for other countries. Kalibata urged participants to think strategically to develop priorities. "IFDC is growing rapidly. Funding has grown, and the scope of operations is expanding. This is a great time to be associated with IFDC."

Professor Mamo emphasized that growth in agriculture was a key factor in Ethiopia's double-digit GDP growth. He outlined the five-year Growth and Transformation Plan to unlock the country's agricultural potential. Mamo also described ongoing efforts (with strong IFDC involvement) to develop a national soil fertility database and establish fertilizer blending plants in the country. "The Ministry of Agriculture recognizes and values IFDC's contributions to Ethiopia's agricultural development and welcomes this partnership," he said.

Bomba described efforts by the ATA – in partnership with IFDC and other organizations – to address technical and systemic challenges in Ethiopia's agriculture sector. These include fighting erosion and nutrient depletion, analyzing soil nutrients, expanding domestic fertilizer production and strengthening input and output supply chains. "We look forward to an even broader partnership," he stated. "IFDC's expertise will continue to contribute to the Ethiopian economy."

Roy provided an overview of IFDC operations in Africa and progress made in project implementation, building partnerships and developing new projects. He highlighted the rapid growth (and the challenging targets for the future) in attracting private sector investment to leverage donor funding. He also summarized key points from last year's Africa Committee meeting, which included: the board's concern that IFDC must be careful in managing its rapid growth by staying focused on core competencies;

the need for greater emphasis on impact assessment and PPPs; and working with national agencies to facilitate implementation of the resolutions of the *Abuja Declaration*. A primary IFDC goal is to help increase fertilizer use rates across the African continent.

Fertilizer Deep Placement

Presentations by Roy and IFDC staff members Dr. John Wendt, Dr. Abdoulaye Mando, Dr. Bidjokazo Fofana and Dr. Bocar Diagana covered different aspects of FDP implementation and expansion. The presentations included lessons learned in Bangladesh, opportunities in Asia, progress in East and Southern Africa and biophysical and economic analyses of FDP in West Africa.

IFDC must adapt FDP packages to new crops, cropping systems (targeting root crops in addition to cereals) and areas (e.g., North Africa). Based on data on nutrient and micronutrient deficiencies, IFDC must also explore briquette formulations with sulfur or potassium.

Bangladesh (where FDP is being used on more than 1.3 million ha) provides lessons for scaling-out in Africa. In East Africa, excellent results have been achieved in several countries, and there are opportunities for scaling-out to different crops and farming systems. In West Africa, the greatest successes have been achieved in irrigated rice, but IFDC studies also have demonstrated clear economic and agronomic benefits for upland rice and other important crops.

Following the presentations, it was agreed that future work should include integration of micronutrients and targeting briquette formulations to specific crops, farming systems and regions. There is considerable potential for scaling-out FDP in North Africa; substantial progress has been made, but additional assessments are needed to document these successes. IFDC should develop a global system to improve FDP technology targeting. This will require studies on nutrient flows under FDP and FDP/broadcasting comparisons for key nutrients.

2SCALE

Presentations were made by CoP Dr. Arno Maatman; Edward Baars, regional agribusiness coordinator in East and Southern Africa; and Raphael Vogelsperger, regional agribusiness coordinator in North and West Africa. The project, funded by DGIS, is developing 500 ABCs in nine countries. Current activities cover 12 countries (three of which will be phased out in 2014).

The project goal is for a level of private sector engagement never before attempted – 50 percent of the total budget will come from the private sector through cash or in-kind contributions. The challenge is to attract $66 million in private sector investment while ensuring

Key issues generated during the committee deliberations, presentations and discussions included:

1. IFDC's Core Strengths

- Fertilizer deep placement
- Integrated soil fertility management
- Competitive Agricultural Systems and Enterprises
- Good agricultural practices
- Fertilizer policy

In addition to fertilizer expertise, IFDC core strengths are:

- Mobilizing farmer groups
- Strengthening market linkages
- Agro-dealer development

2. Government and Donor Priorities

IFDC's partners – government agencies, donors, the private sector and others – often have different priorities. All IFDC initiatives must be based on national and regional (e.g., CAADP) priorities. IFDC's approach should be:

- What can IFDC do to assist countries to meet their national priorities?
- How can donor funding help achieve these priorities?
- How can IFDC attract private sector investment to leverage donor funds and ensure sustainability?

3. PPPs

Increasingly, IFDC projects are based on PPPs. This approach is proven and effective but may require new ways of doing business. Changes in donor reporting requirements may be needed, given that private sector partners are not willing to divulge sensitive or proprietary information.

4. Impact Assessments

The numbers are encouraging, but more detailed impact assessments are needed. In addition to quantitative information, project staff members also need to look for qualitative evidence of impacts on livelihoods and quality of life. Impact assessments should be built into project designs/budgets and should ideally be conducted by an independent organization. Baseline surveys are important for end-of-project comparisons and should be conducted early in the project.

▲ *IFDC Africa Committee attendees gather in the AU lobby.*

that social objectives (equity/gender considerations, benefits for the poorest households) are met.

In East Africa, target commodities or value chains have been identified in each country. By mid-2013, 69 ABCs were operational. Numerous technological and institutional innovations have been introduced, such as paddy seeders, micro-irrigation kits for horticultural crops, low-cost storage structures for potatoes and transactional financing.

In West Africa, 142 clusters are operating, and new clusters continue to be identified on an ongoing basis. Cluster activities include crops, livestock and poultry, horticulture and others. One example is the Friesland Campina dairy cooperative system in Nigeria, where traditional Fulani pastoralists are now delivering 8,000 liters of fresh milk per day to collection centers.

Field Visits

The 2013 Africa Committee meeting included field visits to a sesame processor/exporter, a coffee cooperative and the commodity exchange in Addis Ababa.

Selet Hulling

Selet Hulling processes and exports high-grade organic white sesame to European markets. The crop is grown in the Humera region of northern Ethiopia, on Selet's 300 ha farm and by about 1,500 farmers on their own land, from whom the sesame is purchased at a 5 percent premium above ruling spot prices. The crop takes about 90-95 days to grow and is harvested in November.

The harvest is cleaned to 95 percent purity in Humera, transported to a Selet factory on the outskirts of Addis Ababa, cleaned to 99.5 percent purity, dry-hulled, packed and trucked to Djibouti for export. The company employs up to 3,000 people in the peak season.

The export price is two to three times higher than the local market price because of organic certification, strict quality control and traceability. The Humera varieties of sesame produce uniform, large white seeds.

Selet Hulling is eager to introduce soil fertility management methods, particularly sorghum rotation (see article on page 30). Because the 2SCALE project has the right networks in Ethiopia and is already working with partners on sorghum-sesame rotations, Selet is in discussions to become involved with the project.

Oromia Coffee Farmers Cooperative Union

This is an 'umbrella' union, comprised of primary unions whose contributions pay for operating costs and the purchase of equipment. Profits are shared with the primary unions and member farmers. The Africa Committee, IFDC staff and guests visited the union's new processing plant in the Oromia region just outside Addis Ababa.

The union was established in 1999 during the global coffee crisis, with 22,500 households. It now has 200,000 households. Sales have increased from 126 mt (valued at 270 million birr, or $32.4 million) in 2001 to 5,000 mt (585 million birr, or $32.7 million) in 2012. Prices (and the value of the currency) are volatile and are the main determinant of revenue.

The union produces different grades of high-quality Arabica coffee. Yields are 500-600 kg/ha compared with over 1 mt/ha for Robusta coffee in South America. Value addition is limited to cleaning and grading. The union receives the coffee beans, cleans them, places them in 50-kg bags and exports the graded beans.

IFDC is working with USAID and other partners to develop fertilizer distribution chains for high-value cash crops (e.g., coffee in Rwanda, cocoa in Ghana). These linkages could be extended to the coffee sector in Ethiopia, with interventions targeted at (or through) large unions for rapid expansion. If this occurs, the 2SCALE project will be actively involved.

Ethiopian Commodity Exchange

The exchange was established in 2008 to improve regulation of trade and transparency and to increase farmers' share of the final price for the commodities (farmers' shares of prices have risen from 37 percent to 60 percent). The exchange is now Ethiopia's fourth-largest taxpayer.

It currently trades in a few selected commodities (including beans, coffee, maize, sesame and wheat), but plans to add two to three commodities each year. The exchange is willing to trade fertilizer in the future. The exchange offers a full range of services from quality certification to bonded warehousing, trade and clearing accounts. Trades are in 5 mt lots. The exchange earns revenue primarily from commissions (0.04 percent each from buyer and seller), but also from warehouse charges and the sale of trading seats on the exchange.

While there is no current link to 2SCALE, the field visit was organized with an eye to the future. As PPPs grow and offer larger volumes for sale, the Ethiopian Commodity Exchange and similar institutions may become important components of the value chain.

▲ *Left top: One of the field visits was to the Selet Hulling factory where sesame is processed and packaged.*

◀ *Left bottom: The Africa Committee members visited the Oromia Coffee Farmers Cooperative Union.*

▲ *Right: IFDC board members Dr. Agnes Kalibata (left) and Gerard Doornbos (right) listen to Tesfaye Tekelhaimanot (grey suit), owner of Selet Hulling. A Selet employee (white laboratory coat) and IFDC's Dr. John Wendt also listen.*

IFDC Board of Directors/ VFRC Board of Advisors

IFDC is governed by a board of directors while the VFRC is governed by a board of advisors. Each board has representation from both developed and developing countries. Highlights of recent board member activities include the following:

IFDC

Dr. Mohamed Badraoui, director general of Morocco's National Agronomic Research Institute, was appointed to the first Intergovernmental Technical Panel on Soils by FAO. The panel includes 27 soil experts representing all regions of the world. Its main function is to provide scientific and technical guidance on global soil issues and advocate for sustainable soil management. Badraoui has been a member of the IFDC board of directors since 2012 and serves on the Program and Africa committees.

Margaret Catley-Carlson, patron of the Global Water Partnership (GWP) and member of the UN Secretary-General's Advisory Board on Water and Sanitation, participated in a water strategy conference during Milan Expo 2015. During the conference, entitled "Saving the Future Drop by Drop," Catley-Carlson called for water re-use, particularly considering the increasing demand for water for agricultural use. She also participated in a workshop organized by the International Food Policy Research Institute on "Economic Transformation in West Africa: What It Means for Food Security and Poverty Reduction," held in Dakar, Senegal. Catley-Carlson has served on IFDC's board of directors since 2006. She chairs the Budget Committee and is a member of the Executive and Audit committees.

Dr. Agnes Kalibata, Rwanda's Minister of Agriculture and Animal Resources, will host the EMRC AgriBusiness Forum 2013 in Kigali, Rwanda, in October. The theme of the forum is "The Agri-Food Sector: A Catalyst for Sustainable and Inclusive Growth in Africa." In August, Kalibata participated in the 2nd Africa Tea Convention and Exhibition, a gathering of about 600 tea producers, exporters, traders and development partners. She also participated in the Rwanda Agriculture Board's First Biennial Conference on Agricultural Research and Extension Outputs. The theme of the event was "Controlling Challenges of Food Insecurity and Poverty in the Era of Climate Change and Variability." Kalibata has been a member of the IFDC board of directors since 2008. She chairs the board's Africa Committee and is a member of the Executive Committee.

In his first 16 months as president of Iowa State University (ISU), **Dr. Steven Leath** has launched an aggressive agenda to improve the quality of ISU's academic programs and expand its research and economic development activities. He serves as co-chair of the Capital Corridor, a major regional economic development initiative that links ISU with the Des Moines metropolitan area and that builds on the university's strengths in biological science and the bioeconomy. He also serves on the Council of Presidents of the Association of Public and Land-Grant Universities (APLU). In July 2013, Leath spent two weeks in Uganda, visiting ISU's Center for Sustainable Rural Livelihoods (CSRL) agricultural and community development programs and IFDC's CATALIST-Uganda project.

In July, **Dr. Mortimer Neufville**, chairman of ACDI/VOCA, was named president of Coppin State University in Baltimore after serving as interim president of the university since January. Neufville has been a member of the IFDC board of directors since 2005. He chairs the Nomination Committee and is a member of the Audit, Executive and Program committees.

Rhoda Peace Tumusiime, AU commissioner for Rural Economy and Agriculture, participated in the Tokyo International Conference for African Development. She is a member of the recently launched Global Panel on Agriculture and Food Systems for Nutrition. Tumusiime represented the AUC at a high-level meeting on agriculture and food security during U.S. President Barack Obama's visit to Dakar, Senegal. She also played a leading role in a recent high-level meeting at the AU in Addis Ababa, Ethiopia, where international leaders gathered to focus on a unified approach to ending hunger in Africa by 2025. In July, Tumusiime led a ministerial roundtable discussion during the Forum for Agricultural Research in Africa's (FARA) Africa Agriculture Science Week in Accra, Ghana. Tumusiime has served on IFDC's board of directors since 2010 and is a member of the Africa and Budget committees.

VFRC

The Syngenta Foundation for Sustainable Agriculture (SFSA) recently launched Farmforce, a mobile business solution developed to manage production by smallholder farmers and monitor their compliance with food safety standards. According to SFSA Executive Director **Marco Ferroni**, "Buyers and producers often leave smallholders behind. Farmforce helps more farmers earn a decent income." Ferroni has been a member of the VFRC board of advisors since 2010 and serves on the Science Committee.

Luc Maene, former director general of IFA, was awarded the Francis New Memorial Medal by the International Fertiliser Society. At its annual conference, Maene gave the Francis New Memorial Lecture on "Fertilisers and Agriculture: Meeting the Challenges Sustainably." Maene has been a member of the VFRC board of advisors since 2010 and serves on its Commercialization Committee. He previously served as vice chair of the IFDC board of directors.

Hon. Prof. Ruth Oniang'o, chairperson of the Sasakawa Africa Association and founder and editor-in-chief of the *African Journal of Food, Agriculture, Nutrition and Development*, participated in a panel discussion on "The Agriculture and Health Nexus," during the Chicago Council Global Food Security Symposium. Oniang'o also participated in a panel discussion on food and nutrition security organized by the Global Alliance on Improved Nutrition during the Tokyo International Conference for African Development. She will serve as vice chair of the Global Forum on Agricultural Research beginning in October. Oniang'o has been a member of the VFRC board of advisors since 2010 and serves on its Executive Committee. She previously served on the IFDC board of directors from 2002 to 2008.

Dr. Juergen Voegele, director of Agriculture and Rural Development at the World Bank, gave a keynote address at the 1st Global Natural Capital Summit in Berlin, Germany. "We profoundly believe that poverty alleviation (and building shared prosperity) and environmental sustainability…are one and the same challenge," said Voegele. Voegele has been a member of the VFRC board of advisors since 2010 and serves on its Executive Committee.

IFDC Staff News

Dr. Sampson Agyin-Birikorang, scientist - systems agronomist, co-wrote "Recovery of Essential Plant Nutrients from Biofuel Residual," published in the *Journal of Sustainable Bioenergy Systems*. The paper concludes that processed biofuel residue can substitute for inorganic fertilizers and other organic sources of plant nutrients to produce bioenergy biomass cheaply. Co-authors of the paper include Drs. George O'Connor, Pratap Pullammanappallil and Gayathri Ram Mohan of the University of Florida.

Dr. Constant Dangbegnon, postdoctoral scientist - social science/agronomy, participated in FARA's Africa Agriculture Science Week. The theme of the week was "Africa Feeding Africa through Agricultural Science and Innovation." Dangbegnon presented IFDC's work to implement the Integrated Agricultural Research for Development (IAR4D) approach in the Kano-Katsina-Maradi (KKM) pilot learning site of the Sub-Saharan Africa Challenge Program in Niger and Nigeria.

Olivia Gist, geographic information systems specialist, attended an international training program on the Decision Support System for Agrotechnology Transfer (DSSAT) in Georgia, USA. DSSAT is a software application program that comprises crop simulation models for 28 crops. Program participants gained practical experience working with a comprehensive computer model to assess crop production, nutrient management, climatic risk and environmental sustainability.

Rob Groot, director of the East and Southern Africa Division, represented IFDC as a keynote speaker at the International Fertiliser Society's 2013 Spring Conference in Windsor, United Kingdom. The topic was "Fertilizer Market Development in Sub-Saharan Africa," based on a paper co-authored by Groot and **Dr. Maria Wanzala**, senior policy economist seconded to NEPAD. The paper illustrates the agriculture industry's increased interest in the African fertilizer market. It is part of the conference proceedings and will be published by the Society and available for download at http://fertiliser-society.org. The published proceedings of Society meetings are one of the major publicly available sources of information on fertilizer production and use and crop nutrition.

Rob Nooter, senior development officer, attended the 2013 InsideNGO annual conference in Washington, D.C. InsideNGO's mission is to strengthen the operational and management capacity of organizations in the global NGO community through effective collaboration, practical solutions, professional development and advocacy. The theme of the conference was "Facing Challenges, Finding Solutions."

Kelly O'Connell, program support specialist - agribusiness, and IFDC accountants **Rebecca Crabb, Kasta Staggs** and **Laura Thompson** attended an InsideNGO workshop on USAID Grants and Cooperative Agreements in Washington, D.C. The workshop discussed compliance with USAID regulations to ensure successful award and program management. **Dr. André de Jager**, director of the North and West Africa Division, attended a similar training workshop on USAID rules and regulations held in Accra, Ghana.

Dr. Amit Roy, IFDC president and CEO, gave a presentation on emerging markets to the Food and Agribusiness Management Program of Cornell University. Roy discussed both the challenges and opportunities that Sub-Saharan Africa will face as its urban population expands.

Dr. John Wendt, senior expert in soil fertility management, and **Dr. Maria Wanzala,** senior policy economist seconded to NEPAD, participated in the launch of the Global Soil Partnership in Nairobi, Kenya. National and regional soil institutions came together to highlight the importance of sustainable soil management to achieve food security, adapt to climate change and reduce poverty in the region. Wendt gave a presentation on incorporating secondary and micronutrients in fertilizers, and Wanzala discussed the NEPAD fertilizer support program.

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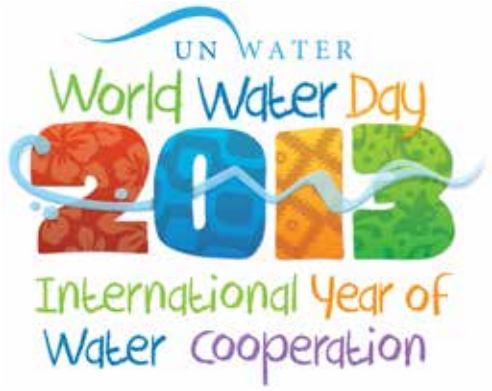

2013 International Training Calendar

Training Program/Workshop/Study Tour	Dates	Location	Program Fee
Phosphate Fertilizer Production Technology (with IFA)	October 7-11	Bangkok, Thailand	$2,700
Developing and Managing Profitable Agro-Input Business Through Sustainable Value Chains	November 4-8	Ouagadougou, Burkina Faso	$1,300
Fertilizer Value Chain – Supply System Management and Servicing Farmers' Needs	December 2-6	Kuala Lumpur, Malaysia	$1,600